

Higher-Order Thinking Skills-Based Assessment in English for Academic and Professional Purposes

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ABSTRACT: *Higher-order thinking skills (HOTS) are important to ensure the transfer of learning. There are several studies conducted that are related to HOTS; however, the integration of HOTS in the assessments is insufficiently explored. Thus, the researcher would like to study more on this area to achieve meaningful learning and improve learning outcomes. This study aimed to determine the reflection of thinking skills in the designed assessment activities of teachers and the outputs of the students and proposed a mechanism that will guide the teachers in incorporating HOTS in the design of assessment activities in the subject, English for Academic and Professional Purposes. This study employed the document analysis research method. The participants of the study were senior high school English language teachers and students. There were 11 designed assessment activities by teachers and 2,423 outputs by students that were carefully analyzed and evaluated by identifying the thinking skills and how they were reflected in the documents. Findings revealed that the reflected thinking skills in the designed assessment activities of teachers were mostly higher-order thinking skills; however, for students, lower-order thinking skills (LOTS) were mostly manifested in their output, which implies that the students lacked the demonstration of critical thinking and problem-solving skills. Therefore, to ensure the integration of HOTS, the teachers should consider the cognitive dimension and process that the assessment aims to develop to be able to create an activity measuring high-level thinking skills (analyzing, evaluating, and creating) based on contextual issues aligning with the learning outcome.*

Keywords: *Higher-Order Thinking Skills, English for Academic and Professional Purposes, assessment, cognitive dimensions, cognitive processes*

I. INTRODUCTION

All facets of life are compromised around the world because of the COVID-19 pandemic. One of the most affected facets of life is education. In Asia, particularly the Philippines, the education sector has to develop strategies to address the matters affecting the education system. The challenges posed by the COVID-19 pandemic should not be a deterrent to sustaining and providing quality education despite the different learning delivery modalities, whether distance, modular distance, or online distance learning. These mediums of teaching and learning should not shortchange the learners from acquiring the essential knowledge and skills to prepare them for the future. The transition from traditional to online distance learning entails time to adapt and embrace the new mode of pedagogy. It requires flexibility and innovation to meet local and global demands.

The goal of the K–12 program is to develop Filipinos holistically with 21st-century skills, including information, media, and technology skills; learning and innovation skills; communication skills; and life and career skills. They embed these skills in the curriculum

and progress through the learning competencies and performance standards, which define the assessment showing the knowledge and skills developed during learning. To gain these 21st-century skills, higher-order thinking skills (HOTS) are significant, particularly in the development of assessment. Reflection of higher-order thinking skills in assessment ensures transfer of learning, wherein students apply these skills to life. These skills are developed in all subject areas and across grade levels. In teaching English for Academic and Professional Purposes (EAPP) in senior high school (SHS), the students should be able to develop language skills, critical reading, reasoning, writing, and research skills. Teachers must design assessment activities to enable students to develop these competencies. It allows students to recall information, explain ideas or concepts, and use information in other situations. Also, they should be able to break information into parts to determine relationships, justify a decision or an action, and generate new ideas or products that reveal higher-order thinking skills (HOTS).

Higher-order thinking skills are based on the Revised Bloom's Taxonomy (RBT), which was updated in 2001 by Anderson, Krathwohl, and a few other colleagues, according to Febrina et al. (2019). Bloom's Revised Taxonomy is the name given to the revision's outcome. The addition of a two-dimensional framework, consisting of a cognitive process dimension and a knowledge dimension, enhances the revised taxonomy over the original. The cognitive dimension resembles Bloom's original categorization fairly closely. There are not many substantial changes. The use of verbs that describe actions is one of the major modifications (Stanley & Moore, 2013). The order of cognitive levels has also changed, with *evaluating* (cognitive dimension 5) coming before *creating* (cognitive dimension 6). According to the revised version of Bloom's Taxonomy, there are six levels of cognitive learning or dimensions. These are *remembering*, *understanding*, *applying*, *analyzing*, *evaluating*, and *creating*. The cognitive dimensions of remembering, understanding, and applying are categorized as lower-order thinking skills (LOTS), while the cognitive dimensions of analyzing, evaluating, and creating are categorized as higher-order thinking skills (HOTS). These cognitive levels help design assessments to develop learning outcomes. *Remembering* stresses retention while *understanding*, *applying*, *analyzing*, *evaluating*, and *creating* facilitate retention and transfer.

Having mentioned these cognitive levels, students usually demonstrate lower-order thinking skills. They lack critical thinking, which is evident when they are asked to analyze or evaluate a text. They will just provide a superficial analysis, which implies a lack of depth in knowledge and reasoning. For example, Vallejo (2019) revealed that students have difficulty understanding literary texts, such as identifying the meaning of the symbols and understanding the implication of the poem. This is the common problem of the students, not only in terms of literary texts but also various texts. That is why, according to Butawan et al. (2021), teachers should focus on teaching students the skills needed to become critical thinkers and reach their full potential. Thus, critical thinking is essential for students to develop not only for academic success but also for their careers and personal lives.

In the 2019 Basic Education Exit Assessment (BEEA), the Grade 12 learners got a low level of proficiency in the language (PBEA, 2021), which implies a deficiency in their language competence. The teachers adhere to the curriculum guide of the DepEd to ensure the mastery of the knowledge and skills. However, the question is, "How far do the students understand the concepts?" and "How well do they develop the skills?" There is a difference between knowing and understanding. Knowing means the students memorize information.

Understanding means the students integrate and connect information. If the students recall concepts, the learning is superficial; when the students relate the concepts learned, the learning is profound. Students must be engaged and take responsibility for their learning. Higher-order thinking skills assessment requires more than just memorizing information. It encourages students to think critically and creatively, enabling them to solve complex problems. The main objective of the K–12 program is to prepare students for the future; thus, they should be original thinkers and learners for life.

With this, the researcher aimed to evaluate the designed assessment activities of teachers and the outputs of the students as to the incorporation of higher-order thinking skills (HOTS) in the subject, English for Academic and Professional Purposes, to be able to come up with a mechanism that will help teachers and students achieve HOTS and target the intended learning outcome of the subject.

Specifically, it sought to answer the following questions:

1. What thinking skills are reflected in the designed assessment activities of teachers in English for Academic and Professional Purposes?
2. What thinking skills are manifested in the outputs of the students in English for Academic and Professional Purposes?
3. What mechanism may be developed to ensure the integration of higher-order thinking skills (HOTS) in English for Academic and Professional Purposes?

II. RELATED LITERATURE

In general, teachers are familiar with higher-order thinking skills and agree that they should teach them to the students to be able to develop the essential competencies and meet the set standards. However, despite the knowledge about higher-order thinking skills, there is still a need to emphasize them in the teaching and learning process, specifically how well teachers and students respond to HOTS. Afifah and Retnawati (2019) revealed in their study that teachers' knowledge about HOTS is still low, and they have difficulty delivering perception to students, designing, and applying the assessment, delivering learning materials, making learning media, and preparing learning tools based on HOTS. This is supported by Driana and Ernawati (2019) and Pratiwi et al. (2019), in which they explained that the teachers' understanding of HOTS was not comprehensive. Also, Musa and Yamat (2021), Wilson and Narasuman (2020), and Seman et al. (2017) reported that teachers experienced challenges in incorporating HOTS. These imply that teachers struggle with understanding and incorporating HOTS in assessment and instruction.

Warmadewi et al. (2019), the results of their study showed that higher-order thinking skills (HOTS) were not expressed in the whole of the lesson plan and the assessment; thus, it was suggested that English teachers should develop the implementation of higher-order thinking skills (HOT) in the lesson plan and assessment holistically. Hidayat and Lestari (2022) also revealed that teachers face challenges in teaching English to senior high school students due to their misconceptions of HOTS and limited capacity for designing HOTS-based materials and activities, so it is proposed that teachers need to participate in pedagogical training to stimulate HOTS. With this, teachers' adequate knowledge of HOTS helps them plan appropriate activities focusing on students' depth of thinking and ability to apply reason for meaningful and engaged learning and towards the attainment of the learning goals.

For the students, they find academic writing difficult, and they usually avoid it because it takes too long considering its nature, which is technical and structured and requires critical thinking. Hence, the incorporation of HOTS is challenging for them. Castillo et al. (2019) reported that senior high school students have poor reading performance in terms of academic texts, and they were experiencing several constraints in reading academic texts. Further, Barbecho (2019) proved that the writing competence of senior high school students showed that there are varieties of writing problems that classify the competencies of the students' output, and Pablo and Lasaten (2018) revealed that senior high school students have difficulties writing academic essays, and the overall quality of the students' academic essays ranges from poor to fair. So, according to Sitorus et al. (2021), the HOTS strategy can increase reading comprehension skills because it encourages students to understand the text's content through intensive reading. And Lustyantje et al. (2019) pointed out that academic writing learning based on HOTS is effective; for Singh et al. (2018), HOTS enables students to think in a more complex way that the student can control.

Furthermore, Brookhart (2010) highlighted that students learn by constructing meaning and incorporating new content into their existing mental representations. Therefore, improving thinking skills should improve content knowledge and understanding as well. Also, Widana (2017) specified that HOTS assessment increases the motivation of learners. It can connect the subject in the classroom with real-world contexts so that learning is meaningful; improve the learning outcomes as it trains the way learners think creatively and critically, not just by memorizing or understanding any factual knowledge and concepts; and develop competitiveness in learners both at the national and international levels.

With the above mentioned, there is a need to infuse and develop the critical thinking skills of the students as they move from one level to another and face 21st century skills and outcomes-based education at the senior high school level (Ramos, 2018). Teachers must realize that the effectiveness of HOTS will materialize only when the traditional view of transmitting information becomes secondary to a more constructivist view, which affords students active learning that harnesses meaning-making in the learning process (Yen and Halili, 2015). Learning is not simply about the acquisition of new knowledge and skills. It requires more than memorizing and recalling information, for it involves understanding, relating ideas, and making connections between prior and new knowledge. They should be able to transfer the knowledge and skills they developed in different and new contexts. To achieve meaningful learning, they must embed higher-order thinking skills in the students' learning tasks.

The studies found dealt with the teachers' understanding, difficulties, challenges, and strategies, the implementation of classroom assessments, and students' perceptions related to higher-order thinking skills (HOTS), the utilization of higher-order questions (HOQ), and students' difficulties in reading and writing academic texts; however, there is still a need to explore further the evidence of HOTS in the assessments. Thence, this paper determines the thinking skills reflected in the designed assessment activities of teachers, the thinking skills manifested in the outputs of the students, and an assessment mechanism to ensure the integration of HOTS, particularly in English for Academic and Professional Purposes in senior high school. This study would help teachers modify their teaching, students improve their learning, parents understand to what extent they could help their children, and school administrators and curriculum planners give more emphasis on the importance of higher-order thinking skills in teaching and learning.

III. METHODOLOGY

Research Method

This study is qualitative research employing the document analysis research method. Document analysis examines and interprets data to gain understanding (Bowen, 2009). The researcher systematically evaluated the designed assessment activities of teachers and the submitted outputs of the students in the subject, English for Academic and Professional Purposes, in terms of the thinking skills reflected. The data collected were corroborated by interviews and related literature to enhance the validity of the research.

Population and Locale

Five English teachers and 330 senior high school students from various strands of the University of the Cordilleras in Baguio City participated in the study during the third trimester of the academic year 2020-2021. The participants were selected through purposive sampling based on the predetermined criteria. They are the English teachers who teach EAPP for four to five years and create the modules for the course. The number of students in the sample was chosen based on the promptness of submission and the completeness of outputs. In the process, the researcher strived for objectivity and maintained balance. The researcher ceased data analysis and collection when theoretical saturation had already been reached.

Data Gathering Tool

The information was gathered through the materials that English teachers submitted. Before the third trimester commenced, the 11 designed assessment activities that were part of the modules were already collected. As to the outputs of the students, they were obtained gradually, depending on the submission deadlines and the students' pacing to finish the activities. In total, there were 2,423 outputs acquired in stages. The teachers sent the documents via email and gave the researcher access to them on Canvas. The researcher collected 163 outputs for a Venn diagram, 330 outputs for true or false questions with 20 items, 175 outputs for writing a thesis statement, 28 outputs for writing a 200-word reaction paper, 61 outputs for a constructed response question, 269 outputs for a movie review, 271 outputs for a movie theme critique, 277 outputs for an exit slip, 323 outputs for multiple-choice questions with 20 items, 275 outputs for writing arguments, and 251 outputs for a literature review. Outputs were in the form of photos and texts.

Data Analysis

The document is considered a participant or informant who gives the researcher pertinent data. The researcher carefully examined the documents to identify the thinking skills reflected by employing content analysis. To confirm the accuracy of the content of the documents, in particular the instructions and expected results of the activities, before evaluating the reflected thinking skills, the teachers were interviewed. The Cognitive Process Dimension of Anderson and Krathwohl (2001) was used as a reference for objectively determining the thinking skills, whether lower-order thinking skills or higher-order thinking skills. Also, an expert in the field, a national trainer in particular, reviewed the analyzed documents. Based on the results, the researcher proposed a model or guide that will aid the teachers in designing activities or tasks that are HOTS-based and target the essential competencies based on the curriculum guide for the subject, English for Academic and Professional Purposes. The model or guide puts a premium on higher-order thinking skills, namely analyzing, evaluating, and creating.

IV. RESULTS AND DISCUSSION

A. Thinking Skills Reflected in Teachers' Assessment Activities

The reflected thinking skills in the assessment activities of teachers are arranged according to topic, assessment activities, and thinking skills. For reading academic text topic, the assessment activities were a Venn diagram and true or false questions, while the thinking skills applied were understanding and remembering. For writing a reaction paper topic, the assessment activities were a thesis statement, writing a 200-word reaction paper, and a constructed response question, while the thinking skill applied was analyzing. For writing a review topic, the assessment activity was a movie review, while the thinking skill applied was analyzing. For writing a critique topic, the assessment activity was a movie theme critique, while the thinking skill applied was evaluating.

Moreover, for writing a concept paper topic, the assessment activities were an exit slip and multiple-choice questions, while the thinking skills applied were understanding and remembering. For writing a position paper topic, the assessment activity was argument writing, while the thinking skill applied was analyzing. Lastly, for writing a report topic, the assessment activity was literature review, while the thinking skill applied was creating. The thinking skills understanding and remembering are lower-order thinking skills (LOTS), while analyzing, evaluating, and creating are higher-order thinking skills (HOTS). Table 1 shows the reflected thinking skills in the designed assessment activities of teachers.

Table 1
Thinking skills reflected in the assessment activities of teachers

TOPIC	ASSESSMENT ACTIVITIES	THINKING SKILLS
Reading Academic Text	Venn Diagram	Understanding
	True or False	Remembering
Writing Reaction Paper	Thesis Statement/Writing 200-Word Reaction Paper/CRQ	Analyzing
Writing Review	Movie Review	Analyzing
Writing Critique	Movie Theme Critique	Evaluating
Writing Concept Paper	Exit Slip	Understanding
	Multiple-Choice	Remembering
Writing Position Paper	Argument Writing	Analyzing
Writing Report	Literature Review	Creating

1. Venn diagram reflected understanding. Venn diagrams are under the *understanding* category and are used to compare, which is a Lower-Order Thinking Skill (LOTS). To compare and contrast academic and professional purpose/writing based on what they already know and what they have learnt, the teachers had the students draw a Venn diagram. The students are just requested to communicate their ideas about the two concepts, and the offered instruction and example show understanding as the thinking skill. The lesson did not include how to differentiate between the two ideas' relationships, which would have required more thought. A Venn diagram is a useful tool for formative evaluation of critical thinking since it makes it easier to analyze and synthesize. Students should be taught to consider the higher-order thinking question when analyzing the question in order to elicit thoughtful responses rather than superficial answers based solely on recollection, identify the similarities and differences between academic and professional purposes/writing forms based on the predetermined criteria, and generalize in order to ensure knowledge transfer. Wise and Cooper (2019) attested that the use of graphic organizers can have the unintended effect of

restricting students' thinking to merely filling in the boxes and may enable students to avoid the difficult but necessary work of surfacing key insights or conceptual understanding; as a result, careful design, creation, and use of graphic organizers can serve as crucial intellectual guardrails to direct students toward deeper understanding and learning.

2. True or False assessment reflected remembering. A True-false test is categorized as *remembering*, employing the cognitive process recognizing, which is considered as Lower-Order Thinking Skill (LOTS). The teacher instructed the students to identify if the statements are true or false based on what they remember. The teacher expounded that this activity is for the students to assess and see for themselves how much they understand about the topic quickly and easily since with this type of quiz requires very little effort, and the items are non-threatening due to simple mental challenge compared to other types of assessment. The intended outcome of this assessment is to retain the learned information easily. The students were provided the information and must choose whether or not it is correct based on what they have learned. Lower-order thinking is evaluated by true-false questions rather than higher-order reasoning. The answers are simply recalled from memory and compared to the material given; neither critical thinking nor problem-solving are involved. A traditional true-false test can be improved to a modified true-false test, in which the students are forced to explain their responses rather than just selecting true or false, in response to a statement, in order to encourage higher-order thinking and ensure transfer of learning. Additionally, statement questions must be carefully written to measure not only recall, comprehension, and application, but also analysis and evaluation. True/false questions have two core qualities, according to Lake (2015), that make them unsuitable for use in final evaluations. These questions initially evaluate familiarity, the most fundamental knowledge level. True or false questions merely ask whether a fact is familiar, not whether you can recall information or display understanding. Second, it is the format of a question that is the simplest to accurately guess.

3. Writing a thesis statement reflected analyzing. Writing a thesis statement falls under the category of *analysis*, which makes use of the cognitive process of organizing and is regarded as a Higher-Order Thinking Skill (HOTS). The students were given the assignment by the teacher to compose a thesis statement based on the news story or documentary they had just read. The three components of topic, position, and reasons—which are features in producing a solid thesis statement and are crucial in writing an effective essay—had to be reflected in an ordered thesis statement. Students should be able to state the paper's general area of discussion which pertains to the topic. As suggested by a good thesis statement, students develop higher-order thinking skills. The abilities to break down the topic, establish position about the topic, and formulate arguments are developed. A thesis is the result of a long-term thinking process to develop an argument (The Writing Center, 2021). It is not necessary to write a thesis right away after reading an essay assignment. One must gather and arrange information, search for potential connections between existing facts, and consider the relevance of these connections before building an argument on any subject. In order to stimulate their thinking, clarify relationships, understand the larger relevance of a topic, and develop a thesis statement, writers employ a variety of strategies.

4. Writing a 200-word reaction paper reflected analyzing. *Analyzing* was reflected by using the cognitive process of attributing when writing a reaction paper. The teacher gave the students the assignment of picking one documentary or newspaper story, then writing a 200-word reaction paper while adhering to the components, rules, and factors to be considered while writing a reaction paper from their prior knowledge. Students can express their opinions about a documentary or news piece by writing a reaction paper, in which they respond to the topic based on what they have learned. Students apply analyzing as well as remembering, understanding, and applying. Carlyle (2018) argued that growing critical

thinking entails acquiring the ability to reason properly and make decisions. Writing can be a tool for assessing a student's capacity to construct logical arguments. Additionally, Stotesbury (2000) concluded that opportunities for improved reactions will open the door for improved discourse-related intellectual interactions. Writing a reaction paper fosters critical thinking because it requires students to read and examine the work carefully in order to determine the author's point of view, prejudices, values, or aim.

5. Answering a Constructed Response Question (CRQ) reflected analyzing. A constructed response demonstrated *analysis* using the attributional cognitive process. The teacher gave the students the assignment of reading a brief restaurant review, noting the arguments in support of the establishment, and then responding to the following questions: Did the writer successfully emphasize the important elements of the establishment? Was the review convincing? What could have been done better? Students are motivated to bring out what they are capable of as they take responsibility for their own learning. They are expected to interpret the prompt, analyze the text, provide evidence, integrate a point of view, compare and contrast ideas, formulate and develop arguments, and apply their prior knowledge and experiences. Constructed-response questions, according to Livingston (2009), are an effective technique to gauge complicated skills. It can be used to evaluate a wide range of knowledge types by asking students to recall facts and produce an answer (Seifert and Sutton, 2022). The questions can be relatively straightforward, asking students to respond in just one or two sentences, or quite challenging, asking them to read a prompt or a specific text article, consider the important ideas, and then compose an insightful essay or analyze the data. All constructed-response questions, no matter how straightforward or challenging, gauge students' capacity for applying, analyzing, evaluating, and synthesizing their information in a more abstract way (Tankersley, 2007). As they take ownership of their own learning, students are motivated to demonstrate their abilities.

6. Writing a movie review reflected analyzing. A review falls under the category of *analysis*, which makes use of the cognitive process of organizing, which is seen as a Higher-Order Thinking Skill (HOTS). The teacher gave the students the assignment of choosing one movie from the provided list of films to watch that fits their strand and creating a movie review outline by filling out the template with the necessary details, a story map for the film's synopsis, and an up-down arrow graphic organizer for both positive and negative reviews, as well as the film's history and suggested viewings. A complete and deep grasp of the film was also emphasized. Students have to build systematic and coherent connections of the presented information based on the movie that they have watched. They have to identify the important details and determine the author's intention or point of view. The fact that a review is a commentary and not just a summary is its most crucial component. It enables interaction and discussion with the author of the piece as well as with other audiences. One might express agreement or disagreement and point out any areas where they believe the knowledge, conclusions, or organization of the work to be strong or weak. It is important to express one's opinion of the work in question and doing so should follow the format of other academic writing, which includes a thesis statement, body paragraphs that support it, and a conclusion (The Writing Center, 2021). It is not just a description or summary of the movie watched but mainly a critical analysis of the work.

7. Writing a critique on the theme of the movie reflected evaluating. The *evaluation* of a movie's theme uses the cognitive process of critiquing, which is regarded as a Higher-Order Thinking Skill (HOTS). When writing critiques, students were expected to demonstrate solid analysis, synthesis, and understanding of the subject matter. In order for them to quickly build a connection to the movie they watched, the teacher indicated that they must select a theme from it that is related to their strand. The activity's intended result is for participants to hone their analytical and research skills. A critique condenses and assesses a work critically.

It is a report that analyzes a situation, someone's writings or thoughts, and renders an opinion regarding them (Cambridge University Press, n.d.). The students are able to use it to create a methodical and thorough examination of the movie's stated subject. They must develop a comprehensive, unbiased critique concentrating on the theme selected in accordance with criteria and norms. The focus of criticism must be the theme and how it controlled the film. Students must be able to defend their positions by offering reasonable justifications that are logically supported by research, facts, data, or statistics. Academic critiques tend to explore issues and ideas in ways that are more complicated than merely "good" or "bad" (Krause, 2021). To illustrate a bigger point, critique writers frequently examine and compare a number of related works.

8. An exit slip reflected understanding. An exit slip is classified as *understanding* and uses the inferring cognitive process, which is a Lower-Order Thinking Skill (LOTS). The issue of how valuable concept papers are in their specific strand or in their next course was given to the students to respond to. The activity's intended result is for the students to recognize the value of writing a concept paper because they can use it in college and their future careers whenever they need to make an appeal, whether they want to be politicians or just regular employees or whether they are taking the module for senior high school. Understanding enables the students to assimilate the information, reflect on their own learning, and share their opinions on the question asked at the end of the course. The use of exit slips, which are snapshots of students' learning at a particular moment in time, allows students to reflect on their understanding and move between sessions (Hunsberger, 2019). It evaluates the students' knowledge of the subject specifically. They create links between their existing information and their newly acquired knowledge. However, it can be created in a way that encourages students to provide in-depth responses that show their comprehension of the subject. The question must be carefully written to improve critical thinking abilities by considering its classification and connection. One of the simplest ways to learn about students' present levels of understanding is to use exit slips, a type of formative feedback (Marzano, 2012).

9. Multiple-Choice assessment reflected remembering. The cognitive process of *remembering* is used in multiple-choice tests, which are classified as requiring Lower-Order Thinking Skills (LOTS). Both higher- and lower-order thinking are put to the test by the questions. While some questions required both remembering and analyzing, remembering questions were more prevalent than analyzing questions. The students were told to find the right response by evaluating whether the newly learnt information corresponds to the previously understood concept. The teacher also mentioned that the purpose of the multiple-choice exam is for the students to gauge their own level of understanding of the subject. In the multiple-choice test, remembering is the thinking skill that stands out the most. The majority of the items ask students to select the notion from the description. The work is made simpler because the answers are recalled from memory and the questions clearly reflect those clues. The questions do not apply the concepts covered in the course, analyze a situation, or weigh your options. The children were unable to use problem-solving or critical thinking. To help students acquire higher-order thinking abilities and to guarantee learning transfer, the multiple-choice questions might be improved to include analyzing and evaluating. As a result, multiple choice test questions can be created to evaluate a range of learning outcomes, from fundamental recall through application, analysis, and evaluation. However, there are clear restrictions on what may be tested using multiple choice items since students must select from a list of possible answers (Brame, 2013).

10. Writing an argument reflected analyzing. Writing arguments falls under the category of *analyzing* and makes use of the cognitive process of attributing, which is regarded as a Higher-Order Thinking Skill (HOTS). The teacher gave the students the

assignment of coming up with three contentious issues they feel strongly about and outlining their arguments for or against them. It is stated that the students will be able to convey their attitude, viewpoint, or conviction about social issues in this activity by using facts to support their opinions. Students are encouraged to think more critically by writing arguments. Students' ability to reason and defend their opinions on a subject is developed through this. Students must identify, create, and evaluate arguments when writing argumentative essays that use critical thinking skills. In order to assure the validity of their claim, they thoroughly analyze and evaluate the topic or issue, then they clearly state their viewpoint on the context, offer justifications supported by tangible evidence, present and address counterclaims. Arguments, according to Howell and Kemp (2002), appeal to one's reason and critical abilities. Critical thinkers should be primarily concerned with arguments and whether they are successful in giving us solid justifications for doing or holding certain beliefs.

11. Writing a literature review reflected creating. The cognitive process of generating of the thinking skill *creating*, which is regarded as a higher-order thinking skill, is used in literature reviews (HOTS). The students were given the assignment to select a research topic that was relevant to their strand. They had to do a literature review and find 10 to 15 pieces of related literature. Only works published between 2010 and 2021 should be considered. A minimum of 500 words and no more than 700 words should be used for the literature review. The task is more of a practical application of the mix of academic writing and research, the teacher further highlighted. In order to write a report, this activity analyzes, assesses, and synthesizes pertinent material within a certain research area. A structured review of related material based on synthesized and evaluated literature is the desired result. Writing a literature review entails analytical and critical thinking. Students have to evaluate information to be able to arrive at a conclusion or judgement. They have to produce a concisely summarized, critically evaluated, and coherently combined literature connecting with the research question and topic. In response to the study's findings, Black (2014) reaffirmed that an effective literature review entails a higher level of information integration, producing a more thorough understanding of the content. Winchester and Salji (2016) attested that compiling, classifying, analyzing, and summarizing peer-reviewed published material into a pertinent and unbiased story involves a variety of abilities. Pautasso (2013) argues that examining the literature necessitates the capacity to juggle several activities, from locating and assessing pertinent information to synthesizing data from different sources, from critical thinking to paraphrasing, evaluating, and citation abilities.

B. Thinking Skills Manifested in Students' Outputs

There were 2,423 outputs that were analyzed. For reading academic text, the assessment activities were a Venn diagram and true or false questions. The Venn diagram manifested the thinking skills, remembering and understanding. There was a total number of 163 outputs. True or false questions manifested the thinking skill remembering. There was a total number of 330 outputs. For writing a reaction paper, the assessment activities were thesis statement, a 200-word reaction paper, and a constructed response question manifesting the thinking skills, analyzing, applying, and understanding. There was a total number of 264 outputs. For the writing review, the assessment activity was a movie review manifesting the thinking skills, understanding, and analyzing. There was a total number of 269 outputs.

Moreover, for the writing critique, the assessment activity was a movie theme critique manifesting the thinking skills, applying, and evaluating. There was a total number of 271 outputs. For the writing concept paper, the assessment activities were an exit slip and multiple-choice questions. The exit slip manifested the thinking skill, understanding. There was a total number of 277 outputs. Multiple-choice questions manifested the thinking skill, remembering. There was a total number of 323 outputs. For writing a position paper, the

assessment activity was argument writing manifesting the thinking skills, understanding, and analyzing. There was a total number of 275 outputs. For writing a report, the assessment activity was literature review manifesting the thinking skills, creating, and understanding. There was a total number of 251 outputs. Table 2 shows the manifested thinking skills in the assessment activity for every topic:

Table 2
Thinking skills manifested in the outputs of the students

TOPICS	ASSESSMENT ACTIVITIES	THINKING SKILLS
Reading Academic Text	Venn Diagram	Remembering Understanding
	True or False	Remembering
Writing Reaction Paper	Thesis Statement/Writing Word Reaction Paper/CRQ	200- Analyzing Applying Understanding
Writing Review	Movie Review	Analyzing Understanding
Writing Critique	Movie Theme Critique	Evaluating Applying
Writing Concept Paper	Exit Slip	Understanding
	Multiple Choice	Remembering
Writing Position Paper	Argument Writing	Analyzing
		Understanding
Writing Report	Literature Review	Creating
		Understanding

1. Remembering and understanding were manifested in constructing a Venn diagram.

Utilizing the cognitive function of recalling, the Venn diagram demonstrated the lower-order thinking skill of *remembering*. The students were able to retain the knowledge they had previously learned about the similarities and differences between academic writing and professional writing, but no additional explanations were given to show the explicit correspondences between the two concepts. Additionally, it demonstrated the lower-order cognitive function of *understanding* through comparison. The students looked at the characteristics of two ideas and concepts, noted the similarities and contrasts, and outlined the key ideas. The students were able to describe the parallels and divergences between academic and professional writing. When it comes to understanding, students show both retention and transfer. The kids were able to articulate their ideas by making connections between new information and what they already knew. However, higher thinking skills can help the students' learning progress even further. According to Khillar (2020), deep learning is a dedicated method to learning in which students collaborate, engage in critical thought, and actively engage with the material being learnt. While surface learning is a superficial approach to learning that only skims the surface of the subject matter being studied and focuses solely on the assessment requirements without going into detail, deep learners are intrinsically motivated and determined to use higher-order cognitive skills to master academic content.

2. Remembering was manifested in answering a True or False assessment. The lower-order thinking skill of *remembering* while using the cognitive process of recognizing was displayed via true or false questions. The students were successful in completing the task's demand for thinking skills. The lowest level of learning outcomes in the cognitive domain is remembering. The students were required to attest to the statement's objectivity and veracity

as part of an assessment of their background knowledge or previously obtained facts about the subject. Based on the students' final scores, the level of remembering varies. The data that was recognized was based on the students' scores. Some students achieved a perfect score of 20 points by being able to recognize every piece of information that was presented. Some students were able to correctly identify 50% of the information given, earning a score of 10 or above. Finally, several students had scores of 9 or lower since they could only recognize less than 50% of the information that was presented. The true-false test is an example of a selected-response test, as verified by Magno (2010). It often consists of brief statements that represent less complex concepts and is effective in evaluating specific levels of students' learning in a respectably brief amount of testing time. According to Mueller (2018), a true-false question refers to a forced-choice test in which students must typically choose an answer or recall information in order to pass.

3. Analyzing and applying were manifested in writing a thesis statement. The higher-order thinking skill of *analyzing* while using the cognitive process of organizing was demonstrated in the thesis statement writing. Following the guidelines for creating a concise and compelling thesis statement that they had acquired in earlier classes, the students were able to compose a thesis statement. The topic is particular and controversial, the position or stance on the topic is clearly defined, and the justification for the position or stance is given. However, it also showed lower-order thinking skill *applying* and cognitive processes executing. The students were able to formulate a thesis statement, but neither a stance nor a claim regarding the subject was properly conveyed, nor were any justifications or counterarguments offered. According to Bylund (2017), the ideal thesis statement should include both the core idea and the supporting details. One of the problems students have when writing academic papers is this. Hadiani (2013) showed that students had trouble expressing their thoughts in a thesis statement, which may be a result of their inability to choose a distinct core idea that will be expanded upon throughout an essay. Although the students are capable of writing a thesis statement, it is not thorough, exact, or clear.

4. Analyzing and understanding were manifested in writing a 200-word reaction paper. Using the cognitive process attributing, writing a 200-word reaction paper demonstrated the higher-order thinking skill of *analyzing*. The students were competent enough to compose a 200-word reaction paper. They were able to show that they understood the content and provide an original answer about it using what they had learned. Additionally, students were able to determine the author's point of view or intention, displaying critical thinking skills. However, it also manifested the lower-order thinking skill *understanding* employing the cognitive process inferring. The students were able to write a reaction paper; however, the students only drew a logical conclusion from the presented information. They summarized the article and formulated their opinion on the subject matter but did not elaborate it where analysis begins. The students should do more than just identify the author's point of view, create a thesis statement, and list their preferences for and objections to the piece. They ought to be able to support their arguments with specific instances or evidence and state whether the author succeeded in accomplishing his or her goals. According to Stotesbury (2000), critical writing should not be prescriptive but rather offer the writer room to respond critically to materials. A thorough analysis of the work is necessary for a strong and fair reaction paper. In this assessment task, students strengthen their critical writing skills by summarizing, analyzing, and synthesizing materials.

5. Analyzing and understanding were manifested in answering a CRQ assessment. The constructed response question demonstrated the higher-order thinking skill *analyzing* employing the cognitive process attributing. The authors' perspective on the restaurant was deduced by the students. They identified the characteristics of the restaurant that contributed to the review's persuasiveness. They were able to analyze the content and ascertain the

author's point of view. Additionally, they were able to articulate their opinions succinctly, support them with arguments, and support their arguments with evidence or other supporting data. It also displayed the lower-order thinking skill *understanding* employing the cognitive process inferring. The students gave their individual perspectives on the restaurant evaluation. They were able to express their opinions or justifications, but they did not provide any details to back up their claims. Different cognitive processes—attributing and inferring—are involved. In agreement with Anderson and Krathwohl (2001), attributing focuses only on the practical question of detecting the author's point of view or intention, whereas inferring focuses on the problem of inducing a pattern based on supplied information. The author's point of view or intention was explored in detail by some students, while other students deduced or drew a conclusion based on logic and supporting data. According to Bennett (2014), there are a few reasons why students struggle with constructed response questions, including the fact that some responses are too brief and require more information, and that students tend to write about their own knowledge of the subject rather than what the passage was about.

6. *Analyzing and understanding were manifested in writing a movie review.* The higher-order thinking skill of *analyzing* using the cognitive process of organizing was demonstrated in the movie review. The students gave a more thorough description of their cinematic experience while watching the movie, along with the title, author, and release date of the movie. They were able to express their critical opinions about the film, give concise justifications for their positions, and back them up with reasoned arguments. The students had the opportunity to provide an overall assessment of the film and evaluate whether or not it was worthwhile to recommend. Additionally, it exhibited the lower-order cognitive function of *understanding* using the cognitive process of inferring. The only information provided by the students was the movie's title, author, and release date. The students were able to express both their good and negative opinions of the film, but they were unable to elaborate more on their ideas or provide logical evidence to back up their claims. The students were unable to say whether or not they would suggest the movie; instead, they could only offer their overall opinions and impressions of it. It was only a list of their assumptions about the movie without any supporting information. According to Pablo and Lasaten (2018), Senior High School students struggle to write academic essays, and the overall quality of the students' academic essays ranges from poor to fair. As part of the prewriting process, students should create a thesis statement to specify the subject and ideas that will be covered. The creation of a strong thesis statement is essential to academic writing. Since the exercise is a summative assessment, students are required to exhibit higher thinking skills.

7. *Evaluating and applying were manifested in writing a critique on the movie's theme.* Movie theme critique manifested the higher-order thinking skill *evaluating* employing the cognitive process critiquing. The students were able to critique the theme of the movie. The students provided background information and a thesis statement in the introduction, an objective description, interpretation, and in-depth analysis of how the work conveys an idea or concept in the body of the paper, and an overall evaluation, the key points covered in the body, and suggestions for how to improve the work in the conclusion. Also, the lower-order thinking skill *applying* was shown employing the cognitive process executing. The students were unable to analyze the film's subject in specific, but they were able to apply the process by talking about the other aspects of the production, such as acting, storyline, cinematography, effects, and directing. Students' inability to closely adhere to instructions is the main reason why they were unable to complete the task's required level of critical thinking. Although they were able to apply the procedure, their attention was diverted from the topic at hand. According to Dunham (2020), following directions can have an impact on grades, subject-matter learning, and skill execution. Therefore, the instruction needs to be

explicit and gradually explained to the students in order for them to be able to satisfy the necessary thinking skill considering their working memory capacity and social context.

8. *Understanding was manifested in answering the exit slip.* Lower-order thinking skill *understanding* was manifested for an exit slip employing the cognitive process inferring. The students were able to deduce the value of concept paper writing for their individual strands and the course they will be doing in the future. When students make connections between their existing knowledge and the new knowledge they have learned, understanding is put into practice. The students were successful in demonstrating understanding, which was the activity's essential thinking skill. A sort of formative evaluation called an exit slip allows for a range of simple to sophisticated responses to be generated. This is consistent with Leigh's (2012) study, which found that students' written reflections confirm the use of slips as a vehicle for content review, aid in learning new knowledge, stimulate divergent thinking, and foster self-expression.

9. *Remembering was manifested in answering the Multiple-Choice assessment.* For the multiple-choice assessment, lower-order thinking skill *remembering* was evidently manifested employing the cognitive process recognizing. In the designed multiple-choice test, this thinking skill was featured the most. Based on the given description, the students were required to identify the concept. Their responses were recalled from memory, and the questions contained obvious clues. Depending on the students' scores, the level of remembering can vary. The students' scores, which reflect the degree to which they properly recognized the information, differ. Some students were able to achieve a score of 20, which indicates that they were able to recognize all of the information offered and were able to select the right responses. A score of 10 or higher was earned by some students who were able to recognize 50% of the information that was presented, indicating that some information was not effectively recovered. Last but not least, a few students scored 9 or lower, indicating that they only remembered a little portion of the information that was presented—less than 50%. As a result, the recall of pertinent information from long-term memory determines the level of remembering. On the other hand, multiple choice questions can measure higher order cognitive skills like analyzing and evaluating in addition to rote knowledge. The findings of Butler's study validate the use of multiple-choice tests for analysis (2017). He explained that the questions should have a comprehensible format, target particular cognitive processes that are relevant to learning objectives, and challenge students while allowing them to succeed often. The design of the multiple-choice test thus determines the cognitive skill level.

10. *Analyzing and understanding were manifested in writing an argument.* Argument writing manifested the higher-order thinking skill *analyzing* employing the cognitive process attributing. The fact that the students were able to articulate justifications for their beliefs elevated them above simple assertions. The students were able to cultivate critical thinking in this way. Also, it demonstrated the lower-order cognitive function of *understanding* using the cognitive process of inferring. The students had the ability to express their opinions on the issues, whether they were favorable or not. There were, however, no justifications for their assertions. As a result, some students were able to build logical arguments based on the concerns they identified, while others were just able to create arguments without any evidence to back them up. It is crucial that the students not only offer their claim or proposition regarding the matter, but also a justification or basis for it. According to Hormazabal (2007), the most typical argumentation structure in English writing is deductive, which calls for beginning with a generalization or assertion before establishing evidence or justification for it. The students should be able to convince the readers to take their point of view into consideration by developing a strong, well-reasoned argument that appeals to their reason, ethics, or emotion while using the cognitive skill of analysis.

11. Creating and understanding were manifested in writing a literature review. The literature review demonstrated the higher-order thinking skill *creating* employing the cognitive process generating. The cited literature was analyzed, summarized, and corroborated. The gaps in the literature were also identified. Summary of significant research, assessment and application to the thesis or issue, and analysis and synthesis are all presented. Additionally, the lower-order thinking skill *understanding* was exhibited employing the cognitive process explaining. The literature was only presented and explained by the students. There was insufficient discussion and evaluation of the literature, summaries of the review's findings, explanations of how the material was analyzed, a presentation of what the literature offers and where it falls short, recommendations for further research, or explanations of how the research will fill in the gaps in the body of existing knowledge. Additionally, some literature was not correctly cited. Even if it cannot be discounted that certain students showed understanding, it may be inferred that the students met the necessary thinking skill requirement of generating. According to Mohammed and Ahmed (2018), conducting a literature review calls for a methodical and systematized conception, arrangement, organization, and implementation that leads to a logical and impartial conclusion. By identifying the research topics, examining what work has been done and what has not been done but needs to be done, it does more than just report and state the conclusions and or findings of other studies. It also evaluates and assesses how such reports and conclusions are made. This is evident in the student outputs, where they merely summarized and interpreted the literatures without citing the literature, explaining the research gaps, synthesizing, and integrating prior knowledge and research findings.

C. Assessment Mechanism Integrating Higher-Order Thinking Skills

Problem 1 revealed that the teachers were able to reflect HOTS in most of the assessment activities, while problem 2 revealed that most of the students were not able to manifest HOTS in their outputs. Thus, the findings of the study conclude that there is a HOTS deficiency. To address the deficiency, the researcher proposed a model or guide that can help teachers design or further improve their assessment activities and attain the learning outcome. The example below is for the subject, English for Academic and Professional Purposes, in which the teachers can see the alignment of the cognitive dimensions and processes to the assessment to successfully achieve the intended learning outcome of the subject. Figure 1 below shows the HOTS-Based Assessment

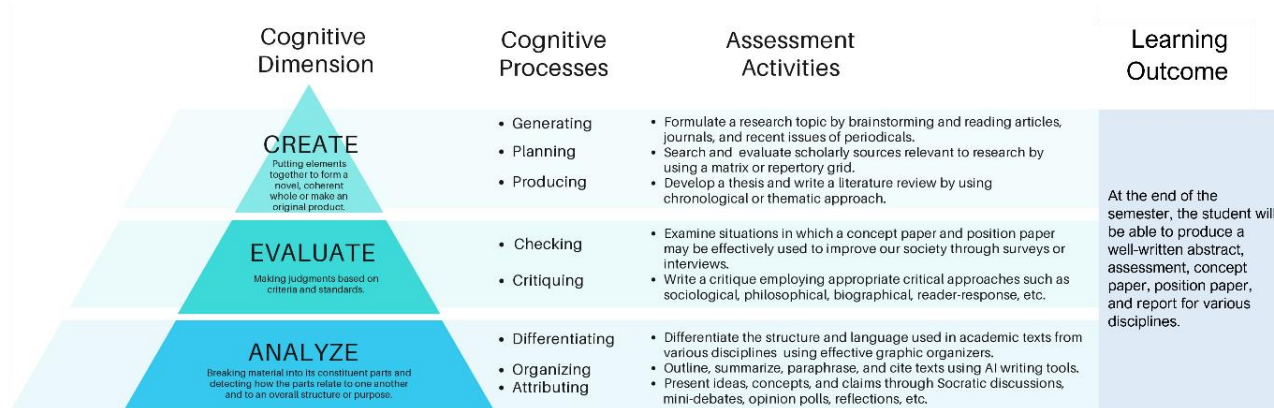


Figure 1. Guide for a HOTS-based assessment

The HOTS-Based Assessment Guide is based on the Cognitive Process Dimension of Anderson and Krathwohl (2001). These cognitive processes include Lower-Order Thinking

Skills (LOTS) and Higher-Order Thinking Skills (HOTS). HOTS are given premium to ensure transfer of learning. *Analyzing* involves breaking material into its constituent parts and determining how the parts are related to one another and to an overall structure. This includes the cognitive processes of differentiating, organizing, and attributing. Differentiating involves distinguishing the parts of a whole structure in terms of their relevance or importance. However, organizing involves identifying the elements of a communication or situation and recognizing how they fit together into a coherent structure. Attributing occurs when a student is able to ascertain the point of view, biases, values, or intention underlying communications. This cognitive domain enables the student to have an in-depth understanding of the concepts which is essential in writing a review, reaction paper, critique paper, position paper, concept paper, and report. In writing academic papers, material or work must be carefully examined to identify the intention of the author, the meaning of the text, soundness of argument, the purpose of the project, and research gap.

Evaluating is defined as making judgments based on criteria and standards. This includes the cognitive processes of checking and critiquing. Checking involves testing for internal inconsistencies or fallacies in an operation or a product but critiquing involves judging a product or operation based on externally imposed criteria and standards. This thinking skill further allows the students to critically examine texts guided with focus questions. English for Academic and Professional Purposes is concerned with academic writings such as notes, reports, projects, essays, articles, theses, dissertations, and journals that require extensive reading to be able to determine claims, arguments, evidence, conclusions, methodology, approach, results, the significance of the work, and contribution to the field.

Creating involves putting elements together to form a coherent or functional whole. This is also associated with three cognitive processes: generating, planning, and producing. Generating involves representing the problem and arriving at alternatives or hypotheses that meet certain criteria. Planning involves devising a solution method that meets a problem's criteria, that is, developing a plan for solving the problem. Producing involves carrying out a plan for solving a given problem that meets certain specifications. In English for Academic and Professional Purposes based on the curriculum guide, the learners are expected to produce a detailed abstract of information, objective assessment of an event, a person, a place or a thing, a well-balanced concept paper in a specific discipline, an insightful statement of principles and reasons for establishing a student organization, coming up with a group exhibit of creative works and others, and a well-written report for various disciplines.

Using this proposed model for a HOTS-based assessment, the teachers are guided in creating an assessment that promotes critical thinking through the identification of cognitive dimensions and processes. These cognitive levels dictate what tasks the students need to do to be able to successfully achieve the purpose of the subject. Moreover, this guide ensures that students' thinking progresses to higher levels, which can only be achieved through active learning. Teachers will be more aware of the thinking skills that students need to develop. They would be able to modify their activities based on the suggested guide, elevating lower-order thinking skills assessments to higher-order thinking skills to confirm meaningful learning and to attain the learning outcome, which describes the knowledge, skills, and values that students should be able to demonstrate at the end of the course.

The Department of Education (DepEd) assured that with the K–12 Basic Education Program, the senior high school graduates are competent and ready for whatever curriculum exit they will be pursuing: higher education, middle-level skill development, entrepreneurship, and employment. The students should be able to develop information, media, and technology skills, learning and innovation skills, communication skills, and life and career skills that are imperative in the 21st century, and these skills require higher-order thinking skills.

After graduating senior high school, students should be able to use the knowledge and skills they have learned and acquired in a new context they will encounter in the future. In higher-order thinking, also known as critical thinking, the students should be able to reason, reflect, and make sound decisions. They should be empowered to fulfill their responsibilities by participating and contributing to the development of society. They should also take the initiative and be involved in the various civic issues on which they will analyze and evaluate information and give their viewpoints and judgments. Lastly, through higher-order thinking as problem solving, the students should be able to identify and solve problems in their academic work and in life. The students should be able to develop solutions and create tangible products to address real-world issues and problems. This is the reason why teachers should provide authentic assessments that require higher-level thinking from students when performing real-world tasks and applying the essential knowledge and skills developed during their learning.

Teachers must understand that the success of teaching HOTS will only manifest when the conventional concept of conveying knowledge becomes secondary to a more constructivist view that allows students active learning and leverages meaning-making in the learning process (Yen and Halili, 2015). To ensure that the students can apply their learning and display critical thinking and problem solving in order to ensure transfer of learning, the teachers' prepared assessment activities must allow the students to use the cognitive levels of analyzing, evaluating, and creating. In this way, students' learning is optimized, and successful education is achieved.

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The designed assessment activities of teachers in English for Academic and Professional Purposes apply higher-order thinking skills; however, the activities are not adequate to attain the intended learning outcome of the subject. Thesis statements, 200-word reaction papers, constructed response questions, movie reviews, movie theme critiques, argument writing, and literature reviews all demonstrated higher-order thinking abilities that foster analytical, creative, reflective, and metacognitive thinking. On the other hand, Venn diagrams, true or false questions, exit slips, and multiple-choice tests exhibit lower cognitive skills and must be elevated to ensure that learning does not simply prioritize rote learning but also meaningful learning.

2. Students' reflections of higher-order thinking skills in their outputs are not fully evident, showing that they do not use critical thinking. In the above-mentioned assessment activities, the students demonstrated higher-order thinking skills, but more of them displayed lower-order thinking. This implies that the students' critical thinking and learning transfer are lacking.

In order to make sure that higher-order thinking skills are reflected in the teachers' assessment activities and manifested in the students' outputs, the HOTS-based Assessment Guide was proposed. This is also to ensure the alignment of thinking skills with the learning outcome.

Recommendations

1. The teachers should reevaluate their constructed assessments addressing higher-order thinking skills to ensure application and transfer of learning.

2. The students should be trained to focus on learning rather than grades so they can demonstrate ownership of their own learning and become independent and self-directed learners.

3. The school administrators should monitor the learning plans prepared by the teachers to show a systematic and progressive development of students' skills, resulting in understanding and culminating in the transfer of learning.

4. The curriculum planners and developers should continually improve procedures for teachers to implement the curriculum effectively, conduct training conferences and workshops to develop teachers' proficiency, and conduct further research to enhance the curriculum implementing HOTS.

5. The future researchers should conduct further studies on HOTS-based assessment to meet the standards and competencies of the K12 program using other methods and procedures.

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Challenges and Successes of Flexible Learning Modalities in the English Language Classroom in the New Normal

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Abstract: *Schools and universities all over the Philippines have persistently searched for innovative means to address the challenges and criticisms of the online learning modality. This study was conducted to 1) identify the flexible learning modalities used by teachers in the English language classroom; 2) analyze the seriousness of the challenges encountered and the level of success attained by students and teachers, and 3) design a flexible learning model and a teacher's guide in Purposive Communication to address the challenges. The investigation was limited to probing the synchronous and asynchronous modalities. A quantitative descriptive approach was employed. Also, one-on-one interviews were conducted to substantiate the quantitative results of the study. Based on the findings, teachers used video conferencing, a virtual classroom, interactive chat sessions, and screen sharing during the synchronous class, while communication during asynchronous mode was through social media and email. The degree of seriousness of the challenges in the synchronous modality is perceived by the participants as moderately serious, while in the asynchronous modality, teachers perceived the challenges as not serious, and learners perceived it as moderately serious. Furthermore, the level of success attained along the synchronous and asynchronous modalities is significantly attained as perceived by both teachers and learners.*

Keywords: *flexible learning, synchronous, asynchronous, modality*

I. INTRODUCTION

The novel coronavirus has significantly affected most sectors of society; this infectious disease is not merely a severe global health concern because its impacts translate to socio-economic disruptions (Evans et al., 2020) and political crisis (Chakraborty & Maity, 2020). In education, the effect is in the form of the closure of schools and universities (Viner et al., 2020). The schools' closure has also reshaped education's landscape by shifting from face-to-face to full online learning (Gewin, 2020). Today, online education plays an increasingly significant role in education, fusing it with the traditional face-to-face lecture, thus providing learners a flexible learning approach with increased choice, convenience, and personalization to suit them.

According to Shurville et al. (2008), flexible learning offers learners choices about where, when, and how learning occurs. Flexible learning approaches are designed to provide more helpful and valuable teaching strategies and methods to teachers and offer more opportunities and choices to students as they access information and learning content. Flexible learning gives students another avenue to contribute their ideas and opinions and correspond with other learners and mentors. With today's world's situation, many face challenges in education, especially with the sudden shift away from the classroom, whether distance learning, blended learning, or flexible learning; these have been timely and relevant and are now a part of the new normal. Educational systems are also preparing for the post-COVID-19 era characterized

by the "new normal" (Cahapay, 2020), and academic institutions opt for valid strategies and plans to ensure proper learning experiences. Nowadays, flexible learning is probably as popular as on-campus learning, and many students face this hybrid education platform. According to Chen (2003), with flexible learning, students have access and mobility with at least one of the following aspects: time, place, pace, learning style, content, assessment, or learning path. Flexible learning provides both teachers and students opportunities to learn and practice in a visual and virtual environment. In flexible learning, the content must be made available so that students can access it anytime and anywhere. Khan (2007) notes that flexibility means "on-demand, anytime/anywhere high-quality learning environments with good support services," fore sighting that more schools will offer flexible learning to students worldwide in the future. This provides the learners with more independence allowing them to learn at their own pace. Flexible learning also enriches classroom engagement, improving students' autonomy and learning.

Today's students and teachers are increasingly being provided with online educational experiences through flexible learning environments; and various problems and promises of online learning. Research has recognized both successes and challenges students experience in taking online classes and determined pedagogical approaches that can address these difficulties to increase the likelihood of successful online teaching and learning. Thus, this research aimed to discover the flexible learning modalities used by language teachers and explore the degree of seriousness of the successes and challenges in the English language classroom. To attain these objectives, the research addressed the following specific questions:

1. What are the flexible learning modalities used by teachers in the English language classroom along the lines of:
 - a. synchronous; and
 - b. asynchronous modality?
2. What is the degree of seriousness of the challenges experienced by learners and teachers in the use of synchronous and asynchronous modalities?
3. What is the degree of seriousness of the successes experienced by learners and teachers in the use of synchronous and asynchronous modalities?
4. What flexible learning model may be designed to address the challenges experienced by the learners and teachers?

II. RELATED LITERATURE

Numerous studies present successes on student learning outcomes in the online or hybrid format compared to the traditional face-to-face format. Navarro and Shoemaker (2000) compared online and offline learners' performance. They concluded that online students' learning outcomes were as good as or better than traditional learners irrespective of their background characteristics. They added that students were broadly satisfied with online learning. The study of Goldsmith (2001) explored students' attitudes toward online instruction. The study examined responses from 400 students enrolled in 72 online courses offered by 15 different schools. The study showed that the students responded positively. The research mentioned flexibility of time and place as the primary reason for using the online platform. It also stated that good communication and interaction were reasons for taking the course. Most respondents perceived that they could be more open and honest online, and they felt freer to disagree with others than they would be in a face-to-face classroom. This means that the participants of the study found online instruction a better platform than the traditional learning environment.

The success of flexibility in online courses cannot be denied; hence, students become more interested in online learning. Online learning allows students to work at a time and a place compatible with their learning needs. An article that Hill wrote (2006) explored the key features of flexible learning environments. She posited that flexible learning environments provide an excellent combination of what, where, when, why, and how learning can occur at a distance, seeking to combine practices from face-to-face and online contexts in the realms of delivery and learning. According to Dorrian and Wache (2009), flexible learning strategies helped students achieve learning outcomes and become autonomous learners; they also provided rich and appropriate support for students.

Despite the promises and apparent success of the flexible learning modality, research has also noted challenges on this online learning experience. Orlando and Attard (2015) asserted that teaching with technology has no standardized approach as it depends on the types of technology in use and the curriculum content being taught. This means that integrating technology provides additional factors for consideration in teaching pedagogy and the construction of learning experiences. Several studies also suggest that geography (e.g., rural versus urban learners), access to and limitations of developing technology, whether web-related or focused on things like video and teleconferencing, are also limitations of flexible learning (Lobry de Bruyn, 2004). Inadequate access to technology and remoteness of location are notable inadequacies of online learning.

In an investigation of Southeast Asian students studying via distance education in Australia, Samarawickrema (2005) contended that students' high teacher reliance and high goal orientation are needed to be accounted for in the instructional design, otherwise, flexible learning would be less likely to be successful; this was also confirmed in the work of Chen et al (2008) on Chinese students. These studies share in their critique of flexibility. They argue that while flexible learning brings many benefits, learners must be prepared and explicitly supported in the challenges that mDight impede students' engagement with their learning. In other words, flexible learning is only flexible as learners can adapt to it, and this process is not necessarily easy or intuitive.

In the Philippines, evidence on using online learning platforms reveals that e-learning is slowly taking the limelight. Abisado et al. (2020) provided a framework for local universities and colleges in the Philippines in implementing flexible learning procedures. The recommended asynchronous course delivery consists of designing outcomes-based teaching and learning plan, course materials, scheduled online and face-to-face meetings, technology, and a center for technology education. Moralista and Oducado's (2020) research determined the perception toward online education among faculty in a State College in the Philippines. The teachers perceived online education to result in more academic dishonesty, it is impersonal, and lacks feeling compared to face-to-face classes, and is challenging to manage in terms of technology. The study of Dela Cruz and Catura (2020) showed that teachers are doubtful about a reliable internet connection and computer accessories like microphones, headphones, and webcams to be utilized in the virtual classroom. Limited resources for online learning have been considered as some of the significant challenges faced by teachers and students.

The presented local research generally focused on developments and groundworks on using technology and flexible learning as support or enhancement to improve teaching and learning. Limited research also presented existing problems and promises of the flexible learning approach in the Philippine context. A dearth of research on specific learning modalities and the degree of seriousness of the challenges and successes of using virtual learning environments in education and student learning is an interesting research undertaking.

III. METHODOLOGY

Research Design and Methodology

This study made use of the quantitative descriptive research method. Quantitative data collection relies on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories.

Specifically, the research employed survey research using a questionnaire checklist and survey instruments. Survey research is a quantitative method whereby a researcher poses some set of predetermined questions to an entire group, or sample, of individuals (Blackstone, 2018).

To enrich the study, interviews through video chat with selected vital informants were undertaken to shed light on the factors that explain experiences in the use of flexible learning modalities (Kumar, 1989).

Population and Locale

The participants of the study were students enrolled in the subject Purposive Communication, and the instructors teaching the subject at the University of Baguio, Philippines. All the 11 language teachers assigned to teach Purposive Communication were requested to participate in the study, while random sampling determined the learners who participated in the research; 300 students answered the survey. Expert language educators teaching Purposive Communication from other schools and learners who did not participate in the survey were interviewed to supplement the quantitative data. During the investigation online modality was the mode of learning of the participants.

Data Gathering Instruments

Several data-gathering tools were used in this study.

The first tool was a questionnaire- checklist. It is a simple laundry-list type of device consisting of a prepared list of items. It is a type of questionnaire in a set of categories for the respondent to check. It is used to record the presence or absence of the phenomena under study (Hewson, 2017). The checklists consisted of various flexible learning modalities used by teachers in the English Language Classroom; the list was clustered into two categories: synchronous modalities and asynchronous modalities. The learning modalities were based on previous research findings of Tutty and Klein (2008), Moore and Kearsley (2011), and Mick and Middlebrook (2015). The questionnaire- checklist determined the flexible learning modalities used by the teachers.

The second survey instrument was used to evaluate the extent of seriousness of the challenges and the attainment of the successes of the flexible learning environment. The first segment of the survey instrument addressed the challenges in the synchronous modality; it is a survey instrument adapted from Ali et al. (2018). The instrument consisted of a list of challenges in flexible learning. The second segment of the instrument used was adapted from the research of Misko (2020).

To determine the extent of attainment of the successes experienced using flexible learning modalities, the concepts of Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) (Davis, 1989) were used as references for the items relating to successes in using flexible learning. A semi-structured interview guide to extract the supplemental descriptions of the learning modalities used by the participants was also utilized. Descriptive analysis of the interviews complemented the numerical findings of the study.

Data Analysis

The items in the survey instruments are in the form of a 4-point Likert- scale. Weighted mean and standard deviation were used. The survey instruments used the following descriptive equivalent and verbal interpretations.

STATISTICAL LIMIT	DESCRIPTIVE EQUIVALENT	VERBAL INTERPRETATION
3.26 - 4.00	Greatly Serious/ Attained	Greatly It definitely exists and is well established
2.51 - 3.25	Significantly Significantly Attained	Serious/ It does exist
1.76 - 2.50	Moderately Moderately Attained	Serious/ Only marginally demonstrates existence
1.00 -1.75	Not Serious/ Not Attained	Does not exist

IV. RESULTS AND DISCUSSION

This study investigated the flexible learning modalities used by teachers in the English language classroom. It also sought to find out the degree of seriousness of the challenges and successes experienced by learners and teachers. Lastly, the study also designed a flexible learning model and a teaching guide to address the challenges experienced by the learners and teachers.

Flexible Learning Modalities Used by Teachers in the English Language Classroom

There are two primary forms of flexible learning tools: synchronous and asynchronous. For synchronous mode, all the teacher-participants use video conferencing, interactive chat sessions, screen sharing, and the virtual classroom in their English language classes while they use email and social media sites in the asynchronous approach.

Video Conferencing

Video conferencing is an interactive and synchronous voice, video, and data transfer organized between two or more entities via communication lines (Gough, 2006). This setup links students and teachers who are in different locations. According to the participants, they use videoconferencing as it enables face-to-face communication since it becomes a channel between learners and teachers with the aid of audio and video telecommunications. Using video conferencing during synchronous classes allows live meetings between the learners and teacher from different locations which expands communication, sharing of knowledge, and experience. Using video conferencing permits live meetings among participants from different locations. It facilitates direct communication.

Interactive Chat Sessions

Interactive chat sessions involve one-to-one interaction between students and teachers using the chat application of the social networking sites like Facebook group chats and chat

features found in Learning Management Systems (LMS). Teachers who use interactive chat sessions mentioned that the tool supports the most learner-learner interaction in the synchronous virtual classroom. Specifically, interactive chat sessions afford techniques to ask questions, provide clarifications, give instructions, set reminders, post essential announcements, or prompt assignments which typically involve independent study. As gathered from the teacher-participants, taking part in the conversations in interactive chat sessions, help improve students' written language skills; it is an avenue for them to exercise their English communication competence.

Virtual Classroom

The virtual classroom is a structure that provides the same prospects for the teaching and learning process, further than the physical limits of the traditional classroom walls. This modality allows the learners to participate in learning activities by using the learning management features provided in the virtual classroom. Participants can communicate and view each other, letting them feel more connected. The term 'virtual classroom' refers to a variety of online learning environments; these are interactive learning spaces established in virtual worlds (Masters & Gregory, 2010). Participants can engage in 'live' virtual meetings and communicate using multimedia services such as streaming video and audio. The participants mentioned that the physical classroom features have been transferred into a virtual classroom with enhanced characteristics.

Screen Sharing

Screen sharing is another notable modality used by teachers in language teaching. Screen sharing allows the user to present teaching aids and resources like PowerPoint presentations or videos. The teacher and the learners can share images, videos, PDFs, document files, and more. Sharing screens creates a more interactive environment for attendees. The screen sharing feature allows the teacher to show her students her teaching resources, like visual presentations, video clips, and document files. This feature also helps learners visualize the lessons as they are given these images. The study of Abou-Khalil et al. (2021) revealed that students perceived sharing the instructors' screen as the most effective strategy within all categories. When a person shares a presentation or a file on the computer screen, actions taken in the shared file are visible to all participants in the meeting. Screen sharing offers reliable, interactive, and visual resources that reduce feelings of remoteness and enhance the classroom atmosphere.

These synchronous components of communication are sometimes supplemented with asynchronous forms. The teacher-participants use email and social media sites to take advantage of the flexible learning platform.

Email

Sending e-mails is excellent support for communications in educational centers. E-mail is a fast, customizable, economical, and efficient communication medium that you can convey to students, teachers, parents, guardians, superiors, and others. Sending emails as a form of communication between the teacher and the learners can be a valuable tool in maintaining a satisfactory level of communication among students and their language instructors. As a cost-effective and available means of communication, e-mail meaningfully influences connections within and across colleges and universities. It has become a medium for obtaining and using information and resources.

Social Media Sites

Social media let learners generate their content without restrictions and create learning environments through collaboration among learners and teachers. Social media can be a foundation of advanced adaptive learning (Greenhow & Robelia, 2009) since social media is open anywhere, anytime, and by anyone connected. It is easier for users to use it. Studies suggest that students and teachers have steadily increased the use of social media for communication, creative expression, and coursework-related collaboration. Based on the research description of Balakrishnan and Gan (2016), the popularity of social media can activate learning because of its wide acceptance and the facility to create virtual online learning groups, supporting the idea of sharing and promoting active interaction between students and teachers can enable and encourage learning.

Both asynchronous and synchronous modes can be advantageous for language learning (Pérez, 2013). A blend of the two models can allow students to learn than any of the individual models better. Asynchronous and synchronous modes can complement each other in teaching/learning language (Laurillard, 2007); utilizing these modalities also create meaning through dialogue, reflection, and experience (Reynolds et al., 2002). When blended, they can provide an excellent model for enhancing language learners' cognitive participation, information processing, and motivation (Ge, 2011). Language learning is more of a skill-oriented process rather than content mastery. Recurrent synchronous sessions are required to develop listening and speaking skills (Wang & Chen, 2009). As most online students work and study simultaneously, the asynchronous mode is more appropriate (McLoughlin & Lee, 2010) to avoid anxiety resulting from being time-bound in synchronous sessions (Guichon, 2010). It is crucial to learn students' perceptions about the impact of synchronous and asynchronous sessions on their behavior to improve online learner-centered language pedagogy.

Seriousness of the Challenges Experienced by Teachers and Learners in the Use of Flexible Learning

Flexible learning has gained much recognition ever since the halt of the face-to-face mode of learning; however, it is undeniable that learners and teachers are confronted with challenges since its implementation in various universities and colleges.

Challenges Relating to Technology

Although teachers and learners generally appreciate the benefits of educational technologies, they often find the smooth and effective integration of new educational technologies challenging. The study revealed that challenges relating to technology is moderately serious; teacher-participants gained a mean result of 1.98 while learner-participants obtained 2.45, respectively (See Appendix A). This implied that technology as a challenge only slightly demonstrates existence. For both teachers and learners, bandwidth issues and connectivity and virus attacks appeared as the two top concerns.

Bandwidth issue and connectivity refer to the slow speed of the internet and high internet traffic during the e-learning experience (Ali, 2004). Teacher-participants find bandwidth issue and connectivity as a moderately serious challenge (2.36) while learner participants believe that is significantly serious challenge (2.71). These results imply that even though almost all teachers and students who are participating in the synchronous learning mode have internet access at home, some connections are slower than others. When connectivity is weak, this disrupts and hampers communication, interrupts the discussion, and spoils the attention and interest between the learners and the teacher.

The survey results reflect that virus attacks are a moderately serious challenge (2.27) for teachers while it is a significantly serious (2.95) challenge as perceived by learners. The perception of teacher and learner participants on the extent of seriousness of virus attacks as a challenge differs from each other. This result can be related to the distinct circumstances faced by teachers and learners in the synchronous modality. A learner-participant mentioned that advertisements and click baits when downloading applications on personal computers sometimes cause anxiety and concern; the pop-up advertisements and click baits that have viruses that cause computers to malfunction or slow down. A teacher's shared experience was different in this aspect.

Challenges Relating to Individual

Challenges relating to individual pertains to the experiences of the learners in the synchronous modality (Andersson & Grönlund, 2009). Teachers' perceptions of their students' experiences and learners' perceptions about their experiences in the use of the synchronous modality were surveyed.

The teachers perceived the following concerns as challenges. As a sub-area, results show that language communication teachers perceived their students' experience as a significantly serious challenge (2.63). Specifically, teacher-participants perceived (1) technological difficulty (3.09), which elaborates that, students are facing technological difficulty in using e-learning technologies (Gutiérrez-Santiuste, & Gallego-Arrufat, 2016) and (2) cost of using technology (3.09) which refers to the high cost of using technologies for the learners (Andersson & Grönlund, 2009) as the two most challenging experiences for the students using the synchronous modality. Teachers observed that some students lack the technical know-how on using some features of the virtual classroom. Another concern perceived by teachers is the cost of using technology for learners. Some students have gadgets and equipment, but the functions and capacity of these instruments are limited. Teacher-participants of the study expressed concerns about the cost of gadgets used in online learning and internet subscription fees. Some students who participate in flexible learning struggle to acquire digital devices and a stable internet connection as this is an unplanned expense.

In comparison, the students find the following concerns as challenges. Challenges relating to individual is reflected as a moderately serious challenge (2.33). Conflicting priorities (2.88), which refer to time devoted to e-learning causes priority conflict emerged as the top concern. This reveals that some learners experience adjustments because of divergent priorities, the shift from face-to-face modality to virtual set-up, and the unforeseen expenses in upgrading and internet support to make the synchronous system workable. Interviewed students mentioned that the sudden shift from traditional face-to-face learning to online learning was a change they were not prepared for. Students' academic tasks are sometimes interrupted by personal tasks at home, and this sometimes causes a predicament for a learner as to which task is to prioritize.

Challenges Relating to Pedagogy

'Pedagogy' as an umbrella concept that encapsulates both teaching methodology and faculty/staff-related challenges; it also concerns barriers related to teaching methodology, faculty, supporting staff, and course content (Ali et al., 2018). For teachers and learners, generally, pedagogy is a moderately serious challenge (2.35, 2.22).

Teachers are the key players in preparing online classes. When they were asked about the challenges that they face in preparing, planning, and designing the online lessons, their answers reflected that as a sub-area, pedagogy is a moderately serious challenge. Specifically, the teacher-participants found (1) faculty support (2.45) which means the lack of

support being put by faculty members in the use of e-learning, and (2) faculty development (2.36) which implies the lack of training and development in faculty, and limited change in teaching methodology of faculty in response to ICT developments as the top two concerns.

The challenge of inadequate training related to technology was a concern for teachers, particularly during the first phase of online learning. Most of the teachers who were interviewed shared their predicaments on the much-needed training to learn details and techniques in using learning management systems and online teaching-learning platforms.

Although moderately serious, language learners who participated in this study find faculty facing difficulty in engaging students online (engaging students- 2.18), as the chief challenge they experience in the synchronous modality. The teacher's motivation, persistence, and technique set a very important role in learners' active engagement and participation in the virtual class. In a language classroom, maintaining interaction and open communication is important since it also trains the students in their communicative skills. Teachers and learners find pedagogy as a sub-area a moderately serious challenge. Learners tend to have preferences not only in the teacher's teaching strategy but also in the mode of delivering instruction. In this study, overall, the survey result on challenges along the synchronous modality is tested as moderately serious (2.35/ 2.22). This would infer that the participants of the synchronous modality have experienced limited and under-control challenges.

Aside from the synchronous modality, students also encounter limitations in the asynchronous platform, especially if lessons require face-to-face contact and direct interaction (See Appendix B).

Challenges Relating to Technology

Challenges relating to technology in the asynchronous platform reflect problems relating to internet connectivity and access to appropriate gadgets or equipment as both teachers and learners perceived this as moderately serious challenge, with a sub-area mean of 1.82 and 2.48 respectively. Specifically, teachers considered not having a good and fast internet as a moderately serious challenge (1.82) while learners perceived it as a significantly serious challenge (2.63). This is another instance when teachers' experience with technology is better than learners' experience. This could be attributed to the differing conditions of the respondents. Some students experience internet traffic which slows down connectivity when they do their classwork. This pushes learners to suspend completing their tasks until the internet connection improves. Hence a poor internet connection delays the research, and the completion of these class works.

Challenges Relating to Individual

Challenges relating to individual consists of items about the learners' experiences related to communication, assessment, and activities in the asynchronous modality. The challenges reflect an overall mean of 2.09 and 2.28 which resonates that teachers and learners perceive it as a moderately serious challenge. Collectively, the challenges that emerged with the highest means are related to teacher-student communication and assessment.

Based on the language teachers' perception of the challenges, the item that garnered the highest mean is difficulty achieving the required learning competencies and skills (2.09). Learning competencies refer to the desired knowledge, skills, and attitudes of a learner completing a course. These competencies are knowledge, skills, and attitudes that help learners to reach their full potential. English language competencies refer to using English in the four significant areas speaking, reading, listening, and writing. Language teachers make ways to improve the students' communicative competence by utilizing informal conversations on social media platforms and emails.

Learner- participants find most of the challenges relating to the individual as moderately serious except for one issue which appeared to be a significantly serious challenge. This pertains to reaching out to the teacher when the student has questions (2.53). Learners feel that contacting the teacher when they point to clarify or ask about, is challenging. Since the asynchronous modality allows students to do tasks at their convenience and time preference, sometimes, the moment they ask the teacher is not suitable for the teacher's availability. This causes a delay in giving responses to students' inquiries to which the learners might interpret as their teacher is difficult to contact when they have a concern or a question.

Challenges Relating to Pedagogy

Challenges relating to pedagogy enumerate teachers' practice in managing and organizing tasks and providing students' feedback. As a sub-area, the teacher's perception of the extent of seriousness of this challenge is not serious (1.66). This means that language teachers do not find pedagogy in the asynchronous modality a problem nor a difficulty. Consequently, learners perceive challenges relating to pedagogy as a moderately serious challenge with a sub-area mean of 2.88. This suggests that teachers find their strategies in handling asynchronous activities quite dissimilar from the learners' point of view.

Among the concerns recorded, teachers rated the challenge on the teacher not being given enough time to read and marked all the activities and assignments with the highest mean of 2.00 and a moderately serious challenge. Meticulous checking of students' outputs requires time and detail-mindedness. In line with monitoring online classes, effectively evaluating students in asynchronous learning and collaborations poses difficulties for instructors since they cannot accurately evaluate everyone's performance and participation, especially in detailed class discussions and lectures (Ellis, & Hafner, 2008). To ensure the quality of students' outputs, language teachers not only mark papers but also consider the originality of work and substance of content and this situation leaves the teacher not having enough time to read and mark all the activities and tasks.

The learners perceived the extent of seriousness of the challenges relating to pedagogy as moderately serious. Specifically, issues about the activities and tasks being presented at the same time in many other subjects (2.62) and problems in monitoring and managing asynchronous activities (2.44), both interpreted as a significantly serious challenge garnered the two top places. Learners perceived that activities and tasks in the asynchronous modality are given simultaneously in other subjects. This suggests that some learners may find it demanding when activities in the different subjects overlap, but this situation also improves and enhances their time management and organizational skills. While one of the most significant advantages of asynchronous modality is flexibility, it can also create issues for students who have trouble maintaining a schedule.

Attainment of the Successes Experienced by Teachers and Learners in the Use of Flexible Learning

Characteristics of the success along the synchronous and asynchronous modalities were based on Davis' (1989) technology acceptance model (TAM); this was used as a guide to find out the degree of seriousness of the successes in the language classroom. Specifically, perceived usefulness (PU) and perceived ease of use (PEOU) were considered as qualifying factors. The items were categorized according to Technology, Individual, and Pedagogy to match the previous themes presented in the challenges of flexible learning modality (See Appendix C and D).

Successes Relating to Technology

Successes that relate to technology reflect the advantages of technological tools that enable access to assessments and learning materials. Learners and teachers share a similar perception on the extent of attainment of successes as this sub-area; it reflects a significantly attained success (2.97, 2.89). Particularly, results suggest that technologies are available to enable the students to take tests. The teacher-participants find this success as greatly attained (3.27), while learners favored it as a significantly attained success (2.94). This implies that assessment of student learning is a vital aspect of instruction, and it has a critical role in the teaching process. Teachers can rank and grade their students through proper assessment, give feedback, and structure their teaching accordingly. Even in a flexible learning approach, the value of assessments is evident for both teachers and learners.

Assignments are also a critical aspect of assessment that help evaluate the students' writing skills, cognitive understanding, language competence, and presentation skills. In the synchronous platform, technologies are accessible to allow students to submit assignments electronically. Teachers find this feature of the synchronous modality very much attained success (3.27), while learners perceived it as much attained (3.05). This could imply that teachers find the functionality of these technological tools very helpful and advantageous to them as it makes their tasks less burdensome, while learners recognized that the assignment and quizzes feature in the synchronous mode served its purpose. The overall results of the success relating to technology suggest that technology plays a significant role in language classes; it can be used as a supportive tool to facilitate teaching and learning.

Successes Relating to Individual

Flexible learning environments can provide learners with opportunities for flexibility, interaction, and collaboration that are distinctly different from face-to-face learning environments. The extent of success relating to individual as perceived by teachers and learners is much attained (2.87/ 2.75). This denotes that students' experience in the synchronous modality has more promising outcomes than problematic effects.

Language teachers' perception shows that the 11 items relating to individual reflect a significantly attained success as descriptive interpretation. Notably, interactive communication between the teacher and students (3.09) had the highest mean. Support for students in an online environment promotes interaction between learners and teachers. This does not only mean communication between teacher and learners, but it also means significant connections and understanding between the student and the course content. Learning technologies improve the ways learners and professors connect, communicate, collaborate, and create knowledge for learning and teaching in online learning spaces.

Learners find significantly attained success in ten of the issues relating to the individual's experience. Most notably, the learners recognize that it is easy to submit requirements and tasks (2.92) in the learning management systems. The synchronous modality offers learners several ways to organize learning opportunities in flexible learning modalities. Learners have compared the convenience of submitting outputs in the online modality and face-to-face platform, and many find the accessibility of submitting paperless assessments and avoiding the trouble of waiting for the teacher when submitting late tasks beneficial. A paperless assessment is not just a new tool for learning but can also be considered a new paradigm in teaching and learning.

Relating to Pedagogy

Successes relating to pedagogy are perceived by teachers and learners as significantly attained with sub-area mean results of 3.16 and 2.87 respectively. These results suggest that

respondents of the study are satisfied with the instructive features of the synchronous modality.

Significantly, teachers being able to provide students with immediate feedback during virtual meetings is perceived as a greatly attained success (3.27). In a supportive technology-enhanced learning environment, teachers are often encouraged to provide immediate descriptive feedback and convey expectations while acknowledging and respecting learner diversity. Engagement and convergence during synchronous classes prompt learners to ask questions, share their ideas, and make clarifications.

The learners perceived that the extent of attainment of successes relating to pedagogy is significantly attained. Aside from the teacher providing immediate feedback during virtual meetings (2.96) and lectures becoming more understandable due to the additional explanations given (2.93), learners also perceive that the teacher being able to give real-time assessments and tasks (2.94) is a significant success. The learner becomes more conscious and attentive to be able to follow the directions given during the task. The learner is also able to clarify directly with the teacher if he feels unsure and since the activity is done during the synchronous schedule. Real-time assessments and tasks given in a language class can also be opportunities for live oral presentations to demonstrate knowledge.

Like synchronous learning environments, asynchronous learning also delivers opportunities for lecturers and students to participate in the educational process.

Successes Relating to Technology

In the asynchronous modality, the learner controls technology to interact directly with the content in the absence of a facilitator. Learners and teachers perceive the extent of attainment of success relating to technology in the asynchronous modality as significantly attained (2.98/2.81). Particularly, respondents recognize the important role of technological tools that facilitate communication and interaction in the asynchronous modality as they perceive the usefulness of the electronic tools to enable interactive communication (3.09/2.83). The available avenues for online communications in the asynchronous modality are enhanced using external social media sites. Students and teachers usually communicate through instant messaging. Communication tools like Facebook messenger and email become the channels to put across instructions and explanations about tasks. Asynchronous communication engages students by providing opportunities to share their thoughts and ideas even outside the virtual classroom.

Survey results also noted that asynchronous technology allows learners to do better collaborative tasks (3.00/2.86). The value of collaborative tasks resulting in positive outcomes is also a highlight and success in using the asynchronous modality. Asynchronous modality provides an opportunity to create a highly social learning environment characterized by involvement and interactivity for both students and teachers.

Successes Relating to Individual

On the success relating to the individual, all the items were perceived to be significantly attained for both teachers and learners (2.89/2.75). These results suggest that features of the asynchronous platform relating to individual (learner) provide useful and meaningful outcomes that influence learning.

Views of teacher-participants disclose that meaningful interactions between learners and the teacher (3.10) is a significantly attained success in the asynchronous modality. In the asynchronous modality, teacher and student interactions do not only involve conversations relating to academics; often it also includes casual exchanges among the students and between teacher and students. The asynchronous interaction allows dialogue between and

among students and their teacher; these instances also validate not only learners writing skills but also reading comprehension and language competence.

Revealed as a significantly attained success, students are provided with the flexibility and convenience to study whenever they want. Participants of the study perceive this as a positive (teachers- 3.09, learners- 2.83) condition of the asynchronous modality. The flexibility of the asynchronous modality allows learners to be in better working conditions to produce tasks with better quality. The most crucial factor contributing to participants' positive experience of the asynchronous modality was the flexible class participation time and convenience.

Successes Relating to Pedagogy

As a sub-area, success relating to pedagogy is revealed as significantly attained for both teachers and learners (2.93/ 2.81). These findings could infer that access to resources and learning tools offers significant consequences to the teaching and learning experiences in the asynchronous platform.

The first success relating to pedagogy described as greatly attained (3.27) is: it is easy to find the necessary information in the modular materials. Learning materials are provided in the form of modules. Common interactive and learning tools for modality include emails, blogs, wiki websites, and audio or video streaming. These are presented with important lecture notes and lessons. Many courses and subjects are compiled and compacted with instructions and tasks included in a module. The use of modules promotes autonomous learning. With clear and comprehensive instructions, the learners complete the tasks and move forward in learning.

Learners' perception of the success relating to pedagogy also exhibits a significantly attained success. These successes are focused on the usefulness of resources and instructional materials in the asynchronous platform. Learners perceive that easy access to resources and instructional materials is a significantly attained success (2.89). Course modules are available on many educational websites, and self-paced learners can use discovery tools and search engines to retrieve these. The learning management systems that support asynchronous learning have features that store and share video-recorded lectures with students.

Flexible Learning Model and Purposive Communication Teacher's Guide for the Language Classroom

M TIP Flexible Learning Model

The flexible learning model reflects the modalities used by teachers in the synchronous and asynchronous modalities; it also highlights the degree of successes and challenges in technology, individual, and pedagogy. The flexible learning model captures the four important elements in the synchronous and asynchronous modalities as they are used in the language classroom. The four elements consist of (1) Modalities, (2) Technology, (3) Individual, and (4) Pedagogy. Hence, the name M- TIP model of flexible learning. The flexible learning model outlines the effective modalities used by language teachers in synchronous and asynchronous platforms. These flexible learning tools, when operated properly will increase classroom performance since learners are more likely to do well if teachers use various tools applicable to their circumstances.

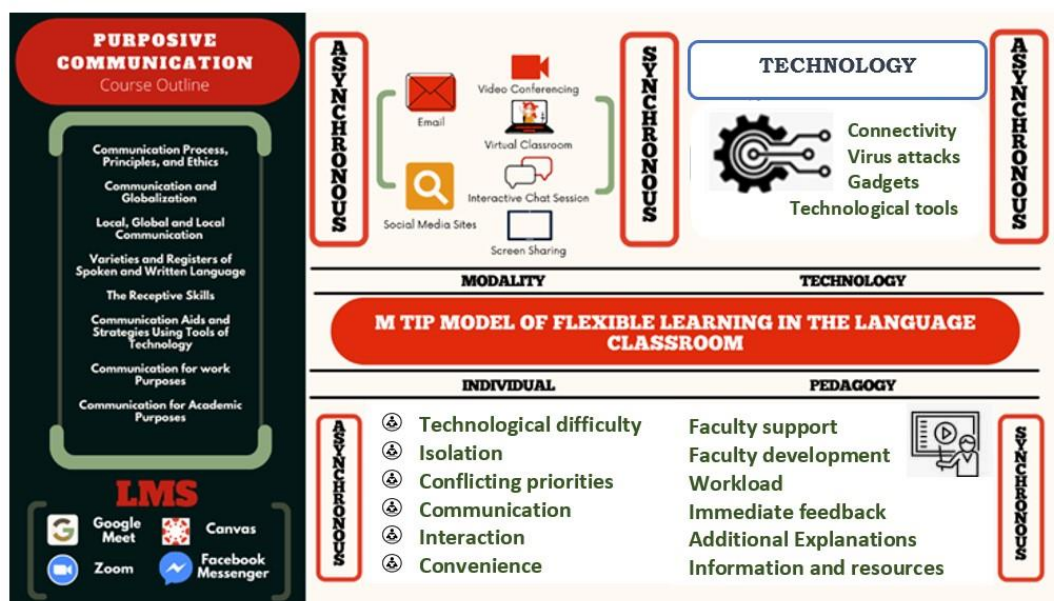


Figure 2. Flexible Learning Model

The teaching-learning experience is also supported by learning management systems in the course Purposive Communication which consisted of Google Meet, Zoom, Canvas, and Facebook Messenger. The application of these leverages the attainment of success relating to the three main issues of flexible learning modality, technology, individual, and pedagogy that stakeholders may experience. The M-TIP model illustrates that the impact of the successes is more reassuring than the severity of the challenges. The flexible learning framework serves as a supportive structure for teaching Purposive Communication.

V. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Flexible learning is dynamic. Schools and universities use flexible learning platforms and continue to find ways to adopt better and more innovative learning management systems and take on new and innovative forms of learning delivery. Based on the findings, the following conclusions are deduced.

1. The flexible learning modalities have made it possible to continue teaching and learning as schools have migrated from the face-to-face to the digital classroom. With skills and knowledge in using these technological tools, teachers are able to continue delivering quality and fun learning opportunities to learners despite the pandemic.

2. Challenges in the synchronous and asynchronous modalities are perceived to be moderately serious. Like all learning models, flexible learning has inherent shortcomings, which included isolation, support, technology, and interaction—each of these influences the overall quality of distance learning as a product.

3. The successes in the synchronous and asynchronous modalities are generally perceived as much serious. Success in the flexible learning environment highlights a student-centered environment, independent learning, peer learning, collaborative learning, and reflective thinking.

Recommendations

The researcher emphasizes the following recommendations to improve the flexible learning approach.

1. Provide teachers with professional development training and seminars to enhance mastery and familiarity with the technological features of the different flexible learning modalities. Use a combination of the various modalities to address learners' differential access to technology.

2. Examine and evaluate the severity of the challenges related to flexible learning and create practical solutions to address the needs of learners and teachers who experience obstacles in using the flexible learning platform.

3. Adopt and strengthen the positive and promising features and characteristics of the flexible learning approach that will empower students and teachers to increase their motivation and engagement. Teaching models must be reevaluated and recalibrated in response to new technological capacities.

4. Conduct action research focusing on the challenges experienced in the flexible learning environment to find realistic and practical solutions to these problems. Language research can also be explored on students' discourses online, which will disclose how functions of language are used in class group chats or discussion forums in the LMS, or how online communication violates or uses the conversational maxims.

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Post-Pandemic Educational Landscape: Navigating Pre-service Teachers' Online Learning Journey in Flexible Delivery of Instruction

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Abstract. *As life gradually returns to normal after the unprecedented global COVID-19 pandemic, the lessons and innovations forged during this challenging period continue to shape the future of education, fostering a more resilient, adaptable, and technologically-enhanced learning environment. This situation has triggered the researcher to conduct research on preservice teachers' online learning journeys in flexible delivery of instruction during the post-pandemic period. To answer this problem, the researcher developed a 20-item survey questionnaire and administered open-ended questions to the 377 preservice teachers. Findings revealed that the majority of the preservice teachers were using cell phones and Google Meet during the flexible delivery of instruction. On the other hand, their accessibility to online platforms is average except for the use of Edmodo and Zoom, which is low. Thus, the challenges experienced by them are poor internet connection and connectivity issues, time management and workload, financial constraints and load allowance, gadgets and technology issues, adaptation to new learning, mental and emotional health, collaboration and group activities, teacher-student interaction and engagement, and a lack of motivation and concentration. On the other hand, their coping is an adaptation to online learning challenges, coping strategies, and resilience; overcoming financial and connectivity challenges; adjusting to new learning modalities; resilience and faith; community and support; and effects to improve connectivity. Along this line, the study disclosed that preservice teachers are still experiencing challenges concerning gadgets, online platforms, and accessibility to the flexible delivery of instruction as schools gradually return to normal.*

Keywords: *Educational landscape, Flexible delivery of instruction, Post-pandemic, Preservice teachers*

I. INTRODUCTION

Due to the pandemic's pressure on educational institutions all around the world, the implementation of online and flexible instructional delivery methods has intensified. Schools temporarily shut down their physical campuses to protect students and faculty, making it more critical than ever to rely on digital tools for teaching and learning. As a result, educators have had to adapt quickly to this new digital landscape, honing their skills in virtual instruction and leveraging technology to maintain a semblance of normalcy in education. Additionally, the pandemic has underscored the importance of addressing the digital divide to ensure equitable access to quality education, highlighting the need for ongoing innovation and investment in educational technology.

The COVID-19 pandemic has had an impact on the Philippines, as it has on every other nation in the world. As a result, Philippine colleges and universities have shifted their teaching and learning operations online. For this, various universities chose various approaches. Some institutions quickly adapted to the digital landscape, investing in advanced

online learning platforms and providing training for their faculty to deliver high-quality remote education. Others faced challenges in ensuring equitable access to technology and internet connectivity for all students, highlighting the existing digital divide in the country. Despite these challenges, many Philippine colleges and universities have shown resilience and creativity in finding ways to engage students through virtual classrooms, collaborative projects, and innovative assessment methods. This shift to online learning has not only allowed educational institutions to continue their mission but has also opened up opportunities for the integration of technology and innovative pedagogical strategies, which may have a lasting impact on the future of education in the Philippines.

However, after the extraordinary global COVID-19 outbreak, the educational landscape underwent a significant change. Recent research has indicated that a blended learning environment, which combines online and face-to-face elements, can offer an enriched educational experience (Chen et al., 2022; Johnson et al., 2023). The post-pandemic era necessitates a reevaluation of the dynamics within education systems, prompting educators and policymakers to reassess curricular frameworks, pedagogical strategies, and learning outcomes (Dhillon et al., 2022). As education adapts to the evolving landscape, it is essential to understand how students' perceptions and preferences have evolved, as well as their expectations from both online and face-to-face learning environments (Smith et al., 2022). By exploring the holistic educational journey of preservice teachers within this shifting landscape, this study intends to inform educational institutions about potential improvements and adjustments that can optimize the learning experience.

In addition, Stoian, Farcasiu, Dragomir, and Gherhes (2022) emphasize the importance of the return to in-person instruction and its effects as life gradually returns to normal after the pandemic appears to be over. Along this line, Kaur, Bhatia, Stea, and Hamblin (2022) expressed that research is necessary to ascertain whether aspects of online learning during the pandemic might be beneficial to include in the current educational system. The acceptance of technology in the classroom, innovative and clever technologies, new pedagogical approaches, and students' perspectives and experiences are all essential factors to take into account.

A lot of research has been done on online learning, online education, or emergency remote teaching during the pandemic (Gherhes, Stoian; Fărcasiu; Stanici, 2021), concentrating on a variety of subjects, such as how students perceive online and in-person learning in terms of learning, teaching, assessment, and interaction with peers and teachers. However, little focus has been placed on what transpires beyond the pandemic, particularly the students' online learning experiences in a flexible approach to instruction. The difficulties that students have in adapting to teaching as school gradually resumes normal operations.

In light of these circumstances, this study aims to investigate the experiences and, more specifically, the challenges faced by preservice teachers during this transition to online learning. By examining their perspectives, insights can be gained into the effectiveness of various online teaching approaches and the overall preparedness of future educators to embrace technology-mediated instruction.

With the rationales presented, the following are the research questions: (1) What are the primary gadgets and platforms utilized by preservice teachers during the flexible delivery of instruction? (2) How accessible are various online platforms for preservice teachers? (3) How does accessibility vary based on sex, grade level, and location? (4) What challenges do preservice teachers encounter during online classes in the flexible delivery of instruction?

And (5) How do preservice teachers address the challenges they have experienced?

II. RELATED LITERATURE

The researcher's literature review provided an overview and discussion of students' learning journeys in the flexible delivery of instruction. More specifically, the researcher reviewed and discussed the gadgets and platforms utilized during online classes, the accessibility of various online platforms, and the challenges encountered during the flexible delivery of instruction. These topics of concern were discussed from a local and international perspective.

Gadgets and Platforms Utilized During Online Classes

Information and communication technology (ICT) tools are becoming increasingly important in today's digital world across a wide range of industries, including education. These technical devices include but are not limited to, web-connected laptops and cell phones. In a world that is dominated by science and technology, having ICT skills is among the benefits for students. This is particularly true when it comes to the flexible delivery of instruction, in which teaching and learning often move from the classroom to the house in many regions of the world. ICT has been utilized for educational benefits since online learning environments are now a necessary form of instruction in higher education (Carver et al., 2020; Alharbi, 2020).

Technology, according to Marwan and Padmarani (2013), is a useful tool for teaching and learning. They continue by saying that for the process to be successful, students and their teachers must have access to the necessary resources, such as personal computers and the Internet. The majority of student respondents opted to utilize smartphones for online learning, according to Muthuprasad, Aiswarya, Aditya, and Jha's study from 2021 on students' perceptions and preferences for online education.

The Learning Management System (LMS), on the other hand, offers tools for teamwork, engagement, the delivery of online courses, as well as reporting and tracking student activity (Rhode et al., 2017). According to Cabero-Almenara et al. (2019), LMSs are often utilized in higher education institutions to support teaching and learning. University instructors use learning management systems (LMSs) including Blackboard, Desire2learn, Moodle, Learning Space, and Next Ed to distribute course materials and support student learning (Williams & Whiting, 2016; Zheng et al., 2018). LMSs offer immediate and flexible access to information and instructors. Large amounts of data are produced by LMSs, offering many chances to extract insightful insights to aid in student learning. Additionally, analytics can boost communication among system users, enhance teaching and learning, and affect student results (Bervell & Umar, 2017; Williams & Whiting, 2016). LMSs promote innovations like distance learning and assist in managing sizable student populations (Zheng et al., 2018). Due to the dynamic nature of LMSs, it is crucial to comprehend how much student participation is supported to improve learning results. Different synchronous and asynchronous tool types can be included in LMSs. Tools like chat rooms and discussion boards can be utilized asynchronously as well as synchronously for activities.

However, how students and teachers use the LMS will determine how effectively students connect with it. Klobas and McGill (2010) looked into how instructors' and students' involvement affected the success of LMSs. They discovered that students' efficacy and productivity while studying are likely to increase when instructors regularly provide help to them in LMSs.

Little-Wiles and Naimi (2011) examined what teachers may do to guarantee that students are completely engaged when interacting in an LMS. They discovered that through engaging

with their peers and monitoring their progress and course requirements, students utilize LMSs to develop self-awareness of learning. Through tools like the Moodle Engagement Analytics Plugin (MEAP) and Blackboard Analytics, LMSs offer capabilities to track engagement (Liu et al., 2015; Luna et al., 2017; Yassine et al., 2016).

Along these lines of literature, the integration of information and communication technology (ICT) gadgets and platforms in the realm of education, particularly in online classes, has become pivotal in reshaping the teaching and learning landscape. The adoption of devices like computers and smartphones, coupled with the development of essential ICT skills, has enabled flexible instructional delivery, blurring the boundaries between traditional classrooms and remote learning environments. Online education in higher institutions has witnessed a transformation with the advent of Learning Management Systems (LMSs), offering tools for collaboration, content delivery, student interaction, and performance tracking. The multifaceted engagement observed within LMSs underscores its potential to foster emotional, cognitive, and behavioral engagement among students.

Challenges Students Experienced in a Flexible Delivery of Instruction

For the majority of students, especially college students, attending classes with flexible instruction delivery is a significant barrier. Higher education institutions have been compelled by this to become more conscious of the diversity of their existing and potential students and to offer a variety of opportunities for their engagement. College students face a variety of difficulties as a result of the increasingly flexible delivery options accessible to university students. Participating in a flexible method of instruction delivery is quite difficult for them. According to Saminathan (2020), switching from a traditional classroom and in-person teacher training to computer-based training in a virtual classroom drastically alters the learning process for pupils. Many students may not have access to the high bandwidth or reliable internet connection required by online courses, which causes them to fall behind in their virtual lessons.

Students were having difficulties in their online classes, according to Ullah, Ashraf, and Ahmed (2021). In underdeveloped nations like Pakistan, where a large percentage of students lack access to reliable internet services due to technical and economic difficulties, online learning cannot deliver positive results. They also discovered that 88% of pupils lacked adequate internet access and experienced several problems with it. When attending online classes on gadgets, 65% of students reported feeling unsatisfied with the experience, 85% complained about eye problems, and 50% reported being unable to handle school business. This reflects the reality that certain nations are not yet prepared for the new form of education, particularly online education. Colleges and universities are compelled to follow suit, whether it is difficult or not, to give students the education they require.

Furthermore, Yakin et al. (2020) evaluated the use of E-learning during the flexible delivery of instruction in Nigeria and discovered that difficulties including the lack of digital tools, expertise, the internet, and related resources made it unsuccessful. They recommended that for e-learning to be conducted holistically, responsible parties-in particular, the government and schools supply teaching and learning material resources. The process does not provide the desired results when one of the parties accountable for successful teaching and learning does not fulfill their responsibility. The outcome cannot be satisfying if teachers are easily accessible but learners are not, or if both groups are present but lack the necessary resources.

In addition, the majority of educational institutions have switched to online learning platforms to maintain academic activities, according to Muthuprasad, Aiswarya, Aditya, and Jha (2021). However, there are still issues about the efficacy of e-learning, particularly in underdeveloped nations where technological challenges like device appropriateness and

bandwidth availability present significant difficulties.

In summary, the transition to flexible delivery of instruction in higher education has brought forth a multitude of challenges experienced by students. While the potential for diverse engagement options is acknowledged, the reality is that many students, particularly in developing countries, face significant hurdles in adapting to online learning modes. The shift from traditional classroom settings to virtual learning environments introduces a stark contrast in the learning process, demanding access to high-quality internet connections, which a considerable number of students lack. Technical and financial limitations hinder equitable access to online resources and lead to frustrations related to connectivity issues, eye strain, and overall dissatisfaction with the online learning experience.

Moreover, challenges extend beyond individual students to encompass systemic shortcomings, as highlighted by the inadequate availability of digital equipment, skills, and internet resources, rendering E-learning efforts ineffective. Teachers, students, institutions, and governments must collectively address these challenges through concerted efforts, recognizing that simply providing technological resources is insufficient for meaningful online education. This shift prompts the need for collaborative strategies, bridging urban-rural disparities, and fostering motivation and engagement, ultimately underscoring that while online education is becoming increasingly essential, its success hinges upon overcoming a complex interplay of technical, infrastructural, and socio-economic barriers.

III. METHODOLOGY

Research Design

This study (QUAN + QUAL) combines quantitative and qualitative methodologies. Greene, Caracelli, and Graham (1989) and Creswell (2013) claimed that a study design that incorporates various methodologies is more likely to provide better findings in terms of quality and scope to leverage the strengths of each strategy. Gay and Airasian (2003) assert that because the mixed-methodologies design incorporates both quantitative and qualitative research methods, it transcends the constraints of a single methodology.

Participants

The participants of the study were the randomly selected 377 preservice teachers at the Philippine Normal University Visayas in the Philippines. These participants were selected since these are the group of students during the pandemic and the post-pandemic.

The participants of the study were grouped according to their profile such as sex, year level, and location. Of the 377 participants, 89 (23.6%) were female while 288(76.4%) were males. This data clearly shows that teaching is a female-dominated profession. When grouped as to year level, the majority of them 216 (57.3%) belonged to the first year, followed by the second year 93 (24.7%), and the least among were the third year 68 (18.0%). Considering participants' location, 209 (55.4%) are living outside of the city and the majority are in the coastal plain areas 219 (58.1%) while 168 (44.6%) are within the town or city proper.

Table 1
Profile of the Participants

Profile of the Participants	<i>f</i>	%
<i>Sex</i>		
Male	89	23.6
Female	288	76.4
<i>Total</i>	377	100.0
<i>Year Level</i>		
First year	216	57.3
Second year	93	24.7
Third year	68	18.0
<i>Total</i>	377	100.0
<i>Location</i>		
Within the city/town	168	44.6
Outside the city/town	209	55.4
<i>Total</i>	377	100.0
<i>If outside of the city/town, where is the exact location</i>		
Coastal	77	20.4
Plain	219	58.1
Upland	81	21.5
<i>Total</i>	377	100.0

Data Collection

Data collection is a crucial component of both quantitative and qualitative research, playing a pivotal role in generating rich and in-depth insights into the research questions or objectives at hand. This study aims to navigate preservice teachers' online learning journey in a flexible delivery of instruction. By employing mixed research methods, the researcher could harness the strengths of both quantitative and qualitative data collection approaches to offer a comprehensive exploration of the complex phenomenon under investigation.

To gather comprehensive and rich insights into preservice teachers' online learning journey in a flexible delivery of instruction, the researcher employed a descriptive survey and an open-ended questionnaire. According to Smith and Johnson (2018), a descriptive survey is used to gather information and describe characteristics, behaviors, attitudes, opinions, or other aspects of a population or group. It involves collecting data from a sample of participants through questionnaires and then summarizing and analyzing the collected data to provide a comprehensive description of the target population.

On the other hand, Ballou (2008) noted that lists of verbatim responses need to be sorted to be helpful for data analysis and reports. This is because one of the key benefits of adopting an open-ended structure is gathering precise, personalized information. Using a survey and an open-ended questionnaire, the researcher conducted the questionnaires through Google form to the 377 target participants of the Philippine Normal University Visayas recruited through stratified proportionate random sampling. The questionnaire for the survey consisted of a series of questions where participants were to choose from the provided options or alternatives. Furthermore, the questionnaire for the open-ended questions are designed to elicit detailed responses about the challenges participants experienced in a flexible delivery of instruction.

The questionnaire was developed based on a thorough review of existing literature, research objectives, and initial exploratory interviews conducted before the main data collection phase. The open-ended format allowed participants to freely express their thoughts and opinions, providing a rich source of qualitative data.

Participants were given sufficient time to complete the questionnaire at their convenience. The responses were collected electronically using an online survey platform, ensuring

confidentiality and anonymity. Participants were encouraged to provide detailed and comprehensive responses to each question to capture a deeper understanding of their journey in an online flexible delivery of instruction.

Ethical Considerations

Throughout the data collection process, the researcher adhered to ethical guidelines and ensured the protection of participants' rights. Informed consent was obtained from all participants, outlining the purpose of the study, voluntary participation, confidentiality, and the right to withdraw at any time.

The collected data were securely stored and accessible only to the research team. Any identifying information was removed or anonymized during the analysis phase to ensure confidentiality. Data were handled by ethical guidelines and regulations, and participants' privacy was prioritized throughout the research process.

Data Analysis

Data analysis for this quantitative-qualitative study aimed to determine the online learning journey in a flexible delivery of instruction of the preservice teachers. The descriptive survey and open-ended questionnaires were administered to the 377 preservice teachers. The data analysis for the quantitative involves the frequency count, percentages, mean, and standard deviation. Qualitative data for preservice teachers' challenges, on the other hand, involved a systematic procedure that included transcription, coding, theme development, data exploration, synthesis, interpretation, and discussion.

The data analysis followed a rigorous and systematic procedure to derive meaningful insights from the quantitative and qualitative data collected in this study. Firstly, the quantitative data were sorted out and encoded in Microsoft Excel and were subjected to statistical analysis using SPSS. Open-ended responses were transcribed verbatim, ensuring the accuracy and fidelity of the data. Scholars and researchers in the field of qualitative research methodology, such as Creswell (2013) and Silverman (2016), emphasize the importance of accurate transcription in maintaining data validity and reliability. They highlight how verbatim transcription provides researchers with a reliable and rich dataset that can be analyzed and interpreted rigorously and systematically.

IV. RESULTS AND DISCUSSION

This study sets out to investigate the online learning journey of the preservice teachers in a flexible learning delivery of instruction. The following discussion focused on the gadgets, and platforms used during online classes and accessibility to online platforms. The research also discussed the challenges experienced by them during their online classes in a flexible delivery of instruction. Through a comprehensive analysis of survey responses and open-ended questions, this research sheds light on how aspiring educators adapted to the demands of remote learning and offers valuable insights for educators and institutions shaping the future of teacher preparation in the digital age.

Results

Gadgets and Platforms Used During Online Classes

Table 2
Gadgets Used During Flexible Delivery of Instruction

Gadgets Used	<i>f</i>	%
Laptop	18	4.8
Cellphones/Smartphones	343	91.0
Tablet/Ipad	16	4.2
Others	0	0
<i>Total</i>	377	100.0

Within the realm of gadgets used for flexible learning, several key patterns emerge. First and foremost, laptops were utilized by 18 participants, making up 4.8% of the total respondents. The standout among these devices is undoubtedly cell phones or smartphones, which found extensive usage among our participants. A remarkable 343 individuals, accounting for 91.0% of the total, opted for the convenience and mobility offered by these devices. Furthermore, the data reveals that 16 participants, constituting 4.2% of the total, opted for the tablet/iPad route. Lastly, the data did not showcase any significant usage of "Others"

Table 3
Platforms Used During Flexible Delivery of Instruction

Platforms Used	<i>f</i>	%
Messenger	15	4.0
Zoom	3	0.8
Google Meet	353	93.6
GoToMeeting	0	0
Facebook	5	1.3
Others	1	0.3
<i>Total</i>	377	100.0

As depicted in Table 3, the results unveil a comprehensive overview of the preferred platforms among the participants. It can be gleaned from these results that the most frequently used platform, was the "Messenger" that garnered the attention of 15 participants, accounting for 4.0% of the total respondents. Another platform that emerged from our analysis is "Zoom," which was adopted by 3 individuals, making up 0.8% of the total. However, the most frequently used platform was "Google Meet," with a frequency of 353 participants, constituting a dominant 93.6% of the total. Facebook" and "Others" collectively comprised a smaller percentage of platform usage (1.3% and 0.3% respectively), their presence indicates a diverse approach to accessing instructional content.

Preservice Teachers' Accessibility to Online Platforms

Table 4
Preservice Teachers' Accessibility to Different Online Platforms

Online Platform	Mean	Sd	Interpretation
Using Phone (Voice Call)	2.82	0.86	Average
Using Phone (SMS)	3.23	0.87	Average
Using Messenger (Video Call)	2.77	0.78	Average
Using Messenger (Chat)	3.33	0.86	Average
Using Phone (e-mail)	2.89	0.77	Average
Using Edmodo	2.20	0.94	Low
Using Google Classroom	2.99	0.81	Average
Using Zoom	2.38	0.85	Low
Using Google Meet	2.87	0.79	Average
Using Goo GoToMeeting	2.15	0.91	Low
Using Other Platform	2.65	0.76	Average

Table 4 reveals the preservice teacher's accessibility to different online platforms. Preservice teachers' accessibility was average in almost all of the online platforms presented except using Edmodo ($M = 2.20$, $SD = 0.94$) and Zoom ($M = 2.38$, $SD = 0.85$).

Table 5
Preservice Teachers' Accessibility to Different Online Platforms as to Sex

Online Platform	Male			Female		
	Mean	Sd	Interpretation	Mean	Sd	Interpretation
Using Phone (Voice Call)	2.79	0.87	Average	2.83	0.86	Average
Using Phone (SMS)	3.19	0.80	Average	3.24	0.89	Average
Using Messenger (Video Call)	2.81	0.69	Average	2.76	0.80	Average
Using Messenger (Chat)	3.39	0.79	Average	3.31	0.88	Average
Using Phone (e-mail)	2.92	0.68	Average	2.88	0.80	Average
Using Edmodo	2.37	0.91	Low	2.15	0.95	Low
Using Google Classroom	3.00	0.72	Average	2.99	0.83	Average
Using Zoom	2.48	0.81	Low	2.34	0.85	Low
Using Google Meet	2.96	0.72	Average	2.85	0.81	Average
Using Goo GoToMeeting	2.28	0.92	Low	2.11	0.91	Low
Using Other Platform	2.63	0.73	Average	2.66	0.77	Average

Preservice teachers' accessibility to different online platforms as to sex is presented in Table 5. As indicated, the accessibility to different online platforms of male and female preservice teachers is average except for using Edmodo, Zoom, and Goo GoToMeeting. This is supported by the obtained means ranging from 2.11 to 2.48 at standard deviations ranging from 0.81 to 0.95.

Table 6
Preservice Teachers' Accessibility to Different Online Platforms as to Year Level

Online Platform	First Year			Second Year			Third Year		
	Mean	Sd	Interpretation	Mean	Sd	Interpretation	Mean	Sd	Interpretation
Using Phone (Voice Call)	2.79	0.87	Average	2.84	0.91	Average	2.90	0.78	Average
Using Phone (SMS)	3.19	0.84	Average	3.29	0.95	Average	3.25	0.84	Average
Using Messenger (Video Call)	2.74	0.76	Average	2.72	0.80	Average	2.96	0.78	Average
Using Messenger (Chat)	3.31	0.87	Average	3.35	0.88	Average	3.37	0.83	Average
Using Phone (e-mail)	2.83	0.81	Average	2.91	0.76	Average	3.03	0.67	Average
Using Edmodo	2.02	0.97	Low	2.26	0.87	Low	2.71	0.75	Average
Using Google Classroom	3.01	0.81	Average	3.00	0.82	Average	2.91	0.79	Average
Using Zoom	2.39	0.84	Low	2.24	0.86	Low	2.53	0.82	Low
Using Google Meet	2.89	0.83	Average	2.86	0.75	Average	2.84	0.75	Average
Using Goo GoToMeeting	2.10	0.95	Low	2.11	0.84	Low	2.37	0.88	Low
Using Other Platform	2.62	0.78	Average	2.58	0.74	Low	2.84	0.68	Average

The accessibility of preservice teachers on the different online learning platforms, when grouped according to Grade level, is presented in Table 6. This table reflects that preservice teachers' accessibility in almost all of the different online learning platforms is average except for using Edmodo, Zoom, and Goo GoToMeeting. This is supported by the obtained means ranging from 2.02 to 2.53 with a standard deviation ranging from 0.82 to 0.95.

Table 7
Preservice Teachers' Accessibility to Different Online Platforms as to Location

Online Platform	Within the City			Outside of the City		
	Mean	Sd	Interpretation	Mean	Sd	Interpretation
Using Phone (Voice Call)	2.99	0.88	Average	2.68	0.83	Average
Using Phone (SMS)	3.34	0.84	Average	3.13	0.88	Average
Using Messenger (Video Call)	2.92	0.77	Average	2.66	0.76	Average
Using Messenger (Chat)	3.57	0.83	High	3.14	0.84	High
Using Phone (e-mail)	3.02	0.77	Average	2.78	0.76	Average
Using Edmodo	2.33	0.97	Low	2.10	0.91	Low
Using Google Classroom	3.15	0.77	Average	2.86	0.82	Average
Using Zoom	2.51	0.86	Low	2.27	0.82	Low
Using Google Meet	2.04	0.75	Low	2.74	0.80	Average
Using Goo GoToMeeting	2.30	0.93	Low	2.03	0.89	Low
Using Other Platform	2.77	0.73	Average	2.55	0.76	Low

When grouped according to location, Table 7 reveals that preservice accessibility to the different online platforms when grouped according to their location as within and outside of the city is average in almost all of the online platforms except on Edmodo, Zoo, and Goo GoToMeeting. This is indicated by the obtained means ranging from 2.03 to 2.51 at standard deviations ranging from 0.82 to 0.93.

Table 8
Preservice Teachers' Accessibility to Different Online Platforms Outside of the City

Online Platform	Coastal Area			Plain Area			Mountainous		
	Mean	Sd	Interpre- tation	Mean	Sd	Interpre- tation	Mean	Sd	Interpre- tation
Using Phone (Voice Call)	2.79	0.82	Average	2.92	0.91	Average	2.58	0.72	Average
Using Phone (SMS)	3.13	0.78	Average	3.36	0.87	Average	2.96	0.87	Average
Using Messenger (Video Call)	2.84	0.80	Average	2.84	0.78	Average	2.52	0.69	Average
Using Messenger (Chat)	3.31	0.85	Average	3.44	0.83	High	3.05	0.91	Average
Using Phone (e-mail)	2.94	0.75	Average	2.95	0.80	Average	2.68	0.70	Average
Using Edmodo	2.18	1.07	Low	2.30	0.94	Low	1.95	0.77	Average
Using Google Classroom	3.05	0.81	Average	3.10	0.83	Average	2.64	0.66	Average
Using Zoom	2.45	0.91	Low	2.45	0.85	Low	2.10	0.70	Low
Using Google Meet	2.94	0.85	Average	2.95	0.79	Average	2.60	0.70	Average
Using GoToMeeting	2.13	1.00	Low	2.22	0.91	Low	1.98	0.82	Low
Using Other Platform	2.65	0.79	Average	2.73	0.77	Average	2.44	0.65	Low

As shown in Table 8, the accessibility of preservice teachers living in the coastal areas, plain areas, and mountainous areas on the different online platforms is average in almost all of the online platforms except on online platforms such as Edmodo, Zoom, and GoToMeeting. Their obtained means range from 1.98 to 2.45 at standard deviations ranging from 0.70 to 1.00.

Preservice Teachers' Responses to the Challenges They Have Experienced

The analysis of the qualitative data offers valuable insights into the preservice teacher's online learning journey in a flexible delivery of instruction. This section presents the key findings derived from the thematic analysis of the open-ended questions.

Based on the responses to the challenges experienced by preservice teachers in the online delivery of instruction during the post-pandemic, the first theme was poor internet connection and connectivity issues. This was supported by intermittent internet connection, connectivity problems, unstable network connection, limited access to the internet, weak signal, lack of signal during bad weather, internet disruption, slow internet connection, and disturbances due to internet disconnection. The second theme was the learning environment and distractions. This is supported by the codes such as noisy environment, household distractions, lack of conducive study space, difficulty in focusing due to distractions, and external noise during class.

The third theme on the other hand was time management and workload. This was evident in the codes such as time management challenges, overlapping deadlines, piled up school work, difficulty balancing tasks, limited time for synchronous and asynchronous activities, and managing time for synchronous and asynchronous classes. Furthermore, financial constraints and load allowance were the fourth themes with the codes like lack of financial resources for load allowance, insufficient load allowance, financial problems affecting load access, and financial struggles impacting online learning. The fifth was on gadgets and technology issues. This is shown by insufficient gadgets, poor gadget quality, limited gadget

access, lack of suitable devices for online classes, inadequate gadgets for tasks and classes, and storage problems on gadgets.

Another major concern from the challenges experienced by the preservice teachers was how they would adapt to the situation; thus, the sixth theme was the adaptation to a new learning modality. This is supported by the codes such as adjustment to the new learning environment, struggles in adapting to online learning, coping with the new normal learning, difficulty embracing online setup, and challenges in transitioning to flexible learning. Considering mental and emotional health as a theme, the following are the codes mental health struggles, stress and anxiety, coping with anxiety and stress, emotional breakdowns, impact on mental health due to online learning, and negative effects on mental health.

Coping To Address the Challenges

Behind the challenges experienced by the preservice teachers in an online learning journey in a flexible delivery of instruction during the post-pandemic are the coping strategies preservice teachers are employing to navigate this new educational landscape. These coping strategies encompass a range of adaptive behaviors and approaches preservice teachers are utilizing to address the unique difficulties posed by remote and flexible instruction. As they grapple with issues like limited in-person interaction, technological barriers, and the need to maintain engagement and motivation in virtual settings, preservice teachers are employing coping strategies of which the first theme was adaptation to online learning challenges with the codes such as stable internet connection, seeking better connectivity, managing time effectively, seeking help and support, access to learning resources (YouTube, classmates), relocation for a better connection, financial challenges, perseverance and motivation, access to gadgets, communication with professors, and part-time work to afford expenses. The second theme was coping strategies and resilience with the codes of coping with poor connectivity, patience, and adaptation, prayer, and positivity, finding a peaceful learning space, motivation and determination, seeking help and support from others, positive mindset, seeking opportunities for stable connectivity, self-discipline, and time management, reflecting on progress and achievements, and resourcefulness and innovation.

The third theme was on overcoming financial and connectivity challenges having the codes of financial struggles, efforts to afford connectivity, seeking free Wi-Fi locations, managing data use, budgeting and saving money, and addressing challenges beyond control (e.g., water). The fourth theme, on the other hand, was on adjusting to new learning modalities with the codes of adjusting to the new normal of learning, learning self-reliance, maintaining a positive attitude, communicating with teachers and peers, developing study habits, and balancing academic and personal responsibilities. The fifth is resilience and faith with the codes of trusting in a higher power (faith) and staying resilient in the face of challenges. The sixth was community and peer support with the codes of support from family and friends, support from teachers and mentors, group activities and discussions with peers, and communication with school authorities. The last was efforts to improve connectivity with the codes such as efforts to find stable connections and personal devices for connectivity.

Discussion

The research explored the learning experiences of preservice teachers in a flexible instructional delivery format, shedding light on their profiles, the gadgets and platforms they used, as well as their accessibility to online resources. Additionally, the study delved into the challenges faced by these aspiring educators in the context of remote learning.

Notably, a large percentage of participants relied on smartphones as their primary gadget for online learning, highlighting the importance of mobile accessibility in remote education.

This is supported by Muthuprasad, Aiswarya, Aditya, and Jha (2021) on students' perception and preference for online education, found that the majority of student respondents preferred to use smartphones for online learning. Students' preference may be because smartphones are portable and readily available to most students. They can access online learning materials from virtually anywhere, whether at home, in transit, or in a cafe. This level of accessibility is not as easily achieved with other devices like laptops or desktop computers (Holland and Kellog, 2020). Another reason cited by Huang (2018) was smartphones have user-friendly interfaces and touchscreens, making them intuitive and easy to use. This simplicity appeals to students who may not be tech-savvy. Furthermore, smartphones are compact and lightweight, making them easy to carry to libraries, study groups, or any place with an internet connection. This portability allows for flexible and on-the-go learning (Melumad & Pham, 2020).

On the other hand, laptops and tablets/iPads were less frequently used, indicating that smaller, portable devices were preferred for flexibility. This may be because not all students had access to laptops or tablets. In some cases, smartphones were the most accessible and affordable option for online learning, especially among lower-income students. According to the Household Pulse Survey (2020) of the 52 million households with children present, 74% always had access to a computer for educational purposes in September and 16% had access most of the time. An additional 8%, or 4.4 million households, had a computer available sometimes, rarely, or never. In households where a computer was always available, 60% received devices from the child's school or school district.

In terms of platforms, "Google Meet" emerged as the dominant choice, which means that the majority of the participants are utilizing it for online classes. The dominance of "Google Meet" in online classes aligns with its widespread use in education for video conferencing and virtual classrooms. Google Meet offers features that are conducive to online teaching, such as screen sharing, chat, and integration with Google Workspace (formerly G Suite) for Education, making it a preferred choice for many educators (Perez, 2021). Google Meet has a dominant position among video conferencing platforms. It has the highest annual growth rate among video conferencing tools. Its global market share has also increased, rising from 21.81% in 2020 to 31.40% in 2022. "Messenger" and "Zoom" were also used but to a lesser extent, while "Facebook" and other platforms collectively made up of usage, respectively. This diversity in platform usage suggests that preservice teachers adapt to various tools to access instructional content, potentially indicating the need for educators to employ a flexible approach to content delivery.

Regarding accessibility to online platforms, the preservice teachers generally reported average accessibility across most platforms. However, there were exceptions, such as "Edmodo" and "Zoom," where accessibility was rated as low. This may be because the ease of use and user interface design of a platform play a crucial role in its accessibility. If a platform has a complicated or unintuitive interface, it may be rated lower in terms of accessibility, as it could create barriers for students with varying levels of technical proficiency. Another reason may be some online learning platforms may have higher technical requirements, such as specific software or hardware, which can limit accessibility for students who do not have access to compatible devices or reliable internet connections. Along this line, Maltese (2020) expressed that some online learning platforms may have higher technical requirements, such as specific software or hardware, which can limit accessibility for students who do not have access to compatible devices or reliable internet connections. She also added that the most important thing about an online learning platform

is the educational experience it provides. This goes beyond being easy to use and well-integrated with your other systems. This is about providing students and teachers with a range of different experiences that help learners acquire knowledge. Thus, this suggests that some platforms may require improvements or additional support to enhance accessibility for these aspiring educators.

Additionally, when examining accessibility by sex, grade level, and location, patterns emerged. Both male and female participants showed similar accessibility patterns, except for a few platforms like "Edmodo," "Zoom," and "Goo GoToMeeting," where accessibility was lower. In terms of year level, first-year, second-year, and third-year preservice teachers generally reported average accessibility, with variations in accessibility to specific platforms. Finally, location-based analysis revealed that accessibility was generally average across platforms for preservice teachers within and outside of the city. However, platforms like "Edmodo," "Zoom," and "Goo GoToMeeting" again had lower accessibility scores. However, considering obtained means, the highest means were obtained by male students in the third-year level and living within the city.

The provided result discusses the accessibility scores of various online platforms, singling out "Edmodo," "Zoom," and "GoToMeeting" as having lower scores compared to others. This indicates that these platforms may present challenges or barriers to users, particularly in an educational context. Additionally, the result notes that the highest means, or scores, were achieved by male students in the third-year level of study and those residing within the city. This suggests that these specific groups, on average, exhibited greater proficiency in using the mentioned online platforms. However, the result does not directly compare these groups or explore potential reasons for the disparities. It underscores the need for further analysis to discern any statistically significant differences and highlights the importance of improving platform accessibility, especially for students falling outside the identified high-scoring categories. Nonetheless, it's essential to acknowledge that additional contextual information and considerations may influence the interpretation of these findings.

On the other hand, the qualitative analysis of preservice teachers' responses to the challenges they have experienced in the flexible delivery of instruction provides a comprehensive understanding of the difficulties they faced during the flexible delivery of instruction. The first major theme that emerged was "poor internet connection and connectivity issues." This theme was characterized by various challenges such as intermittent internet connection, connectivity problems, and unstable network connections. These issues were exacerbated by limited access to the internet, weak signals, and even disruptions during adverse weather conditions. Slow internet connections also hindered effective learning, and disruptions due to internet disconnection caused disturbances during online classes.

These challenges highlight the critical role of reliable internet access in successful online education. "As quoted by a third-year level female participant *"I have a poor internet connection, that's why it is hard for me to find the signal to attend and stay in an online class."* This is also supported by another female participant living in the coastal area, *"I have a poor internet connection sometimes, which is why I have difficulty understanding the lessons."* Likewise, a first-year level female participant in the remote area cited challenges, especially during bad weather, saying, *"Poor connectivity if we have bad weather and limited internet access or the data is limited."* Another female participant in the hinterland cited that *"The challenges I have experienced is mostly about the internet connectivity since in our place the signal is poor. That's why I need to go to some place/spot just near our house that*

has a good signal, but sometimes the signal is not good. It just actually takes 5 minutes to go to that spot with a good signal. In asynchronous, one of my challenges is how should I manage my time to do the tasks." Ullah, Ashraf, and Ahmed (2021) concurred that students were having difficulties with their online classes. In underdeveloped nations like Pakistan, where the vast majority of students are unable to access excellent internet facilities due to technical as well as budgetary constraints, online learning cannot deliver positive results. Additionally, they found that 88% of pupils lacked sufficient internet access and experienced several problems using it.

Poor internet connection and connectivity issues as a theme have shed light on the myriad obstacles posed by intermittent internet access, connectivity problems, and unstable network connections. These difficulties were compounded by limited internet availability, weak signal reception, and disruptions stemming from adverse weather conditions. Sluggish internet connections not only impeded effective learning but also disrupted online classes due to frequent disconnections. These findings underscore the pivotal role of dependable internet access as an essential prerequisite for successful online education.

The second theme, "learning environment and distraction" reflects the struggles preservice teachers face in balancing their study responsibilities with external distractions. Noisy environments, household distractions, and the lack of a conducive study space made it difficult for them to focus on their studies. External noise during classes and learning alone without peers further exacerbated these challenges. These findings emphasize the importance of creating a conducive learning environment and time management strategies in online education. Along this line, a female first-year level participant cited *"At first, it was hard to have a stable internet connection, and also the noises in my surroundings were distracting my online classes.* On the other hand, a male third-year level participant living in the coastal area cited that *"Noises around are the challenges I've faced on my synchronous session. In asynchronous, I am distracted by the noises around."* Another female participant in the first-year level quoted *"Lack of concentration due to noise from surroundings and the environment in studying."*

The pervasive issue of distractions within the online learning environment, as illuminated through the experiences of preservice teachers in this study, underscores the critical need for both educators and institutions to prioritize the creation of conducive study spaces and the dissemination of effective time management strategies. These challenges can significantly impede the learning process. The collective voices of these students serve as a potent reminder of the imperative to address not only the digital infrastructure but also the physical and environmental factors that influence the quality of online education.

The third theme was "time management and workload," which delves into the multifaceted challenges and strategies surrounding the effective allocation of time and the management of academic workloads. This is highlighted by the Preservice teachers' experiences and insights offer valuable perspectives on how they navigate the demands of their studies, shedding light on the intricate balance required to excel in an increasingly digital and dynamic learning environment. As noted by a female third-year level participant *"So far the flexible learning mode of the delivery of instructions was excellent but I as a student am having a hard time coping with all my requirements because of my other obligations managing my time and prioritizing my studies in exchange for public service during this pandemic.* Because of these challenges a lot of participants are experiencing problems with their mental health, thus one participant said *"The challenge to cope with*

things especially that it doesn't only affect my physical health spending a lot of time in front of a gadget but it also affects my mental health that causes stress due to many tasks given and the problem with the resources especially the load to have an internet access."

According to Coman et al.'s (2020) research, the majority of students reported having less free time than they had before using online learning since their teachers gave them more chores than normal. The time teachers allowed students to complete their given assignments was not evenly distributed. Additionally, some professors fail to explain the demands and goals they have for their students. The findings of Mittelmeier et al. (2019), which showed that certain students regularly mentioned concerns with autonomous learning, including challenges understanding assignments on their own or a lack of timely feedback, were supportive of our study. Students also noted that studying things independently was harder than studying topics that lecturers had previously covered in a lecture. Therefore, with the current system, students need more hours to understand the same quantity of knowledge (Baticulon et al., 2021).

This theme highlights the significant challenges faced by preservice teachers as they strive to strike a balance between their academic responsibilities and external distractions. The presence of noisy surroundings, household interruptions, and the absence of an ideal study environment have posed difficulties in maintaining focus during their studies. Moreover, the challenges of external noise and the isolation of learning without peer interaction have compounded these issues. These findings underscore the critical need for establishing conducive learning environments and effective time management strategies in the realm of online education.

Financial constraints and load allowance emerged as the fourth theme, with preservice teachers facing difficulties due to a lack of financial resources for load allowance, insufficient load allowance, and financial problems impacting load access. These financial struggles posed a significant barrier to their online learning experiences, emphasizing the importance of financial support for equitable access. As cited by one third-year female participant in the second-year level "*Lack of financial resources for load allowance and intermittent internet signal was a great challenge for me.*" Another participant female participant in the same year level supported that "*The challenges I have experienced are the lack of Load and sometimes my phone is logging off or hanging.*" This is also evident from the response of participants in the coastal areas stating that "*Financial problem especially for load allowance was one of the biggest challenges I have experienced.*" Along this line, according to Venable (2021), it may come as no surprise that the majority of men (76 percent) and women (66 percent) said that paying for higher education while reducing student debt was the largest obstacle to them finishing their online degree programs. The majority of male and female participants expressed concern about maintaining a desirable GPA, staying on schedule with their coursework, and handling unforeseen life occurrences.

This theme of financial constraints and load allowance has surfaced as a critical issue among preservice teachers. They grapple with challenges from inadequate financial resources to cover load allowances, insufficiencies in load allocations, and broader financial difficulties that impact their ability to access necessary resources for online learning. These financial constraints have emerged as significant impediments to their online educational experiences, underscoring the pressing need for financial support to ensure equitable access to education.

The fifth theme, "gadgets and technology issues," sheds light on challenges related to the availability and quality of devices. Insufficient gadgets, poor gadget quality, limited access to

suitable devices for online classes, and storage problems on gadgets hindered effective participation in online learning. This is supported by the statement of one participant saying *“The challenge I experienced is the unavailability of gadgets.”* It cannot be denied that one of the most important tools in an online modality of learning is the presence of gadgets and technology issues. In this regard, this has been a challenge to our preservice teachers because the majority of our learners belong to a poor family or if not from a middle-class family. Students in this regard are having difficulties attending their online classes because some of them have problems concerning gadgets. As stated by a female participant in the hinterland *“It’s a big challenge to me because I do not have available gadgets. I can only attend online classes if I have to go to the house of my friend who gadgets for online classes.”* Although some of them have cell phones, they still have difficulties and challenges attending their online classes. As pointed out by a male third-year level participant *“The challenges I have personally experienced was due to the limited gadget, I only use my smartphone in my online classes and tasks which makes it hard for me.”*

Venable (2021) acknowledges that both sexes also mentioned several additional difficulties. The biggest discrepancy was in technology and internet access, which was described as difficult by 72 percent of males but just 44 percent of women. This might be explained by the observation that more male students are majoring in STEM fields (such as computer science and engineering), which might call for different or more sophisticated technologies.

In this regard gadgets and technology issues underscore the significant challenges that students face in the realm of online learning, particularly regarding the availability and quality of digital devices. Many students, especially those from economically disadvantaged backgrounds, encounter difficulties accessing suitable gadgets for their online classes, which has a direct impact on their ability to engage effectively in the virtual learning environment. These challenges extend beyond merely having access to devices; they also encompass issues related to gadget quality, storage limitations, and the need to rely solely on smartphones for educational purposes. The testimonies of participants reflect the critical role that technology plays in modern education and highlight the pressing need for equitable access to digital resources and devices to ensure that all students can fully participate in online learning experiences

Mental and emotional health was another significant concern, with preservice teachers reporting mental health struggles, stress, anxiety, emotional breakdowns, and negative effects on mental health due to online learning. These findings emphasize the importance of addressing mental health and well-being in the online education context. This is supported by the response of a third-year level preservice teacher living in the coastal area outside of the city *“The most challenging part I have experienced is staying afloat with our online classes and activities given that we have poor internet connection. Financially, we also faced many struggles, especially during our thesis journey. Learning in isolation is also a challenge in this mode of learning because we sometimes tend to be demotivated due to loneliness and being alone in our learning process.”* Because of this, preservice teachers are sometimes demotivated to attend the flexible delivery of classes. This is evident from the response of a female participant from the plain area *“Personally, I find it difficult. Not only in terms of technicality but also about my academic growth. I find it hard to focus in class while in a synchronous activity. I do not find it comfortable getting along with my classmates through chat. I isolate myself. Also, I could not engage regularly during class discussions, my anxiety*

got in the way of trying to speak up. I do not feel myself developing at all, especially intellectually, I tend to forget most of the lessons that I have taken. I feel like I am regressing." Similarly, a male participant reflected that *"Stress and a lot of anxiety due to a slow internet connection, home is not conducive for learning, tiring and sometimes uninteresting."*

This study's findings underscore the pressing need to prioritize mental and emotional well-being in the context of online education, particularly among preservice teachers. The challenges outlined, including struggles with mental health, stress, anxiety, and feelings of isolation, highlight the profound impact that online learning can have on individuals' psychological and emotional states. These challenges are exacerbated by factors such as poor internet connectivity and financial difficulties, further emphasizing the urgency of addressing these issues. The testimonials from preservice teachers vividly illustrate the demotivation and intellectual stagnation that can result from these challenges, ultimately emphasizing the importance of implementing comprehensive support systems and strategies to promote the mental and emotional health of students in online education settings.

Finally, the lack of motivation and concentration emerged as a key challenge, with preservice teachers reporting issues such as a lack of motivation, difficulty concentrating during online classes, and struggles to fully engage in lessons. There are many reasons why preservice teachers lack motivation and concentration. As quoted by a female-first year preservice teacher *"Poor internet connection and the challenge of collaborating with classmates can lead to a lack of motivation and concentration, particularly during group activities.* Another reason pointed out by a male participant in a remote area *"It's hard because I can't focus on the activity and schoolwork because of many things to do in house chores."*

A prominent challenge identified in this study is the pervasive lack of motivation and concentration among preservice teachers in the online learning environment. This issue is multifaceted, with participants highlighting factors such as poor internet connectivity hindering collaboration and group activities, as well as the demands of household chores and responsibilities detracting from their ability to focus on schoolwork. These barriers to motivation and concentration underscore the complex nature of online education and the need for targeted interventions and support to help preservice teachers overcome these challenges and fully engage in their learning experiences.

To cope with these challenges, preservice teachers employed a range of adaptive strategies and behaviors. These coping strategies included seeking stable internet connections, better connectivity, effective time management, seeking help and support from various sources, accessing learning resources such as YouTube and classmates, and even relocating for better connectivity. Financial challenges were addressed through efforts to afford connectivity, seeking free Wi-Fi locations, managing data use, and budgeting.

Preservice teachers also adapted to new learning modalities by adjusting to the "new normal," fostering self-reliance, maintaining a positive attitude, communicating with teachers and peers, developing study habits, and balancing academic and personal responsibilities.

Resilience and faith played a role in coping, with some relying on trust in a higher power and maintaining resilience in the face of challenges.

Community and peer support were crucial, as preservice teachers sought help from family and friends, received support from teachers and mentors, engaged in group activities and discussions with peers, and communicated with school authorities.

Efforts to improve connectivity included seeking stable connections and personal devices for connectivity. These coping strategies reflect the resilience and adaptability of preservice teachers in navigating the challenges of online learning in a flexible delivery of instruction during the post-pandemic era.

VI. CONCLUSION AND RECOMMENDATION

Conclusion

This study provides valuable insights into the online learning experiences of preservice teachers in a flexible instructional delivery format, particularly in the context of the post-pandemic era. Several key findings emerge from the research, shedding light on their profiles, gadget and platform preferences, and the challenges they encountered. These findings offer important implications for educators and institutions aiming to enhance teacher preparation in the digital age.

First, the study underscores the significance of mobile accessibility in remote education, as the majority of preservice teachers relied on smartphones as their primary device for online learning. This highlights the need for educational resources and platforms to be optimized for mobile use, ensuring equitable access for all students.

The dominance of "Google Meet" as the preferred platform, alongside the diversity in platform usage, suggests that preservice teachers are adaptable and open to various tools for accessing instructional content. Educators should consider this adaptability when designing online courses and ensure that platforms are user-friendly and support effective learning.

While overall accessibility to online platforms was reported as average, the study identifies specific platforms like "Edmodo" and "Zoom" that require improvements to enhance accessibility. Addressing these issues is crucial to ensure an equitable learning environment for all preservice teachers.

The analysis of challenges faced by preservice teachers reveals significant obstacles, including poor internet connectivity, time management, and workload management. These challenges underscore the need for comprehensive support systems, including technical assistance, time management resources, and strategies for managing heavy workloads in online environments.

Financial constraints and technology issues also pose barriers to effective online learning. Institutions should explore options for providing financial support and ensuring that students have access to the necessary technological resources, such as laptops and stable internet connections.

The mental and emotional well-being of preservice teachers is a critical concern, as reported stress, anxiety, and emotional struggles highlight the need for comprehensive mental health support within online education programs.

Collaboration, teacher-student interaction, and motivation and concentration are additional areas where challenges were identified. Addressing these issues may require innovative approaches to fostering collaboration, enhancing engagement, and maintaining motivation in virtual learning environments.

Recommendations

Based on the conclusions, the following are possible recommendations of the study:

1. Develop and optimize educational resources and platforms to be mobile-friendly, ensuring accessibility for preservice teachers using smartphones as their primary

- learning device.
2. Identify and address specific accessibility issues on platforms such as "Edmodo" and "Zoom" to ensure all preservice teachers can effectively use these tools.
 3. Provide comprehensive support systems that address challenges related to poor internet connectivity, time management, workload management, financial constraints, and technology issues. This support should include technical assistance, time management resources, financial aid, and technology assistance programs.
 4. Implement mental health support services within online education programs to address the stress, anxiety, and emotional struggles reported by preservice teachers. These services may include counseling, stress management resources, and mental health awareness campaigns.
 5. Develop innovative strategies to foster collaboration, improve teacher-student interaction, and enhance motivation and concentration in virtual learning environments. This may include incorporating interactive elements, group activities, and engagement-enhancing tools in online courses.
 6. Regularly assess the effectiveness of online learning programs and gather feedback from preservice teachers to identify areas of improvement. Use this feedback to adapt and enhance online courses to better meet the needs of aspiring educators.
 7. Explore options for providing technological resources such as laptops and internet connectivity solutions to preservice teachers who face challenges related to gadgets and technology issues.
 8. Encourage and facilitate peer support networks and community engagement among preservice teachers to help them navigate challenges and share coping strategies.

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Hassle before the Tassel: Conquering the Senior High School Science, Technology, Engineering, and Mathematics Capstone Project

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Abstract: *Capstone projects serve as final educational experiences for students as they conclude their high school education, specifically those taking up Science, Technology, Engineering, and Mathematics (STEM). In order to prepare and guide students to successfully complete their Capstone Project, it is critical for them to understand the challenges and success factors that they may face. This qualitative study involves fourteen participants who received awards because of outstanding performance in their project. This paper presents challenges experienced by students which revolve around the researchers, their projects, and their resources. Success factors comprise group dynamics, the relevance of the projects, the adviser, and the researcher's attitude. In the successful completion of the project, four themes emerged: conquering with self, conquering with a team, conquering with experts, and conquering with meaning. This study may be used by students and teachers in understanding the experience of STEM students in the Capstone Project.*

Keywords: SHS, STEM, challenges and success factors, capstone project

I. INTRODUCTION

Capstone projects require students to utilize all the knowledge, skills, and attitudes they have developed throughout their high school education to complete relevant research or projects that underscore their educational and intellectual experience. Normally undertaken during the last semester of a program, students commonly choose a topic, profession, or social problem to explore and work on.

In the Philippines, the Capstone Project is specifically placed in the final year of senior high school. As mentioned by Yasuda (2017), it is a culminating experience of a student's K-12 education and is intended to develop planning, research, time management, writing, presentation, and interpersonal skills needed for college or career readiness. Science, Technology, Engineering, and Mathematics (STEM) students, among other tracks and strands, take the Capstone Project as they conclude their educational experiences in their high school education

STEM, being regarded as the powerhouse of the K to 12 curriculum, is a place for the next generations of researchers (Fiscal & Escalona, 2020). Thus, STEM students take the course as a counterpart to their immersion project, which is taken by other tracks and strands. The subject title is 'Research/Capstone Project', which has a prescribed number of 80 hours for the entire semester.

In this course, students, under the guidance of a research adviser, will identify a scientific, technological, or mathematical problem, design and apply an appropriate methodology, formulate hypotheses, and draw conclusions based on their investigation. At the end of the semester, students will prepare a scientific report/paper to be presented/defended in a forum. Undoubtedly, a student's ability to successfully finish the course will determine whether or not they graduate.

In order to prepare and guide incoming students to successfully complete their Capstone Project, it is critical for them to understand the challenges and success factors that they may face so they can better plan for the projects. This study tends to explore these challenges and success factors experienced by senior high school graduates in their Capstone Project throughout the rigorous process – from conceptualizing a Capstone Project, writing a Capstone Project, and presenting a Capstone Project.

Purpose of the Study

The purpose of this qualitative study is to explore the experiences in the Capstone Project of senior high school STEM students at the University of the Cordilleras. Specifically, it tends to answer:

1. What are the challenges in the conceptualization, writing, and presentations of a Capstone Project?
2. What are the success factors in the conceptualization, writing, and presentations of a Capstone Project?

II. RELATED LITERATURE

A "capstone" is often the last bit of stone or brickwork to be placed on top of a structure to finish it. It is the last phase in a lengthy process. For senior high school students, a Capstone Project is like their final brickwork. It is a culminating activity to demonstrate what you have learned in high school before you embark on the next stage of your education.

As cited by Yasuda (2017), a Capstone Project is described as an opportunity for high school seniors to select purposeful lines of inquiry, embark on experiences of their own choice, develop individual learning plans, and prepare for desired outcomes. It is a culminating experience of a student's K-12 education and is intended to develop planning, research, time management, writing, presentation, and interpersonal skills needed for college or career readiness. Similarly, a capstone course provides an invigorating experience to students in their program of study since it integrates concepts and skills learned throughout the academic tenure (Viswanathan, 2017).

Whereas existing literature provides a definition and understanding of capstone projects in undergraduate programs, there seems to be a paucity in the available literature for capstone projects in Philippine basic education. Hence, this paper aims to explore the concept of a capstone project in senior high school in the Philippines.

The Capstone Project in Philippine Basic Education

Capstone projects are crucial in the Science, Technology, Engineering, and Mathematics curriculum, as this is evident in research instruction in the international and national science curricula. In the Philippines, the K to 12 curriculum emphasizes the development of scientific literacy among students. Specifically, the current science curriculum aims to develop the scientific literacy of basic education students through scientific investigations like capstone projects (Department of Education, 2016a). When students enroll in capstone projects, they are faced with different challenges.

Normally, a capstone course asks students to first conduct research on a topic of interest. As per the Curriculum Guide provided by the Department of Education (2016b), the research paper includes the identification of a scientific problem to recommendations following IMRD.

In the introduction, the students identify a scientific problem, concern, or question. They select studies relevant to their chosen scientific problem, review, digest, and concisely state the relevance of the studies cited. Here, the students also formulate possible outcomes of the

investigation, or in the case of mathematics research, conjectures about the mathematical problem or topic.

In the writing of the materials and methods phase of the course, the students design a strategy or sequence of steps that will address the scientific question at hand. In writing their paper, students ensure that this section provides enough details so that a competent worker can repeat the experiments. In a guideline provided by the Department of Education, the exact technical specifications, quantities, and source of method of preparation for all materials used should be given. Specifically, the built equipment used in the study must be described, and the description accompanied by a picture. Moreover, the manner & sequence by which each experiment or set of observations was done & how measurements were obtained is described in detail.

In writing the results and discussions part of the project, students analyze the data obtained from the investigation. The data is presented in full & discussed descriptively in the text, or these may be summarized in tables, pictures & graphs. Further, the interpretation of the findings is discussed, and the significant features shown in the table, figures, or graphs are pointed out. Finally, for the conclusions, the general truth implied or illustrated by the results is clearly stated. The evidence based on the results is summarized. The recommendations consist of suggestions on future actions, such as a new direction of research or further experiments to be performed, and practices that might be adapted or discarded in order to attain certain goals or objectives.

After completing the Capstone Project, towards the end of the semester or school year, the students defend their Capstone Project before a panel or present and showcase their outputs in a school-wide science and technology fair or colloquium.

Challenges in the Capstone Project

Students who enter scientific inquiry courses like capstone projects encounter different challenges and difficulties. These challenges are the difficulties that the students may encounter that may hinder them from finishing their project or may lead them to perform poorly. Fiscal & Escalona (2020) cites examples of these challenges, which include, but are not limited to, lack of experience, time, money, library resources, internet facilities, computer literacy, and workshops. These challenges and difficulties may be associated with negative attitudes (Gallos, 2019). They also added difficulties in research like access to scholarly literature, accessibility of supervisors, and giving feedback to supervisors, data analysis, publications, and research collaboration. In the Philippines, similar problems are also encountered like lack of time, training, interest, funds, institutional support, topics, mentoring, no solid foundation in research, reading habits, financial gain, internet access, fears of rejection, presenting in English, laziness, and many more.

Many students encounter problems in writing research projects from the high school level even through the undergraduate level. Villanueva (2017) conducted a study on the problems of undergraduate students and identified problems encountered by students from simple to complex ones, like identifying research problems, and development of the research introduction up to the notes. Among the difficulties are formulating a research title, identifying research beneficiaries, using the right theories, instrument validation due to the unavailability of experts, interpreting data concisely, and listing references.

Several studies were also conducted on the challenges encountered by students in the senior high school level. In the study of Siguan & Ecija (2020), they emphasized that the availability and financial capability of the student researchers pose a great challenge towards the completion of the project. Leonares (2019) found out the challenges encountered by senior high school students in their research undertakings including a.) lack of basic research background from junior high school, b.) formulating a topic, c.) dealing with a research team,

d.) insufficiency of resources, e.) data analysis and treatment, and f.) staying motivated in the course of the study.

While available literature presents challenges encountered by students in writing research at the undergraduate level, exploration of the same interest in younger, senior high school completers remains to be open. With the challenges, it is important also to delve into their success factors in completing the course.

Success Factors in a Capstone Project

Success factors are the factors that contribute to the success of a research project (Mahmood, Asghar & Naoreen, 2013). Like in any academic endeavor, motivation can play an important role in the success of a research project. Motivation, as mentioned by Kozlova & Atamanova (2012), can be viewed as a characteristic of “those inner processes that determine whether learners will engage in a task, the amount of effort they will expend, the length of time they will persevere and the persistence they will show when obstacles are encountered”. Mahmood, et al. (2013) adds that team members’ relationship together with administrative support contributes greatly to the success of a research project, followed by cooperation, behavior, encouragement, and interest. Zeng, Zhang & Li (2014) also enumerate success factors in research and inquiry projects. This includes communication, leadership, and knowing team members’ strengths.

While Siquan & Ecija (2020) mentions financial capability as a challenge, they also noted that this is a success factor toward the completion of a quality research project. Related to this is teamwork, members composed usually of 5 or more (depending on the class size), which determines division of labor and financial responsibility among its members.

Philippine basic education recognizes student achievements or excellence in different areas at the end of the school year. In the DepEd Order no. 36 s. 2016 (Department of Education, 2016c), one of the recognitions is the Award for Research or Innovation. For STEM students, this is based on their performance in their Capstone/Research project. It states, “Grade 12 graduating students—individuals, pairs, or groups of not more than four members—must have led the planning and execution of a research or innovation to advance the potential applications of technology, or research whose findings can be used to drive better efficiency and productivity as well as to improve the lives of the people in the school and/or community”.

Among the criteria for the award are usefulness, rigor, output (novelty, relevance, cost-effectiveness, environmentally safe), and delivery or presentation. The researcher takes an interest in the success factors of students in order to be qualified for the award.

III. METHODOLOGY

Research Design

The research study is a type of qualitative research that is “based on the phenomenological paradigm, which uses a variety of interpretive research methodologies” (de Ocampo-Acero & Leuterio, 2006). This type of research is immersed in the details and specifics of the data to discover important categories, dimensions, and inter-relationships and to begin by exploring genuinely open questions rather than testing theoretically derived (deductive) hypotheses.

The study, as a qualitative type of research (Eisner, 1991), also “displays the use of expressive language and the presence of voice in the text.” In this case, a phenomenological approach was employed. The collected data was centered on the experiences, opinions, feelings, and knowledge of the interviewees, which in turn, consists of direct quotations (de Ocampo-Acero & Leuterio, 2006). In addition, this study required inductive analysis and did not require a formulated hypothesis to start with and test it out. Bogdan & Biklen’s method of

inductive analysis (1992) gathers data first, analyzes it to understand the situation, then formulates a theory, which is used in the study. Virtual interviews and focused group discussion were used to gather data and explore the challenges of STEM students in their Capstone Project course.

Participants

This study was conducted in Baguio City, Philippines. The participants were STEM alumni of the University of the Cordilleras – Senior High School from 2018 to 2020. For the profile of the participants, five of them graduated in 2018, five graduated in 2019, and another five in 2020 for a total of 15 participants. All of them completed the Capstone Project as a group. The participants were also identified because their projects were awarded ‘Best in Research’ or ‘Best in Innovation’ – crucial in the understanding of the challenges and success factors experienced by STEM students and eventually making them conquer the Capstone Project. More importantly, participants were selected for having adequate experience relevant to one or more of the key focus areas of the study, specifically in relation to the conceptualization of a Capstone Project, writing a Capstone Project, and presenting a Capstone Project. The current Grade 12 students are excluded from the study since they are still currently taking their Capstone project course.

By accessing the profile of the participants who were involved in the study and given the goals and logic of qualitative research, they were sampled purposively. Using purposive sampling or judgmental sampling was most appropriate for the study intending to focus on the limited number of people who have experience in the area being researched (Etikan, 2017). Identified interviewees participated in the study through an individual semi-structured interview.

Instrumentation and Data Collection

An interview guide was prepared by the researcher. Individual interviews were conducted to obtain the responses of the participants. The interviewees were presented with the same topics for discussion based on the semi-structured interview guide by Adams (2015). The questions highlight the following topics: conceptualizing a capstone project, writing a capstone project, and presenting a capstone project. Questions involved are a blend of closed- and open-ended to gather as much information as needed from the participants. Provided in this study are the interview questions only and did not include follow-up questions which will vary with each individual.

Due to health protocol guidelines, the interview was conducted virtually via Zoom or Google Meet platforms. Furthermore, each interview required about 15 minutes with no time restriction. Participants who opted for a written interview for their convenience were considered.

Data Gathering Procedure

First, the researcher explained the research study to give a brief background to the interviewees. Research key problems and methods were further presented, together with the usage of the data gathered during the interview, the expectations during the interview session, and the timeline of the interview. The researcher also elaborated on why the study chose the respondent and clarified once more if there are no problems in participating. Immediately, the researchers obtained written consent for the respondent’s participation. At the same time, it was explained that the respondent could stop or break at any time, refuse to answer any question or topic if they do not feel comfortable answering, and would have the chance to ask questions.

To set a general rule, the results of the interviews would not be discussed with any of the participants. As acknowledged, the presence of the researchers during the interview might have an influence on the response of the participants. To provide an example, most interviews resulted in participants who “provided responses they felt” are “more socially acceptable or more desirable by the researcher” (Krosnick, 1999; Fisher, 1993). However, the potential occurrence of this bias is not assessed within the scope of the study.

Analysis of Data

Given that the answers were already provided by the participants, it was thoroughly validated. A focused group discussion was conducted to verify the responses of the interviewees. In accordance with the treatment of the research data, Sandelowski (2008) noted the importance of the occurrence of data saturation which “occurs when information is repeated so often that the researcher can anticipate it.” Not only will it solidify the claims and emphasize the consistency of the interviewees’ answers, but it will also indicate the likelihood of the answers being similar to the others in this research study.

To explore the challenges and success factors of STEM students in their Capstone Project further, a thematic analysis was conducted. Transcripts from the interview and the written interview were read. The researcher identified relevant statements from the participants' challenges and success factors in the Capstone project (first coding). The first codes were then analyzed to determine similarities in context (second coding) wherein some initial codes were re-coded to other more appropriate codes. Key categories were formulated which were assigned to similar context and patterns in the codes (categorizing). The researcher then determined and reported the themes in the codes and categories by noting the success factors in doing the Capstone Project as anchored to the challenges encountered (thematizing).

IV. RESULTS AND DISCUSSION

Challenges Experienced in the Capstone Project

Various responses were given by the participants in terms of the challenges in the conceptualization, writing, and presentation of a capstone project. The researcher narrowed their responses and categorized them into three categories: project-related challenges, researcher-related challenges, and resource-related challenges.

First, project-related challenges include the problems and difficulties encountered by the students that are innate to the topic or the project that they conducted. These challenges include, but are not limited to, ensuring the project is SMART (Specific, Measurable, Attainable, Relevant, Time-bound), making the project innovative, and the difficulty of the project in terms of analysis and presentation. To sum it all up, this category is represented by the following statements:

“One issue in coming up with the project is evaluating if we can perform the project within our own capabilities...”

“Making sure that it was within the SMART (Specific, Measurable, Attainable, Realistic/Relevant and Time-Bound) objectives, which was one of our struggles also.”

“On the other hand, some of the difficulties we encountered was thinking a (sic) topic that is unique and one of a kind(the topic must be introduced for the first time).”

“The challenges faced while coming up with a topic was that almost all of the topics we thought of were already done.”

“Finding the specific statistical tool and treatment that is suited for our project is the most challenging part when we are conducting data analysis.”

“Simplifying our collected data through graphs and tables would be the most difficult part as all of our collected data are in numerical value and somehow confusing.”

Second, researcher-related challenges include the problems and difficulties of the researcher on a personal level, whether internal or external. These include, but are not limited to, group conflicts that arise during the conduct of the project, limited researcher background, time management of the researchers, and challenges related to the team member roles. In short, this category is represented by the following phrases and statements:

“In the first chapter, everyone was participative, but the biggest struggle was making sure that everyone has a role to play. In the second chapter, fewer people worked due to the complexity of the project.”

“...since we only have basic knowledge on programming, we had a hard time programming the device.”

“...not everyone had a role to play and not everyone understood the study well enough.”

“You need to be very knowledgeable about your project to be able to present it very clearly.”

“As graduating students, it was hard for us to set a date for when we will collect data since there were also many requirements from other subjects to be passed that’s as important as this research.”

Third, resource-related challenges are the struggles the students encountered in terms of the resources needed in their research. Examples of these resources are the experts they need for consultation, the materials they need in testing or in the implementation of the study, financial resources, time, and literature relevant to their study or project. In this case, the category is represented by the following statements:

“The only problem we had was consultation. Our research adviser was not around most of the time because she was head of a lot of things. So, we couldn’t have a proper consultation on when, where, and how was our methodology going to be done.”

“One difficulty was searching for qualified and available individuals for an interview. Scheduling conflicts commonly limited our pool of potential participants.”

“The measuring instrument used was also a factor...”

“One issue in coming up with the project is evaluating if we can perform the project within our own capabilities and with our current financial standings.”

“I think we were having difficulty with that because we were trying to conduct a project that wouldn’t require a lot of money and time.”

Success-factors in the Capstone Project

The participants in this study conducted different projects in the field of environment, energy resources, disaster preparedness, and even robotics. Their responses on their success factors were categorized by the researcher into four categories: group dynamics, expert/adviser, researcher attitude, and project relevance. Overall, the success factors in the Capstone project are represented by the following statements:

“I think this is one of the perks of conducting a project in groups because you have all these minds working together and just brainstorming together.”

“Our group maintained an open communication with each other and brought up any ideas and recommendations to further improve the project.”

“We worked as a group. We were just open to suggestions and helped one another.”

“...Also, by constantly asking advice from our instructor about our topic...”
 “Spending a lot of time and effort to and making sure that everything is flawless helped us overcome challenges in writing the Capstone Project.”
 “We tried finding topics which considers the different problems that need to be solved in our community.”
 “The researchers drew motivation from the purpose of the project, not only for the benefit of academic exploration, but also societal and environmental advancement.”

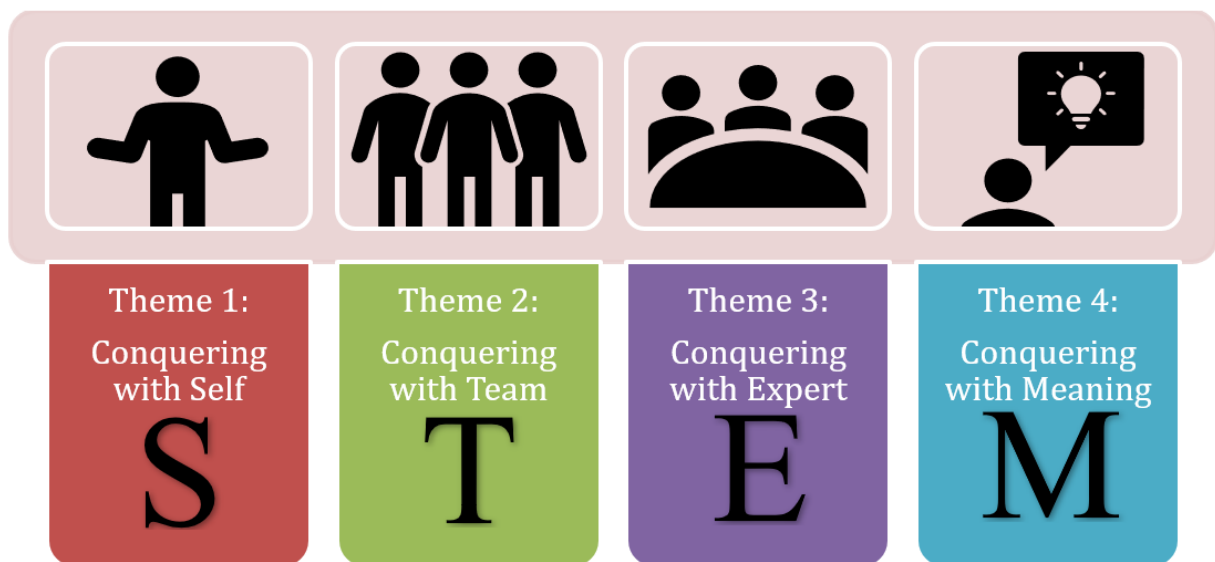


Figure 1. Conquering with STEM Model

Theme 1: Conquering with Self

The first theme starts with the self. It is focused on the students' self attributes in dealing with the challenges encountered in the project. It further involves the students' interpersonal factors that contributed to the success of their Capstone Project. These factors may comprise their interests, their attitude towards the project, and their motivations in completing the project.

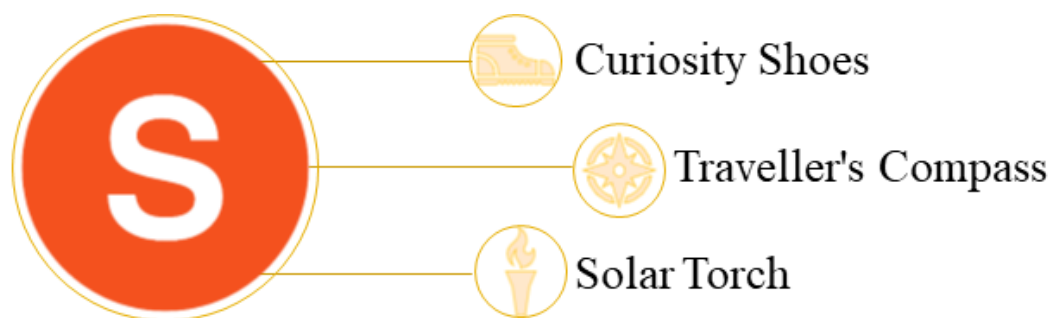


Figure 2. Conquering with 'S' Self

1.1. Curiosity Shoes

‘Curiosity leads to discovery’. In every conquest, someone should be equipped with ‘curiosity shoes’. Like in the many things that we do every day, a key factor in the initiation until completing our tasks is our interest. Often, we immerse ourselves in things that we are interested in. Similarly, in doing a research project or a capstone project, we identify our

research agenda from the different phenomena that caught our attention. As mentioned by one of the respondents *“There was [were] no challenges in identifying our title and what motivated us [in conducting the project] was our interest in learning that peculiar topic”* which is supported by another statement that goes *“we had a consensus on what we the whole group wants. All of us were genuinely interested in it”*. This goes along with the students’ curiosity -- *“Curiosity motivated us to come up with our Capstone Project”*. In some cases, interest may not only be a key factor in completing the study, but it may motivate you to go beyond and do similar projects *“The idea of VGI has somehow given me the interest of learning more about it”*. In fact, one of the leaders of the group that conducted a robotics-related project has developed related models that are funded by the Department of Science and Technology and are used by the local government offices.

1.2. Traveller’s Compass

Another must-have for conquest is a traveler’s compass that shall help the conqueror to stay on the right path and maintain the drive for a mission. Moreover, the students’ attitudes towards their Capstone Project, like their personal drive, have been crucial to the success of the project. When the students really put themselves into the project, they will eventually succeed -- *“The success of the Capstone Project reflected upon the teamwork and drive of the researchers to solve the identified problem”*. Similarly, the persistence of the students helps them overcome the challenges -- *“Spending a lot of time and effort to and making sure that everything is flawless helped us overcome challenges in writing the Capstone Project”* and *“The main challenge was finding related studies to support the project and strengthen the hypothesis. I overcame these challenges through determination and, because I felt rather happy from being part of a successful project”*.

1.3. Solar Torch

Like a solar torch that guides a traveler even in times of darkness, motivation serves as a guiding light for students. Furthermore, a student’s motivation can play an important role in the completion and success of the Capstone Project. These motivations may range from simply finishing the project, getting high grades, from recognizing the time and effort they spent on the project to contributing to society. No matter how big or small, these motivations have helped the students overcome the challenges they encountered in their Capstone Project. This can be supported by the following statements:

“What motivated me [to complete the project] primarily was [to] finally finish my SHS Studies.”

“What motivated me the most to present our project is the fact that we spent a lot of time and effort in creating the project, especially with the device so we should give justice to it and not waste the effort of each member.”

“The researchers drew motivation from the purpose of the project, not only for the benefit of academic exploration but also societal and environmental advancement.”

“The grades would be the biggest motivation. The process itself is also a source of motivation, where looking at our project progress little by little motivated us to see this project through to the end.”

“I can finally contribute something to help improve my society and even create money from it.”

The last statement is very interesting, especially the phrase where the student mentions something about earning money from the project. To note, the student has been expressing ideas on start-up projects where projects can be used to help society and at the same time gain profit from it. Overall, the first theme emphasized that challenges, regardless of their nature,

can be overcome with the proper attitude and motivations of the person. It is like saying that the success of the Capstone Project begins with the researchers.

Theme 2: Conquering with a Team

After looking into the theme of the students' self, the second theme presents another factor in the success of the research, which is the team. Under this theme, communication among the members of the group, leadership, and teamwork was extracted from the responses of the students. Most of the respondents conducted a project that was done as a group. This group activity is aimed to enhance the collaborative skills of the students. This theme strengthens the common knowledge that most tasks we do can be completed better as a group; capstone projects included. Also, it presents how working in a group can be maximized to conquer a big project.

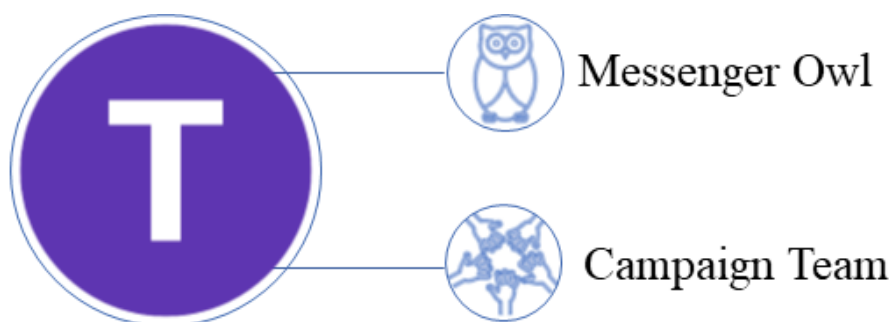


Figure 3. Conquering with 'T' Team

2.1. Messenger Owl

Communication among conquest members during medieval times may be represented by messenger owls. Having open and active communication among the members is very important in any group activity. It fosters good collaborative learning among the students. One activity that demonstrates this is brainstorming. Brainstorming activities are a helpful strategy for studying things as a group. Brainstorming activities may elicit ideas from the conceptualization of a topic to any concern the students encounter in their study. In one case, it served as the catalyst in the conceptualization of the topic -- *"We were able to come up with it from brainstorming. One of us shared with the group about the topic he saw from literature, and we had a consensus to make the study better"*. Further, one of the respondents describes the conceptualization of a topic or title as the most difficult task, but they overcame this through brainstorming -- *"I think this is one of the perks of conducting a project in groups because you have all these minds working together and just brainstorming together. [So, we really overcame our challenges through teamwork.]"*

"Communication, especially among the members of the group, is also important. We had to make sure that everyone agrees, and we encourage ourselves to share our opinions."

"Our group maintained open communication with each other and brought up any ideas and recommendations to further improve the project."

2.2. Campaign Team

Having a team with common goals and unified plans and tactics is crucial in campaigns. As mentioned in the prior statements, students also recognize teamwork as one of the main factors for them to overcome their challenges. This comes from understanding one's role, their groupmate's role, and how they can work together harmoniously. Overall, this is supported by the following statements:

“We overcame the project by teamwork. Even if the team members did not do that much for the paper, they still tried to reach out and asked what they could do...”

“With the power of teamwork. We all widened our understanding with each other’s circumstances.”

“It’s really all about distributing your roles equally. Everybody had a chapter to write or manage. Also, since we have done this before, we were knowledgeable enough on what to write on each of the chapters. Again, it’s teamwork.”

“There were a lot of methods that can be used but our main problem was our materials. Where can we get the soil needed for the test, how can we test the salinity level and where can we do the project. We had to recheck and re-evaluate the prototype again to check if what we had observed was definite. We worked as a group. We were just open to suggestions and helped one another.”

“Also, distributing the work for each member and ensuring that each member does his/her work properly.”

“I trusted in each one’s capabilities. Moreover, I did my task on time and helped my groupmates whenever I could.”

Theme 3: Conquering with Experts

The third theme is centered on addressing the challenges from the different categories through consultation with the adviser and the experts in the field. This theme emphasizes the role of the mentors throughout the project from conceptualization to the presentation. Experts serve a crucial role in a very successful project. In the event that the students encounter difficulty that is beyond themselves or the group, they resort to three options; getting into their literature, consulting their adviser, and asking advice from experts.



Figure 4. Conquering with ‘E’ Experts

3.1. Artifact Scroll

Some secrets of successful conquests are kept in artifact scrolls. Inasmuch as they serve as a guide for future conquests, previous literature may also serve as a guide for present and future researchers. First, the students express their limited knowledge of their topic at the beginning of their project and find literature related to it. Like most researchers, students educate themselves by looking into different journals. As one of the respondents mentions, *“The challenge was finding RRL’s about our topic... interpreting the data using a formula. I had to educate myself with enough knowledge about our topic, so I read as much as I could, because understanding the subject is crucial in writing a research paper. I also had help from my instructors, classmates and groupmates.”* This is supported by another statement *“The problems we encountered for the introduction part is getting the related literature*

because it was not a very common topic.... By reading a lot of related articles to be knowledgeable and equipped when writing your paper.”

3.2. Guardian’s Shield

Second, the students maximized consultations with their research adviser like how conquerors maximized their defense by using shields provided by their guardians. Although some of them had a problem with the availability of their adviser, *“The only problem we had was consultation. Our research adviser was not around most of the time because she was head of a lot of things. So, we couldn’t have a proper consultation on when, where, and how our methodology was going to be done”* most of them sought help and guidance from their adviser in the different parts of the project. To support this are the following statements:

“It was a challenge to make the scope concise while making sure the project would be efficient for the objective. The consistent consultation with the research adviser and input of the researchers, as a whole, made it possible to finalize the Capstone Project title.”

“We tried finding topics that consider the different problems that need to be solved in our community. We came up with our Capstone Project topic with the help of the instructor. Also, by making sure that it was within the SMART (Specific, Measurable, Attainable, Realistic/Relevant and Time Bound) objectives, which was one of our struggles also.”

3.3. Armor of Gold

Third, to further one’s defense is to wear golden armor. In the Capstone Project, it is like consulting other experts in the field. This is true, especially in times when the topic goes beyond the knowledge of the adviser. Students are referred to as those with knowledge and experience regarding their topic. It could be statistics teachers for concerns about data analysis or technical experts like the Geographic Information System head of the school. One interesting finding however is how one team was able to join an online community of programming and coding where they asked for help in their robotics project. As mentioned, *“[We] asked [for] help, not just from people, but [also] the internet. The internet always has a solution to every problem, and it is in our hands to harness it. There is a Discord community where people can exchange codes or consult the members of the community stating their ideas and the members may share their programming library. We can consult each other on how to connect the robot modules, for example”*. Online communities like this may be very helpful for future researchers especially since it is free and has no consultation fee.

Theme 4: Conquering with Meaning

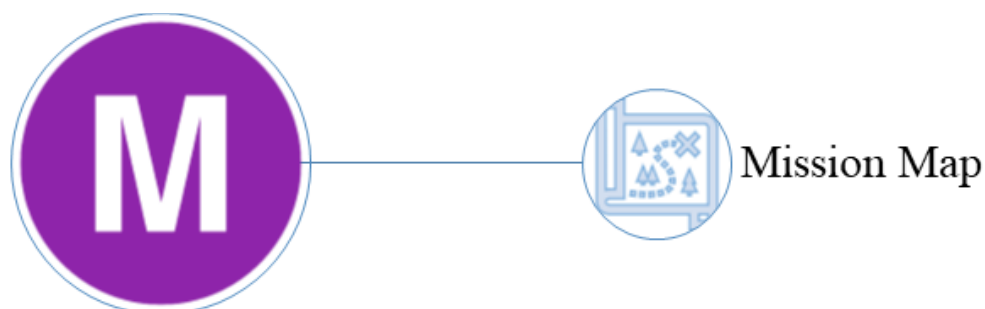


Figure 5. Conquering with ‘M’ Meaning

The fourth theme in the successful conduct of a Capstone Project is centered on going back to the relevance of their research or project and the impact of the project especially after

it is conducted. It is like having a mission map that contains the goals and objectives of conquest. This discusses how having a mission of helping the community or society can actually become a success factor in its completion and implementation. The students expressed that from conceptualization, they consider the innovativeness of their project and realize the impact of this after its completion. On the whole, this is supported by the following statements:

“What motivated me primarily was finally finishing my SHS Studies. Aside from such is the joy of contributing to science and technology. Another thing was introducing a new topic to the Philippine setting, since there are only a few projects of the same topic in the country.”

“When we were presenting, of course we were motivated to do the task for our grades, but I was personally motivated to present the task thinking that this presentation may enlighten others and could even give them a chance to innovate something for their own community.”

“Our capstone contains all the information that determined areas that are prone to landslides. It will present specific parts of Ambuklao Road that are susceptible to landslides during rainy days. Also, since we were able to produce a GIS map, we are more motivated to present it to everyone, especially to the people living and passing through the road. For it will be their main reference in mitigating and preventing the risk of landslides along their area.”

“I was motivated to show that the project could be a major help for the circumstances that surround the locale and that it could be of help to the entire nation as well.”

“I was motivated by a community in Ansagan, Benguet wherein they have no source of electricity. Completing this project can help them produce energy to lighten their homes.”

“The researchers drew motivation from the purpose of the project, not only for the benefit of academic exploration, but also societal and environmental advancement.”

The SHS STEM Capstone Project is a grand conquest that students undergo before finishing their basic education. It is a tough experience so students should be well-prepared as they begin this journey. Conquering the journey of the Capstone Project successfully requires tactics: conquering with self, conquering with the team, conquering with experts, and conquering with meaning. It starts with conquering with self, where students equip themselves with interest, personal drive, and motivation. This could be represented by the conqueror's must-haves like the curious shoes, traveler's compass, and solar torch. Next is extending the mission with others by conquering with the team. Crucial here is good communication and teamwork as represented by must-haves like a messenger owl and campaign team. Further is conquering with experts wherein students strengthen their projects by consulting literature, advisers, and other experts in the field. This is like strengthening someone's defense by referring to artifact scrolls, putting up the guardian's shield and armor of gold. Lastly is conquering with meaning where students keep in mind the relevance of their project and always consider innovativeness. This is like always carrying a mission map so as not to stray off from your objectives.

Discussion

The study presents the different challenges experienced by students in their Capstone Project. These challenges are categorized into project-related challenges, researcher-related challenges, and resource-related challenges. The results are in congruence with the study of Fiscal & Escalona (2020) wherein they had four categories of difficulties which includes paper-related difficulties, difficulties with research partners, difficulties between the advisee to adviser, and personal issues and hindrances. First, the specific project-related challenges that emerged from this study including ensuring the project is SMART, making the project innovative, difficulty of the project in terms of analysis and presentation aligned with findings from previous literature like objectives of the research and research complexity (Gallos, 2019).

Second, the challenges on insufficient background in research, number of workloads given to the students, heavy workload, lack of exposure and experience in research (Landicho, 2020a), searching for related literature, teacher's schedule, and poor time management (Fiscal & Escalona, 2020) are parallel with this study's researcher-related challenges like group conflicts, limited researcher background, time management of the researchers, and challenges related to the team member roles. In relation to researcher-related challenges, Villanueva (2017) also mentions that students encounter problems from identifying research problems, development of the research introduction, and note-taking. The results of the study also support the study of Leonares (2019) wherein they revealed problems like lack of basic research background from junior high school, formulating a topic, dealing with a research team, insufficiency of resources, data analysis and treatment, and staying motivated during the course of the study

Third, the resource-related challenges that emerged from the study like experts they need for consultation, materials they need in testing, financial resources, time, and literature relevant to the study are congruent to lack of time and resources and financial constraints (Landicho, 2020b). It is interesting that financial constraints emerged as one of the challenges which is similar to Siguan & Ecija (2020) who emphasized that financial resources would be a great factor in the completion of quality research output.

On the other hand, the success factors in doing the research involve having good group dynamics, consultation with the adviser, developing a good researcher attitude, and establishing project relevance. This agrees with Zheng et al. (2014) as they identify major success factors as good communication, leadership, and knowing team members' strengths. Mahmood, et al. (2013) adds that team members' relationships, together with administrative support, contributes greatly to the success of a research project, followed by cooperation, interest, behavior, encouragement, and interest.

The study will be useful for STEM students in understanding the process and experience they will go through as they enroll in the Capstone Project and eventually conquer it. This is because, as mentioned by Mutonen & Lehtiner (2003), students who take research who are not really aware of what the research methods are about develop feelings of stress and anxiety which may lead them to be overwhelmed and the impossibility of understanding and getting through it. The study may also be used by STEM educators in identifying strategies for handling the course and possibly the intervention strategies they may implement.

V. CONCLUSION AND RECOMMENDATION

The research aimed to identify the challenges experienced by STEM students in the Capstone Project from conceptualization, writing, and presentation. Based on the qualitative data, the challenges can be categorized into project-related challenges, researcher-related

challenges, and resource-related challenges, and success factors can be categorized into group dynamics, researcher attitude, project relevance, and support from experts. The results indicate that SHS students, like college undergraduate students, will always encounter challenges in conducting research or Capstone Projects and that teachers must also continually innovate strategies in delivering the course to the students. Despite the challenges, teachers should look deeper into the success factors and build on these for better delivery of the course. This would encourage more student appreciation for the Capstone Project and its applications to the real world and their future careers.

Although this study has illuminated the challenges and success factors of senior high school students in their Capstone Project, it also has its limitations. The findings may be true for a select group of senior high school students and may not be true for all senior high school students. A similar study may be conducted in different schools to account for the possible difference in the course delivery structure. A quantitative study may be conducted to provide a numerical picture of their experiences. The results of the study may be utilized by course facilitators during their course orientation.

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Training Module in Support of the Secondary Mathematics Program

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Abstract: *This study aimed to develop a training module in support of the secondary mathematics programs with the end in view of obtaining strong mathematics programs that will empower the mathematics teachers to be more competent and promote a comprehensive school program for the needs of the students. This study employed the descriptive method of research using a checklist questionnaire to assess the training needs and problems mostly encountered during training sessions of Mathematics teachers. Statistical tools used were frequency count, ranking, percentage, weighted mean, standard deviation, and two-tailed test of independence. The subjects of the study were 87 mathematics teachers and 47 administrators belonging to public secondary schools. Both groups of respondents differ in their responses regarding training programs in terms of food, materials, and trainers and sometimes encountered problem due to lack of budget and shortage of instructional materials. Based on the results of the study, training modules can be made to support the secondary mathematics program in training mathematics teachers. Teachers would be competent and flexible to varied changes in educational systems when they are given quality training in mathematics. Moreover, the school management has to address the concerns of mathematics teachers especially in the area of content knowledge and capability enhancement. Provisions for adequate, updated and relevant training guide based on mathematics teachers' needs may be used by trainers and facilitators in conducting quality training sessions. This training module will help mathematics teachers and trainers because it deals with strategies and techniques in teaching problem solving.*

Keywords: *training module, mathematics program, mathematics teachers, trainers*

I. INTRODUCTION

Mathematics education is a dynamic entity that demands participants to exhibit the same dynamism and growth. Mathematics teachers, as major stakeholders in mathematics education, must be prepared to meet its expectations and challenges. There is a need to learn new things while leaving the old ones behind.

Despite numerous curriculum changes, the goals of mathematics education at the basic education level remain largely unchanged: to provide opportunities for individuals to develop the skills and attitudes required for effective participation in everyday life, as well as to prepare them for further education and the world of work, so that they can make valuable contributions to society at large (Pascua, 1993).

Because of the rapid rate of change and the fast obsolescence of information, the mathematics curriculum is constantly revisited and updated to make it relevant to emerging changes in the demands of learners and society. Teachers are constantly capacitated in this situation to become more proficient, updated, and ready for innovations or other instructional trends.

Panganiban (2003) also emphasized the significance of training programs. According to him, training improves abilities, allowing employees to better accomplish company goals. Employees who have received proper training can outperform those who have not. Training can boost productivity by lowering costs ranging from overtime pay for employees to workers' compensation and lost time for injured personnel who fail to follow safe standards. Finally, well-trained personnel are more likely to be satisfied because they understand what they are doing and how it helps the firm achieve its goals.

The emphasis on excellent education necessitates that the teaching personnel be competent in curriculum delivery. Although instructors are not frequently involved in the planning process and it is unusual to find that a needs assessment study was undertaken prior to in-service training, many teachers indicated dissatisfaction with the value of staff development programs (SEAMEO Innotech, 2008).

Before training or a seminar can be held, a training needs assessment must be completed. Training requirements are a gap between an employee's present and desired performance that can be filled by training. Identifying training needs lowers training costs and assessments. Trainees will be motivated, and the return on investment from the training will be maximized. Some of the strategies used in training needs assessment include interviews, questionnaires, performance record analysis, and observation.

The most fundamental value of needs assessment is in determining which programs to offer and what content to include. If a program does not result in increased information, skills, or performance abilities needed to address a disparity, both the students enrolled in the program and those who supported their participation would be disappointed. A program that has no need or market to attract an audience, resulting in frustration, wasted resources, and financial loss for continuing education.

Training programs are designed in the light of their philosophical basis, goals and objectives. Because of its uniqueness, early programs should have their own specific objectives that should be competency-based. Similarly, objective should be stated such that it is measurable, achievable, time-bounded and modifiable as to particular need. Through the curriculum, programs are implemented and are composed of several parts. In addition to the program objectives, there are contents, learning strategies and activities and evaluation methods used.

According to Payos (2010), a successful training program must go through a four-stage training cycle. The first stage involved analyzing training needs, organizational analysis, task analysis, and person analysis. Training can help to close, if not eliminate, these disparities. He also stated that training facilities should be free of noise and distraction, with enough audio-visual technology, paper and pencils, and other materials that contribute to the creation of a learning atmosphere.

Furthermore, a good trainer must be knowledgeable in the subject being taught. He must have experience, precise, detailed knowledge and competence, mastery of presentation approaches, and be inventive and creative. He should be alert to any sign of ambiguity, misunderstanding, or lack of interest among the trainees and instantly change his method to address the issue (Andres, 2003).

Ocillos (2006) proposed that in order to enhance students' mathematics performance, particularly in low-performing schools, school administrators should monitor courses and increase support by giving textbooks and instructional resources. She also suggests that teachers participate in training and workshops, as well as subscribe to professional magazines, journals, or training modules.

Training modules are the heart and soul of a structured on-the-job training (OJT) program. Without them, even the best trainers flounder. Training modules have several purposes: serve as a guide for the trainer; serve as a guide and later reference for trainees; document procedures and best practices; provide ready-made checklists for performance evaluation; shorten the time to competency; standardize task accomplishment; represent employee input and ownership; and provide content for e-learning applications (Thompson, 2001).

Although training has a positive impact on teachers' professional development and advancement, some mathematics teachers are dissatisfied with it. A large number of participants in a training site; trainers who are unable to captivate the participants; one-size-fits-all training; and a lack of supplies and food offered to them are some of the possible causes. In today's fast-changing world, many notions and points of view may be rendered obsolete. There is a need to learn new things while discarding old ones. After becoming a mathematics trainer, the researcher felt compelled to identify ways and tactics for increasing the number of mathematics teachers who share successful teaching experiences as a result of the knowledge they gained from various training.

The purpose of this study was to create a training module to support secondary Mathematics programs in the Lipa City Division, with the goal of obtaining strong Mathematics programs that will empower Mathematics teachers to be more competent and promote a comprehensive school program for the needs of the students.

Specifically, the study sought answers to the following questions:

1. How may the Mathematics program be described in terms of:
 - 1.1 Philosophy/Objectives,
 - 1.2 Curriculum,
 - 1.3 Faculty,
 - 1.4 Teaching Method and Strategies,
 - 1.5 Learning Resources, and
 - 1.6 Evaluation?
2. What are the criteria for conducting quality training sessions?
3. How do the administrators and teachers assess the current training programs in the division:
 - 3.1 Qualification of trainers,
 - 3.2 Content,
 - 3.3 Trainees' attitudes, and
 - 3.4 Training mode?
4. Is there any significant relationship between the responses of administrators and teachers on assessing the training programs?
5. What problems are encountered during most training sessions in Mathematics?
6. What training module may be developed to support a strong Mathematics program?

II. RELATED LITERATURE

The literature mostly focused on the mathematics teaching, description of mathematics program, training programs, and module development that will serve as a training guide for trainers and facilitators.

Mathematics education is a highly complex endeavor. Teachers of mathematics must have a broad range of mathematical knowledge, student characteristics, learning theory, and the use of media and manipulatives. All of these talents necessitate knowledge of socioeconomic background, attitude, culture, and belief. The majority of teachers teach mathematics by drawing on their own experiences from primary and secondary school. This experience has

an impact on their way of thinking, teaching and learning processes, and professional development (Roblyer, 2000).

Prospective teachers began their careers by enhancing their knowledge, understanding, abilities, and disposition. This growth includes mathematical knowledge, mathematics pedagogy, and its implementation in schools. During this time, students get some experiences that lead to interactions with supervisors and teachers who serve as mentors. During this time, they test their own ideas and then critique them with the help and incentive of their mentor (Aquino, 2003).

For many people, even instructors, the most obvious requirement for becoming an effective teacher is subject matter mastery. According to McBer (2000), students expect a teacher to have a high level of material expertise in order to be considered effective, which gives them confidence. However, good subject knowledge is simply one of many crucial features and characteristics that an effective teacher must possess to promote learning and achievement.

Effective teachers are enthusiastic about their subjects and teaching. If teachers do not enjoy their jobs, kids pick up on it, resulting in low motivation. Effective teachers have an almost glistening vitality and approach each lesson with a sense of challenge rather than routine. Wolk (2001) noted that when teachers are enthusiastic about learning, they can create a "infectious classroom environment." He also stated that when teachers demonstrate enthusiasm and there is interaction in the classroom, the task of learning becomes a pleasure. Furthermore, teachers that are excited about their subjects and studying inspire students, increasing achievement.

According to Shangkuan Koo (2002), a good teacher thinks that students learn only by doing and that they are not only jars to be filled but lights to be lit. He has mastered his subject since no packaging can replace substance and no tactics can replace content. He should serve as an example of strong work ethics. He appreciates his coworkers and demonstrates this to his students. A courteous instructor maintains consistency in his or her voice and demeanor. A good teacher maintains an invisible connection with students, which is something to appreciate and honor. Such people are highly valued not for their money, but for their knowledge and character.

A competent teacher, according to Aquintana (2006), constantly values service to humanity over self-interest. Teachers must be intellectually prepared since they cannot teach what they do not know and cannot provide what they lack. She feels that a successful teacher must be intellectually competent, have a great sense of humor, like working with children, and set a positive example for kids and the community.

Students perceive effectiveness when teachers display kindness, gentleness, and encouragement, according to Stronge et al. (2004). Effective teachers show genuine concern and empathy for their pupils by recognizing their worries and inquiries. According to Stronge et al. (2004), competent teachers listen to students' arguments and help and/or advise how to solve their problems, and they are willing to discuss about their own lives and experiences while maintaining confidentiality. As a result, when the teacher shows that he or she cares for the students and knows them individually, there is a higher level of achievement.

Knowledge and skills will certainly be enhanced and consistently fostered if some valuable personal and professional traits are firmly formed. Teachers, whose major responsibility it is to form the minds of the young, should be equipped with skills such as critical thinking, creativity, and invention, as well as a strong desire to improve professionally and adapt to the challenges of societal change. To warm their hearts and spirits, children are taught to share and care for others. They must exude a strong sense of duty, commitment, and accountability to be worthy of emulation. Their education must instill a strong desire in them to continue learning throughout their lives (Salandanan, 2009).

Ebreo (2006) created a program to improve the capabilities of secondary school mathematics teachers. Professional growth, academic orientation, and duration of service in mathematics teaching were characteristics she considered. She compared administrators' and math teachers' evaluations of instructional skills, instructional material development, classroom management skills, and evaluation skills. In this study, the descriptive survey-correlational research method was adopted, with semantic differential structured questionnaires serving as data collection instruments. The study's participants were public and private secondary school teachers and administrators from the province of Batangas. The majority of secondary math teachers had a bachelor's degree, according to the findings. Furthermore, the majority of teacher-respondents stated that they had attended seminars and trainings, but just a handful had completed action research.

In her study, Nemesia (2005) concluded that there are no substantial disparities in teacher and student evaluation, but significant discrepancies in evaluating techniques and academic preparedness. She suggested that the faculty completely discuss the subject and objectives with the students and teach them how to solve difficult problems in order to develop their mathematical skills. They should investigate the use of technology in math education.

Flores (2005) examined the teaching competencies of professors in Batangas City colleges and universities to provide guidance on continuing education. The study's respondents included administrators, teachers, and students. When the appraisals of three groups were compared, there was a significant difference in their responses regarding dedication to teaching, subject matter knowledge, classroom organization and management, instructional organization and implementation, and monitoring student progress and potentials. She noted that the combination of young age and extended experience in teaching mathematics is insufficient to assure dedication to teaching, therefore teachers must grow professionally by investing in their own education.

Mathematics professional development standards emphasize the relevance of pre-service and in-service programs for mathematics instructors. This standard is dedicated not just to programs at the entry level, but also to programs that give advanced mathematics, advanced seminars and workshops, or programs for sharing ideas and experiences throughout the teacher's career (Kusumah, 2011).

In basic education levels K-10, the twin goals of mathematics are critical thinking and problem solving. The intellectually disciplined process of deliberately and skillfully conceiving, applying, analyzing, synthesizing, and/or evaluating knowledge obtained from or generated by observation, experience, reflection, reasoning, or communication as a guide to belief and action is known as critical thinking. On the other hand, mathematical problem solving is the process of finding a way around a difficulty, a barrier, or a solution to an unknown problem. The two objectives are to be met through well-organized and rigorous curriculum content, a well-defined set of high-level skills and procedures, desirable values and attitudes, and appropriate instruments, while also taking into account the various circumstances of Filipino learners. The curriculum is divided into five content areas as adopted from the framework prepared by MATHTED & SEI (2010): Numbers and Number Sense, Measurement, Geometry, Patterns and Algebra, and Probability and Statistics.

The objectives of Basic Education Curriculum (BEC) are to develop skills in higher intellectual operation, critical and creative thinking and more complex comprehension and expression activities in varied life situations; broaden scientific and technological knowledge and skills as means for optimizing one's potential for self-development and for promoting welfare for the others (Operations Handbook, BEC 2002).

According to Donald and James Kirkpatrick (2009), the evaluation phase's goals are to determine whether the training program was effective in reaching the stated objectives. The evaluation phase necessitates the identification and formulation of criteria, which should

include participant reactions to the training, evaluation of what they learned in the training program, assessments of their behavior after the training, and selection of organizational results. Choosing an experimental assessment design to test the effectiveness of the training is required during this phase. The criteria and design are chosen prior to the training to guarantee that the training is correctly evaluated using the criteria and design chosen.

The study of Llanto (2001) focused on partnerships between local government units and the private sector especially in programs for teachers, instructional materials, school buildings and facilities. The linkages of the various units were also strengthened through continuous upgrading of teacher's competence applying a comprehensive unified program of pre-service and in-service training. The content and methods of teaching were made to be learner-centered with the use of appropriate instructional and local materials. She recommended that more responsive training interventions are still needed to improve the quality of teaching and upgrade the skills of mathematics teachers.

According to Baes' (2002) research, there is a general consensus on the moderate need for training in areas such as personal peace, structural violence, human rights, cultural solidarity, militarism, and environmental care. There was a moderate need for skill development training in the following areas: critical and creative thinking, communication and conflict resolution, social, interpersonal, and facilitation. Training along principles and attitudes toward spirituality, justice, sharing, compassion, dialogue, and care for life was in moderate demand. The training needs study and program development were planned to equip BSU professors as peace educators.

Zakaria (2009) investigated the perceived professional needs of Malaysian secondary school mathematics teachers. School instructors were given a set of questionnaires from the Modified Mathematics Teacher Inventory of Needs. These teachers were asked to provide feedback on their perceived requirements. The questionnaire items were grouped into six categories: materials, new knowledge, teaching techniques, teaching marginal pupils, technology use, and measurement. In this investigation, descriptive statistics were used. Data analysis found that the highest rated perceived needs were related to ICT usage, followed by the teaching of Math ideas and the rehabilitation of low achievers. The perceived demands that were least desired were those linked to selecting a new textbook, devising an instructional plan, and upgrading content knowledge.

The Department of Education, according to the conclusions of Magsaysay's (2007) study, should educate teachers on various instructional styles and tactics such as the Practical Work Approach (PWA) and collaborative teaching. She noted that attending in-service training could increase both teachers' capacity to teach and students' ability to learn. The robust administrative assistance provided by the school heads to teachers and pupils will allow them to achieve even better. It was also revealed that the best predictor of teaching was instructional ability in terms of teaching strategies.

The study of Yam (2006) aimed to develop an enhancement program for quality science instruction. Academic officers, faculty, and students were the respondents who assessed the status of science instruction in terms of philosophy, faculty, curriculum, laboratory, library, and performance in the Licensure Examination for Teachers (LET). The descriptive method of research was used with a questionnaire prepared by the researcher. After the responses had been compared, it was found that there were no significant differences in their assessment. In addition, there were also no significant relationships between the status of science instruction and the practices towards quality science instruction in Teacher Education Institutions (TEIs). She concluded that in terms of prospects toward the attainment of quality education, comprehensive faculty training, and infrastructure development should be prioritized.

Manahan (2004) investigated the functions and difficulties of deans in the province and three cities of Batangas in order to develop a prototype training program that would improve

teacher education instruction. Fourteen (14) deans from the college of teacher education and one hundred sixty-eight (168) faculty members from fourteen (14) teacher education institutes participated in the study. A questionnaire was the primary tool employed. Interviews and observations were used to supplement data analysis and interpretation. She stated that competent employees do not retain their competence indefinitely since skills deteriorate and can become obsolete. That is why she proposed a training program to increase employees' overall effectiveness in their current positions and to prepare them for greater responsibility when they are promoted. The developed training program contains the topics for the training program, rationale, objectives, persons/agency involved, and the expected output.

According to Panganiban (2003), a series of faculty development programs held over a two-year period at the tertiary level revealed that the ideas/concepts skills covered in the training and development program were mostly applicable to their current jobs, and the training had been adequate in preparing them for their actual on-the-job work, and it took them a little effort beyond the training program to learn the new methods. The training materials and job aids had been quite beneficial on the job, and they were extremely confident in the new abilities they had gained. This implies that the effects training programs that an institution provides to its staff most certainly have a beneficial impact on the faculty's knowledge, and hence it is desirable to provide such programs.

Salamanca (2002) concluded that teacher training was positively related to effective teaching. This relationship was statistically significant and positive for overall student achievement. She added that the outside specialized training programs given to the regular teachers were effective in improving their teaching performance and raised the level of their self-confidence and self-worth which redounded to the efficient and effective delivery of quality education.

The reviewed conceptual and research literature is relevant to the current study because it deals with mathematics programs and in-service training that truly improve the standards of teaching new mathematical concepts by utilizing learned strategies and methods during seminar-workshops.

III. METHODOLOGY

Research Design

The main purpose of the study is to develop a training module in support of the secondary mathematics program for the Division of Lipa City. To achieve this purpose, the study made use of the descriptive research to gather information about the present existing mathematics conditions and strengths and weaknesses of training programs. Documentary analysis was used to describe the criteria for conducting quality training sessions.

Subjects of the Study

The subjects of the study were 87 mathematics teachers and 47 administrators from public secondary schools in Lipa, Batangas, Philippines. Purposive sampling was used for teacher-respondents since the concerned individuals were mathematics teachers. However, because they play a crucial role in assessing existing mathematics and training programs, all education supervisors, principals, and department heads were included. The researcher considered that their expert views would be extremely beneficial in developing a training module to complement the secondary mathematics program.

Data Gathering Instrument

The study made use of questionnaire and interview guide as instruments in gathering data.

1. Construction of Questionnaire

The questionnaire is divided into three sections that include respondents' evaluations of existing mathematics programs in terms of philosophy/objectives, curriculum, faculty, teaching methods and strategies, learning resources, and evaluation. The second segment addressed the assessment on the present training program in terms of qualification of trainers, content, attitude of trainees and training styles. The final portion discusses the issues that have arisen during training sessions. To gather insights on topics linked to the study, books, journals, dissertations, and training-related handouts were studied during the creation and construction of the questionnaire. The questionnaire's content was based on the problem statement. The researcher's actual experiences as a mathematics trainer enriched the questionnaire's design.

2. Validation of Questionnaire

The questionnaire was presented to the practitioners for content validation. The comments and suggestions of the evaluators were seriously considered for the revision of the instrument. Before the actual tryout, a pilot testing was conducted at two private schools in the Division of Lipa and Division of Tanauan to test the clarity of expression. Suggestions given by them in the pilot try-out were incorporated in the questionnaire.

To test the reliability and validity of the constructed questionnaire, the researcher presented the formulated questions to all panelist members in Batangas State University. Regional Supervisors and Division Mathematics Supervisor inputs were also considered in validating the questionnaire because they were the direct implementers of different trainings for mathematics teachers. Suggestions were incorporated in the questionnaire for its final revision.

The content validation was determined using Cron Bach alpha (α) and the obtained r-value was 0.92 which was greater than the critical r-value of 0.602 at 0.05 level of significance and at nine degree of freedom. The reliability of the research instrument was also determined using Kuder-Richardson Formula 21. The obtained value was 0.89 which was also greater than the critical value of r at 0.602 and at 0.05 level of significance.

3. Scoring of Questionnaire. The responses on the questionnaire were measured through the number of respondents' answers on each item with a corresponding weight value; one as the lowest and four as the highest. Descriptive equivalents or verbal descriptions were listed for the interpretation of results.

The three sections used different rating scales for every category with a four-point scale.

Option	Scale Range	Verbal Interpretation
4	3.50 - 4.49	To a very great extent/very evident/very often/ very much considered/strongly agree/much often a problem
3	2.50 - 3.49	To a great extent/evident/ often/much considered/ agree
2	1.50 – 2.49	To some extent/ somewhat evident/sometimes/somewhat considered / somewhat agree
1	1.00 – 1.49	To a least extent/ not evident/ not at all/ not considered/ not at all/ disagree

Development of training module

The criteria and guidelines incorporated in the book of Donald L. Kirkpatrick and James D. Kirkpatrick (2009) entitled "Evaluating Training Program" was considered in constructing

a training module in Mathematics. The developed module is a simple lesson in Mathematics. The content entirely focused on problem-solving namely: age problem, uniform motion problem, and mixture problem. Every topic has its objectives, materials required, concept and content, strategies, procedure, summary, and self-assessment.

Data Gathering Procedure

The researcher asked for the approval of the Schools Division Superintendent in the Division of Lipa to conduct the study. With permission granted, the administration of the questionnaire was done.

1. Administration of Questionnaire

The questionnaires were distributed to the respective teacher and administrator respondents in fifteen public secondary schools in the Division of Lipa. After answering the questionnaire, the researcher immediately retrieved the questionnaire. The scores were computed and tabulated to assess the responses of the respondents on Mathematics programs, current training programs, and the problems encountered during training sessions which served as the bases for the development of the training module.

2. Statistical Treatment

Tabulated responses were analyzed using the following statistical tools: frequency counts to determine the number of responses for each item, ranking to determine the positional importance of responses, percentage to determine the magnitude of the frequency of the whole or total responses, weighted mean to determine the typicality of responses of the two groups of respondents on items that will be rated based on a scale of options, the standard deviation to determine the variation of the responses of teacher and administrator respondents. The Cron Bach (α) was used to determine the validity of the items in the questionnaire and the Kuder-Richardson Formula 21 was used to determine the reliability of the items in the questionnaire. The Two-tailed test of Independence (t-test) was used to determine the significant differences in the responses of administrators and mathematics teachers.

IV. RESULTS AND DISCUSSION

Developed Training Modules. The Mathematics program is described in this study in terms of philosophy/objectives, curriculum, faculty, teaching method and strategies, learning resources, and evaluation as rated by administrators and teachers.

1.1 Philosophy/objectives. The philosophy/objectives of the Mathematics program in public secondary schools are still based on the 2002 Basic Education Curriculum (BEC).

Table 1 presents the description of Mathematics program in terms of its philosophy/objectives.

Table 1
Description of Mathematics Program as to Philosophy/Objectives

The philosophy/objectives of mathematics program ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. empower the learners to become competent in learning how to have life skills so they will become a self-developed person	3.68	TVGE	2	3.43	TGE	2
2. apply experiential, reflective, constructivism, cooperative, discovery and inquiry based learning to strengthen mathematical skills of students	3.55	TVGE	6	3.41	TGE	3
3. integrate key concepts of mathematics in appropriate technology and other allied subjects	3.47	TGE	7	3.29	TGE	6
4. enable learners to be globally competitive	3.70	TVGE	1	3.33	TGE	4
5. develop values and attitudes such as accuracy, creativity, objectivity, perseverance, and productivity	3.60	TVGE	4	3.51	TVGE	1
6. use appropriate tools and learning resources	3.64	TVGE	3	3.31	TGE	5
7. recognize and determine set of conditions of Filipino learners	3.57	TVGE	5	3.18	TGE	7
Composite Mean	3.60	TVGE		3.35	TGE	

*Legend: R- Rank, VI – Verbal Interpretation, WM- Weighted Mean, TVGE- to a very great extent
TGE- to a great extent*

It can be gleaned in the table that the administrator-respondents rated most of the items *to a very great extent* and one item *to a great extent* regarding the philosophy/objectives of the Mathematics program.

According to the administrators, the Mathematics program was able to make the learners globally competitive. It earned a weighted mean of 3.70, which ranked first and was interpreted *to a very great extent*. It shows that the first group of respondents believed that secondary learners with mathematical talent and potential could compete with other high schools in other nations. They may be from a public or private school, but if the learner is interested in Mathematics, he or she may have the opportunity to participate in Mathematics contests in other countries, such as those students who won mathematics fairs and quizzes from Philippine Science High School, Ateneo De Manila University, FAITH, and other leading high schools in the country. The aforementioned goal is also part of the secondary education curriculum's refining. It will simplify its content in order to promote learner mastery and contribute to the goal of creating globally competitive high school graduates.

The item about empowering learners to become competent in learning how to have life skills so that the learners would become self-developed comes in second rank with a weighted mean of 3.68. This was rated *to a very great extent* by the administrators. Apparently, administrators believed that by teaching Mathematics, pupils would gain self-confidence and become useful citizens of the country. They can use their Mathematics talents in their future careers.

Using appropriate tools and learning resources, developing values and attitudes such as accuracy, creativity, objectivity, perseverance, and productivity, recognizing and determining set of conditions of Filipino learners, and applying experiential, reflective, constructivism, cooperative, discovery, and inquiry based learning were also rated *to a very great extent* by administrators. The weighted mean found ranged from 3.55 to 3.64. The administrators appear to have believed that the Mathematics teachers were competent and aware of how to use various instructional tools to help pupils understand more of the concepts, principles, and theories in Mathematics.

The administrators gave the least importance to integrating fundamental principles from mathematics into applicable technology and other allied subjects. It obtained a weighted

mean of 3.47, which was interpreted *to a great extent*. Some administrators were apparently able to observe classes where Mathematics teachers rarely use technology to teach Mathematics.

The composite mean of 3.60 indicated that the administrators observed that the objectives of the Mathematics program were implemented *to a very great extent*. They have seen that mathematics teachers were using different tools and strategies to enable the students to understand the concepts, principles and theories of Mathematics. This finding conforms to the BEC (2002) objectives of developing skills in higher intellectual operation, critical, and creative thinking of students.

On the part of the responses of Mathematics teachers, they indicated that they developed values and attitudes of students such as accuracy, creativity, objectivity, perseverance and productivity. This ranked first with a weighted mean of 3.51 and was interpreted *to a very great extent*. Undoubtedly, the teacher-respondents were very much concerned with developing students who are ultimately not only good in Mathematics, but also have positive outlook in life. They want their students to imbibe the qualities of being creative, determined, patient, and industrious, so they will become productive citizens of the country.

The other items were rated *to a great extent* by the teacher-respondents with a weighted mean of 3.29 to 3.43. These were: empowering the learners to become competent in learning; applying experiential, reflective, constructivism, cooperative, discovery and inquiry based learning; enabling learners to be globally competitive; using appropriate tools and learning resources; and integrating the key concepts of mathematics in appropriate technology and other allied subjects. Presumably, some of the Mathematics teachers concentrated more on discussing the concepts than explaining how the principles, concepts and theories of Mathematics can be applied in technology and other allied subjects like Chemistry and Physics.

Recognizing and determining set of conditions of Filipino learners was least rated by the teacher-respondents with a weighted mean of 3.18 and was interpreted *to a very great extent*. It appears that some of the Mathematics teachers focus on discussing the concepts of the subject from simple to complex and applying the concepts in problem solving.

The composite mean of 3.35 revealed that the teacher-respondents were knowledgeable of the Mathematics program *to a great extent*. Teachers believe that they have to use different learning resources and strategies to make the students learn. This finding is similar to Nemesia's (2005) study which revealed that the teachers considered and implemented the objectives of Mathematics for student learning.

1.2. Curriculum. The description of mathematics program as to curriculum is contained in Table 2.

Table 2
Description of Mathematics Program as to Curriculum

The mathematics curriculum...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.allows students to learn by asking relevant questions	3.47	TGE	8	3.41	TGE	3
2.provides activities to discover new ideas	3.49	TGE	7	3.43	TGE	2
3.is spirally designed	3.32	TGE	10	3.21	TGE	8
4.has to attain the twin goals of problem solving and critical thinking	3.40	TGE	9	3.36	TGE	4
5. has a well-defined high-level skills and processes	3.55	TVGE	5.5	3.21	TGE	8
6. develops desirable values and attitudes	3.60	TVGE	2.5	3.24	TGE	6
7. uses appropriate tools to perform evaluation	3.57	TVGE	4	3.21	TGE	8
8. is interactive and collaborative	3.60	TVGE	2.5	3.34	TGE	5
9. has subject matter from simple to complex	3.70	TVGE	1	3.48	TGE	1
10. applies rubrics appropriate to the topic	3.55	TVGE	5.5	3.13	TGE	10
Composite Mean	3.53	TVGE		3.30	TGE	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, TVGE- to a very great extent
TGE- to a great extent

It can be gleaned in the table that the administrators described six items to a very great extent and the other four items *to a great extent* relative to their assessment on Mathematics curriculum.

The administrators described *to a very great extent* that the curriculum of the mathematics program has subject matter from simple to complex. It obtained a weighted mean of 3.70 which ranked first among ten items. This is a clean indication that the administrators who were once teachers strongly believed that the lessons in Mathematics from first year to fourth year level were arranged from simple to complex. Through it the students will really understand the lesson and its application in the more difficult lessons. This finding conforms to the BEC Primer (2002) that the curriculum of secondary Mathematics program considered the integrated approach in which lessons in first year were simpler than lessons in the second year. However, in the K to 12 mathematics curriculum, the Grade Seven Mathematics instruction adopts the spiral integrated approach.

As described by the administrators, the mathematics program as to curriculum was: interactive and collaborative, developed desirable values and attitudes, used appropriate tools to perform evaluation, had a well-defined high-level skills and processes, and applied rubrics appropriate to the topic. It obtained a weighted mean of 3.55 to 3.60 and was interpreted *to a very great extent*. Consequently, the respondents believed that the mathematics curriculum will enable the students to have a positive behavior and attitude as well as to learn the skills that can be applied in other subjects.

Providing activities to discover new ideas, allowing students to learn by asking relevant questions, and attaining the twin goals of problem solving and critical thinking were described *to a great extent* by the administrators. It obtained a weighted mean of 3.40 to 3.49. Apparently, some of the respondents have observed that not all the Mathematics teachers were concerned with teaching mathematics concepts at the same time assisting students to discover new ideas or ways of solving problems.

The mathematics curriculum design is spiral was rated least by the administrators with a weighted mean of 3.32 and was interpreted *to a great extent*. This finding showed that some of the administrators were not so aware that the Mathematics curriculum especially in Grade VII is designed in which all topics on lessons are introduced from measurement to simple statistics.

Overall, the composite mean of 3.53 suggested that administrators described the Mathematics program as curriculum *to a very great extent*. They are well aware that the

mathematics classes were organized or delivered in such a way that the pupils would understand the ideas and build their mathematical skills. According to Felipe (2003), in order for education to be effective, the curriculum must address the program's objective.

As to responses of the teachers, they described all items *to a great extent*. Having subject matter from simple to complex ranked first with a weighted mean of 3.48. This may be an indication that most of the teachers always explain lessons in Mathematics from the easiest to the most difficult. According to Education Act Plan 2015, the process of teaching lessons from simple to complex can streamline content in order to improve student mastery.

Least rated by the teacher-respondents was on applying rubrics appropriate to the topic with a weighted mean of 3.13 and was interpreted *to a great extent*. This can be an indication that some of the teachers may have been confused of what evaluation tool must be used. Since the implementation of BEC, different rubrics have been introduced and required in assessing student's performance in Mathematics.

The calculate mean of 3.30 indicated that the teacher-respondents accurately defined the Mathematics program. They considered that they discussed the topics using appropriate methods to help pupils understand mathematics concepts, principles, and skills. This is consistent with Aquino's (2003) assertion that teaching mathematics is a complex endeavor. Mathematics teachers must have a broad range of mathematical knowledge and employ instructional tools to help pupils acquire more topics and build their mathematical skills.

1.3. Faculty. Table 3 contains the description of Mathematics program as to faculty.

Table 3
Description of Mathematics Program as to Faculty

The mathematics teacher ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. finishes a bachelor degree major in mathematics	3.23	E	9	3.09	E	10
2. is competent in terms of knowledge on the content and methodologies	3.43	E	1	3.54	VE	7
3. is creative in using varied presentation methods and competent in delivery of the lesson	3.28	E	7	3.41	E	8
4. has good character, values and attitudes	3.28	E	7	3.66	VE	1.5
5. is committed to his work by having the "fire", the desire, the determination to give his best no matter what	3.21	E	10	3.59	VE	4.5
6. collaborates ideas to update and upgrade with community of learners learning together	3.28	E	7	3.29	E	9
7. activates prior knowledge to connect this to the present math lesson	3.32	E	4.5	3.56	VE	6
8. is fair and objective to students	3.38	E	2	3.59	VE	4.5
9. checks, records exercises, quizzes and major examinations and return to the students the earliest time possible	3.36	E	3	3.62	VE	3
10. is punctual and prompt in attending classes and activities in the school	3.32	E	4.5	3.66	VE	1.5
Composite Mean	3.31	E		3.50	VE	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VE- very evident
E- evident

From the table, it can be noted that the administrators observed mathematics teachers' capability to be *evident* in handling mathematics program. They indicated that the mathematics teachers were competent in terms of knowledge on the content and methodologies. It obtained a weighted mean of 3.43 which ranked first in the rank order distribution. Consequently, the administrators know that the mathematics teachers have the skills sharing the concepts, principles and theories to students. They can make tough lessons

easier for students to understand. This conclusion supports Salandanan's (2009) claim that teachers have the knowledge, abilities, and passion to push pupils to understand mathematical concepts and principles.

Other items which were described *evident* by the administrators regarding the mathematics teachers pertained to them: being fair and objective, checking, recording exercises, quizzes, major examinations and returning to the students the earliest time possible; activating prior knowledge to connect it to the present Mathematics lesson; being punctual and prompt in attending classes and activities in the school; being creative in using various presentation methods and competent in delivery of the lesson; having good character, values and attitudes; collaborating on ideas for updating and upgrading with a community of learners learning together; and completing a bachelor's degree with a major in mathematics. The obtained weighted mean ranged from 3.23 to 3.38. The findings showed that the Mathematics teachers have the mastery of the subject matter because most of them were prepared to teach the subject having mathematics as the field of specialization. This conforms with McBer's (2000) report which stated that an effective teacher must have the content knowledge of the subject and must inspire students' confidence in learning the concepts of mathematics.

The Mathematics teacher was committed to his work by having the fire, the desire, the determination to give his best no matter what was rated least by the administrators. It obtained a weighted mean of 3.21 and was interpreted as *evident*. Probably, the administrators observed that some of the mathematics teachers were not that committed or determined in their work. However, most of the Mathematics teachers were really concerned with sharing the concepts and principles of Mathematics especially on difficult lessons. According to Wolk (2001), when the teacher is passionate about learning, he can create an infectious classroom environment.

It obtained a composite mean of 3.31 which revealed that the administrators have observed that the mathematics teachers possessed the professional and personal qualities which were *evident*. They were competent, creative, and fair and objective in treating their students. This finding conforms with Stronge et. al. (2004) ideas that effective teachers demonstrate genuine empathy toward students through understanding the students' concerns and questions.

Regarding the responses of teacher-respondents, they rated seven items as very evident and the other three items as evident.

Having good character, values and attitudes and being punctual and prompt in attending classes and activities in the school were the items given the highest weighted mean of 3.66 and were interpreted to be *very evident* by the teacher-respondents. The mathematics teachers believed that they have those qualities thus; their students respect and attend their class in mathematics regularly. As cited by Aquintana (2006), a good teacher sets good examples for the learners and community.

Other items rated *very evident* by the teacher-respondents with a weighted mean ranging from 3.54 to 3.62 were: checking, recording exercises, quizzes and major examinations and returning the papers to the students the earliest time as possible; being committed to his work by having the fire, the desire, the determination to give his best no matter what; being fair and objective to students; activating prior knowledge to connect this to the present mathematics lesson; and being competent in terms of knowledge on the content and methodologies. Undoubtedly, the teachers were competent in their work because they have the mastery of the knowledge they will impart in the lesson. They also treat their students fairly to gain their respect and trust. This finding also conforms to Aquintana's (2006) statement that teachers must be intellectually equipped with knowledge because one cannot teach what one does not know, and besides, one cannot give what one does not have.

Being creative in a way of using varied means of presentation and competent in delivery of the lesson and collaborating on ideas for updating and upgrading with a community of learners learning together were rated *evident* by the teachers with a weighted mean of 3.41 and 3.29, respectively. This is a clear indication that some of the mathematics teachers really their best to be creative and by using different instructional materials so that the students will understand even the difficult concepts. According to Shangkuan Koo (2002), a good teacher believes that students learn by doing. The teacher should master his subject for no packaging can substitute for substance, no techniques can replace content.

Finishing a bachelor's degree in Mathematics got the lowest mean of 3.09 and interpreted as *evident* by the teachers. Apparently, there were teachers teaching Mathematics even though it is not his specialization. They do not have a choice in the subjects given to them by their school heads. On the other hand, there are some Mathematics teachers handling other offered subjects by the Department of Education.

Having a composite mean of 3.50, the teacher respondents really believed that they possess the qualities and competencies in teaching Mathematics which were *very evident*. The respondents do not possess desirable values, attitude and work habits but, they are really knowledgeable of the concepts, principles and theories of Mathematics. According to Yarcia (2001), teachers should continue for excellence for the road to quality does not end. They should be competent and committed to their work, show love and concern for their students, value them and help them grow and develop. This finding is also similar to Flores' (2005) study which revealed that teachers should grow professionally by investing in their own education.

1.4 Teaching Methods and Strategies

The description of Mathematics program as to teaching methods and strategies is shown in Table 4.

Table 4
Description of Mathematics Program as to Teaching Methods and Strategies

The mathematics program applies various methods and strategies of teaching like...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.Deductive method	3.06	O	13	3.20	O	9
2.Inductive Method	3.43	O	5.5	3.22	O	7
3.Identifyng Similarities and Differences	3.49	O	3	3.26	O	6
4.Note taking	3.30	O	9	3.09	O	11
5.Reinforcing effort and providing recognition	3.45	O	4	3.36	O	3
6.Homework and Practice Drill	3.51	VO	2	3.47	O	1
7.Nonlignistic representations	3.38	O	7.5	3.20	O	9
8.Cooperatiive learning	3.28	O	10.5	3.45	O	2
9.Setting goals and providing feedback	3.28	O	10.5	3.29	O	5
10.Generating and testing hypothesis	3.21	O	12	3.01	O	13
11.Activating prior knowledge	3.43	O	5.5	3.33	O	4
12.Interactive direct instruction	3.38	O	7.5	3.20	O	9
13.Problem-Based Learning (PBL)	3.53	VO	1	3.08	O	12
Composite Mean	3.36	O		3.24	O	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VO – very often, O - often

As manifested in the table below, two items were described by the administrators as *very often* used methods and strategies in teaching mathematics and the other 11 items as *often* used by teachers.

Among the 13 methods and strategies used in teaching Mathematics, the administrators rated that problem-based learning was *very often* used by teachers with a weighted mean of 3.53. This ranked first in the rank order distribution. Probably, the administrators observed

that the Mathematics teachers were always using PBL in the presentation and application of the lessons. They noted that the teachers were very much considered with how the students will be able to solve a certain problem through analysis and application of the new concepts.

Homework and practice drill was rated *very often* by the administrators with a weighted mean of 3.51. This ranked second among 13 methods and strategies considered in the study. The administrators noted that the Mathematics teachers always give homework and practice exercises after the presentation of new lessons. They have seen that these homework and exercises are also checked and recorded by the Mathematics teachers. Through it, the skills of students in a particular concept are developed.

Identifying similarities and differences, reinforcing effort and providing recognition, inductive method, activating prior knowledge, nonlinguistic representatives, note taking, cooperative learning, setting goals and providing feedback, and generating and testing hypothesis were the methods and strategies rated *often* by the administrators. It obtained a weighted mean of 3.21 to 3.49. The administrators have seen that the Mathematics teachers were using varied methods and strategies to develop the skills of students in Mathematics. According to Santos (2006), students are inspired if their teachers are using different methods and strategies to achieve the desired outcome.

Given the lowest weighted mean of 3.06, the administrators have noticed that deductive method was *often* used by Mathematics teachers. Apparently, this method is a traditional one, but also being used in teaching the subject especially when a mathematical formula is presented. Some teachers believed that such method is more appropriate to use than the other methods and strategies.

The obtained composite mean of 3.36 indicated that the administrators observed that the Mathematics teachers *often* used different methods and strategies in presenting and in discussing the lessons. They believed that through it, the students will be motivated to listen, perform the different exercises which will lead in the learning and developing of mathematical skills. As cited by Salandanan (2009), methods and strategies play a vital role in teaching. It serves as the avenues to realize the learning goal.

Relative to the responses of the teachers, they rated all the methods and strategies as *often* used by them. Homework and practice drill was given the highest weighted mean of 3.47. Undoubtedly, most of the Mathematics teachers were using such strategy for students to develop the skills they learned inside the classroom. The teachers assumed that applying previously acquired principles would help pupils understand the lessons better. According to Henson (2000), homework and practice drills are useful tools for developing students' skills in a specific topic, particularly mathematics.

Methods and strategies, such as: cooperative learning, reinforcing effort and providing recognition; activating prior knowledge; settings goals and providing feedback; identifying similarities and differences; inductive method; deductive method; nonlinguistic representatives; interactive direct instruction; note taking; and problem- based learning were rated *often* by the teachers. The obtained weighted mean ranged from 3.08 to 3.45. It appears that the Mathematics teachers were using different methods and strategies to enable the students to learn the concepts and develop the skills needed especially in solving problems. The finding is similar to Nemesia's (2005) study that the Mathematics teachers used different methods and strategies for students to learn the concepts in each lesson.

Generating and testing hypothesis as a strategy obtained the lowest weighted mean of 3.01 which was also *often* used by the teacher-respondents. Probably, not all the teachers can make used of such strategy especially those teaching in first year because of the nature of students and the concepts or lesson presented in the class.

The composite mean of 3.24 showed that the teacher-respondents often used varied methods and strategies in teaching Mathematics. This finding is similar to Zakaria's (2009)

works which revealed that the teachers *often* used different methods and strategies of teaching to arouse interests of students and facilitate the learning of new concepts.

1.5. Learning Resources. The description of Mathematics program as to learning resources is reflected in Table 5.

Table 5
Description of Mathematics Program as to Learning Resources

The mathematics program uses appropriate resources such as ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.library facilities, newspapers, and reference books	3.06	O	9	2.87	O	4
2.charts	3.23	O	6	2.86	O	5
3.graphing board	3.32	O	4	2.90	O	3
4.laptop, LCD, tablet and smartphones	3.28	O	5	2.66	O	8
5.overhead projector	3.15	O	8	2.21	S	11
6.bulletin board	3.19	O	7	2.78	O	7
7.board compass, meter stick	3.36	O	3	3.05	O	2
8.world wide web/on-line	2.79	O	11	2.30	S	10
9.textbooks and workbooks	3.43	O	1	3.59	VO	1
10.magazines and journals	2.98	O	10	2.39	S	9
11.calculator	3.40	O	2	2.85	O	6
Composite Mean	3.20	O		2.77	O	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VO- very often, O- often, S- sometimes

As shown in the table, the administrators rated the learning resources of Mathematics program to have been used by the teachers *often*. The administrators indicated that the teachers often used textbooks and workbooks in teaching Mathematics subjects. The obtained weighted mean was 3.43 which ranked first among 11 items. The administrators are aware that the teachers were requiring the students to use the textbooks and workbooks provided by DepEd. However, the administrators also noted that some teachers used other books as reference materials. This is the same finding by Siscan (2009) in his study which revealed that most of the Physics teachers were using textbooks in the subject.

The administrators also noted other learning resources which were *often* used by Mathematics teachers. It obtained a weighted mean ranging from 2.98 to 3.40, these were: calculator, board compass, meter stick, graphing board, laptop, LCD, tablet and smart phones, charts, bulletin board, overhead projector, library facilities like newspapers and reference books, and magazines and journals. These learning resources may be available in the school, but with limited units like LCD and overhead projector. The Mathematics teachers could not use them at the same time as revealed by the administrators. The administrators also noted that charts and graphing board were often used by Mathematics teachers.

The administrators rated the use of the internet or on-line the lowest, with a weighted mean of 2.79. This could be attributable to the fact that certain public secondary schools do not have internet access, making it impossible for teachers to use it, as seen by administrators. Only a few teachers take the initiative to purchase smart broadband in order to access the World Wide Web. According to Ebreo (2006), when interfaced with curriculum and supported by reading materials and computer technology, instructional aids can generate new words and enable active learning in the classroom.

Having a composite mean of 3.20 indicated that the administrators noted that Mathematics teachers *often* used different learning resources in facilitating the teaching and learning process. Through them, students will be more motivated to learn new concepts and develop their skills in Mathematics. According to Aquino (2003), instructional materials are made and

used for different situations. It is the teacher's job to tailor them to the needs of the students and to the kind of the lesson that will be presented in class.

With reference to the responses of teachers, they rated one item as *very often*, seven items as *often*, and three items as *sometimes* used in learning resources in teaching mathematics. The teacher-respondents indicated that textbooks and workbooks were very often used with a weighted mean of 3.59. This ranked first among 11 items. This is a clear indication that most of the teachers required their students to use textbooks and workbooks provided by DepEd. The lessons and exercises are based on these books.

Board compass, meter stick, graphing board, library facilities like newspapers and reference books, charts, calculator, bulletin board, and laptop, LCD, tablet and smart phones were the learning resources *often* used by teacher-respondents in teaching mathematics subjects. It obtained a weighted mean of 2.66 to 3.05. It appears that the teachers used varied learning resources. With the use of different learning resources, students will visualize the lesson. According to Roblyer (2000), the teacher must use different materials to vary the learning experiences of students. All students have varied interests and abilities. The teacher should capture their attention and spark their interest through the use of instructional materials.

However, the teachers *sometimes* used magazines and journals, world wide web/on-line, and overhead projector. These were least rated with a weighted mean of 2.21 to 2.39. Those learning tools appear to be available in the school, but with restricted copies of units, so not all teachers can utilize them at the same time. Aside from it, in teaching mathematics, the teacher has really to present how the different lessons will be computed and solved thus, they only *sometimes* used those instructional materials.

The composite mean of 2.77 revealed that the teachers *often* used learning resources in teaching mathematics. Apparently, the teachers used varied and appropriate learning resources for students to understand more the concepts, principles and theories of mathematics. This finding conforms with Aquino (2003) statements that the instructional materials are made for different situations. The development of learning resources must be based on age, maturity, ability and interest of students and content which demands teachers' familiarity of what and how to use instructional materials.

1.6. Evaluation. Table 6 manifests the description of mathematics program as to evaluation.

Table 6
Description of Mathematics Program as to Evaluation

The mathematics program evaluates students through...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.rubrics	3.21	O	9	2.98	O	10
2.quizzes	3.77	VO	2	3.70	VO	3
3.exercises	3.70	VO	3	3.75	VO	1
4.major examination	3.60	VO	5	3.54	VO	6
5.board work	3.79	VO	1	3.71	VO	2
6.portfolio	3.53	VO	7	3.23	O	7
7.project	3.17	O	10	3.02	O	9
8.class recitation	3.57	VO	6	3.64	VO	4
9.joining in math quiz bee/fair	3.32	O	8	3.08	O	8
10.homework	3.68	VO	4	3.61	VO	5
Composite Mean	3.53	VO		3.42	O	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VO- very often, O- often

Based on the table, the administrators indicated seven items as *very often* used evaluation tools by mathematics teachers and the other three as *often* used by teachers.

As observed by the administrators, the mathematics teachers *very often* used board work as a way of evaluating students' learning. This ranked first with a weighted mean of 3.79. Administrators have always seen mathematics teachers call a student or group of students to complete an exercise or problem on the board to see if the pupils understood the teacher's explanation of a new lesson. A teacher may also ask another group of pupils to check the work of their peers on the board.

Giving of quizzes, exercise, homework, major examination, class recitation and portfolio were also rated by the administrators to be the evaluation tools *very often* used by the mathematics teachers. The obtained weighted mean ranged from 3.53 to 3.77. Apparently, the administrators have seen that the mathematics teachers always used varied evaluation tools to determine performance of students objectively and fairly in their class. The administrators believed that the mathematics teachers were doing their best in evaluating their students objectively by recording all the achievements of students in the class.

Joining in math quiz bee/fair, rubrics, and project were evaluation tools *often* observed by administrators to be used by mathematics teachers. These were least rated evaluation tools with a weighted mean of 3.17 to 3.32. Presumably, the mentioned evaluation tools were only given on conducted once or twice a year thus, the administrators have been aware of it. The composite mean of 3.53 indicated that administrators observed mathematics teachers *very often* used various evaluation techniques to fairly measure the achievement of pupils in mathematics. This finding is similar to Zakaria's (2009) study which revealed that the mathematics teachers were already competent in evaluating students' performance in the subject.

As to the responses of teachers, they indicated the six items to be *very often* used by them in evaluating students' performance in mathematics and four items as often used in evaluation tools in mathematics subject.

Exercises as an evaluation tool was *very often* used by mathematics teachers in evaluating students' performance in the subject. It obtained a weighted mean of 3.75 which ranked first among ten items. Consequently, most of the teachers were providing and giving students follow-up exercises for them to develop the skills of analyzing, computing, and checking if the student's answer is correct or not. These exercise are checked and recorded by the teachers as part of the computations of grades of students.

Board work, quizzes, class recitation, homework, and major examination were also evaluation tools *very often* used by the teacher respondents. It obtained a weighted mean of 3.54 to 3.71. This is a clear indication that the mathematics teachers always used those evaluation tools to be objective in giving grades to students. They checked and recorded whatever grades that the students will get for a particular process of evaluation.

The evaluation tools which were *often* used by teachers were: portfolio, joining in math quiz bee/fair, project, and rubrics. It obtained a weighted mean of 3.23 to 2.98. The findings revealed that the evaluation tools were only used once or twice a year. However, the teachers also give additional grade for students who compete and wins in the Mathematics quiz bee/fair.

Having the composite mean of 3.42 revealed that the mathematics teachers *often* used varied evaluation tools to measure students' performance in the subject. They also considered the interest and ability of the students. As revealed by Zakaria's (2009) in his study, the teachers were competent in evaluating student's performance in mathematics.

2. Criteria for Conducting Quality Training Sessions

In general, the criteria for performing quality training sessions were adapted from Donald and James Kirkpatrick's (2009) book, "Evaluating Training Programs."

These pertained to need analysis, designing a training program, qualification of trainers, importance or value of training, selecting trainers, and evaluation.

Specifically, the following guidelines were suggested by Wickham (2003) for the trainers so that they will be directed accordingly.

✗	Make sure that all the participants understand the objectives of the training.
✗	Ensure that all the activities planned for the workshop are acceptable to the participants.
✗	Emphasize “learning by doing” as the approach that will be taken during the training.
✗	Keep the training material organized.
✗	Provide an outline to the trainees for them to follow along and take notes.
✗	Keep the training session upbeat and interesting by including stories or examples.
✗	Encourage active participation among the participants.
✗	Use various methods to keep the trainees more involved by asking questions or by holding a number of open discussion segments.
✗	Use visual aids throughout the training session.
✗	Incorporate some games in the session.
✗	Have a simple evaluation.

The given criteria were utilized in developing training module in mathematics. Following the listed standards would lead the trainers and trainees to a better training program.

3. Administrators and Teachers’ Assessment of Current Training Programs

3.1 Qualification of trainers

Table 7
Assessment on the Training Program as to Qualification of Trainers

The trainer is chosen by a committee because he/she ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.attends mathematics training for the new curriculum	3.68	VMC	1.5	3.62	VMC	1
2.has three or more years of experience in teaching mathematics	3.68	VMC	1.5	3.61	VMC	2
3.earns units in graduate program	2.79	MC	20	3.06	MC	19
4.is physically fit to train people and with a sense of humor	3.53	VMC	9.5	3.48	MC	3
5. passes a qualification exam as trainer in the field of education	3.36	MC	16.5	3.24	MC	16
6.blends different training techniques	3.36	MC	16.5	3.38	MC	9.5
7.has the ability in the art of questioning	3.55	VMC	5.5	3.43	MC	6.5
8. has the ability to facilitate group training activities	3.53	VMC	9.5	3.37	MC	11.5
9.analyzes course materials/trainee information	3.34	MC	18	3.23	MC	17
10.manages training environment	3.47	MC	15	3.30	MC	14
11.possesses content knowledge, skills and attitude	3.55	VMC	5.5	3.47	MC	4
12.demonstrate effective communication skills	3.53	VMC	9.5	3.40	MC	8
13.applies effective presentation skills	3.53	VMC	9.5	3.46	MC	5
14.responds to the trainees’ needs/feedback	3.53	VMC	9.5	3.37	MC	11.5
15.has knowledge on how to use media effectively	3.49	MC	14	3.29	MC	15
16.evaluates trainees’ performance	3.51	VMC	13	3.38	MC	9.5
17.reports evaluation information	3.53	VMC	9.5	3.33	MC	13
18.applies research skills	3.30	MC	19	3.02	MC	20
19.builds harmonious relationship	3.57	VMC	3.5	3.43	MC	6.5
20.serve as consultant for trainees	3.57	VMC	3.5	3.13	MC	18
Composite Mean	3.46	MC		3.35	MC	

Legend: R – Rank, WM-Weighted Mean, VI- Verbal Interpretation, VMC- very much considered, MC- much considered

It can be gleaned in the table that the administrators assessed 13 items to be *very much considered* and the other items as much considered regarding the training program as to qualification of trainers.

Attending mathematics training for the new curriculum and having three or more years of experience in teaching mathematics were the items given with the highest weighted mean of 3.68 by the administrators. This was interpreted to be *very much considered*. Apparently, the administrators believe that trainers in mathematics must have also attended seminars and trainings in mathematics so they will be able to share more new concepts and technique as to how the subject must be taught. As cited by Andres (2003), one of the requirements for a good trainer is competency in the subject being taught. He must have experience and exact detailed knowledge and skill because he has to set the standards of performance the trainers will have to strive for.

The administrators also assessed that the trainer *very much considered* the following: building harmonious relationship; serving as consultant for trainers' having the ability with art of questioning; possessing content knowledge, skills and attitudes; being physically fit to train people and with a sense of humor; facilitating group training activities; demonstrating effective communication skills; applying effective presentation skills; responding to the trainers' needs/feedback; and reporting evaluation information. The obtained weighted mean ranged from 3.53 to 3.57. The findings showed that the committee in choosing a trainer is very particular of their qualifications as observed by the administrators. This group of respondents noted that success of a training program also depends on the ability of the trainers in sharing topics assigned to them. The trainers may or may not be able to meet the objectives of the training program.

Least rated items as indicated by the administrators were: having knowledge on how to use media effectively; managing training environment; passing a qualification examination as trainer in the field of education; blending different training techniques; analyzing course materials/trainee information; applying research skills; and earning units in master's degree or doctoral program. It obtained a weighted mean of 2.79 to 3.49 and were interpreted as *much considered*. The administrators believed that those qualifications of trainers must also be considered in attaining the objectives of the training program. This finding conforms with the process of holding in-service training programs in which the basic steps are planning, implementation and evaluation and follow up if necessary.

The composite mean of 3.46 is an indication that the administrators believed that the qualifications of trainers must be *much considered* in conducting a training program. The administrators are aware that training programs for teachers are important thus, they must be able to learn from the trainers. According to Andres (2003), the trainers must have the ability to develop good personal relations. He must have a positive attitude, such as confidence, in order to boost trainers' learning and remembering of the information covered in the training program.

On the part of the responses of teachers, they identified two items to be very much considered by them.

First in rank, the teacher-respondents *very much considered* that the trainer must have attended mathematics training for the new curriculum. This obtained a weighted mean of 3.62. Apparently, the teachers will be very much interested during the training program if the topic is about the teaching of mathematics for Grade VII to Grade XII. They are excited to know how the new program differs from the Mathematics subjects being offered from first to fourth year in the Basic Education Curriculum. As cited by Andres (2003), a good trainer

must be competent and have experienced the exact detailed knowledge and skill of the topic he will discuss during the training program.

The teacher-respondents also felt that the selection committee for trainers should prioritize a trainer with three or more years of experience teaching Mathematics. It obtained a weighted mean of 3.61 which ranked second in the rank order distribution. This is an indication that the experience of the trainer can greatly help him discuss comprehensively the topic assigned to him as noted by teacher-respondents. The trainer can be able to relate to the participants especially to Mathematics teachers.

The teacher-respondents rated the other items relative to the qualification of trainers to be *much considered*. They believed that the trainer must: be physically fit to train people and with a sense of humor; possess content knowledge, skills and attitudes; apply effective presentation skills; have the ability with the art of questioning; build harmonious relationship; demonstrate effective communication skills; blend different training techniques and evaluate trainees' performance. The obtained weighted means ranged from 3.38 to 3.48. As a result, the teachers stated that trainers needed to be able to communicate more new concepts and expertise with participants, as well as be an excellent speaker in order to persuade participants to listen and engage during an open forum or workshop.

Applying research skills was assessed by the teacher-respondents with the lowest weighted mean of 3.02. This finding reveals that the teacher-respondents indicated that the trainer must be able to discuss new concepts based on mathematics research. Teachers are keen to discover new concepts and ways to use in the classroom or when teaching a subject.

The composite mean of 3.35 showed that the teacher-respondents *much considered* the qualification of the trainer during the training program. They are more interested to listen and participate during the training if the trainer is a credible, respected, and highly qualified speaker. This finding is consistent with Andres' (2003) notions that a successful trainer must understand presentation methods, talk clearly and fluently, and structure his lessons.

3.2 Content. The assessment of the training program as to content is shown in Table 8.

Table 8
Assessment on the Training Program as to Content

The content of the training program I attended...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.is relevant to the topic of the seminar	3.53	VO	2	3.60	VO	1
2.allocates time for each training sessions	3.53	VO	2	3.53	VO	5
3.is responsive to the needs of trainees	3.43	O	7	3.49	O	6
4.improves teacher's knowledge and skills in mathematics	3.53	VO	2	3.57	VO	3
5.develops creativity among math teachers	3.40	O	9	3.59	VO	2
6.provides basic skills training for new mathematics teachers	3.51	VO	4	3.54	VO	4
7.includes new teaching methods, strategies and approaches	3.45	O	5	3.44	O	7
8.create ample opportunity to design and construct instructional materials	3.43	O	7	3.33	O	9
9. designs rubrics that can be used fairly and objectives.	3.30	O	10	3.24	O	10
10.shares new innovations and techniques of solving math problems	3.43	O	7	3.38	O	8
Composite Mean	3.45	O		3.47	O	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VO- very often, O- often

From the table, it can be gleaned that the administrators assessed four items as very often and the other six items as often relative to the assessment on the training program as to content.

The administrators assessed that the content of the training programs they attended were relevant to the topic of the seminar, have allocated time for each training session, have improved teachers' knowledge and skills in mathematics, and have provided basic skills training for new mathematics teachers. It obtained a weighted mean of 3.53 and 3.51, respectively and was interpreted as *very often* experienced and observed by the administrators. Undoubtedly, the administrators were fully aware of the content of the training program thus, they whom to send and how it will be disseminated to other teachers. This finding conforms with Panganiban's (2003) statement that training increases the skills of employees to better meet the organizational goal.

Including new teaching methods, strategies, and approaches; being responsive to the needs of the trainees; creating ample opportunity to design and construct instructional materials; sharing new innovations and techniques of solving mathematics problems; and developing creativity among mathematics teachers were assessed by administrators as *often* observed during the training program as to its content. It obtained a weighted mean of 3.40 to 3.45. The findings showed that often times the topics during training programs were on new approaches and techniques of teaching mathematics as well as the construction of instructional materials.

The design of rubrics that can be utilized fairly and objectively and interpreted *often* as the topic of training programs as assessed by administrators had the lowest weighted mean of 3.30. They noted that some of the training programs exposed the mathematics teachers to concepts about rubrics preparation. This finding is the recommendation forwarded by Ebreo (2006) to give the mathematics teachers the opportunity to prepare rubrics and construct instructional materials during the training program.

The composite mean of 3.45 revealed that the administrators observed that the content of the training program in mathematics was relevant and responsive to the needs of the trainees. Through the training program, the knowledge and skills of mathematics teachers improved and they become competent and confident of what and how they will teach new concepts and principles. The finding answers Llanto's (2001) recommendation that more responsive teacher training interventions are needed to improve the quality of teaching and upgrade the skills of mathematics teachers.

With reference to the responses of teachers, five items were assessed to be *very often* and the other five items as *often* observed as to the content of the training program.

The teacher-respondents indicated that the content of the training program they attended was very often relevant to the topic of the seminar. It obtained a weighted mean of 3.60 which ranked first among the items. This is a clear indication that the teachers, who have participated in a training program noted that the topics discussed by the trainers were important especially in attaining objectives pertaining to new concepts. According to Cenzo and Robbins (2001) the training program is effective if it attained the stated objectives like identification of content on the topic of the seminar.

Other items rated as *very often* by teacher-respondents with a weighted mean of 3.53 to 3.59 in terms of training program content were: develop creativity among mathematics teachers, improve teachers' knowledge and skills in mathematics; provide basic skills training for new mathematics teachers; and allocate time for each training sessions. The respondents as mathematics teachers themselves experienced that through the training program they attended they become confident of what they are teaching and they were able to apply what they learned from listening to different trainers.

Being responsive to the needs of trainees, including new teaching methods, strategies and approaches, sharing new innovations and techniques of solving mathematics problems; creating ample opportunity to design and contrast instructional materials; and designing rubrics that can be used fairly and objectively were the items rated *often* by the teacher-respondents. It obtained a weighted mean of 3.24 to 3.49. The teachers who have attended

training programs have learned from them especially regarding new innovations and techniques of solving mathematics problems as well as in constructing and improvising appropriate instructional materials. The use of appropriate manipulatives in the teaching of mathematical ideas and principles fosters critical thinking and sound analysis in the students. Rubrics may be used by teachers if they are already familiar with how to use and design them. Thus, this finding answered one of the recommendations of Ebreo (2006) that a capability enhancement program be conducted for mathematics teachers in the secondary level focusing on the topics about instructional material development and rubrics preparation.

The composite mean of 3.47 indicated that teacher-respondents who participated in the training program *often* learned from the topics discussed by trainers. They received clarification on how to teach new concepts, utilize new approaches and strategies, and design appropriate mathematics training and materials. This is also in response to Llanto's (2001) advice that more responsive teacher training interventions be implemented in order to improve the quality of instruction and upgrade the abilities of mathematics teachers.

3.3 Attitudes of trainees. The assessment of the training program as to attitudes of the trainees as perceived by administrators and teachers are shown in the table 9.

It can be seen in the table that the administrators strongly agreed on 12 items and agreed on two items regarding the attitudes of trainees toward the training program.

Table 9
Assessment on the Training Program as to Attitudes of Trainees

As a trainee, I ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.am able to express and explore new ideas	3.53	SA	10	3.40	A	11
2.accept new changes and innovations	3.62	SA	2	3.52	SA	5.5
3. am open to learn new things	3.70	SA	1	3.55	SA	1.5
4. participate well in the discussion	3.55	SA	5.5	3.46	A	8
5. demonstrate interest in the topic being presented	3.49	A	13.5	3.54	SA	3.5
6.am prompt and present through the session	3.49	A	13.5	3.54	SA	3.5
7.take risks with new experiences and motivates easily	3.51	SA	12	3.39	A	12.5
8.am organized during the session	3.53	SA	10	3.51	SA	7
9.use additional references by reading books and surfing the internet	3.55	SA	5.5	3.26	A	14
10.work well with other trainees during panel discussion	3.53	SA	10	3.39	A	12.5
11.learn with other trainees through activities	3.55	SA	5.5	3.55	SA	1.5
12.am reflective and patient	3.55	SA	5.	3.52	SA	5.5
13.am responsible in taking task during the training	3.55	SA	5.5	3.45	A	9
14.learn by listening, then sharing ideas with trainees and lectures by modeling	3.55	SA	5.5	3.44	A	10
Composite Mean	3.61	SA		3.47	A	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, SA- strongly agree, A- agree

The administrators *strongly agreed* that the trainees open to learn new things with a weighted mean of 3.70 and ranked first among 14 items. Apparently, the administrators observed that the trainees were attentively listening to the speakers and they actively participated during workshop and open forum. This is consistent with Fernandez and Yoshida's (2004) study, which found that teachers actively participated in group discussions, which they can employ for future improvement.

Second in rank, the administrators *strongly agreed* that the trainees accepted new changes and innovations. It obtained a weighted mean of 3.62. This is just another indicator that administrators observed that instructors attending the training program are eager to embrace and share changes they learned in their teaching, grading, and other school activities. This

finding is in line with Kusumah's (2011) study that mathematics teachers must attend seminars and workshops or programs for sharing ideas and experiences.

Other items which were *strongly agreed* by the administrators were: participating well in the discussion; using additional references by reading, learning with other trainees through activities; being reflective and patient ; being responsible in taking task during the training; learning by listening then sharing ideas with trainers and lectures by modeling; being able to express and explore new ideas; being organized during the session; working well with other trainees through activities; and taking risks with new experiences. It obtained a weighted mean ranging from 3.51 to 3.55. The findings showed that the administrators have observed that the teachers who participated in the training program have positive attitudes towards the training program. They were so patient and attentive in listening to speakers and they were taking notes especially on new concepts.

Having the lowest weighted mean of 3.49, the administrators *agreed* that the trainees have demonstrated interest in the topic being presented and they were prompt and present through the session. Probably, the administrators have seen that some of the trainees were not coming back after morning session. It may be attributed to the fact that they have to attend to some other activities like going to the division office to submit reports or follow-up an appointment or settle a problem.

The composite mean of 3.61 was an indication that the administrators *strongly agreed* that the trainees have positive attitudes towards training program. They believed that mathematics teachers need to be updated with new changes and innovations in teaching the subject. The finding is similar to Baes' (2000) study which revealed that teachers had a positive attitude towards teacher training.

Regarding the assessment of the teacher-respondents, they *strongly agreed* on seven items and *agreed* on the other items regarding the positive attitudes of trainees towards training program.

The teacher-respondents indicated that they *strongly agreed* that the trainees were open to learn new things and they learned with other participants through activities during the training program. It obtained the highest weighted mean of 3.55. Undoubtedly, the teachers who are trainees also believed that they really wanted to learn new concepts, strategies, and techniques on approaches that can be used in teaching mathematics. Through the training program they will be able to learn new things from the speakers as well as from other trainees.

As rated by the teacher-respondents, they *strongly agreed* that the trainees demonstrated interest in the topic being presented; they were prompt and present through the session; they accepted new changes and innovations; they were reflective and patient; and they were organized during the training session. It obtained a weighted mean of 3.51 to 3.54. These are indicators that the teachers have positive attitudes when they attend or participate in a training program. They feel rewarded and recognized once they are chosen to attend a training program especially if it is international or national level.

The teacher-respondents, on the other hand, *agreed* that they participated well in the discussion, that they were responsible in taking tasks during the training, that they learned by listening and then sharing ideas with trainees and lecturers by modeling, that they were able to express and explore new ideas, that they took risks with new experiences, and that they worked well with other trainees during the panel discussion. The obtained weighted mean ranged from 3.39 to 3.46. It appears that the teachers as trainees feel that participating in the training program will help them more especially in sharing new concepts in mathematics to their students and applying what they learned from the trainers.

Using additional references by reading books and surfing the internet was the least rated item by the teacher-respondents with a weighted mean of 3.26. Probably, some of the

teachers have limited time to use other references and surf the internet because of school works like checking of test papers and exercises of students, other assigned work like being an adviser of any school organization, coaching and mentoring students, and doing any related school tasks. There are also some schools that do not have access on internet.

Summing up, the composite mean of 3.47 revealed that the teacher-respondents *agreed* that the trainees have positive attitudes toward the training program. They know that most of the trainees are open to learn new things, changes, and innovations. They are patient and attentive listeners. Thus, they want to share new ideas to others especially to other mathematics teachers. Promotion, additional salary, and other self-motives are other reasons why they are willing to attend training. This finding is consistent with Baes' (2002) study, which found that instructors have a moderate need for training in terms of values and attitudes.

3.4 Training Mode. The training mode refers to the sequence of training program that usually starts on giving the objectives of the seminar and ends with the evaluation process. It is assessed as to its objectives, venue, food, materials, strategies/methods, trainers and participants, and evaluation. These are shown in different tables.

Table 10 presents the assessment on the training program as to training mode in terms of its objectives and venue.

Table 10
Assessment on the Training Program as to Training Mode in terms of Objective and Venue

The training program as to its objective ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. specifies clear topics and output	3.55	VE	2.5	3.43	E	1
2. indicates the level and the conditions for each training objective	3.49	E	5	3.39	E	2
3. develops advanced contingency plans for likely problems that might occur	3.51	VE	4	3.24	E	5
4. establishes productive training environment	3.55	VE	2.5	3.34	E	4
5. sets rules and instructions to be followed by the participants	3.57	VE	1	3.36	E	3
Composite Mean	3.53	VE		3.35	E	
The training program as to its venue ...						
1. follows strictly the schedule of each training session	3.47	E	2.5	3.31	E	3
2. has a venue accessible to participants/trainers	3.43	E	5	3.40	E	1.5
3. provides venue which is cozy, accessible and comfortable to trainees and trainers	3.55	VE	1	3.29	E	4
4. has comfortable rooms to be used by trainees and trainers especially for more than a day seminar	3.38	E	6	3.25	E	5
5. has seating arrangement that foster power and interaction between participants	3.47	E	2.5	3.17	E	6
6. is well-organized and endorsed by DepEd	3.45	E	4	3.40	E	1.5
Composite Mean	3.46	E	4	3.30	E	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VE- very evident, E- evident

As reflected in the table, the administrators assessed four objectives to *very evident* and the other item as *evident* as part of training mode.

The administrators assessed that the committee of the training program sets rules and instructions to be followed by the participants to the *very evident* with a weighted mean of 3.57. Undoubtedly, the administrators are very much aware about the rules and instructions for the training program because it is a part of the memorandum or letter sent by the secretary

of DepEd on the City Schools Division Superintendent. Administrators must adhere to it, particularly when selecting trainees for training programs. The memorandum or letter specifies who will be sent, as well as the teacher's qualifications and the number of people who will be sent to the training program. If a registration fee is required, it is also specified in the memorandum or letter.

However, the administrators indicated that it was *evident* that the training objective stated the level and the conditions for each program. It obtained the lowest weighted mean of 3.49. Apparently, the administrators notice that not all of the training program memoranda or letters stated such a purpose. According to the INSET Manual (2003), a training program must include its objectives because the program's success will be determined by its objectives.

The composite mean of 3.53 indicated that the administrators thought the training program's objectives were *very evident*. They knew the targets were attainable, thus they sent only the trainees specified in the memorandum or letter.

On the part of teacher-respondents, they assessed all the items relative to objective to be *evident*. Given the highest weighted mean of 3.43, the teacher-respondents indicated that the objectives of the training program specify clear topics and output. Probably, some teachers who attended the training program did not read the memorandum or letters thus, it was not clear to them if the objectives have been attained or not.

Least rated by the teacher-respondents was developing advanced contingency plans for likely problems that might occur which obtained a weighted mean of 3.24. Some teachers appear to have observed that the organizer of the training program encountered certain issues, such as the fact that the number of registered participants is excessive, the venue appears to be insufficient, and the participants are no longer comfortable in the location. Thus, the program could not start on time.

Summing up, the composite mean of 3.35 indicated that the teacher-respondents assessed the objectives as part of the training mode to be *evident*. They noted in some training programs they attended that the purpose is not attained and evaluated. According to Payos (2010), the organizer of the training program must review the objectives before the training program is scheduled.

As to the venue of the training program, the administrators assessed that it was *very evident* that the venue is cozy, accessible, and comfortable for trainees and trainers. It obtained the highest weighted mean of 3.55. Undoubtedly, the administrators have seen that most often the training program is conducted in the Division and it can be reached by land, thus the means of transportation will not be a problem for trainees.

The administrators assigned the lowest score of 3.38 to having pleasant rooms for trainers and trainees to use, particularly for longer-than-a-day seminars. Administrators have seen *evidently* that when a training session is scheduled for two or more days, the organizers take into account the demand for rooms that trainees may occupy. The organizers must coordinate and execute an inspection of the venue rooms prior to the arrival of the trainees. When the accommodations are inconvenient, some trainees would rather return to their school or stay at home.

The composite mean of 3.45 revealed that the administrators assessed *evidently* the venue of training program. These groups of respondents experienced and have seen that there are training programs in which the trainees are not comfortable in the venue, they become inattentive when the trainers are giving their lectures.

Likewise, the teacher-respondents assessed all items about the venue to be *evident*. Given the highest weighted mean of 3.40 were the accessibility of the venue to the participants and whether it was well organized and endorsed by DepEd. The teachers believe that the training

program will be better appreciated after it has been approved by DepEd and they can get to the site more easily.

Having seating arrangement that foster power and interaction between participants was least rated by the teacher-respondents with a weighted mean of 3.17. This was also interpreted as *evident*. Probably, the teacher-respondents have seen that in some training programs they attended, there was a seating arrangement based on the designation of DepEd officials and organizers of the training program.

The composite mean of 3.30 was an indication that the teacher-respondents assessed that the venue was *evidently* important in organizing and conducting a training program. The trainees will be comfortable in listening and participating during the training program if the venue is accessible and conducive to listening and sharing of knowledge and skills. According to Payos (2010), physical training facilities must be free of noise, have enough audiovisual equipment, paper, and pencils, as well as other components which contribute to the creation of a learning environment.

Table 11 manifests the training program as to training mode in terms of food and materials for the first part and strategies/methods on the second part.

Table 11
Assessment on the Training Program as to Training Mode in terms of Food, Materials and Strategies/Methods

The training program as to food and materials...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. has good catering services	3.47	E	1	2.82	E	5
2. provides supplies and props which are prepared in advance	3.26	E	4	2.94	E	4
3. has materials to be given to the participants	3.13	E	5	3.09	E	3
4. has well-organized and carefully written materials	3.28	E	3	3.22	E	2
5. tests out the media to be used such as LCD, overhead projector, etc.	3.40	E	2	3.31	E	1
Composite Mean	3.31	E		3.08	E	
The training program as to methods/ strategies ...						
1. encourages paired interviewing as part of assessment tool in training	3.36	E	5	3.20	E	5
2. uses brainstorming as technique	3.43	E	4	3.26	E	2
3. provide appropriate activities/exercises in every topic	3.49	E	1	3.30	E	1
4. is appropriate to the nature/orientation of participants	3.45	E	2.5	3.25	E	3.5
5. motivates participants to listen and participate during the open forum	3.45	E	2.5	3.25	E	3.5
Composite Mean	3.44	E		3.25	E	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VE- very evident, E- evident

It can be noted in the table that the administrators assessed all items about food and materials to be *evident*. Having good catering services ranked first with a weighted mean of 3.47. As a result, the administrators noticed that when the number of participants exceeded the organizers' expectations, the food could not be provided on time. Some trainees have already eaten, while others are still waiting for their meals. Thus, they feel that food is an important aspect in the training program that must be considered by organizers or by the committee.

The lowest rating of 3.13 was assessed by the administrators relative to the materials being given to the participants. This was also interpreted as *evident*. Just like food, when there are more participants than expected, not every one of the trainees was provided the materials for the training program. As a result, because they have no materials to work with, some trainees appear uninterested during the workshop.

Summing up, the composite of 3.31 showed that the administrators assessed food and materials as *evident* during the training program. They noted that some of the trainees became dissatisfied because of lack of food and materials.

Likewise, the teacher-respondents also assessed all items about food and materials to be *evident*. The teacher-respondents indicated that the organizers of the training program must test out the media to be used such as LCD, overhead projector or speaker before the program must start.

Having good catering services was least rated with a weighted mean of 2.82 as assessed by the teacher-respondents. This group of respondents also reported feeling hungry and being unable to eat on time because the food prepared was insufficient for all trainees.

The composite mean of 3.08 indicated that the teacher-respondents found the food and resources provided during the training program to be *evident*. They believed that not all of the training sessions in which they attended provided appropriate food and supplies for the participants.

Regarding the strategies/methods applied during the training program, the administrators assessed all the items to be *evident*. They believed that trainers provided appropriate activities/exercises in every topic; this got the highest weighted mean of 3.49. The administrators noted that speakers/trainers were prepared to allow the trainees to perform activities related to the topic they are discussing. According to Andres (2003), the trainer must understand the capacity or nature of the trainees to be able to encourage them to participate in the activities/exercises.

Given the lowest weighted mean of 3.36, the administrators assessed that it was *evident* that the trainer used paired interviewing as part of assessment tool during the training program. It appears that the administrators observed that such strategies are seldom applied by trainers during the training program due to time element given to them to discuss a certain topic.

The composite mean of 3.44 is an indication that the administrators assessed that the identified strategies/methods were applied *evidently* by the trainers. They have seen that the trainers used varied strategies/methods to arouse the interest of the trainees to the topics they were discussing during the training program.

As to assessment of the teacher-respondents, they rated all items to be *evident*. Having the highest weighted mean of 3.30, they indicated that the trainers provided appropriate activities/exercises in every topic. They have noticed that the trainers are well prepared for the subject areas that have been assigned to them, and that it is reinforced by activities/exercises that the participants will perform. Thus, the participants/trainees become more interested in listening to the trainer's discussion.

The teacher-respondents also assessed paired interviewing as part of assessment tool in training as having the lowest weighted mean of 3.20. Although it is interpreted as *evident*, the teachers noted that only some trainers were using such a strategy due to time constraint and nature of participants.

Summing up, the weighted mean of 3.25 revealed that the teacher-respondents assessed the strategies/methods used by trainers as *evident*. They have seen that the trainers applied different strategies/methods to get the attention of trainees and to let them participate during workshop or open forum.

The assessment on the training program as to training mode in terms of trainers and participants is contained in Table 12.

Table 12
Assessment on the Training Program as to Training Mode
in terms of Trainers and Participants

The trainers of the training program ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. keep the information brief but fruitful	3.57	VE	1.5	3.29	E	3.5
2. follows strictly the schedule of each training session	3.55	VE	3.5	3.25	E	6
3. include some potential challenges on the training	3.49	E	7	3.28	E	5
4. keep up their momentum and energy	3.55	VE	3.5	3.24	E	7
5. invest energy in creating an environment that makes interaction natural	3.53	VE	5.5	3.29	E	3.5
6. remind the group what has been discussed, and keep them focused in moving forward	3.57	VE	1.5	3.31	E	2
7. provide participants with some opportunities to practice skills and receive feedback	3.53	VE	5.5	3.32	E	1
Composite Mean	3.54	VE		3.28	E	
Training mode as to participants in the training program...						
1. perform their roles and responsibilities	3.51	VE	2.5	3.33	E	6
2. take down notes	3.51	VE	2.5	3.37	E	3.5
3. share ideas and have fun in brainstorming	3.47	E	5	3.34	E	5
4. comply with the requirements	3.49	E	4	3.38	E	1.5
5. do the reflection after the training	3.55	VE	1	3.37	E	3.5
6. submit reports on time	3.45	E	6	3.38	E	1.5
Composite Mean	3.50	VE		3.36	E	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VE- very evident, E- evident

Based on the table, the administrators assessed the six items as *very evident* and only one item as *evident* regarding the mode as to trainers during the training program.

Having the highest weighted mean of 3.57, the administrators assessed that it was *very evident* for the trainers to keep the information brief but fruitful and to remind the group of what has been discussed, and keep them focused on moving forward. According to the administrators, the trainers had understanding of the topics they were discussing, and they provided real-life scenarios to involve more participants in the training session. As trainers, they are aware that they have to set the mood of the participants to have more interaction during the open forum.

The item assessed to be the lowest by the administrators pertained to trainers of including some potential challenges on the training. It obtained a weighted mean of 3.49 and was interpreted as *evident* by the administrators. Probably, the administrators noted that not all trainers underlined the relevance of training program attendance to trainees as well as improving teacher potential. Through it, they may dream of being an outstanding mathematics teacher in the future. Giving challenges at the end of a training session is usually done as part of the closing program.

The composite mean of 3.54 was an indication that the administrators assessed that the trainers were *very evident* in sharing and delivering their lectures and discussions to the participants during the training program. They have shown their expertise of relating with their audience and getting the participants' cooperation during the open forum or workshop.

On the other hand, the teacher-respondents assessed all items about the trainers to be *evident*. Providing participants with some opportunities to practice skills and receive feedback was given the highest weighted mean of 3.32. They experienced that trainers provided them with tasks to help them improve their skills in implementing the new concepts introduced during the trainer's presentation and discussion. It was followed by reminding the group what has been discussed, and keeping them focused on moving forward with a

weighted mean of 3.31. Keeping the information brief but fruitful and investing energy in creating environment both gained a weighted mean of 3.29.

Following strictly the schedule of each training session was given by the teacher-respondents the lowest weighted mean of 3.25. Apparently, as participants in a training program, the teacher-respondents may have noticed that the schedule becomes flexible because the assigned trainer was unable to attend. The inability to register early for the training is also a reason why a training schedule failed.

The composite mean of 3.28 revealed that the teacher-respondents assessed evidently that the trainers during the training program have the expertise, skills and proper attitudes that arouse the interest of the participants. They have also the ability to create an environment that made interaction fruitful and natural. Most of them have a sense of humor and know how to mingle with trainees and gain respect from them.

With reference to the training mode as to participants, the administrators assessed three items as very evident and the other items as evident. During the post-training reflection, the highest weighted mean of 3.55 was assigned and assessed as *very evident*. This is a clear indication that the administrators have seen that the participants were given the opportunity to give their reaction regarding the training program as to the speakers, objectives, food, venue, and others. The participants can freely express their experiences relative to the training program.

However, submitting reports on time was least rated by the administrators with a weighted mean of 3.45. Evidently, the administrators noticed that some participants did not submit their written reports regarding the training program on time, and some of the participants had provided many reasons.

As a whole the composite mean of 3.50 showed that the administrators observed *very evidently* that the participants were interested during the training program because they were making reflections, taking down notes and sharing ideas with other participants. As revealed by Ebreo (2006) in her study, training programs are learning opportunities for mathematics teachers to be more competent in teaching.

As to assessment of teacher-respondents, they rated all items as *evident*. Complying with the requirements and submitting reports on time were assessed the highest by the teacher-respondents with a weighted mean of 3.38. The teachers who participate in the training program are honest in that they truly comply with what the organizers require of them during the training session. They are wholeheartedly doing it and submitting it to the committee.

Performing their roles and responsibilities as participants was least rated by the teacher-respondents with a weighted mean of 3.33. Apparently, the teacher-respondents are aware of their attitude, behavior and what to do while the training program is going on. They had a strong interest in and active engagement in the training program, although completing the requirements left them exhausted and required additional work.

The composite mean of 3.36 was an indication that the teacher-respondents have seen *evidently* that the participants during the training program were taking down notes, submitting reports and making reflection after the training as well as sharing ideas. According to Kusumah (2011), training programs give the teachers the opportunity to share ideas and experiences that can be meaningful and important for them to provide students with updated concepts.

Table 13 shows the assessment on the training program as to training mode relative to evaluation.

Table 13
Assessment on the Training Program as to Training Mode in terms of Evaluation

The training program evaluation ...	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1.uses demonstrations and dramatic enactment for participants in achieving training objectives	3.43	E	4	3.30	E	6
2.considers the training outcomes that will meet the participants needs	3.51	VE	1	3.38	E	5
3.fills-up and passes evaluation sheets during the training sessions	3.43	E	4	3.49	E	1
4.observes proper attendance plus a measure of trainees' satisfaction	3.43	E	4	3.43	E	2.5
5.diagnoses knowledge and skills by giving pre-test and post test	3.34	E	6	3.40	E	4
6. collects feedback and use it with care	3.45	E	2	3.43	E	2.5
Composite Mean	3.43	E		3.40	E	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, VE- very evident, E- evident

Based on the table, the administrators rated one item as *very evident* and the other items as *evident* in terms of the training mode as to evaluation of the program.

Considering the outcomes that will meet the participants' needs was assessed the highest by the administrators with a weighted mean of 3.51. This was interpreted as *very evident*. The administrators noted that the organizers always used an evaluation tool to determine the success of the training program as well as to find out what other knowledge and skills need if in case another training program will be organized. As cited by Andres (2000), the last phase of a training program is to evaluate knowledge, skill and attitude learned and acquired by the participants. Then, their weakness can again be answered by another training program to prevent future problems.

The administrators assessed that diagnosing knowledge and skills by giving pre-test and posttest was *evident* with the lowest weighted mean of 3.34. It appears that the administrators observed that some trainers used the pre and posttests to evaluate trainees' needs. They applied such evaluation tools if it is appropriate to the topic.

Summing up, the composite mean of 3.43 showed that the administrators assessed *evidently* that the organizers and trainers applied different evaluation tools to determine if the objectives of the training program has been attained or not. According to Andres (2003), a training program must be planned, implemented and evaluated.

With reference to teacher-respondents, they assessed all items to be evident. The teachers indicated that the trainers or organizers filled-up and passed evaluation sheets during the training sessions. It obtained the highest weighted mean of 3.49 and was interpreted as *evident*. Undoubtedly, the teacher-respondents have experienced this form of evaluating the training program. They often evaluate the speakers, the food and venue, and if the objectives are attained.

Using demonstration and dramatic enactment for participants in achieving training objectives obtained the lowest weighted mean of 3.30 as assessed by the teacher-respondents. This group of respondents noted that such evaluation methods are seldom used by organizers. But if there is new strategy/technique/approach shared by trainer, this type of evaluation is more appropriate.

The obtained composite mean of 3.40 showed that the teacher-respondents assessed *evidently* that evaluation is part of any training program. This is a way to find out if the objectives of the training program are attained or not. According to Donald and James Kirkpatrick (2009), the effectiveness of a training program is established by assessing the training mode's conduct, such as objectives, food and venue, trainers, and others.

4. Comparison of the Responses of Administrators and Teachers Regarding Current Training Program

The responses of the administrators and teachers regarding the current training program as to qualification of trainer, content, attitude of trainees, and training mode as to objectives, venue, food and materials, strategies/methods, trainer, participants, and evaluation are compared in this study. The two-tailed test of independence is used to test the null hypothesis.

Table 14 reflects the comparison of the responses of administrators and teachers regarding current training programs.

Table 14
Comparison of the Responses of Administrators and Teachers Regarding Current Training Programs

Items	Administrators		Teachers		t_c	Decision H_0	Interpretation
	CM	Sd	CM	Sd			
1. Qualification of trainer	3.46	0.58	3.35	0.61	0.865	Accept	Not significant
2. Content	3.45	0.65	3.47	0.61	0.187	Accept	Not significant
3. Attitudes of trainees	3.61	0.58	3.47	0.57	1.414	Accept	Not significant
4. Training Mode	3.53	0.55	3.35	0.64	1.727	Accept	Not significant
• Objectives	3.46	0.59	3.30	0.62	1.454	Accept	Not significant
• Venue	3.31	0.70	3.08	0.74	2.025	Reject	Significant
• Food and materials		0.60	3.25	0.60	1.731	Accept	Not significant
• Strategies/methods	3.44						
• Trainer	3.54	0.56	3.28	0.63	2.476	Reject	Significant
• Participants	3.50	0.45	3.36	0.60	1.458	Accept	Not significant
• Evaluation	3.43	0.57	3.40	0.62	0.288	Accept	Not significant

$$\alpha = .05 \quad t_t = 1.96 \quad df = 132$$

Legend: CM – Composite Mean Sd – Standard deviation

It can be noted in the table that the administrators and teachers differ on their responses regarding teaching mode as to food and materials, and trainer. The computed t-values of 2.025 and 2.476 were greater than the critical t-value of 1.96 at 0.05 level of significance, and at 132 degree of freedom. Thus, null hypothesis is rejected.

The findings revealed that the administrators have given items about food and materials and trainers higher assessment than the ratings of teacher-respondents. The administrators assessed good catering services higher than the teacher-respondents. Much higher ratings were given by the administrators to the trainers of the training program than the teacher-respondents like in keeping the information brief but fruitful, following strictly the schedule of each session, and keeping up the momentum and energy of the participants.

On the other hand, the administrators and teachers did not differ on their responses regarding current training programs as to qualification of trainer, content, attitudes of trainees, and training mode as to objectives, venue, strategies/methods, participants, and evaluation. The obtained t-values of 0.187 to 1.727 were less than the critical t-value of 1.96, and at 0.05 level of significance. This led in the acceptance of the null hypothesis.

From the data, it can be implied that the two groups of respondents have the same assessments regarding the training program for Mathematics teachers. This may be attributed to the fact that the administrators also attend the training program for teachers, or they are the organizers of such training. The results of this study are also in line with Ebreo's (2006) work which revealed that administrators and mathematics teachers did not differ on their assessments regarding instructional, classroom management and evaluation skills of mathematics teachers.

5. Problems Encountered During Training Sessions

The administrators and teachers indicated the problems they encountered during most training sessions. This is shown in Table 15.

Table 15
Problems Encountered During the Training Sessions in Mathematics

Indicators	Administrators			Teachers		
	WM	VI	R	WM	VI	R
1. Venue is not conducive	2.32	SP	6	2.30	SP	2
2.Lack of qualified trainers	1.89	SP	18	1.87	SP	17
3.Lack of budgets to maximize the training	2.55	OP	2.5	2.37	SP	1
4.Registration is shouldered by the participants not by DepEd	2.45	SP	4	2.09	SP	7.5
5.Too expensive registration fee	2.17	SP	11	2.00	SP	11
6.Shortage on the instructional materials and equipment	2.55	OP	2.5	2.17	SP	5
7. Trainees attend for compliance only since they are recommended by the principal or school head.	2.26	SP	8.5	2.03	SP	10
8. Trainees' attention spans are short.	2.34	SP	5	2.07	SP	9
9. Schedules are not strictly followed.	2.21	SP	10	2.10	SP	6
10. Trainees are uncomfortable with the changes and associated effects.	2.09	SP	13.5	1.89	SP	15
11. Trainees' mindset/perception of a poorly designed or delivered training	2.04	SP	17	1.92	SP	13
12.Pressure from peers to resist change	2.09	SP	13.5	1.97	SP	12
13.Belief that he/she cannot cope with the requirements	2.09	SP	13.5	1.69	SP	18
14.Too much expectation from the speakers	2.30	SP	7	2.21	SP	3
15.Too many participants	2.57	OP	1	2.20	SP	4
16.Insufficient time allotted	2.26	SP	8.5	2.09	SP	7.5
17.Handling know-it-alls, talkers, hecklers, bullies participants	2.09	SP	13.5	1.86	SP	16
18.Abseenteesim of participants	2.06	SP	16	1.90	SP	14
Composite Mean	2.24	SP		2.04	SP	

Legend: R- Rank, WM- Weighted Mean, VI – Verbal Interpretation, OP – often a problem
SP - sometimes a problem

As reflected in the table, out 18 identified problems, the administrators rated that they *often* encountered three problems and the other items as *sometimes* encountered by them during training sessions in mathematics.

The administrators often encountered problem during training programs in mathematics because of too many participants. It obtained a weighted mean of 2.57 which ranked first among 18 items. Undoubtedly, the administrators who may be the organizers of the training program have encountered a problem if more participants are registering than their expected number to attend A lot of concerns may arise about the venue, food, and materials to be provided to participants.

Second identified problem by the administrators with a weighted mean of 2.55 and *often* encountered by them was lack of budget to maximize the training and shortage on the instructional materials. This problem may be attribute to the fact that the budget from the national or local government may be sufficient enough in the conduct of the training program but, there is a need to train mathematics teachers. To comply with the DepEd instruction, the administrators have to organize and conduct the training program for teachers.

Other items were problems *sometimes* encountered by the administrators. The least rated problem with a weighted mean of 1.89 was lack of qualified trainers. The administrators mentioned that there are times when they have difficulties finding trainers who are strong speakers and have experience in new concepts, strategies/methods, and approaches.

The composite mean of 2.24 is an indication that the administrators *sometimes* encountered problems during the training session in Mathematics. They experienced that the problems may be attributed to lack of budget, shortage of materials and the registration fee is being shouldered by the participants.

Regarding the responses of teacher-respondents, they rated all the items to have been *sometimes* encountered by them. Lack of budget to maximize the training was given the highest weighted mean of 2.37. This was *sometimes* a problem encountered by the teacher-respondents. This was experienced by some Mathematics teachers because there are situations when only limited number of mathematics teachers must be sent by the district to a training program because of the budget appropriated by the Division or District office.

The teacher-respondents *sometimes* encountered a problem during the training sessions because he believed that he could not cope with the requirements. It obtained the lowest weighted mean of 1.69. This is an indication that some Mathematics teachers are not so confident of themselves. Thus, they are hesitant in participating during the training sessions. They feel what they are going to say or do may be incorrect or others will react negatively about it.

The composite mean of 2.04 revealed that the teacher-respondents *sometimes* encountered problems during the training sessions in mathematics. They encountered the problems because the registration fee is expensive and the schedule is not strictly followed.

Development of Training Module

The criteria and guidelines incorporated in the book of Donald L. Kirkpatrick and James D. Kirkpatrick entitled "Evaluating Training Program" was considered in constructing training module in mathematics. The developed module is a simple lesson in Mathematics. The content entirely focused on problem solving namely: age problem, uniform motion problem and mixture problem. Every topic has its own objectives, materials required, concept and content, strategies, procedure, summary and self-assessment.

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, the following conclusions are drawn:

1. The Mathematics program was described by administrators and teachers to cover its philosophy/objectives, curriculum, faculty, teaching method and strategies, learning resources, and evaluation.
2. The quality training session criteria are based on Donald and James Kirkpatrick's book and Wickham.
3. The administrators and teachers assessed the current training programs in the Division to be evident as to the qualification of trainers, content, attitudes of trainees, and training modes.
4. Comparing the responses of the two groups, they differ in their assessment of food and materials and trainer of the current training programs in Mathematics.
5. The administrators and teachers sometimes encountered problems during the training sessions in Mathematics because of a lack of budget, shortage of instructional materials and equipment, and too many participants.
6. A training module is developed to support a strong Mathematics program.

The findings and conclusions paved the way for the following recommendations.

1. The developed training module in Mathematics may be shown to supervisors and other practitioners for their suggestions before it can be shown during the training program.
2. After incorporating the suggestions, the modules may be tried out on a small group of Mathematics teachers to get their feedback regarding the lessons on problem-solving.

3. A similar study may be conducted focusing on developing training modules considering other Mathematics lessons for high school learners.

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A Comparative Study of Thai-English Native Speakers' Errors in the Sentence “shi.....de”

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Abstract: The “shi(是).....de(的)” sentence structure is extensively utilized and broadly applicable in contemporary Chinese, featuring specific syntactic forms and pragmatic functions that present challenges for learners of the Chinese language. Based on statistical analysis of various corpora, this paper categorizes sentences into two major and nine subcategories according to syntactic function and syntactic structural form. It scrutinized the similarities and distinctions in errors made by Thai and English native speakers during the acquisition of this sentence structure. Commonalities manifest in a higher incidence of errors in affirmative structures (Type II) compared to emphatic structures (Type I), with the omission of “de” and “shi” constituting prevalent error types. Disparities arise as errors made by English native speakers in Type(II) structures are primarily concentrated on the S7 and S8. subcategories, whereas errors made by Thai native speakers did not exhibit a discernible trend in each subcategory. The paper analyzed the underlying reasons for these patterns concerning language typology, pragmatic competence, and textbook design, subsequently proposing three pedagogical recommendations: emphasize comparative teaching of language types; adopt interactive situational teaching methods; attention should be paid to the hierarchy and diversity of subtypes of “shi.....de” sentences when arranging country-specific textbooks.

Keywords: “shi.....de” sentence; sentence categorization; Thai-English native speakers; error analysis

I. INTRODUCTION

Error analysis is a crucial process in understanding the acquisition rules of Chinese learners that plays an imperative role in second language instruction. It encompasses not only the phonological and lexical levels but also the grammatical and pragmatic levels. In particular, grammatical errors are prevalent in sentence pattern errors. Chinese has numerous unique sentence patterns, including “shi.....de.” The “shi.....de” sentence structure is frequently encountered and widely used in modern Chinese, possessing specific syntactic forms.

The “shi.....de” structure is frequently introduced in the grammar points of elementary and intermediate levels in international Chinese education materials, falling within the grammar proficiency levels outlined in the “Chinese Proficiency Standards for International Chinese Education.” Despite its distinct formal features, learners of Chinese often make errors in using this structure. In the HSK Dynamic Composition Corpus, there are 2629

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instances of incorrect "shi.....de" sentences, constituting an error frequency of 99.9%. This surpasses the error frequencies of "ba (把)" sentences (585, 36.9%) and "bei (被)" sentences (297, 18.8%). Additionally, students from different native language backgrounds exhibit variations in error types when using this structure, indicating that it presents a certain level of difficulty for Chinese learners.

We have selected native speakers of Thai and English as the subjects of our study, given that the targeted sentence structure's correspondence differs significantly between the two languages. Thai lacks a syntactic structure equivalent to the Chinese "shi.....de" construction, whereas English features a similar and common emphatic structure in the form of the cleft sentence "It'sthat/who....." The central focus of this paper is to explore whether there are variations in error types when native speakers of Thai and English learn this sentence structure in Chinese.

This research utilizes a methodology involving corpus retrieval and statistical analysis. Initially, we categorize the sentence structures from both syntactic and pragmatic perspectives. Subsequently, we analyze the error patterns observed in Chinese learners from these two linguistic backgrounds. The study then conducts a multidimensional analysis of the reasons behind these errors. Finally, we propose targeted pedagogical recommendations to further enhance the effective teaching of this structure to learners from Thai and English-speaking backgrounds. This paper aims to address two main questions:

1. Are there differences in the acquisition of the sentence "shi.....de" by Thai-English native speakers across sentence types?
2. Are there differences in the type of errors in the acquisition of the sentence "shi.....de" by Thai-English native speakers?

II. RELATED LITERATURE

The evolution of the modern Chinese "shi.....de" sentence structure reveals trends such as an overall increase in usage, the introduction of innovative vocabulary, a diverse range of word categories, and the emergence of flexible and complex sentence structures (Zhang Wei, 2016). In this structure, "shi" serves as a focus marker, indicating emphasis or affirmation with distinct pragmatic functions, while "de" functions as a modal particle. In most instances, both "shi" and "de" can be removed without affecting the sentence's static semantics. However, in certain cases, removing "shi" and "de" results in an incomplete syntactic structure, leading to a loss of meaning. For example:

1. 我是昨天去学校的。——我昨天去学校。

"I went to school yesterday." — "I went to school yesterday."

Explanation: The "shi.....de" structure is used for emphasis, highlighting the fact that the speaker went to school specifically yesterday.

2. 是大家一起把工作做完的。——大家一起把工作做完。

"It was everyone working together that completed the job." — "Everyone worked together and completed the job."

Explanation: This structure emphasizes the collaborative effort of everyone in completing the job.

3. 这事是他告诉我的。——*这事他告诉我。

"This matter is what he told me." — (Incorrect construction)

Explanation: In this case, the "shi.....de" structure is necessary for completeness. Omitting it leads to an incomplete sentence, as indicated by the asterisk.

4. 工作是极其认真严肃的。——工作极其认真严肃。

"The work is extremely serious and earnest." — "The work is extremely serious and earnest."

Explanation: The first sentence uses the "shi.....de" structure for emphasis, emphasizing the seriousness and earnestness of the work. The second sentence lacks this emphasis.

In examples 1, 2, and 4, the structure emphasizes events, while example 3, according to some scholars, cannot stand alone without the "shi.....de" construction and represents a judgment (Zhang Wei, 2016). This construction often arises from transformations of declarative sentences, emphasizing the subject by placing the topic, such as "this thing (这事)," at the beginning of the sentence and employing "shi.....de" to highlight the agent, "he (他)," emphasizing the subject.

The academic community has made substantial contributions to the study of this structure, primarily focusing on its definition (Zhao Shuhua, 1979; Lü Shuxiang, 1980) and its usage and semantic classification (Tan Yongxiang, 1957; Shi Yuzhi & Xu Jie, 2001), among other aspects.

First, in terms of defining the structure, scholars such as Lü Shuxiang (1980) and Wang Li (1985) categorized "shi.....de" as a "shi" sentence. However, others like Lü Bisong (1982) and Liu Yuehua (2001) argued that "shi.....de" was a distinct and independent structure, different from declarative sentences formed by the combination of "shi" and "de" phrases.

Second, regarding classification, there has been a dispute between the "three-category" and "two-category" classifications. On the one hand, scholars like Zhao Shuhua (1979) and Han Mei (2004) advocated for the "three-category" approach. Zhao Shuhua (1979) suggested dividing the structure into three types based on syntactic categories and their co-occurrence relationships. Han Mei (2004), on the other hand, classified the structure into three types based on semantics: declarative sentences, descriptive sentences, and narrative sentences. Li Ne et al. (1998) categorized "shi.....de" sentences based on their semantic functions, dividing them into three distinguishable formats: identifying the responsible party for real events (e.g., It was me who went to talk to him [是我去跟他谈的]), emphasizing the conditions of real events (e.g., It was on the road that I met him [我是在路上遇见他的]), and affirming non-real events (e.g., He will definitely be good to you for a lifetime [他是一定会对你好一辈子的]). However, from a grammatical perspective, the first two types both emphasized the "responsible party for real events" or the subject, making them essentially a unified category.

On the other hand, the majority of scholars supported the "two-category" view. Lü Bisong (1982), for instance, categorized "shi.....de" sentences into two types based on pragmatic considerations: one indicating the past and the other expressing affirmative or confident tones. This study aligns with the "two-category" approach, categorizing "shi.....de" sentences into those emphasizing (Type I) and those expressing affirmative tones (Type II) based on pragmatic functions. As research on the classification of "shi.....de" sentences has progressed, substantial advancements have been made in understanding the nature of "shi" and "de." The general consensus in academia is that "shi" can function as a verb indicating judgment, while "de" serves as an auxiliary particle. Alternatively, "shi" can act as an adverb denoting affirmation or emphasis, with "de" serving as a modal particle (Han Mei, 2005).

The field of international Chinese education has seen increased maturity in the analysis of errors in the "shi.....de" structure and related pedagogical research. Xie Fu (2010) analyzed the error types of Chinese learners at three levels of proficiency, suggesting the need to classify the difficulty of "shi.....de" sentences and implement a distributed teaching approach with tailored measures for different stages. Zhang Xiaodong (2015) categorized emphatic "shi.....de" sentences, proposing formulaic teaching based on syntactic structural characteristics. However, both studies did not differentiate between learners of different nationalities, and their proposed teaching suggestions were generally applicable. Liu Tao and Zhao Ming (2015) statistically analyzed the error data of Korean native speakers in the HSK

Dynamic Composition Corpus, identifying four error types: omission, confusion, misordering, and misuse. Yang Tingwei (2021) analyzed the acquisition of "shi.....de" sentences by Thai students, discovering four types of errors: misrepresentation, misordering, omission, and addition. Specific recommendations were provided. Wang Lei (2018) investigated the acquisition of "shi.....de" sentences by advanced English native speakers, validating the Interface Hypothesis.

Some foreign experts have observed the distinctive features of the "shi.....de" sentence and analyzed it through the lenses of language comparison and bias analysis. Shyu (2013) conducted a comparison between Chinese and English texts, noting that the "shi.....de" sentence is used more frequently than its English counterpart, the "it-chefts" sentence, suggesting a usage discrepancy. Shyu argues that the primary function of the "shi.....de" sentence is to convey the topic-comment structure. KYOUNG (2015) discovered that while the "shi.....de" sentence can be semantically related to the Korean "-ess-ta" or "-kes-ita", the expressions in Chinese and Korean are not exactly identical. The paper focuses on analyzing the "-ess-ta" and "-kes-ita" to reduce discourse errors in Korean language learners. While Sri Lankan lacks a structure equivalent to the "shi.....de" sentence, Sri Lankan native speakers generally find mastering this sentence challenging. Udagedara (2019) employed a questionnaire to analyze reasons for Sri Lankan students' errors in acquiring "shi.....de," considering factors such as the ability to recognize Chinese sentence patterns, familiarity with the "shi.....de" structure, sources of learning, and knowledge of Chinese grammar.

Except for the sentence "shi.....de", there have been fewer foreign studies on the analysis of unique Chinese sentence errors. For instance, Zhang et al. (2021) investigated the "ba" constructions among Spanish-speaking students through the analysis of daily homework and corpus data. They identified five types of errors—omission, annexation, analogy, order error and others—and analyzed their origins from the viewpoints of "interlingual errors" and "intralingual errors". Kesorn and Kantapat (2022) analyzed a corpus of Thai students regarding "bi" construction through translation tests and interviews. The study discovered that "A + bi + B + adjective" had the fewest errors among sentence types, while "A + bi + B + hai (还) + adjective" had the most errors due to inappropriate use of synonyms.

On the whole, the academic discussion on the classification of "shi.....de" sentences from syntactic structure, grammatical meaning, or pragmatic function perspectives remains active. However, these discussions often rely on subjective introspection or daily observations, lacking quantitative statistics. Consequently, there are multiple classification angles and results. Research on errors in this structure primarily discusses the error situations of specific native speaker groups, lacking comparative analyses between two or more native language learners. There is also a shortage of in-depth exploration into the causes of error types based on the characteristics of Chinese sentence structures and native language transfer theory.

III. METHODOLOGY

1. Classification of "shi.....de" Sentence structures

The corpus for the classification of sentence structures in this study is derived from the Beijing Language and Culture University BCC Corpus. This corpus encompasses various linguistic and cultural materials in China, including spoken and written Chinese, audiovisual language, news articles, online texts, and published works, among others, covering a broad range of domains. Initially, a search using the keyword "shi.....de" was conducted, generating a corpus with both "shi" and "de," totaling 770,000 characters. Subsequently, manual screening and organization were performed to select complete sentences with clear meanings, excluding sentences indicating judgment, "shi" sentences, and certain phrases. Additionally, as "de" mostly appears at the end of sentences with a few instances in the

middle, only sentences where "de" appears at the end were chosen, resulting in 2,736 instances of the "shi.....de" structure. Further analysis was then conducted on the syntax and pragmatic functions of these sentences.

Based on different syntactic functions, the "shi.....de" structure is divided into two main categories. Type(I) emphasizes a particular aspect of an event or action, such as time, place, manner, agent, or object. Type(II) is a description or narration of the state or a subjective evaluation by the speaker, and the whole sentence often carries an affirmative tone, describing the situation, explaining the reasoning, and trying to get the listener to accept or be convinced. There are 1,464 instances of Type (I) and 1,272 instances of Type(II), indicating a relatively balanced distribution in quantity, suggesting that both usages are common in modern Chinese. Further subdivision into nine subcategories is based on syntactic structural forms, with subtle differences in pragmatic functions. Refer to Table 1 for details.

Table 1
Classification of "shi.....de" Sentence Structures

Syntactic function	Pragmatic function	Syntactic structure	Example sentences	Quantity
Sentence Type (I): Emphasis	Emphasizing conditions	1. Subject + shi+ Adverbial ₁ + Verb Phrase + de	我是昨天去学校的。 I went to school yesterday.	877
	Emphasizing the agent	2. Subject + shi + Subject- Predicate Phrase + de	这事是他告诉我的。 This matter is what he told me.	363
	Emphasizing the subject	3. shi + Subject + Verb Phrase + de	是你自己请我吃的。 It's you who invited me to dinner.	224
Sentence Type (II): Expressing Mood	Affirmative mood	4. Subject + shi+ Verb Phrase + de	我是主张有人力车的。 I advocate having rickshaws.	584
		5. Subject+shi+Possible Complement + de	这个家是要分开的。 This family is going to be separated.	16
		6. Subject + shi+ Modal Verb + Verb Phrase + de	我想他是会同意我的。 I think he will agree with me.	258
		7. Subject + shi+ Adjective + de	声音是粗暴且威严的。 The voice is rough and imposing.	59
		8. Subject+shi+Adverbial+ Adjective + de	工作是极严肃认真的。 The work is extremely serious and conscientious.	81
		9. Subject + shi + Adverbial ₂ + Verb Phrase + de	那是一点不成问题的。 That is not a problem at all.	274

Sentence Type(I) primarily includes three subordinate structures, each emphasizing a different aspect. Although the emphasis points differ, they all involve highlighting a component following the focal marker "shi", emphasizing the agent or condition of a real event. Sentence Type(II) is an affirmation of the entire proposition's mood, expressing a positive stance towards non-real events. It reflects the speaker's subjective commentary. Based on the different types of phrases following "shi", it is further divided into six subordinate structures.

In terms of corpus quantity, while Sentence Type(I) has fewer subcategories, the total number of instances is more than that of Sentence Type(II). Notably, Subcategory 1 of Sentence Type(I), which emphasizes a certain condition of an event, constitutes 32% of the total sentence instances. This suggests that native Chinese speakers tend to use this structure to emphasize and highlight semantic information.

The structure "Subject + shi + Adverb1 + Verb Phrase + de" in Sentence Type (I) and the structure "Subject + shi + Adverb2 + Verb Phrase + de" in Sentence Type (II) share a similar form. However, the role of the adverb differs: in Sentence Type(I), this structure emphasizes the adverbial part, which can represent time, place, manner, condition, object, purpose, etc. In Sentence Type(II), the adverb serves to affirm or negate the stated situation, sometimes indicating the degree and strengthening the tone.

2. Error Analysis of “shi.....de” Sentence structures

1) Data Sources

The error corpus for this study is sourced from three databases: the HSK Dynamic Essay Corpus, which contains responses from non-native Chinese speakers who took the HSK advanced-level essay exam between 1992 and 2005; the Global Chinese Interlanguage Corpus, which includes written, spoken, and video data from Chinese learners in 111 countries and regions; and the Nanjing University Chinese Interlanguage Spoken Corpus, which records monologue and dialogue-style spoken data from international students studying in China.

The corpus integrates learners' written and spoken language. In the HSK Dynamic Essay Corpus and the Global Chinese Interlanguage Corpus, restrictions were applied to the native language background. The error corpus for "shi.....de" sentences was obtained through direct sentence retrieval using keywords. In the Nanjing University Chinese Interlanguage Spoken Corpus, restrictions based on nationality were applied, and relevant passages containing the keyword "shi" were retrieved, followed by manual selection of "shi.....de" sentences. During corpus compilation, principles such as "multiple instances for the same sentence, differentiate the data", "correct error-marked data" and "exclude inadequate data" were adhered to. Incorrectly marked or duplicated data, as well as sentences indicating judgment with the use of "shi", were eliminated. The final effective corpus consists of 588 instances. Among them, in the HSK Dynamic Essay Corpus, there are 84 and 89 valid error instances for Thai and English native speakers, respectively. In the Global Chinese Interlanguage Corpus, there are 112 and 157 valid instances for Thai and English native speakers, respectively. In the Nanjing University Chinese Interlanguage Spoken Corpus, there are 4 and 142 valid instances for Thai and English native speakers, respectively. The total includes 200 error instances for Thai native speakers and 388 error instances for English native speakers.

2) Error Classification

Lu Jianji (1994) was an early researcher in error analysis, using a bottom-up approach to categorize the nature of errors among Chinese learners whose native language is English. He proposed a framework that includes four error types: omission, addition, substitution, and misordering. Many scholars have since adopted this classification method. After analyzing the corpus, we found that the main error types made by Thai and English native speakers are omission, addition, and substitution, with no instances of misordering.

(1) Omission Errors

Omission errors are the most frequent error type, with both Thai and English native speakers frequently omitting "shi(是)" or "de(的)", and in some cases, both. Examples of omission errors by Thai native speakers include:

① 只知道它 () 伴着我长大的。

Only knew it () growing up with me.

② 孝敬父母是每位子女必须做到 () 。

Respecting parents is something every child must do () .

- ③ 所遇到的事情不是十全十美 () 。
Encountered situations are not always perfect () .

Examples of omission errors by English native speakers:

- ④ 流行歌曲 () 无孔不入的。
Popular songs () ubiquitous.
⑤ 父母是孩子的第一任老师, 这个说法我是绝对赞成 () 。
Parents are the child's first teachers, and I absolutely agree with this () .
⑥ 父母虽人老但心境不老, 对事物看法 () 多方面 () 。
Although parents are old, their mindset is not old. Their perspectives on things are () diverse () .

It can be observed that examples 1 and 4 omit "shi(是)" leading to errors. Examples 2, 3, and 5 omit "de(的)", resulting in errors. Only example 6 omits both "shi(是)" and "de(的)". Additionally, Thai native speakers do not simultaneously omit "shi(是)" and "de(的)", while among English native speakers, cases where both are omitted simultaneously are relatively rare.

(2) Addition Errors

Addition errors often involve adding "de(的)" at the end of a declarative sentence where it shouldn't be. This type of error is less common. Examples of addition errors by Thai native speakers:

- ① 他们想到的是山底下可能有水喝的。
What they thought of is possibly having water to drink at the foot of the mountain.
② 我家乡是在曼谷的。
My hometown is in Bangkok.

Addition errors made by English native speakers:

- ③ 原来恐怖分子是天主教徒的。
Originally, terrorists are Catholics.
④ 格拉斯哥的人口是八百万人, 不是很大的。
The population of Glasgow is eight million, not very large.

This reflects that Thai and English native speakers have not mastered the syntactic structure and grammatical meaning of "shi" sentences and "shi.....de" sentences, and they cannot effectively distinguish between "shi" as a judgment verb and adverb, as well as the co-occurrence of "de" and "shi" at the end of a sentence.

(3) Substitution Errors

This type of error mainly involves the appearance of "le(了)" at the end of a sentence while omitting "de(的)". This type of error is the least common. For example:

- ① 这种把字联结为句对学生来说是最难学和难记了。
For students, connecting characters into sentences like this is the most difficult to learn and remember.
② 小的时候在中国长大了。
Grew up in China when I was little.

3) Data Analysis and Comparison

The corpus data was tailed using Excel spreadsheets. Looking at the data on error types, although there is a difference in the total number of errors between Thai native speakers and English native speakers, there is consistency in error types. Omission errors are the most common, with 286 and 374 instances for Thai and English native speakers, accounting for 92.5% and 96.3%, respectively. In both groups, the main omission is "de," followed by omission of "shi", and simultaneous omission of "shi" and "de" occurring only 1 and 5 times, respectively. Addition errors and substitution errors are less frequent, and no instances of transposition errors were observed. Thai native speakers have more addition errors than English native speakers, while the numbers of substitution errors are balanced between the two groups. This indicates that learners do not understand the grammatical nature and meaning of "shi" and "de" in this sentence structure and are prone to confusion with the judging verb "shi". See Figure 1 for details.

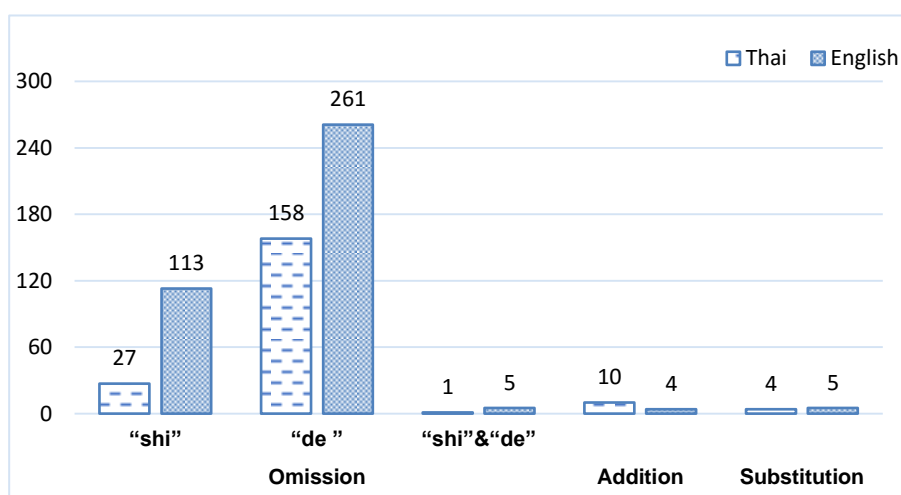


Figure 1. Error Types in the "shi.....de" Sentence Structure for Thai-Native Speakers.

From the perspective of errors in subcategories of sentence structures, both groups of native speakers have the highest number of errors in sentence structure (II). For Thai native speakers, there are 151 errors, accounting for 75.5% of the total errors, while for English native speakers, there are 328 errors, accounting for 84.5% of the total errors. These errors are mainly concentrated in subcategories S7 and S8.

There are differences in the number of errors in subcategories between the two groups of native speakers. For Thai native speakers, the highest number of errors occurs in S7, with a total of 56 errors, accounting for 27%. The second-highest is S8, with a total of 45 errors, accounting for 22.5%. S1 ranks third, with a total of 34 errors. Errors in S4, S6, and S9 each have more than 10 instances. S2 and S5 have fewer instances, with less than 10 errors each. S3 did not show any errors.

For English native speakers, the highest number of errors occurs in S8, with a total of 162 errors, accounting for 41.7%. The second-highest is S7, with a total of 89 errors, accounting for 22.3%. The third-highest is still S1, with a total of 58 errors. Errors in S4, S6, and S9 are relatively low, with 33, 24, and 16 errors, respectively. Errors in S2, S3, and S5 are very few, mostly below 5 instances. Sentence Type(II) expressing affirmative mood has more subcategories, making it a challenging point for learners. See Figure 2 for details.

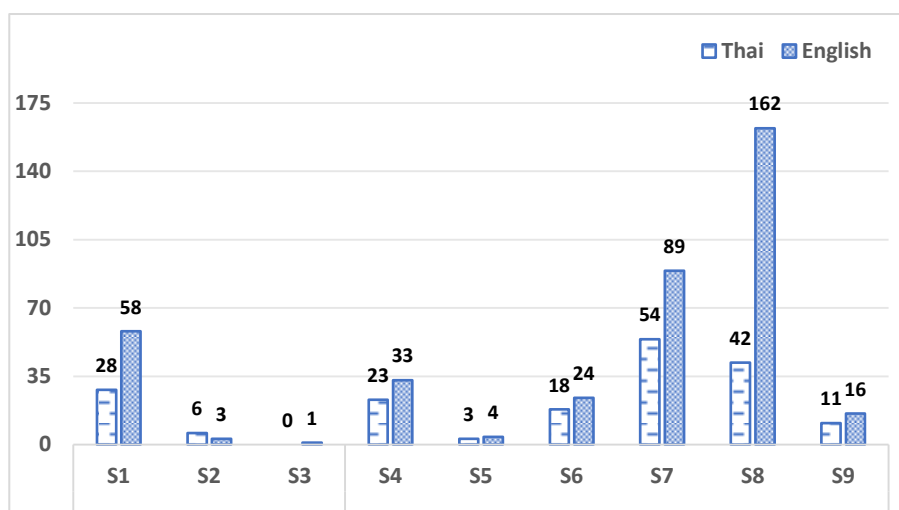


Figure 2. Nine Subcategories of Errors in "shi.....de" Sentences for Thai and English Native Speakers

IV. RESULTS AND DISCUSSION

Through a comparative analysis of errors in the "shi.....de" construction between Thai native speakers and English native speakers, we found that the total number of errors is higher in English native speakers. Looking at the percentage of errors in each sentence type, both language groups share two common characteristics: errors are predominantly of the omission type, with omissions of "de" being significantly more frequent than omissions of "shi", and simultaneous omissions of "de" and "shi" are relatively rare. Errors in sentence type(II) are much more common than those in sentence type(I). The difference between the two language groups lies in the fact that errors in sentence type(II) among English native speakers are mainly concentrated in sub-category S8, followed by S7, while errors among Thai native speakers show no clear trend across sub-categories. We can analyze the reasons for these differences from aspects such as the generalization of target language rules, the impact of translation equivalence, lack of pragmatic skills, and textbook factors.

1. Generalization of Target Language Rules

The "shi.....de" construction, with "shi" as a focus marker, has evolved through the grammaticalization of the copula "shi", a process common in world languages (Heine & Kuteva, 2002). The Chinese Proficiency Standards for International Chinese Education include four grammar points related to "shi". See Table 2 for details.

Table 2
Distribution of "shi" and "shi.....de" in the Grammar Proficiency Standards

	Grammar Point	Level
1	"shi" Sentences: Representing equality or category; indicating explanation or characteristics; expressing existence	Level One
2	"shi.....de" Sentence 1: Emphasizing time, place, manner, or the actor of an action	Level Two
3	Using "shi" for Emphasis	Level Three
4	"shi.....de" Sentence 2: Emphasizing the speaker's opinion or attitude	Level Four

When arranging the grammar points in the grammar proficiency standards of the "International Chinese Education Chinese Proficiency Level Standards", the main principles followed are four practical principles: prioritizing commonly used grammar for learning,

prioritizing grammar with relatively low cognitive difficulty, paying attention to the relationships between different grammar items with internal connections, and sorting out grammar with multiple meanings and usages (Jin Haiyue & Ying Chenjin, 2021).

The first category involves sentences with the word "shi", serving as a judgmental verb or copula. These sentences can express equality, explanation, or existence, such as "我是美国人 (I am American)". This type of sentence is often the first grammar point learners encounter, typically used for self-introduction and stating objective facts. It holds strong communicative functions and leaves a lasting impression.

The second category consists of "shi.....de" sentences used to emphasize information related to events that have already occurred. This aligns with the type(I) sentences discussed in our analysis. Beginner Chinese learners are already proficient in the basic sentence structure S(A)VO, and when emphasizing the adverbial A in a sentence, incorporating the "shi.....de" framework aligns with learners' cognitive patterns.

The third category involves sentences emphasizing with "shi", where the "de" is omitted, for example, "我是去图书馆(I am going to the library)". While structurally simple, these sentences often have specific contextual constraints at the pragmatic level and are related to supplementing information from the preceding sentence.

The fourth category covers "shi.....de" sentences, corresponding to the type(II) sentences in our analysis. In the standards, these are described as "emphasizing the speaker's viewpoint or attitude" and practically represent affirmations of non-real events, expressing the speaker's subjective attitude or evaluation. This category reflects a pragmatic function.

These four grammar points exhibit varying difficulty levels. Although they share a similar structural form with the presence of the word "shi", the differences in grammatical meaning and pragmatic function are substantial, making them prone to confusion.

Due to the consistent structural form of sentences with the word "shi" in Chinese grammar points, with differing vocabulary meanings and contextual constraints, both Thai and English native speakers might generalize the rules in the target language. This could lead to confusion with sentences using "shi", resulting in the omission of the final "de" or an inability to correctly express the emphasis's pragmatic function. This often leads to the use of S(A)VO structures and simultaneous omission of "shi" and "de".

2. Impact of Translation Equivalence

Translation equivalence refers to the phenomenon where bilingual collocations find equivalent translations in another language (Hong Wei & Ma Le, 2023). Translation equivalence has a significant facilitating effect on second language learners (Wolter & Gyllstad 2011; Zhang Ping 2017). Mother tongue translation equivalence generally results in positive language transfer, promoting the learning of the target language. On the other hand, second language translation equivalence can lead to negative language transfer, hindering the learning process of the target language. However, factors such as the language distance between bilinguals, experimental paradigms, data analysis methods, and criteria for identifying translation equivalent word pairs can influence the impact of translation equivalence (Fang Nan & Zhang Ping, 2019). Language distance refers to the formal and semantic differences between the mother tongue and the target language.

In Thai, there is no corresponding structure for the "shi.....de" sentence. For example, the type(I) sentence "她是昨天去中国的" translates to "เธอเดินทางไปประเทศจีนเมื่อวานนี้ (她昨天去中国了 She went to China yesterday)" in Thai. Similarly, the type(II) sentence "她是漂亮的" translates to "เธอสวยมาก (她很漂亮 She is very beautiful)" in Thai. Thai generally uses lexical means to express emphasis, such as placing "นั่นเอง" (that's right), "นั่น" (that), and "นะ" (okay?) at the end or in the middle of the sentence for emphasis. Therefore, for

Thai native speakers learning "shi.....de" sentences, due to the significant language distance, the formation of translation equivalence is hindered. This obstacle complicates the learning process and increases the level of difficulty, leading to errors across various sentence types.

In contrast, English differs from Thai. The "shi.....de" sentence is often considered equivalent to the cleft structure in English, especially the "it" cleft construction (Shyu, 2013). The English "It is/was that/who....." and the Chinese "shi.....de" type(I) sentence express the same grammatical meaning and can both indicate emphasis. However, they differ in formal structure, as English emphatic sentences do not end with function words, whereas Chinese "shi.....de" sentences end with the function word "de". Therefore, English native speakers tend to make more errors in omitting "de". Research on language transfer emphasizes differences between languages, and the degree of difference between two languages can predict the difficulty of second language learners acquiring the corresponding structures. Although English and Chinese can have translation equivalence in emphatic sentences, facilitating English native speakers' mastery of type(I) sentences, subtle differences in language forms can lead to errors in omitting "de" being twice as common as omitting "shi".

3. Lack of Pragmatic Competence

Pragmatic competence refers to a speaker's ability to express their intentions and purposes. It can be divided into "pragmalinguistic competence" and "sociolinguistic competence" (Thomas, 1983). Pragmalinguistic competence refers to the ability to use correct grammatical structures and effectively convey both explicit and implicit information in dialogue. Sociolinguistic competence refers to a speaker's appropriateness and politeness in language use under social conventions.

Chinese learners often focus on the memorization of language forms and semantic understanding, but they may not have developed the ability to use language in specific communicative contexts, especially the ability to use correct expressive forms in real communication situations. The concentration of errors in the oral corpus of English native speakers suggests that, although English native speakers have sentence structures similar to Chinese, their pragmatic linguistic competence is relatively weak in immediate communicative contexts.

When the "International Chinese Language Education Chinese Proficiency Level Standards" deals with special sentence patterns, it generally first divides them based on functionality and then ranks them according to factors such as their frequency of use and difficulty of acquisition. Sentence type(II) is more difficult than sentence type(I) because it involves pragmatic aspects, expressing the subjective attitudes and evaluations of the speaker. The subtypes of sentence type (II) are more numerous and complex than those of sentence type (I), showing a many-to-one relationship between grammatical form and grammatical meaning, often constrained by context.

Thai native speakers and English native speakers have reached an intermediate level or above in Chinese proficiency. The higher number of errors in sentence type(II) also reflects that learners may understand language forms but are not necessarily able to use different language forms correctly. For English native speakers, errors in sentence type(II) are concentrated in subcategory S8, followed by S7. These two subcategories involve basic sentence structures with adjectival predicates, such as "工作是极严肃认真的(Work is extremely serious and earnest)". Omitting "shi" and "de" in this sentence still maintains its static semantics, but it fails to convey the affirmative tone of the speaker. This falls into the category of lower-level "pragmatic competence", the inability to use syntactic rules to construct complete sentence structures for effective information transmission, without

reaching the level of appropriateness in speech behavior, which is sociolinguistic competence.

4. Textbook Factors

Textbooks are fundamental materials that teachers rely on for teaching and students use for learning, playing a crucial role in teaching activities (Liu Xun, 2000). The quality of textbooks has a significant impact on student learning. Taking textbooks such as "Common Chinese", "Boya Chinese", "Contemporary Chinese", and "Step by Step Chinese (Intermediate Reading)" as examples, an examination of the arrangement of "shi.....de" sentences in different textbooks reveals the following issues:

Firstly, in comparison to the ten classifications made in this study, textbooks arrange fewer subtypes for "shi.....de" sentences. For example, in "Common Chinese", "shi.....de" sentences mainly appear in two subtypes: "shi + NP + VP + de" and "S + shi + VP/AP + de". Both subtypes are found in the elementary textbook, but the former appears in the first volume, emphasizing its usage in actions and completed situations, highlighting time, location, and the doer, while the latter appears in the second volume, representing the speaker's opinions or attitudes. Considering the sequential order of teaching, sentence structures expressing affirmative tones are acquired later. Therefore, Chinese learners are more proficient in sentence type(I), resulting in fewer errors. Although Chinese learners are more familiar with sentence structures within textbooks and have a higher frequency of use, it does not necessarily mean they can use them correctly. For instance, errors in subtypes like S7 and S8 are relatively concentrated.

Secondly, textbooks do not provide detailed grammatical structural distinctions for the "shi.....de" sentence and do not systematically explain its pragmatic usage. "Boya Chinese" lists the grammatical points of "shi.....de" sentences, only explaining the objects and positions of emphasis, and does not even mention the usage of omission or negation. This arrangement may cause teachers and learners to overlook the omission and negation of "shi.....de" sentences, leading to the inability of Thai and English native speakers to acquire all the usages of "shi.....de" sentences and resulting in various error situations.

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the statistical analysis of the Modern Chinese Corpus, this study conducted a detailed classification of the structure and function of "shi.....de" sentences. Through the statistical analysis of written and spoken corpora of Chinese learners, the error quantity and error types in the acquisition of this sentence structure by Thai and English native speakers were compared. There were commonalities and differences between the two groups of native speakers: the error quantity of sentences expressing affirmation was higher than those expressing emphasis, and the error types were mostly omission of "de" and "shi". The errors of English native speakers were concentrated mainly in subtypes S8 and S7, while Thai native speakers did not show a clear concentration in any specific subtype. It is important to note that the error quantity of Thai native speakers was significantly less than that of English native speakers. The limited corpus data for Thai native speakers may contribute to this imbalance, requiring further research.

Based on the above findings, we propose several teaching suggestions:

Firstly, emphasize comparative teaching of language types. Chinese teachers should enhance the comparative understanding of the language forms and meanings between the target language and the native language, especially focusing on the similarities and differences in language expression between the two languages and the language forms expressing different speech acts in specific contexts.

Secondly, adopt interactive situational teaching methods. Teaching this special sentence structure "shi.....de" should not be confined to traditional grammar-focused teaching. Instead, it should avoid monotonous sentence pattern drills and aim for communicative purposes. Using situational approaches can promote learners' correct understanding and production of the pragmatic function of sentences.

Thirdly, develop country-specific textbooks. When arranging textbooks, attention should be paid to the hierarchy and diversity of subtypes of "shi.....de" sentences. This can effectively guide learners with different native languages in acquiring this special sentence structure.

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NATO's Istanbul Cooperation Initiative: Dynamic, Process, and Dilemma*

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Abstract: *In 2004, NATO introduced the Istanbul Cooperation Initiative (ICI), with the aim of fostering a security partnership between NATO and Gulf countries. From a dynamic perspective, its emergence represents not only an expansion and extension of Europe and America's collective defense strategies but is also driven by non-traditional security threats. Simultaneously, the recognition of threats from countries such as Iran, Russia, and other nations also laid the groundwork for its establishment. However, despite years of development, cooperation between the two sides remains at a low level. Differences in security interests among the Initiative countries, a lack of significant common threats, and the involvement of complex external forces in the region are pivotal factors constraining the cooperative potential of the Istanbul Cooperation Initiative. On a broader scale, NATO itself faces multiple challenges, including growing internal divisions, a diminished role in the US global strategy, and a refocusing on NATO's strategic priorities due to the Russia-Ukraine crisis. These factors collectively impede NATO's external expansion efforts. Within the Gulf region, countries like Saudi Arabia express reservations about Western intervention in regional affairs. With the shifting center of US strategy, the Gulf region's prominence on the international stage has also waned, while the increasing willingness of Indian Ocean countries to collaborate with one another will continue to limit the enthusiasm of all parties involved in the Initiative in the future.*

Keywords: *NATO, Istanbul Cooperation Initiative, Gulf Cooperation Council, Collective Defense*

I. INTRODUCTION

After the conclusion of the Cold War, according to realist scholars like John Mearsheimer (1990) and Kenneth Waltz (1993), NATO was expected to lose its strategic purpose and

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dissolve on its own following the dissolution of the Warsaw Pact. Surprisingly, NATO not only managed to avoid disintegration but also assumed a vital role in the international security landscape during the post-Cold War era by expanding its membership and operational scope. Some scholars argue that NATO has evolved from a mere military alliance into a comprehensive security management system and negotiation platform (Wallander and Keohane, 1999).

The continued existence of NATO after the Cold War was not accidental, as several factors supported the sustained operation of this extensive security apparatus. Firstly, uncertainty surrounded Russia's future military plans and intentions as it inherited the principal military assets of the Soviet Union. Secondly, NATO became a crucial platform for coordinating security relations among Western countries after the war, preventing Western Europe from descending into nationalist conflicts (Duffield, 1994-1995). Furthermore, the United States, as a leading NATO member, relied on the alliance's assistance to fulfil its global strategic objectives. Lastly, following the Cold War, NATO member states faced numerous pressing security threats, such as refugee flows, terrorism, and the proliferation of weapons of mass destruction resulting from regional conflicts, most of which were concentrated around NATO territory. This necessitated cooperation among member states to address these challenges. It is in this context that NATO began to extend its reach beyond the traditional North Atlantic European defense zone, gradually establishing a global presence through extraterritorial actions and partnerships. The Gulf region emerged as a strategically significant area in NATO's southern wing. NATO recognized that issues like energy security, terrorism, and the proliferation of weapons of mass destruction directly challenged its member states. The September 11th attacks intensified the urgency of NATO's involvement in Gulf security affairs. In 2004, the NATO Istanbul Summit extended an invitation to Gulf countries to participate in the Istanbul Cooperation Initiative (ICI). The goal of this initiative was to enhance the security governance capabilities of Gulf countries and promote regional stability through cooperative security partnerships, ultimately safeguarding the import security interests of all parties involved.

This paper will analyze the significance of the Istanbul Cooperation Initiative from three perspectives: its underlying causes, its development over time, and the challenges it currently faces. Furthermore, it will evaluate the potential for further development and prospects of the initiative in the future.

II. REASONS FOR THE FORMATION AND MAINTENANCE OF THE ISTANBUL COOPERATION INITIATIVE

Emerging Threats and the Collective Defense Strategy of the United States and Europe

The Istanbul Cooperation Initiative (ICI) was officially launched during the NATO Summit held in Istanbul in June 2004. Its motivation, besides addressing NATO's strategic development needs, also considered the security and stability aspirations of the Gulf region in the new century. As documented in the 2004 NATO Istanbul Cooperation Initiative Fact Sheet, "The ICI is based on the premise that the security and stability of the Gulf region is of strategic interest to Alliance - just as the security and stability of the Euro-Atlantic area matters to the Gulf Region" (NATO Fact Sheet, 2014). Throughout the Cold War, NATO's primary responsibility was to ensure security and stability in the Euro-Atlantic region. However, with the conclusion of the Cold War and the emergence of new security challenges, NATO gradually recognized that it would now confront a broader and more intricate array of security threats. During this period, the strategic choice for NATO was to attract other partners to contribute to maintaining stability and security in its backyard. This

choice proved to be both cost-effective and high-yield given the evolving security landscape. Originally created to defend Western Europe against the Soviet threat, NATO is a security alliance that can ultimately survive only by meeting the security challenges currently facing its members. Most of the current security challenges it encounters are concentrated in the Greater Middle East (Gordon, 2006).

The member states of the Cooperation Council for the Arab States of the Gulf (GCC) stand out as some of the few countries in the Middle East that have maintained long-term stability. Their abundant strategic resources, such as oil, and the United States' shift in strategic focus after the Cold War have made them highly regarded partners for NATO. Furthermore, maintaining a stable government is a crucial prerequisite for becoming a NATO partner. In comparison to other Arab republics, GCC member states also possess a certain level of legitimacy and enjoy strong public support, demonstrating significant adaptability in response to changing circumstances (Gulf Research Center, 2013). A prosperous society serves as a vital foundation for cooperation. In recent years, nearly all GCC member states have implemented comprehensive financial plans aimed at improving the quality of life for their citizens. These plans encompass social security, education, public services, and healthcare and have received substantial financial backing. Unlike other Arab nations, citizens of GCC member states generally enjoy affluence, contentment, and a high quality of life. At the national level, these states are also cautiously promoting political reforms (Wehrey, 2013). Through the Istanbul Cooperation Initiative, NATO can forge enduring and stable partnerships with GCC member states, enhancing security and fostering regional stability through novel forms of cooperation with countries in the relevant areas. It is important to note that the Istanbul Cooperation Initiative is not solely an agreement between NATO and the GCC; instead, cooperation with the GCC represents the initial phase. It is likely that the initiative will expand to include Middle Eastern countries not covered by the NATO Mediterranean Dialogue partnership in the future. The Istanbul Cooperation Initiative addresses shared security challenges while tailoring its approach to the specific needs of the involved countries. The initiative is open to all regional countries that align with its objectives, particularly those engaged in counterterrorism efforts and the prevention of weapons of mass destruction proliferation (NATO Fact Sheet, 2014). There is a distinct possibility that in the future, the southern flank of NATO will establish a Pan-Indian Ocean military security partnership encompassing the GCC and other countries participating in the Mediterranean Dialogue. This Pan-Indian Ocean military security partnership seeks to maximize security for the EU and the entire Arab region.

The United States also played a pivotal role in facilitating discussions regarding the alignment of interests between NATO and the GCC. NATO itself represents a significant outcome of the United States' collective defense strategy post-World War II, essentially deriving from the collective defense strategy founded on U.S. nuclear weapon guarantees. Article 5 of the 1949 North Atlantic Treaty underscores the cornerstone of NATO, emphasizing its enduring and unique principle that binds member states together, fosters mutual protection, and cultivates a sense of unity within the alliance (NATO Fact Sheet, 2017). This article mandates that each member state treat an armed attack on any member state in Europe or North America as an attack on all member states. The prominence of the United States within NATO is undeniable. The United States not only constitutes the primary contributor to NATO's military expenditures and armed forces but also serves as the linchpin of NATO's strategic nuclear deterrent capabilities. To illustrate, in 2017, the United States contributed 483 million euros to NATO, accounting for 22.14% of NATO's total expenditure that year, while Germany, the second-largest contributor, contributed 319 million euros, representing 14.65% of NATO's expenditures for that year (Loesche, 2017). It is accurate to assert that the United States functions as NATO's European security guarantor,

and the relationship between NATO and GCC member states is significantly influenced by the dynamic between the United States and the Gulf nations.

With the persistent emergence of new threats, particularly terrorism, in the world following the 9/11 incident, the United States and the global community have significantly intensified their focus and apprehensions concerning the Greater Middle East region. NATO's attention to its southern wing has also grown considerably during this period. In 2002, former NATO Secretary General Lord Robertson noted that due to the impact of the 9/11 attacks and the volatility in the Middle East, NATO and the entire world have redirected their attention to the Greater Middle East region and the potential repercussions for Europe and the United States (Orfy and Whiting, 2010). Subsequently, there has been a gradual increase in worldwide terrorist attacks, reaching a peak of 14,414 incidents in 2007 (Development Services Group, 2018).

The Near East and North Africa region has consistently been a major hotspot for terrorism, marked by a multitude of interests and conflicts. Given its geographical proximity, Europe has also been affected to some degree. Additionally, issues such as refugee flows and interference in the internal affairs of the region have contributed to a higher incidence of terrorist attacks in Europe compared to other developed regions. Today, as global interconnections become tighter and networking continues to advance, the scope and nature of terrorism are in a constant state of evolution. Globalization, networking, and organization have become the latest hallmarks of terrorism's development, resulting in lower operational costs, broader dissemination, and more significant destructive consequences. While North America experiences relatively fewer terrorist activities overall, this is primarily due to geographical limitations. As previously mentioned, the scope of terrorist activities is expanding, and 9/11 remains a shared nightmare for all Americans. In recent years, the frequent occurrence of terrorist activities in Europe has heightened public apprehension and concern about potential terrorist attacks, making the containment of terrorism a critical issue for NATO (Orfy, 2011).

Joint efforts within and outside the region to prevent Iran

The emergence of the Istanbul Cooperation Initiative is closely intertwined with the presence of Iran. If obtaining strategic energy resources like oil stands as the primary strategic interest of NATO member states, especially the United States, then no other region garners more attention than the Gulf. Given Iran's role as the dominant military power in the Gulf region, any action, whether it is Iran's potential blockade of the Strait of Hormuz or conflicts between the United States and Iran, poses a substantial threat to the energy security of NATO member nations. For a considerable period, NATO engaged in security dialogues with GCC member states with the aim of forging a collective stance against Iran and its allies, ultimately establishing NATO's formal presence in the Persian Gulf region. Following the Iraq War, the U.S. military presence in the Gulf region was largely justified by the perceived threat from Iran, aiming to safeguard Gulf allies and NATO from potential Iranian ballistic missile threats while ensuring the uninterrupted flow of oil exports through the Strait of Hormuz.

Beyond Iran's strategic threat to the United States and Europe, the GCC countries themselves consider Iran a significant regional threat. For example, in 2007, Bahrain's former Minister of Defense, Al Khalifa, asserted that GCC countries possess the capability to retaliate against any Iranian aggression. In the event of a U.S.-Iran conflict resulting in Iran's blockade of the Strait of Hormuz, the GCC would be prepared to respond with force (Gulf Daily News, 2007). Although one of the core objectives of the Istanbul Cooperation Initiative is to prevent the proliferation of weapons of mass destruction, GCC member states

place greater emphasis on using the initiative as a tool to portray Iran as a common adversary, both regionally and globally. Their apprehension regarding Iran is not solely based on the potential for Iran to invade their respective countries but also stems from concerns over Iran's expanding political and ideological influence. Consequently, the Iran issue features prominently in NATO's engagement with GCC member states under the Istanbul Cooperation Initiative mechanism and in NATO's public diplomacy engagements with Arab countries in the Gulf. In 2006, NATO and the GCC held a joint meeting titled "Facing Common Challenges," implicitly referencing Iran as a "common challenge" for both sides (Kuwait News Agency, 2006). Just before this meeting, the United States, Britain, France, Australia, and the GCC conducted a joint exercise in the Persian Gulf, which drew criticism from Tehran, which labeled it a "provocation" (Fattah, 2006).

Furthermore, Iran possesses sufficient military capabilities to disrupt the flow of oil from the Persian Gulf. For example, during the Velayat-90 naval exercise in December 2011, the Iranian Navy's operational range extended from the Persian Gulf to the entrance of the Red Sea in the Gulf of Aden. This move was intended to demonstrate Iran's capacity not only to target any area within the Persian Gulf but also its capacity to block oil pipelines that bypass the Strait of Hormuz (Nazemroaya, 2012). While there are alternative oil transportation routes that circumvent the Strait of Hormuz, these do not alter the fact that the oil fields of GCC member countries are primarily concentrated in the Persian Gulf and coastal areas, which are adjacent to Iran and within its potential reach. Essentially, if Iran were to seek to impede oil exports from GCC member states, blocking the Strait of Hormuz would represent a relatively moderate approach, and direct attacks on oil fields could be among the options considered.

Demands of Small Gulf States to Obtain Extraterritorial Security Guarantees

The establishment of the GCC was driven by both the desire to create a common market and the need to address regional security challenges. This dual focus became evident shortly after the GCC's formation, as the six member countries sought to respond to the Islamic Revolution in Iran and the spillover threats arising from the Iran-Iraq War. In response, they decided to establish a joint security strategy and a multilateral defense force known as the Peninsula Shield Force.

However, the development of the Peninsula Shield Force progressed slowly after its establishment, maintaining a symbolic level of 10,000 personnel for an extended period. Notably, during Iraq's invasion of Kuwait, the Peninsula Shield Forces did not take action. While the force contributed 3,000 soldiers to the subsequent First Gulf War, its role remained supplementary (Singh, 2005). At that time, the EU argued that the Peninsula Shield Force was insufficient to deter threats or maintain peace in the region. Following the First Gulf War, the GCC, along with Egypt and Syria, expressed their willingness to establish a deterrent military force to protect Kuwait. However, this proposal was shelved as Kuwait secured security commitments from the United States and Britain.

In the early stages of GCC cooperation, the Peninsula Shield Force held more symbolic significance than practical military effectiveness. Historical experiences from the 1990s to the new millennium demonstrate that the force had limited deterrent power. During this period, Gulf Cooperation Council member states appeared content to rely on the United States and Western allies for their strategic defense and security needs in the Gulf region. It was not until the Manama Summit in 2000 that the GCC countries signed a common defense agreement and established a defense council and a high-level military committee. Nevertheless, these measures remained more symbolic than practical, with limited progress in actual implementation. For instance, in 2006, Saudi Arabia proposed dissolving the

Peninsula Shield Force and replacing it with an integrated security force, a proposal welcomed by other GCC members but never put into practice (Yenigun, 2015). Throughout this period, Gulf state leaders exhibited little willingness to make further arrangements for collective defense in the region. They were more inclined to rely on the United States to safeguard their security, rather than establishing effective local deterrence and defense capabilities. The idea of establishing effective partnerships through mutual cooperation among Gulf countries also did not seem viable in their view (Cordesman, 2008).

Although the factors mentioned above prompted Gulf countries to enhance their autonomous defense capabilities and explore multiple security guarantees, the smaller Gulf states still found it challenging to establish their own security measures due to internal differences. Against the backdrop of shifting geopolitical dynamics in the region, King Abdullah of Saudi Arabia proposed political unity within the GCC during the alliance's summit in December 2011. However, this idea received little support from other Arab Gulf countries, as many believed it would expand Saudi Arabia's influence and potentially lead to regional hegemony. This incident underscored the perception of a lack of authority among Gulf leaders concerning the GCC, resulting in four out of six Arab Gulf leaders choosing not to participate in the Gulf Cooperation Council summit held in Manama the following year (Khalaf, 2013).

By the end of 2013, Gulf countries had not given up entirely on the GCC's ability to consolidate collective defense and establish reliable shared military infrastructure in the Arab Gulf region. During the 34th Gulf Cooperation Council Summit in December of that year, they announced the establishment of a joint military command comprising 100,000 troops. Additionally, the leaders of the GCC accepted the United Arab Emirates' proposal to create a new Arab Gulf Strategic and Security Research Institute, establish a unified Gulf Cooperation Council military command, and form a new Joint Defense Committee to implement these recommendations (Gulf News, 2013). However, despite these initiatives, the GCC still faced significant hurdles in achieving full military defense integration and maintaining its own security through internal means.

In December 2019, during the 40th session of the Supreme Council of the Gulf Cooperation Council, decisions were made by the Joint Defense Commission to address growing threats, especially navigation threats in the Arab Gulf and the International Strait. These decisions aimed to further unify military leadership and develop and sustain joint military projects. However, true military defense integration within the GCC remained at a relatively low level, and the council continued to explore the most suitable collective defense approach for its unique circumstances (WAM, 2019).

In summary, for the GCC, which has historically relied on the United States for its security and faces internal differences and suspicions, collective security cooperation with NATO is not only a practical necessity but also a temporary measure for future development. If GCC countries genuinely begin to strengthen their collective efforts, the necessity of NATO's security cooperation in the region could become a topic worthy of reconsideration.

III. THE DEVELOPMENT PROCESS OF THE ISTANBUL COOPERATION INITIATIVE

Development Process

In May 2004, following a series of high-level consultations between NATO Deputy Secretary General Minoto Rizzo and the leaders of the six Gulf countries – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates – all expressed their interest in

NATO establishing a Gulf cooperation mechanism. In June of the same year, during the NATO Summit held in Istanbul, Turkey, the Istanbul Cooperation Initiative was officially launched. The initiative aimed to create a security defense framework between NATO and Middle East countries. Following further discussions between Rizzo and the six Gulf countries, Bahrain, Kuwait, and Qatar officially joined the Istanbul Cooperation Initiative in early 2005, with the United Arab Emirates following suit in June of the same year.

The cooperation within the Istanbul Cooperation Initiative operates on two main levels: political dialogue and practical cooperation. On the political dialogue front, NATO engages in bilateral discussions with individual partner countries within the initiative and multilateral dialogue between the North Atlantic Council and four partner countries (NAC+4) concurrently. In terms of practical cooperation, collaboration between the two sides encompasses partner countries' participation in various NATO activities and NATO-led extraterritorial military operations. The initiative adheres to six fundamental principles akin to the Mediterranean Dialogue: non-discrimination, self-differentiation, two-way engagement, non-imposition, complementarity, and diversity. Simultaneously, it offers a range of cooperation areas for Gulf countries to select from, including: 1) providing reasonable suggestions on defense transformation, defense budgets, defense plans, and military-civilian relations; 2) enhancing synergy with NATO defense forces by participating in NATO military exercises and courses; 3) cooperating on counter-terrorism efforts; 4) collaborating with NATO's non-proliferation initiatives; 5) engaging in border security cooperation related to terrorism, small arms and light weapons, and combatting smuggling; 6) cooperating on civil emergency plans (NATO, 2011).

Since the NATO Istanbul Summit in 2004, NATO has annually developed a menu of practical activities, allowing partner countries within the Istanbul Cooperation Initiative to participate in security cooperation based on the directory's content. As cooperation has deepened, NATO has increased the number of activities partner countries can participate in, growing from 328 in 2007 to nearly 1,000 currently (NATO, 2022). Additionally, high-level political dialogue has gradually expanded. To strengthen the partnership and explore security issues of mutual concern, the Istanbul Cooperation Initiative ambassadorial meetings have been held irregularly in partner countries since 2006. These meetings involve the participation of NATO Secretary General, Deputy Secretary General, representatives from all NATO member states, and policymakers and opinion leaders from partner countries.

In 2010, the NATO Lisbon Summit introduced the first strategy concept of the new century, titled "Active Engagement, Modern Defense," which outlined collective defense, crisis management, and cooperative security as the three core missions of the alliance. The Istanbul Cooperation Initiative was specifically mentioned within this framework. The document expressed NATO's commitment to enhancing security cooperation within the Istanbul Cooperation Initiative and welcoming new partners to join at any time, emphasizing the importance of peace and stability in the Gulf region (NATO, 2010).

In 2011, significant changes occurred in cooperation between NATO and Gulf partner countries. During the NATO Berlin Foreign Ministers' Conference that year, it was decided that all NATO partner countries would have equal rights to participate in NATO activities in principle (NATO, 2015). This meant that Gulf partner countries could participate in activities originally intended for other NATO partnership mechanisms, expanding the range of activities open to them beyond the NATO annual practical event directory.

In 2017, NATO established the Istanbul Cooperation Initiative Regional Center in Kuwait to serve as a platform for enhancing cooperation between NATO and Gulf partner countries. The center's mission is to enhance consensus on security threats and boost cooperation by improving synergy and standardization. The center is involved in various practical

cooperation areas, including strategic analysis, civil disaster preparedness, military collaboration, and public diplomacy. Activities organized by the center are open not only to partner countries participating in the Istanbul Cooperation Initiative but also to Oman, Saudi Arabia, and the GCC as a whole. Additionally, Gulf partner countries have actively participated in NATO-led “out-of-area” military operations. Bahrain and the United Arab Emirates contributed troops to NATO’s International Security Assistance Force in Afghanistan, while Qatar and the United Arab Emirates provided air force facilities for NATO’s Operation Unified Protector in Libya. The United Arab Emirates even dispatched fighter jets to participate in the intervention, and Qatar provided military assistance, including material and communication support, to the Libyan opposition (Yenigun, 2015).

In 2019, marking the 15th anniversary of the Istanbul Cooperation Initiative’s establishment, NATO Secretary General Jens Stoltenberg stated that NATO would continue to offer targeted training and practical support to all Gulf countries. He also expressed gratitude for the support Gulf partners provided to NATO’s operations in Bosnia and Herzegovina, Kosovo, and Afghanistan (NATO, 2019). In 2021, at the NATO Brussels Summit, the heads of NATO member states reaffirmed their commitment to the Middle East region, pledging to enhance long-term engagement in the Middle East and North Africa region. They emphasized the strengthening of political dialogue and practical cooperation with partner countries from the Mediterranean Dialogue and Istanbul Cooperation Initiative.

To date, it is evident that the Istanbul Cooperation Initiative has primarily remained at a relatively low level of military cooperation. Even within this multilateral framework, cooperation often takes the form of NATO+1 bilateral cooperation, which has faced criticism for its efficiency. Over more than a decade of existence, the Istanbul Cooperation Initiative has not only fallen short of achieving its expected objectives, but it has also failed to expand its membership. While Saudi Arabia and Oman initially expressed interest in the initiative, they have yet to join. From both the perspective of cooperation depth.

Prospects for Integration with the Mediterranean Dialogue

The Istanbul Cooperation Initiative and the Mediterranean Dialogue are both key partnership frameworks for NATO in the Middle East and North Africa (Isaac, 2011). The idea of NATO developing a dialogue with the countries on the southeastern coast of the Mediterranean was initially proposed in the early 1990s by three northern Mediterranean countries: Spain, Italy, and Portugal. The then-Spanish Foreign Minister, Solana, was a proponent of this idea, with the aim of creating this dialogue as a complement to the security dimension of the Barcelona Process (Santis, 2002). NATO sought to establish common interests with Mediterranean countries through dialogue to safeguard its own security interests. In NATO’s perspective, a range of security threats along the southern and eastern shores of the Mediterranean, including terrorism, weapons of mass destruction, domestic instability, and regional conflicts, necessitated the establishment of a mechanism to manage these threats. Additionally, NATO recognized the need to build mutual trust with countries along the southeastern coast of the Mediterranean to prevent strategic misjudgments. Initially, the Mediterranean Dialogue primarily focused on promoting political dialogue, enhancing mutual understanding, and building trust through information exchange and the exchange of viewpoints (1995-2001). However, following the events of 9/11, NATO increased its strategic attention and investment in the region, elevating the dialogue to a more pragmatic level of political and security cooperation.

Although the regional scope varies, there is a strong similarity between the Istanbul Cooperation Initiative and the Mediterranean Dialogue, including: 1) similar driving forces; 2) they both constitute components of NATO’s strategic southern wing; 3) both initiatives

are based on six similar basic principles, with overlapping areas of cooperation. Therefore, the Istanbul Cooperation Initiative can be seen as NATO's application of the Mediterranean Dialogue model to engage with Gulf region countries. If conditions are favorable, NATO and the countries in the region may engage in deeper military and security cooperation in the future.

However, the short-term likelihood of integrating the Mediterranean Dialogue and the Istanbul Cooperation Initiative is low due to various obstacles. One significant reason is the internal differences within each group and the lack of trust between them. This is exemplified by the inclusion of Egypt and Israel in the Mediterranean Dialogue. Egypt has maintained a cautious stance regarding its involvement in Gulf affairs and aims to strike a balance while benefiting from relations with the United States, Russia, and major European powers. Egypt's decision not to participate in the Middle East Strategic Alliance led by the United States further highlights its desire to maintain a delicate balance between these competing interests. Egypt seeks to avoid becoming too aligned with the United States, which could strain its relations with Russia and Iran. Egypt has historically played a mediating role between the United States and Iran on the Iran nuclear issue and seeks to preserve its relations with Iran. Apart from Egypt's stance, varying attitudes toward Israel among countries also hinder the short-term integration of the Mediterranean Dialogue and the Istanbul Cooperation Initiative. Even within NATO, differences between the United States and Europe regarding the Israeli-Palestinian conflict are widening. While the United States appears to support a two-state solution, its policies tend to favor Israel. In contrast, Western European nations are increasingly critical of Israel's occupation of Palestine (Harms and Ferry, 2017). Additionally, there is no consensus among NATO countries and Gulf partner countries on how to approach the Iranian nuclear issue. Given these differences in various regional issues, as well as the challenges NATO already faces, integrating the two initiatives is not feasible in the short term. Although NATO, the Mediterranean Dialogue countries, and the Istanbul Cooperation Initiative partner countries share common interests, unresolved contradictions make further development difficult.

Reasons for staying at the level of technical (low-level) cooperation

As the most successful collective security defense organization in the world, NATO possesses its own unique characteristics. Aside from military unified leadership and cooperation, the convergence of understanding regarding security issues among NATO member states stands out as the most critical factor contributing to NATO's sustained existence (Khatib and Maziad, 2019). However, it is evident that this cognitive foundation is lacking in the Istanbul Cooperation Initiative. Several reasons contribute to this lack of a cognitive foundation:

1. **Internal Differences within the Group and Limited Points of Interest Convergence:** the Istanbul Cooperation Initiative faces challenges due to significant internal differences within the group and limited integration of points of interest. While there is a clear interest in expressing complementarity, common interests, and willingness to cooperate between NATO and its partner countries, the issues arise within the group itself. While NATO generally maintains a consistent security awareness, differences on specific issues persist. For example, on the Iranian nuclear issue, Turkey's proximity to Iran due to the Syrian situation has led it to avoid actions that could negatively impact Turkish-Iranian relations (Süddeutsche Zeitung, 2020). This raises questions about where shared threats and interests between NATO and the member states of the initiative genuinely intersect and whether these perceived common interests outweigh or mitigate differences in understanding among different countries.

2. Long-Term Competitive Relationships Impeding Trust: In addition to the challenge of converging interests, long-term competitive relationships among countries in the Gulf region have hindered further cooperation. Despite the potential benefits of developing a long-term integrated military structure within the Gulf Cooperation Council member countries have not demonstrated the determination to set aside differences and competitive relationships for the sake of overarching interests. Comparatively, during NATO's formative years, despite differences and competition, the overarching threat from the former Soviet Union during the Cold War provided a strong foundation for deeper cooperation. Presently, challenges and threats from Iran and Islamic extremism have not reached the intensity necessary to foster deeper cooperation.

3. Existing Multiple/Bilateral Military Arrangements: The Gulf region already hosts various multiple and bilateral military arrangements, making it challenging for NATO to identify a suitable role. While the United States' credibility as a military guarantor has diminished, it still maintains military presence in the Gulf region and provides military assistance to its allies. These preexisting military arrangements have further weakened the already limited foundation for cooperation in the Istanbul Cooperation Initiative. The United States maintains military bases in Bahrain, Kuwait, Qatar, and Oman, while France also has naval bases in Abu Dhabi, the capital of the United Arab Emirates. Kuwait, for example, has signed defense agreements with the United States, the United Kingdom, and France. Qatar has defense agreements with both France and the United States, serving as the location of the United States Central Command. The United Arab Emirates has also signed defense agreements with France and the United Kingdom. Many scholars argue that these defense arrangements make it difficult for NATO to play a significant role in Gulf security, and the region may face not a security issue but rather a risk of congestion (Samaan, 2012).

Moreover, the Istanbul Cooperation Initiative's cooperation agenda is excessively extensive, lacking focus on specific areas of cooperation. This lack of focus has hindered the development of a deeper relationship between the two sides. Some scholars suggest that prioritizing key security issues, such as counter-terrorism, defense cooperation, border security, and maritime security, could enhance the framework's effectiveness and facilitate collective defense negotiations in the Gulf region. Critics contend that the existing bilateral cooperation model of the Istanbul Cooperation Initiative (NATO+1) is inefficient, fostering fragmented security cooperation with individual countries. It allows NATO, a substantial military force, to negotiate individually with smaller countries like Bahrain, which have only a limited number of soldiers, resulting in inefficiency.

IV. THE STRATEGIC DILEMMA FACED BY THE ISTANBUL COOPERATION INITIATIVE

NATO's multiple challenges

The increasingly popular "NATO crisis perspective" in recent years correctly identifies three centrifugal forces facing NATO: strategic differences, declining military operational capabilities, and weakened public support (Jakobsen and Ringsmose, 2018). Although these issues are not expected to present significant obstacles to NATO's survival, as NATO still retains the most powerful centripetal force of aligning national security interests, the three centrifugal forces mentioned do affect NATO's external actions, leading to a certain degree of lack of motivation for NATO's out-of-area operations.

Among the three centrifugal forces mentioned above, the most significant dilemma facing NATO's external strategy is strategic differences among member states. However, it is important to note that many of the centrifugal forces facing NATO are not entirely of its

own making. As a military integration organization, NATO encounters a challenge similar to the GCC due to the existing peaceful environment. This challenge involves the lack of a clear and sufficient external threat that can unite the entire alliance. Although emerging security threats such as terrorism and instability in the European strategic southern wing persist, in a relatively stable security environment, significant differences in the views of member states on these threats can prevent the alliance from reaching a consensus on common core objectives. This divergence in perspectives can also lead to differences in member states' views on NATO's role. For instance, during the 2014 Ukrainian crisis, while NATO member states were willing to support their eastern allies in response to the threat from Russia, disputes over the number of troops to be deployed revealed significant differences in their assessments of the severity of the Russian threat. Eventually, NATO agreed to deploy only 4,000 troops in the east at the 2016 Warsaw Summit, falling far short of the initial demand for over 10,000 troops from the Baltic countries and Poland (Jakobsen and Ringsmose, 2018). Moreover, NATO's use by the United States has deepened allies' distrust toward the alliance. NATO's out-of-area operations, exemplified by the Afghanistan mission, have made European countries increasingly aware that these operations serve more of the United States' global strategic interests and contribute less to the overall security interests of the alliance. Furthermore, the trade-off between national interests and the collective interests of NATO member countries has hindered trust-building within NATO in the new era. After the 2014 Ukrainian crisis, Germany and Turkey's cooperation with Russia in building new natural gas pipelines drew criticism from their eastern allies. These allies believed that such actions strengthened Europe's energy dependence on Russia and made NATO's eastern members more vulnerable to Russian threats. Since the outbreak of the Russia-Ukraine conflict in 2022, NATO has achieved consensus on strategic challenges posed by Russia (NATO, 2023), including joint sanctions against Russia, increased military budgets, and the accession of Nordic countries to NATO. However, notable differences have emerged regarding Ukraine's prospects for NATO membership, the extent of support for Ukraine, and cooperative relations with countries outside the region.

Internal conflicts of interest and a lack of trust in the United States have eroded the cohesion that NATO enjoyed in the past century. Member states' understanding of NATO's core objectives varies, albeit not significantly. However, even slight differences can make it challenging for NATO to take concerted action within the unanimous decision-making model. While all NATO allies may still have vested interests in maintaining NATO's survival, these interests exhibit certain differences. If this situation continues to expand, it could lead to NATO's paralysis and decline. In the foreseeable future, even if NATO remains a united alliance, this unity may primarily pertain to addressing challenges from Russia, making it difficult to form a consensus on cooperation with partner countries such as those in the Istanbul Cooperation Initiative and other regions outside NATO's traditional sphere of operation.

Doubts from other Gulf countries

The original intention of the Istanbul Cooperation Initiative was to invite all six GCC countries to join simultaneously. As mentioned earlier, only Bahrain, Qatar, Kuwait, and the United Arab Emirates chose to join the initiative, while Saudi Arabia and Oman adopted ambiguous attitudes due to various reasons. Saudi Arabia and Oman together account for approximately 70% of the defense expenditures of Gulf countries, but both countries have refrained from participating in the Istanbul Cooperation Initiative (Samaan, 2012). Although they have taken part in some NATO activities, they have declined to formalize their

relationship with the organization. The reasons for the absence of Saudi Arabia and Oman are multifaceted, and will be discussed below.

In Oman's case, it is important to note that the country does not outright reject cooperation with NATO. In fact, Oman has shown a willingness to strengthen ties with NATO over the years, as indicated by its engagement in NATO-related activities. However, Oman has maintained a cautious and balanced approach in its dealings with NATO. In the broader context of the Middle East, the Istanbul Cooperation Initiative is often portrayed as an alliance against Iran, formed by NATO and the GCC. Given Oman's desire to maintain positive political relations with Iran, this portrayal puts Oman in an awkward position. The absence of these two major Gulf countries significantly reduces the effectiveness of the initiative.

Saudi Arabia, on the other hand, has long regarded itself as a leader among Sunni countries in the region and values its relative independence in defense matters. Saudi Arabia is not inclined to be on equal footing with smaller Gulf states that heavily rely on external security guarantees within the initiative. In essence, if Saudi Arabia were to establish formal relations with NATO, it would prefer an exclusive one-on-one relationship. As a result, Saudi Arabia has not ruled out participating in NATO-organized seminars, courses, and conferences (Gaub, 2012). Furthermore, Saudi Arabia believes that the GCC member states already have a security system, such as the Peninsula Shield Force, and that the presence of U.S. military bases throughout the Gulf region makes seeking NATO's military presence unnecessary. Saudi Arabia's stance is that even if the Peninsula Shield Force were insufficient to address specific issues in the future, there would still be ample time to explore cooperation between NATO and the GCC.

Saudi Arabia's position is not without merit. In the lead-up to the Iraq War in 2003, the GCC dispatched 10,000 soldiers and two ships to Kuwait to counter potential threats from Iraq (Peck, 2010). In 2006, the Peninsula Shield Force deployed 7,000 soldiers to the borders of Saudi Arabia, Kuwait, and Iraq to enhance border security. In 2009, GCC member states jointly established the Arab Navy Task Force with Jordan, Djibouti, Sudan, Egypt, and Yemen. Additionally, they formed the Joint Rapid Response Force (Al-Arabiya, 2009). The Arab Navy Task Force's mission was to assist the Yemeni Coast Guard and conduct patrols in the Gulf of Aden region. These efforts demonstrated the ability of Gulf and Arab countries to integrate their military forces during emergency situations. In 2010, the Peninsula Shield Force established a maritime information sharing center in Bahrain to combat Somali pirates. In March 2011, during Bahrain's internal conflict, the GCC deployed the Peninsula Shield Force to Bahrain to prevent external interference from nations like Iran and to safeguard vital facilities in Bahrain. This intervention successfully quelled the unrest between the Sunni government and the Shia opposition.

Saudi Arabia's prominent leadership role within the GCC, coupled with the Peninsula Shield Force's effective intervention in Bahrain's internal turmoil, underscores that NATO cannot significantly impact the Gulf region without Saudi Arabia's involvement. Saudi Arabia has traditionally harbored reservations about Western intervention in Gulf security affairs. Its efforts to enhance the GCC's security functions are aimed at reducing the region's dependence on external security guarantees, such as those offered through the Istanbul Cooperation Initiative.

In contrast, Oman's decision not to join the initiative is more credible and reasonable. Oman pursues a unique foreign policy approach among Gulf countries. It maintains close diplomatic relations with both the member states of the Gulf Cooperation Council and Western countries such as the United States and the United Kingdom. Simultaneously, Oman maintains friendly relations with Iran, which is at odds with the other two aforementioned groups. Oman's distinctive diplomatic stance benefits the country and is

accepted by Western nations like the United States. Oman has often played the role of a mediator between the United States and Iran in various diplomatic matters. For instance, in 2009, when three American citizens were arrested by Iran on charges of illegal entry and espionage activities, and in 2011, when an Iranian scientist was detained by the United States on charges of violating U.S. sanctions, Oman's mediation efforts were instrumental in securing the release of these individuals (Yenigun, 2015). Therefore, Oman believes that joining the initiative could jeopardize its credibility with Iran. As a regional power situated at the Strait of Hormuz, Oman is determined not to sacrifice its valuable and effective diplomatic communication channels with Iran.

Strategic focus shift among various groups

While there has been some progress in the relationship between NATO and the Gulf Cooperation Council through the Istanbul Cooperation Initiative, one of the most significant obstacles to further deepening strategic cooperation is the recent shift in strategic priorities among various groups.

Foremost among these shifts is the change in strategic focus by the United States. The reduction in U.S. support for NATO has posed significant challenges to the alliance. Since the outbreak of the Libyan War in March 2011, the U.S. strategic focus has gradually shifted from the Middle East to Asia. The Libyan war prompted a comprehensive reevaluation of U.S. security policy, including discussions on the division of responsibilities between the United States and Europe within NATO, particularly regarding leadership roles in operations like the Libyan War. The United States hoped that European NATO members would take the lead in such actions, while European members and NATO partners insisted on a more European-centric approach (Petersson, 2015). This debate resulted in the United States viewing NATO's strategic role differently and shifting its attention towards Asia. Consequently, there have been changes in the U.S. military presence in Europe, such as the decision to withdraw two of the four U.S. Army brigades from Europe in 2012 and the closure of 15 U.S. military bases in Europe starting in January 2015. At its peak in 1953, the United States had 450,000 troops in Europe. By the early 1990s, this number had reduced from approximately 200,000 to 100,000. After the latest round of troop reductions, the figure was expected to drop to approximately 60,000 personnel (Petersson, 2015). Factors like budget constraints, isolationist tendencies, and historical and cultural reasons have further reinforced the U.S. rebalancing toward Asia while diminishing its interest in Europe. Unfortunately, NATO has not effectively adapted to these changes. Instead, the decrease in U.S. support for NATO has led to a reduction in NATO's military budget, a decline in its operational capabilities, and a corresponding loss of international influence. The United States expected NATO to respond swiftly to various threats in an era of fiscal constraints, but the withdrawal of U.S. support only exacerbated NATO's operational limitations. Although the Russia-Ukraine conflict in 2022 renewed U.S. strategic attention to Europe, the Biden administration's National Security Strategy considers China as the most significant geopolitical challenge and an imminent threat (The White House, 2022). It views China as the sole competitor capable of reshaping the international order with both the intent and capability to do so. Consequently, the U.S. strategic shift toward Asia is a long-term trend, with East Asia being the primary region for future U.S. strategic resource investment, while the Middle East region becomes increasingly marginalized in the U.S. strategic calculus.

European countries have also experienced a shift in their strategic focus since the Ukraine crisis in 2014. Russia's annexation of Crimea, its invasion of Ukraine, and threats to the Baltic states have renewed concerns among European nations about long-term strategic

threats emanating from Europe. Despite Ukraine not being a full NATO member, it has been part of the Partnership for Peace program since 1994, and a NATO-Ukraine Committee was established in 1997. In response to the Ukraine-Russia conflict, NATO has continued to enhance Ukraine's military capabilities through capacity-building efforts. NATO has stressed the importance of a sovereign, independent, and stable Ukraine for European Atlantic security (NATO, 2017). In addition to the Russian threat to NATO's territorial integrity, the Syrian conflict and resulting refugee crisis have strained relations between Turkey and European countries within NATO. This has led to a rift between Turkey and its European NATO allies. For instance, in February 2020, following an escalation in the conflict between Syria and Turkey, the NATO Council convened to address the situation at Turkey's request, invoking Article 4 of the North Atlantic Treaty (DW, 2020). This article allows member states to request consultations with their allies when their territorial integrity, political independence, or security is deemed threatened. Additionally, Turkey's decision to purchase Russian S-400 missiles in December 2021, despite U.S. warnings, has posed a challenge for NATO. Turkey has simultaneously pursued closer relations with Russia while leveraging the refugee issue to pressure the EU. Turkey's actions, as a NATO member, have raised concerns within the alliance. Consequently, even though the NATO Secretary General has publicly stated that NATO will continue to provide targeted training and practical support to all Gulf countries (NATO, 2019), the shifting strategic priorities of the United States and Europe raise uncertainty about the sustainability of this support.

While competition within the Gulf Cooperation Council persists, the member states have also expressed a willingness to establish broader political and military alliances. Such alliances would provide the region with greater strategic weight, political influence, and enhanced military capabilities. If the GCC were to overcome its internal divisions and unite strategically, its inclination to cooperate with NATO might decrease. The future of the Istanbul Cooperation Initiative under these circumstances remains uncertain.

Outside the region, Gulf countries are gradually deepening their cooperation with Asian nations. Saudi Arabia and Pakistan, for instance, maintain a robust military and strategic relationship. Some scholars suggest that this aligns with Saudi Arabia's traditional goal of maintaining its hegemonic position in the Arab world by forging strong ties with non-Arab Muslim countries (Khatib and Maziat, 2019). Other GCC member states have also strengthened their relationships with Asian countries, primarily in economic aspects, such as the bolstering of bilateral ties between the United Arab Emirates and Qatar with India. Nevertheless, Gulf Cooperation Council nations and Asian navies have already collaborated in anti-piracy operations around the Horn of Africa. As the situation evolves, many countries in the Indian Ocean region may naturally transition from economic partnerships to military cooperation. NATO should avoid assuming that the Gulf Cooperation Council will continue to accept Western strategic advantages in the region. Individual GCC member states have shown receptivity to strategic proposals from Asia, particularly India and China (Khatib and Maziat, 2019). Therefore, if NATO intends to foster deeper cooperation, it must carefully consider the level of its strategic commitment to the region. Based on past experience, this is most likely to be achieved through bilateral agreements rather than wide-ranging NATO commitments. In essence, while the Gulf Cooperation Council shows willingness to develop stronger strategic ties in Eurasia and Asia, it cannot ignore the enduring significance of Western security guarantees and the unique role of the United States in the Gulf region.

In light of the U.S. shift toward Asia, NATO's renewed focus on domestic affairs, and the growing strategic emphasis of Gulf Arab countries on Asia and GCC functions, achieving deeper cooperation between NATO and Gulf countries through the Istanbul Cooperation Initiative may prove challenging. Consequently, the relationship between the two sides may continue at a lower level of cooperation for the foreseeable future.

V. CONCLUSION

This article analyzes the emergence, development, and prospects of NATO's Istanbul Cooperation Initiative from three key aspects: motivation, development, and challenges. When considering motivation, it is evident that the emergence of the Initiative was not a random occurrence. It serves as an extension and expansion of Europe and America's collective defense strategies while being driven by non-traditional security threats. The growing level of threat posed by countries like Iran to Gulf nations also played a significant role in the inception of the ICI. Although the United States did not directly initiate the initiative, its strategic plans for the Middle East indirectly influenced NATO and Gulf countries' strategic considerations.

However, since 2004, NATO's cooperation with Gulf countries under the ICI framework has remained at a relatively low level. Several factors have constrained the cooperative potential of the Istanbul Cooperation Initiative. These include the lack of shared interests among Gulf nations, the absence of a common significant threat, and the involvement of complex geopolitical forces in the region. Additionally, NATO faces its own set of challenges, such as increasing internal divisions, a diminished role in the global strategy of the United States, and the crisis involving Russia and Ukraine, which has shifted NATO's strategic focus back towards Europe, thus reducing momentum for NATO's expansion. In the Gulf region, countries like Saudi Arabia still harbor reservations about Western intervention in regional affairs. As the U.S. strategic focus shifts, the Gulf region's prominence on the international stage has also waned. Furthermore, the increasing willingness of nations around the Indian Ocean to collaborate with each other is likely to diminish the enthusiasm of all parties involved in the initiative in the future.

In summary, it is clear that the continued expansion and deepening of the Istanbul Cooperation Initiative between NATO and Gulf countries cannot be achieved quickly. While the initiative remains necessary as a dialogue platform for both the United States and NATO, its symbolic significance often outweighs its practical impact for participants. Given the challenges faced by all parties, it appears that the initiative will progress slowly in the future and may even remain stagnant for an extended period.

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Authorship Infractions Unbound: Shall I Include My Research Adviser as a Co-author?

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Abstract: *It is the prerogative of students if they desire to publish their research works independently or with their research advisers, not the other way around. However, authorship infractions involving research advisers have now become a pressing matter in academia. As a result, this article clarified unethical practices related to co-authorship and identified the reasons for authorship malpractices that may be committed by research advisers in senior high school, undergraduate school, and graduate school levels in the Philippines. This research effort also revealed some potential countermeasures to unethical behaviors that research advisers might engage in, whether intentionally or unintentionally. Overall, this study contributes to the body of knowledge regarding ethical concerns on authorship, offers insights toward implications for practice, and suggests areas for future study.*

Keywords: *authorship malpractices, faculty-student collaborative publications, research advisers in the Philippines, research publications*

Introduction

Since writing research papers has academic, social, and financial repercussions, Freitas et al. (2021) argued that publishing has evolved over the past few decades into both a necessity for the scientific community and a significant academic achievement for scholars. Consequently, this phenomenon has caused a noticeable increase in the number of co-authored articles among researchers (Helgesson, 2020; Kumar, 2018) because academic authorship is a currency that can further one's career in academia and other fields, an evaluation of post-graduate programs and professors' accreditation, the search for funding projects with a funding agency, among others (Bizerra & Sá, 2022; Miles et al., 2022).

Marušić and Marušić (2013) claimed that a single author of a scientific work used to be more typical, but authorship did not pose as many issues back then. These days, there have been many instances of dishonest publication practices and inappropriate authorship (Rivera, 2020). Bülow and Helgesson (2018) explained that misuse of authorship is always undesirable since it entails dishonesty, is unfair to competitors, and may have detrimental effects on who is given academic jobs and money for research. For this reason, it is essential to uphold honesty and integrity when working together on research projects and when determining who gets credit for writing (Feaser & Simon, 2008).

In academia, faculty members and students regularly work together on research projects that lead to publishing possibilities (Eiswirth & Fry, 2022); regrettably, authorship is now one of the most pressing concerns in education on various levels in many nations (Lokhtina et al., 2022; Morisano et al., 2008). In fact, the inclusion of those who are inactively involved as co-authors of academic reports is still extremely uncommon, albeit being ubiquitous (Rojas, 2021) which implies that reevaluating authorship has been a generally overlooked aspect

(Cooke et al., 2021). Having all these pieces of information in mind, the researcher avers that co-authorship with research advisers, a term used interchangeably with research supervisors in the Philippines, should be taken with extreme consideration in senior high school levels, undergraduate levels, and graduate school levels - the school levels in which students work on publishable research articles together with their research advisers. Furthermore, this paper elucidates unethical practices and puts forward workable solutions to avoid co-authorship infractions stemming from research advisers.

Authorship

Various researchers define authorship simply as identifying those who are responsible for the effort and who significantly contribute to doing and reporting research (Al-Herz et al., 2014; Bülow & Helgesson, 2018; Feeser & Simon, 2008; Minhas, 2021; Quايا & Crimi, 2021). These researchers also defined terms concerning authorship practices namely: ghost authorship which means denying authorship to someone who contributed significantly to the study or meets the requirements for authorship; gift authorship which is granting authorship as courtesy to someone who does not meet the requirements; guest/honorary authorship which denotes a collaborative plan to increase the number of publications for the collaborators or to secure funding, which may involve giving senior individuals authorship as a gesture of goodwill or to add prestige to the paper in order to increase the chances that the article will be accepted for publication or accepted by a higher-impact journal; and hostage/coercion authorship which means including an undeserving person as an author due to pressure that cannot be avoided. Although this pressure is frequently overt, it is nevertheless possible for an author to have been coerced into writing by more subtle, "environmental," pressure that is only "understood" by junior writers, students, or apprentices.

The Context of Infractions

Conflicts regarding authorship credit is prevalent (Bebeau & Monson, 2011), and various reports of inappropriate authorship practices come from, **but not limited to**, belonging to competitive environments (Kim & Jung, 2022), high levels of research publishing activity (Gureev et al., 2019), boosting researchers' bibliometric indices (Quايا & Crimi, 2021), ranks and the necessity for achievements (Smith et al., 2020), or believing that any form of work or contribution warrants co-authorship (Johann, 2022).

Picciariello et al. (2023) and Ren et al. (2016) revealed that unjustified authorship is, regrettably, a widespread kind of research misconduct in many countries around the globe. Although the diversity of research malpractices is comparable to those identified in wealthy countries, authorship misuse and associated problems seem to be more common in low- and middle-income countries (Rivera, 2020; Tovani-Palone, 2023). In the Asian context, infractions take place in Bangladesh (Ahmed et al., 2010), China (Hvistendahl, 2013), India (Dhaliwal et al., 2006), Iran, (Ataie-Ashtiani, 2016), and Jordan (Alshogran & Al-Delaimy, 2018), among others.

In **the Philippine academia**, senior high school teachers are not required, but they are encouraged to create and publish education research throughout the nation (DepEd, 2016) as the Department of Education (DepEd) has given all of its school administrators, teachers, and supervisors instructions to embrace "the enclosed Basic Education Research Agenda." In higher education institutions, Quitoras and Abuso (2021) stated that professors are required to contribute to nation building, which involves gathering information, writing documents, and disseminating research findings through academic publications (Clemeña & Acosta, 2007). Faculty members in graduate schools are not exempt from this requirement as they are

expected to provide documentation of their publications in peer-reviewed academic journals, journals with national or international indexes, or journals with an industry or professional focus (Quinto, 2022). As a result of this “pressure to publish” among teachers in the senior high school, undergraduate school, and graduate school, they may resort to authorship malpractices aside from the infractions aforementioned.

Kornhaber et al. (2015) asserted that research and promotion committees should take into account evaluating contributions to works where a faculty member is identified as an author or ask that the contributions be explicitly listed. Next, students have to be the first authors on works that are based on their theses or dissertations (Osborne & Holland, 2009). Rivera (2020) even claimed that advisers may be omitted as co-authors because authors are individuals who have contributed to the creation of the article by writing it (Ramberg et al., 2019). On this note, research advisers may be included in the acknowledgments section. Examples of activities that merit acknowledgment are obtaining financing, recommending funding, gathering or supplying data, offering writing assistance, or general supervision (Hare, 2001).

Osborne and Holland (2009) exclaimed that it is a form of academic dishonesty, misrepresents a person's productivity, may result in unjustified outcomes, and may be a form of power abuse if administrators or other people in positions of authority use their influence to persuade others to credit them with authorship when they have not earned it. A common scenario is that the research adviser's name appears in a publication out of the student's thesis or dissertation in spite of little advising or guidance (Foster & Ray, 2012). In general, students may be reluctant to voice out complaints about perceived injustices due to a concern that it may negatively impact their relationships with their research advisers, or it is possible that these students may simply lack knowledge on ethical co-authorship and possess a relative inexperience in research endeavors (Oberlander & Spencer, 2006).

The Workable Solutions

For starters, Zimba and Gasparyan (2020) explicated that authorship should only be awarded to academics who actively engage in both writing and research, who edit, who approve the final versions for submission to the intended journals, and who take ownership of every aspect of the work. More specifically, the International Committee of Medical Journal Editors' (ICMJE) authorship guidelines should be followed by researchers (Al-Herz et al., 2014; Kornhaber et al., 2015). The ICMJE (2023) recommends that authorship be based on the following 4 criteria: (1) substantial contributions to the conception or design of the work, or the acquisition, analysis, or interpretation of data for the work; (2) drafting the work or reviewing it critically for important intellectual content; (3) final approval of the version to be published; and (4) agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

If the research advisers in senior high school levels, undergraduate levels, or graduate school levels tick each criterion, they may be added as a co-author. Baykaldi and Miller (2021) added that it is crucial to specify authorship and duties in a formal authorship agreement contract when everything has been decided. In this regard, a more sophisticated contract like the system of Ahmed et al. (1997) may be followed. For instance, the Ahmed et al. scoring system awards authors 0, 1, 3, or 5 points in each of seven categories, such as conception, design, implementation, data analysis/interpretation, drafting of the article, revising/reviewing the article, and public responsibility, depending on whether they made no (0), little (1), some (3), or substantial (5) contributions to the project in that category. Each author's points are added together, and the authors are listed according to their total points in

descending order. To calculate the minimal score required to be included as an author on the publication, a cutoff could be established. The table is shown below.

Table 1
The System of Ahmed et al. (1997)

Categories	Author A	Author B	Author C
(1) Conception			
(2) Design			
(3) Implementation			
(4) Data analysis or interpretation			
(5) Drafting the article			
(6) Revising/reviewing the article			
(7) Public responsibility			
TOTAL			

If the research advisers in senior high school levels, undergraduate levels, or graduate school levels garner 0 or 1 which means no to little contributions in most of the categories, the student-authors may want to think twice before including their research advisers as a co-author. Nonetheless, another set of considerations in the decision-making process of co-authorship may be taken into account. Foster and Ray (2012) brought to the fore ethical considerations to determine authorship credit in published faculty–student collaborations. They are as follows: (1) In all publication processes, it is advised to have an early conversation about authorship concerns. Authors should clarify roles involved in the project, and how those will be explicitly addressed through authorship order when a concept is developed for publication; (2) Faculty members should make their expectations for publication clear to students. This factor is particularly important when it comes to the interaction between the student and the major adviser during the thesis/dissertation period. A contract or written agreement may be used by some faculty members to describe the authorship strategy, while less formal methods like a face-to-face dialogue may be preferred by others. In the end, all parties have a shared understanding of who deserves credit for what parts of the writing; (3) Major advisers should explain to students what to expect from the partnership from the first official meeting in cases involving theses or dissertations. When the relationship first begins, it should be made clear if the primary adviser expects theses/dissertations to be published. Some faculty members may even decide to include information about thesis/dissertation publication in a student informed consent form, making sure that the student is aware of the expectations with regard to publication from the start of the collaboration; (4) The faculty member is responsible for making sure that authorship decisions on faculty-student collaborative publications are initiated by the research advisers due to the reality of power disparity as well as for ensuring that the students are aware of all of their rights and obligations; and (5) Faculty members and students should revisit the subject of authorship as they transition final projects into papers meant for publication. Both parties may be secure that their names will be presented as authors in the proper sequence as a result of this process.

If the research advisers in senior high school levels, undergraduate levels, or graduate school levels follow the above-mentioned considerations faithfully to determine authorship credit in published faculty–student collaborations, they may be added as a co-author. Morris (2011), and Youtie and Bozeman (2014) summarized that research advisers should be able to eliminate the anxiety surrounding authorship issues by encouraging all authors to agree early

on to a process for establishing authorship and author order in their work using appropriate guidelines, by reviewing authorship and author order in each major revision of the manuscript, and by having discussions about authorship early on in a collaboration.

On the other hand, instances of authorship malpractice may not be recognized due to research advisers' lack of knowledge regarding ethical authorship standards (Aliukonis et al., 2020), which underlines the value of training for research advisers to prevent authorship misuse. In addition to educating the next generation of researchers about responsible authorship, Kornhaber et al. (2015) opined that teaching responsible authorship and publication practices to undergraduate, graduate, postdoctoral, and early-career researchers will likely help to empower and equip them to deal with improper practices in authorship processes.

Finally, guidelines may already be crafted in a university's department to avoid problems to arise. To exemplify, specific departmental policies could address matters such as authorship standards, issues that faculty members should discuss with students before starting research projects, who to consult to settle disagreements like whether or not a student would be willing to share authorship credit, the expected order of authorship, among other things (Morisano et al., 2008; Tang, 2018).

Conclusion

It should be up to students to decide who should be credited as an author of publications resulting from their research outputs, and it should be their prerogative if they want to publish independently or with their research advisers (Musoba, 2008). According to Albarracín et al. (2020), participants who performed tasks like acquiring funding, managing research teams, writing support, style editing, organizing data without adding value, providing technical assistance, proofreading, statistical analysis, suggesting potential journals, or providing general support do not merit authorship, but can be listed in the "Acknowledgments" section. Apparently, these are activities usually performed by research advisers, which is why co-authorship between students and research advisers must be taken with a grain of salt.

All in all, this research article untangled ethical infractions when it comes to co-authorship such as ghost authorship, gift authorship, guest/honorary authorship, and hostage/coercion authorship. This research also pointed out specific reasons why senior high school, undergraduate, and graduate school research advisers may commit unethical practices. The general pressure-to-publish mentality seems to aggravate this situation in the Philippine context. Regardless, authorship without justification should not be accepted (Hong, 2019). Furthermore, this research work established some possible solutions to counter unethical actions that may be practiced by research advisers whether deliberate or unintentional. Authorship guidelines made by the International Committee of Medical Journal Editors (ICMJE), the system of Ahmed et al. (1997), and the the decision-making process of co-authorship as suggested by Foster and Ray (2012) may be utilized by researchers. Masic and Jankovic (2021) postulated that guidelines for authorship are insufficient, which is why the value of training for research advisers and students alike is suggested. Micro solutions are even spelled out like various departments' creation of specific guidelines regarding authorship may already be crafted.

Although this research adds to the current literature on authorship, various empirical research studies should be conducted regarding unethical practices in authorship in the Philippines specifically in senior high school levels, undergraduate levels, and graduate school levels to create a widespread awareness on its existence or, worse, its prevalence. Next, research integrity which includes publication ethics and authorship infractions could be a specific topic in the curriculum of students in the country. Ultimately, a continuous

discourse on authorship practices should be existent in the research agenda of universities and departments in Philippine academia to facilitate the creation of contextualized guidelines.

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A Multimodal Deconstruction of the 2021 Short Film “Save Ralph”

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Abstract: *Short films as a means to advocate propaganda are a convenient, accessible, and appealing form of media that allows people to learn about recent societal issues. Save Ralph is a prime example that effectively portrays the exploitation of rabbits as test subjects in the cosmetic industry. The objective of this study is to deconstruct and analyze the aforementioned film’s multimodal components; particularly, the linguistic, visual, spatial, gestural, and audial elements. The results from accomplishing this objective have also been used to elaborate on the effectiveness of Save Ralph as a means of propaganda and derive a list of methods or approaches that would help film creators who choose to follow the same endeavor in the future. To achieve these goals, the researchers adopted a qualitative approach that utilizes the multimodal discourse analysis and the deconstruction approach. The analysis has shown that there are varying themes procured from the data such as specific emotions and recurring symbolism. Moreover, in determining the elements’ contribution to the effectiveness of the film as propaganda, various linguistic and psychological concepts were utilized to draw the appropriate reaction from the audience. On another note, this in-depth study of all five modes helps resolve the scarcity of studies revolving around the multimodal analysis of animated short films. Ultimately, the results from this research imply that the different elements used in propaganda short films convey specific and important messages that have the potential to influence human emotion and perception.*

Keywords: *Short Film, Mockumentary, Propaganda, Multimodal Analysis, Deconstruction Approach*

I. INTRODUCTION

Short films can serve as a convenient medium for viewing in today’s society due to people being very occupied with activities and having short attention spans, leading to a lack of time to view media for long periods, as everything in society is done in a fast-paced manner (Subramanian, 2018). The touching appeal of short films allows for constructing narratives and spreading an intended lesson to viewers, making a great tool in putting forward what is known as “propaganda”, which can be defined as any given information that aims to advocate for or influence people to believe a given practice or belief (Fitzmaurice, 2018). Despite its common association with topics revolving around the political sphere, “propaganda” can also encompass commercials with the intent of conveying public service announcements and social issues with mass media serving as a tool to encourage people to act for the betterment of society. However, ordinary citizens tend to be oblivious to the question of how organizations ensure the effectiveness of their propaganda in terms of inducing a reaction, specifically how each visual and linguistic component influences their thoughts on what they see in terms of a concept known as multimodality, which is communication extending beyond written text and speech—covering methods of *non-verbal* communication as well (Adami, 2015).

Humane Society International (HSI) made headlines with its short film in 2021 entitled “*Save Ralph*”, receiving critical acclaim upon its release due to its portrayal of the cruelty animals are put through in cosmetic product testing. Enabling Ralph to show emotions was the most important thing to the creators, keeping in mind every detail such as his expressions, gestures, voice, and even the details of his house and clothing are taken into consideration. The film’s style is also said to be driven by colors, texture, and beautiful vignettes telling a good story to create something that would make viewers empathize with Ralph, and take action. Their goal is for this film to assist in ending the suffering that animals are currently experiencing globally (The Humane Society of the United States, 2021a). Over time, *Save Ralph* went viral, garnering over forty-two million views on Instagram and nearly seven hundred views on HSI’s official YouTube channel.

Regarding the significance of this research, *Save Ralph* is a short film that received critical acclaim upon its release; as such, it is well-suited to be a subject for analysis. In addition, *Save Ralph* has not yet been used as a subject for academic research, thus making this paper the first to do so due to the short film’s recency. Finally, while there are many previous studies made on advertisements, full-length films, and still images, there are not many multimodal discourse studies conducted on short films, thus adding this study will further increase the numbers of its kind.

This paper also aims to address the research gaps found in similar studies: for instance, several only made basic identifications of the multimodal elements, but failed to recognize the deeper meanings; there were also those focusing on either full-length films or advertisements that make use of still images. Another common gap found was that some only analyzed specific elements rather than identifying them all. There is also a lack of literature regarding the use of short films as propaganda; despite the abundance, the availability of the studies is difficult to consider as they are outdated (i.e. 2000 or 1965). Finally, the researchers also noticed a lack of multimodal discourse analysis studies emphasizing spatial, gestural, and audial modes with data gathered from film and advertisements. This paper aims to address these gaps by conducting a more thorough analysis of the short film.

The acclaim received by the short film brings into question the significance of the film regarding much more than its overall narrative and agenda; everything from the colors used for the aesthetic to the dialogue, and even the spatial proximities within the background all contribute to the effect that the short film would have on viewers. Therefore, this study aims to deconstruct the short film and look into its individual components. Thus, the following objectives are aimed for:

1. To discover the meanings and intentions of the multimodal elements (visual, linguistic, spatial, gestural, audial) used in the short film.
2. To discover how the multimodal elements contribute to the effectiveness of the film as a tool for propaganda.
3. Output-based objective: To create an infographic regarding the discovered methods used to create the film’s overall narrative.

II. LITERATURE REVIEW

Propaganda

Propaganda is dictated by the target demographic, the channels where it is distributed, the type of media used, the objectives of the propaganda, and the context it belongs (Lock & Ludolph, 2019). During World War I, the use of film was very abundant when it came to spreading propaganda (Oza, 2020). Films served as an excellent conduit for social commentary as well as addressing global issues; as such, governments during the said period utilized propaganda to impose their political ideologies onto viewers.

The Five Modes of Communication

According to Valencia (2016), the linguistic mode is a tool that allows you to have access and go through a reading. To find contents and determine relations between concepts and sections in a chapter, linguistic affordances like headings, section numbers, page numbers, boldface text, and italics are used. In addition, typographic resources like boldfaced text and italicized text have two-fold roles as they also have visual purposes; namely, boldface in color and italicized text have varying salience and emphasis.

In regard to the four aspects of visual contact, social distance, perspective, and modality, each component works together rather than separately to construct interactive meaning, despite the distinction in certain areas such as image representation. Verbal text in imagery also tends to leave some space for contemplation to the readers, allowing them to reflect and determine the meaning of the images for themselves due to the producers' arrangement. A high level of modality can make images look more truthful and capable of leaving a very deep impression on viewers (Liu, 2019).

Gestural communication, moreover, allows reinforcement of meaning through utilization following prosody in a sociopragmatic context, as exhibited in Brown and Prieto's (2021) six classifications, which are: Information status (i.e. focal information reinforced by gestures such as head nods and eyebrow-raising), structuring along with phrase and discourse (i.e. gesture movements accompany syntactic structure), epistemic stance (i.e. shoulder shrugging can mark a speaker's certainty), politeness (where gestures are more constrained to show respect), irony (i.e. winks and laughter tend to happen during ironic situations), and speaker identity (gestures can be structurally used for character establishment). Speakers use both prosodic and gestural patterns at the same time to convey various communicative functions of language.

Newman and Schwarz (2018), in relation to audial mode, stated that audio quality contributes to influencing the opinions of those who listen. The study which involved having two groups of workers listen to different audial sources has shown that the audio edited to have terrible sound quality received lower evaluations from the respondents than the ones made to sound better, thus proving that the comprehensibility of communication done through sound has a grasp on the outcome of a situation once it reaches a receiver.

Lastly, spatial communication holds a level of influence on how people feel upon observing the arrangement of their environment, as in the case of places such as international airports (Björkvall et al., 2020). The semiotic construal of space enables airports to subconsciously enable air travellers to enjoy the experience at the airport as they walk within its borders. In contrast, resources of ambience assist in establishing a bit of control and organization in the airport, segregating passenger flows in an otherwise unbounded space. Overall, concrete semiotic resources in any given space invite certain ways to live and experience every component surrounding an individual at the moment.

Multimodal Studies on Films and Advertisements

Looking into studies on films, Atasoy (2021), who conducted a multimodal analysis of the animated short film "Zero", found that color changes in the shot, facial expression, actions, and features like numbers can indicate the societal theme displayed in the film. The quality and color of the yarn characters as visual modes, for example, project the characters' status in their society. Low-key lighting and dark colors were also displayed during such scenes where the protagonist is mistreated, indicating that dark tins can be built up by dark visual elements. Spoken language and other auditory modes also reinforce the notions set by the visual elements, while auditory modes that were dominant in the film namely crying and screaming sounds displayed the suffering and sorrow of the main character.

In the French animated film *L'ONDÉE* by Chiu and Chu (2019), it was found that the audience's emotions change according to the elements presented, such as feeling sadness from violent rain and darkness. This is emphasized through the lens movement and modification of components such as light and shadow. As such, the process of mapping centers on the variety of elements contributing to the scene, namely changes in the sound rhythm, movement of the lens, modification of light and shadow, and others. As a source of narrative aesthetics, metaphors in animated films convey abstract meaning and bring about the willingness of viewers to find meaning in the story; an event that allows the narrative to be ingrained in their understanding. Moreover, analyzing one image cannot provide enough information to understand a scene or the overall metaphor narrative of a scene, instead, one must look into the succeeding images or the succeeding scenes.

In a study on the visual grammar of advertisements, it was found that 1) imagination affected by representational meaning can reflect the relations of the participants and the objects when analyzing a picture. The settings can be shown by color, size, distance, and contrast. An advertisement can be expressed through text and speech mode, which embodies the respective process to obtain the association of the representational meaning. 2) In interactive meaning, location, touch, and feelings are included to finish the whole meaning. In terms of the distance of far or near, we can easily judge which of the objects is important. As for direct and indirect aspects, the information will be expressed in many ways when the viewer meets the related objects. Finally, 3) for the signs created by the compositional meaning, seeing the notable signs in the picture makes it easier for the viewer to spot the important information (Guo & Feng, 2017).

Moreover, Hu and Luo's (2016) analysis of the advertisement created by Tmall explains that the influence of culture would affect the authenticity and applicability of visual grammar because according to Kress and Van Leeuwen, visual grammar is "*quite a general grammar of contemporary visual design in 'Western' culture*" (Kress & Van Leeuwen, 2006, as cited in Hu & Luo, 2016). Globalization as an irreversible trend has brought about better understanding and communication among cultures; however, the differences are also not to be overlooked. Similarly, it would be careless to not take into consideration the cultural differences when borrowing foreign theories in the domestic study.

III. METHODOLOGY

Study Design

The researchers chose a qualitative approach as it goes through a humanistic or idealistic level and is used in understanding people's beliefs, interactions, behavior, attitudes, and experiences. The method follows an in-depth analysis of data, so the researchers found it suitable because it allows them to gather and analyze the interaction between the different elements present within the short film using multimodal discourse analysis and a deconstruction approach. Moreover, multimodal discourse analysis is an approach used to study social interaction and meaning as it is produced through the use of multiple modes; meanwhile, the deconstruction approach centers on forming meaning. Since short films are a multimodal form of media with various elements working together to create certain relevant messages, it was vital to employ the aforementioned form of analyses to appropriately come up with essential interpretations of each of the multimodal elements and their propagandistic effectivity.

Source of Data

The researchers adopted the 2021 short film *Save Ralph* as their chosen source of data. The film is accessible for free viewing on YouTube (The Humane Society of the United States, 2021b) as well as the official website of Humane Society International (Humane

Society International, 2021). The short film was written and directed by Spencer Susser, with animation done by Tobias Fouracre. It follows a mockumentary-style format in interviewing an anthropomorphic rabbit named Ralph, whose job is to be a test subject for manufactured cosmetics. Furthermore, the inclusion criteria cover the characteristics of *Save Ralph*, a short film released in 2021 made primarily as a means of propaganda for Humane Society International. The modes of communication were also included, as these serve as the backbone of the entire research. Moreover, the exclusion criteria contain the following: feature-length films (especially ones released in 2020 and below), films made for the sake of art and entertainment, and films created by the mainstream film and entertainment industry.

Data Gathering Tools

For this research, the data were gathered by the researchers through observation of the film and the transcription of any exemplified use of the modes of communication. The researchers made note of anything they noticed in a particular scene that could specify a certain meaning following the five modes of communication and gave insights on how it delivered meaning to the film as well as its effectiveness as propaganda.

Furthermore, the researchers organized themselves by each forming a table while taking notes. One column contains the time marker for each clip they make note of when gathering data. In terms of fulfilling the study's objectives, the first objective is covered by two columns: one column marked "Observation/Transcript" is where the researchers listed down any displayed examples of the five modes in a particular scene, be it from a clip or piece of dialogue of the short film.

Data Gathering Procedure

To achieve the objectives, this study employed a step-by-step process of gathering the data. In the beginning, the short film "*Save Ralph*" was accessed through YouTube, wherein the researchers wrote down the observable linguistic, visual, gestural, spatial, and audial elements present. The researchers then held a discussion meeting via Google Meet to discuss the data recorded and decide on what they will analyze.

Furthermore, the researchers made use of a data-gathering tool; the first column required the time marker of the scene being explored, while the second column required the transcription of the dialogue or a description of the observed element. The researchers organized the data by placing the linguistic elements at the beginning of the list followed by visual, gestural, spatial, and audial. Afterward, each researcher decided on elements to analyze. Upon completing the table, the researchers once again gathered via Google Meet and discussed as well as finalized the overall data.

Treatment of Data

Through multimodal discourse analysis, the data were categorized according to the type of mode they belong to; whether it is classified as linguistic, visual, gestural, spatial, or audial. The researchers then analyzed each element according to its modal affordances and derived interpretations based on provenance (what the element has been repeatedly used to mean or do), social norms, and conventions. The elements were also analyzed according to their contribution to the film's propagandistic effectiveness. Furthermore, to accomplish the first objective, the researchers listed down the observable multimodal elements from the short film and transcribed the dialogue of the characters. Afterward, the researchers referred to online sources such as research articles, websites, and books to determine the meanings and intentions behind the listed elements; this procedure was also applied to the last objective.

IV. RESULTS AND DISCUSSION

To discover the meanings and intentions of the multimodal elements found in *Save Ralph*, as well as their contribution to the film's effectiveness as propaganda as stated in the first and second problem, the list of observed elements is enumerated in table format and is categorized according to theme. Furthermore, the sample tables only illustrate the process of data collection according to the five modes and their corresponding themes but do not show the complete set of data (Observation/Transcript) gathered due to limited space. The discussion that follows, however, already includes a holistic interpretation of all the relevant data.

Meanings and Intentions Behind the Given Elements in *Save Ralph*

For this stage, the "meanings" refer to the identification of general ideas behind some of the identified elements (i.e. associated meanings behind colors and gestures), while the "intentions" refer to the analysis itself regarding how each one fits in the story.

Table 1
Linguistic Data

Theme	Time Marker	Observation/Transcript
Positivity	1:23 - 1:46	Ralph: I'm a tester. My daddy was a tester, my mum, my brothers, my sisters, my kids, all testers. And they all died doing their job. Just like I will. That's okay. This thing is what we were born to do. It makes us rabbits happy. <i>(pause)</i> Yeah. <i>(deep sigh)</i>
Speech Disfluencies	0:26-0:39	Ralph: I'm blind in my right eye and, uhh, this ear, can hear nothin' but ringin' now. <i>Eeeeeehhhhhh.</i> Yeah, it's annoyin', isn't it? Yeah...
Sarcasm	1:55-2:06	Ralph: Now, I know it looks bad, but the way I see it, I'm doin' my job. If just one human can have the illusion of a safer lipstick or deodorant, or uhh—

Linguistic Mode

The linguistic mode refers to spoken or written texts including the delivery, the construction of the sentences, and word choices to create meaning.

Positivity. Positivity is mostly linked with happiness and extraversion, psychological well-being, and emotional stability (Bobic et al., 2015), which can be seen in Ralph's active and lively speaking. As a result, he experiences optimism, which has continuously helped him keep himself together despite being under inhumane conditions. Ralph's dialogue shows instances of optimism, for example, at 1:04 where he expresses his situation, viewing it positively and admitting defeat. Next, at 1:55, he forces himself to look at the beauty of his job despite how "*it looks bad,*" to bring consumers the illusion of having safer cosmetics. Ye (2010), on interpersonal metafunction of language, stated that it is something used to express one's viewpoint on the things in the world, and it is also the use of language to influence behavior, which is seen in both of Ralph's dialogues. Another example is at 1:23, dying a tester has now become a family legacy as he states the story of his whole family dying as one, blinding himself with the fairy tale that it makes rabbits happy. Finally, at 2:57, he still uses a lively tone to reassure the viewers that he is all good despite everything.

Ralph is also nonchalant and accepting, submitting to the fact that he, a rabbit, is inferior to humans so he thinks his situation is hopeless. We can see examples of this in his dialogue, at 0:26, where he explains the injuries acquired from his job, mimicking the annoying sound in his damaged ears, and also admitted in his last line that it may be normal for him, but not for most. At 0:44, he shows further injuries, admitting that they sting when he breathes or moves around. On another note, through Ralph's positive language, it can be concluded that despite the visible pain, he blinds himself with optimism, still wishing for a better tomorrow, reflecting his being an extrovert, which Martin and Ford (2018) define as "*the general tendency to experience positive emotions, as well as by traits such as sociable, lively, and active.*"

Speech Disfluencies. Cincinnati Children's (2019) defines this as the disruptions that occur in the flow of speech due to certain conditions such as nervousness, stress, fatigue, or complexity of language, with the former three considered possible for Ralph who is optimistic, but it is evident that he experiences nervousness due to fear, stress, and fatigue because of the intensity and brutality of his job. His speech included filler words such as "uhh". Villar et al. (2011) stated that an "um" (or "uhh", in this case) indicates that the speaker is telling the truth because a person searching for words did not rehearse what to say beforehand. It could also indicate that Ralph is considering whether he would provide additional information about his state. The filler "yeah"—his most frequent—is a term for agreement or approval-seeking, and he uses it for rhetorical effect, along with "*isn't it*". At 1:04, he uses the filler "uhh", "*I mean*" and "*right*" for his sentence not to come out too strong, but as an expression of his own opinion, subtly seeking approval from the receiver. However, he uses "yeah" differently in 1:23 where instead of saying it to the viewers, it seemed to agree with his inner thoughts that are against his spoken words. Furthermore, sharp intakes of breath at 0:44 mostly contradict his words even if he acts like his injuries are nothing. Regardless of his positive outlook, a deep sigh escapes his lips, at 1:23, as an expression of his sadness, after the story of his family.

Sarcasm. Campbell and Katz (2012) define sarcasm as often highlighting failed expectations through the engagement of pragmatic pretense designed to be seen through. At 1:55, while he is reassuring viewers regarding the beauty of his job, he uses the word "illusion" instead of "verity", which hints that these cosmetics may not even be a hundred percent safe, despite being tested on hundreds of animals, indicating that their life is deemed useless in these labs. Additionally, Ralph utilized a kind of sarcasm known as "sarcasm sentiment," which makes use of positive terms to mask negative emotions (Eke et al., 2019). Looking closely, Ralph has been using it since the beginning, to try and cover up the bitterness and reality. In his dialogue at 2:57, he subtly criticizes countries and consumers by praising them for still allowing animal testing and for buying animal-tested products. Sarcasm is also present when his pitch level rises or his tempo becomes quicker when addressing these people, appearing to be excited. However, his pitch level goes down and speaks in a somber tone when he talks about freedom.

Table 2
Visual Data

Theme	Time Marker	Observation/Transcript
Protagonist	2:38	Ralph is wearing a neck cast, his bandaged ear, and has burns on his back that he previously mentioned and a few other burns on his arms.
Recurring Motifs	1:51	Some of the pictures (particularly the landscape painting on the TV) depict scenes of nature or Ralph and his family being out in nature.
Items in the Background	0:43	There's a mug on the right side of the mirror above the sink with the words "World's Best Dad" on the front containing five toothbrushes, (plus a pink ointment on the sink).
Colors	0:15	The house has rather dull shades of bright colors, most notably yellow and green.

Visual Mode

The visual mode of communication refers to the elements processed through sight, such as images (still or moving), design, size, formatting, and characters. The discussion below covers the visual component of the film:

Symbolism. The researchers have discovered that the unifying concept for the visual components in *Save Ralph* is the concept of symbolism, a component of semiotics. Elbon (2020) defines symbolism as a process that involves using a certain element to signify a concept in the place of words; things representing other things. As *Save Ralph* is a short film, the setting, and scenery are as important as other aspects of filmmaking. The creators of *Save Ralph* primarily focused on symbolism for effective visual communication. Due to the amount of data, the theme of symbolism had to be split into four subcategories according to the medium used to convey the short film's meanings and intentions:

The Protagonist. Ralph is the protagonist of the story, therefore the narrative must involve him being affected by his world in some way for there to be a narrative. Isberner et al. (2019) concluded that the protagonist of a story can influence a reader through self-identification, being able to relate to the character by mentally projecting themselves onto the character's perspective. The viewers, watching Ralph talk about everything he had gone through while noticing his various wounds, can immediately see how much he suffered. The way he is grabbed by the doctor makes him small and helpless due to the size of the doctor's hand, which shows that there is no regard for his safety. Witnessing everything Ralph went through would cause the audience to empathize with him and influence their stance on the atrocities of animal testing.

Recurring Motifs. The audience can notice that there are recurring items or aesthetics seen in every setting of the short film. A recurring motif is a repeating image that has significance at any given time in the story (Morgan, 2015). For instance, the frequent display of portraits in the background during the first half of the short film show is mostly pictures of Ralph's family as well as scenes of nature. Roberts (2011) said pictures bring up past emotions and stimulate new thoughts. The pictures represent what Ralph holds dear: his family and freedom. The signs of objects in the background that are crooked, misplaced, or dirty, depict a state of neglect or decay, which can reflect on the state of Ralph's life and character overall. Repetition is used to emphasize a certain point and can influence people's

minds; the short film visually makes use of this to subtly influence people who watch the film without explicitly stating anything.

Items in the Background. Certain items hint towards further details in the overall story. A focus must be put on other details such as the setting and location to gain meaning through the experience of reading (or in this case, viewing) in itself rather than articulated means (Rashid, 2019). Therefore, a wordless narrative is powerful in the sense that it can convey constructions of emotional knowledge (Horwat, 2018). An example of this claim is the “World’s Best Dad” mug in the sink, containing toothbrushes, which could belong to Ralph’s wife and children, or the empty cages and lockers with names written on them, which signifies the previous owners of those lockers before they died. These were all details that served as small, simple hints in the background, which normally cannot be noticed. It is these hints displayed that further add to the narrative and give a deeper meaning to the four-minute short film, albeit through subtle means.

Colors. Following the idea of symbolism, colors are universally associated with certain ideas influenced by cultural and social norms. Therefore, there are certain emotional and psychological connotations that we would associate with a given color; this is what is known as “color psychology” (London Image Institute, 2020). The creators of *Save Ralph* made use of minimal shades of color to convey certain concepts, most notably the dullness of usually bright colors such as yellow and green; both colors are normally associated with positive traits, so the dullness of both colors means there is a lack of positivity in Ralph’s life. Bright shades of colors are also used sparingly to further reinforce this as well as to emphasize the things the colors are assigned to (i.e. hazard signs in the laboratory). Elliot and Maier (2012) stated that the way humans respond to color stimuli is either constant pairings of colors with particular concepts or biological predisposition shaped by social learning; viewers feel certain emotions due to the subconscious associations they make whenever they see certain colors, which assists the film in conveying the message that *Save Ralph* intends to bring to the attention of the public.

Table 3
Spatial Data

Theme	Time Marker	Observation/Transcript
Setting	0:13-1:51	Notice that the house looks awfully cramped and small, which also contrasts with Ralph, whose disproportionately large head makes everything look smaller.
Camerawork	0:20, 1:04, 2:52	Most of the interview is filmed with a long-shot perspective; while the camera is focused on Ralph, people can see everything in the background.

Spatial Mode

The researchers focused on spatial components of the locations shown, the distance between characters, and the camera shots.

Setting. In *Save Ralph*, spatial communication is executed through the location of every scene and the distance between the other characters. There is a noticeable difference in the size of each location: Ralph’s house is small and cramped compared to how spacious the laboratory is. There are claims that a correlation exists between one’s environment and

psychological well-being (Lindberg, 2021). Therefore, the size of Ralph's house can also prove this claim. The spaciousness of the laboratory contrasts this by being larger, yet lacking the comfort and safety that Ralph's home provides; people would get to see the clear difference between the two locations and how each setting makes them feel. Distancing Ralph from the other rabbits is mainly done to distinguish him from the rest, not only as the main character but also to contrast their personalities: Ralph is used to his job, while the others still plead to be set free. Physical distance does play a part in influencing mental representation, judgment, and behavior (Henderson & Wakslak, 2010); therefore, the physical distance between Ralph and his coworkers are also used in the short film as a means of making people see the difference between them.

Camerawork. The use of the spatial mode has also been executed through camerawork and cinematographic elements when filming. The film makes use of camera shots to communicate with the viewer. Camera shots are associated with a few abstract concepts as well: close-up shots induce intimacy, medium shots leave space for interaction and gestures, and long shots signify context through the environment (Canini et al., 2011). The film is mostly composed of medium shots, so the audience can get to know Ralph and the characters as well as the setting. Long shots show Ralph's environment, enabling the audience to see his state of being through his surroundings; close-up shots of Ralph give us small details, such as his facial expression, which assists in helping the audience understand how he feels. Panning and zooming assists with the transitions from one event to another: the moment the scene cuts to a full view of Ralph's house, the audience barely has time to prepare and process before the doctor grabs him. Panning right to the other rabbits makes the point that Ralph isn't the only one suffering. Zooming in on Ralph's face the moment he says "*Oh, here we go...*" emphasizes the notion of a following event to be anticipated. The simultaneity of transitions indicates a fast pace that makes it more thrilling for viewers.

Table 4
Gestural Data

Theme	Time Marker	Observation/Transcript
Openness and Formality	0:20	Ralph's positioning starts with his hands on his lap, along with slouching. This is the position he keeps returning to after making gestures.
Act of Indifference to Suffering	1:23	Ralph points to himself with his whole hand while stating that he is a tester.
Sadness	0:38-0:42	Ralph looks downward while stating that the ringing sound is annoying. After that, his eyes scan the room as if looking for something.
Fear and Unease	2:27	Ralph looks up at the approaching lab worker and lowers himself.
Pain and Discomfort	3:22	He winces due to the pain in his neck.
Positive Reaction to Freedom	2:14-2:19	The other rabbits' ears straighten once they know that Ralph is followed by a camera crew.

Gestural Mode

The analysis of gestural mode is on facial expressions and body language observed.

Openness and Formality. Openness is the main character's ability to share his thoughts without constraints. In the analysis of hand gestures, it has been determined that Ralph's demeanor during his self-introduction is formal and open. Bonaiuto et al. (2005) believed that certain types of hand movements might be utilized to be valued by the hearer and to take charge of emotional states. As such, Ralph makes use of an open hand gesture and the hands-on lap gesture to make the interviewers perceive him as open to answering questions and at the same time, formal.

Act of Indifference to Suffering. Gestures that are made during speech may communicate semantic information to the hearer. Gestures can facilitate the linguistic and syntactic production of speech and even persuade or obtain consent while in collaboration with other nonverbal signals (Bonaiuto et al., 2005). Ralph uses his fingers to count and point to help facilitate what he is currently saying and uses his whole hand to point and puff his chest with a closed hand to emphasize his speech. Meanwhile, Ralph's "thumbs up" gesture embodies the concept of being alright; a concept which also goes with his remark "*S'all good.*" These events show that Ralph is proud of being a tester and is indifferent to all the abuse. Shrugging movements, and smiling while exclaiming that the test is not too bad to have a similar interpretation.

Sadness. People experience sadness in response to suffering losses such as being deprived of resources, losing status, peers, or romantic relationships, such sadness is communicated by drooping eyelids, downcast eyes, lowered lip corners, and slanting inner eyebrows (Reed & DeScioli, 2017). In Ralph's case, his loss of hearing and the loss of bodily functions cause him to be sad, as demonstrated by his downcast eye movement in the first part of the interview. Another demonstration of sadness is shown when the rabbit performs an empty expression by lowering his eyes and maintaining its position after asking "*Have you ever seen a rabbit in a rocket ship?*". This signifies Ralph's hopelessness and acceptance of his situation.

Fear and Unease. In Darwin's list of universal emotions, raised eyebrows are an indication of fear (Matsumoto & Ekman, 2008). The rabbit's raising of eyebrows and general facial movements attributed to fear are negative conditions brought about by someone breaking through his house. This emotion is stressed by flinching during the intrusion, and leaning away from the lab worker as he approaches him with an injection. Additionally, the feeling of unease is observable when Ralph frequently looks away and scans the room, and abruptly breaks eye contact. Cherry (2019) mentions that breaking eye contact and constantly looking away means that an individual is uncomfortable, preoccupied, or trying to hide their true emotions.

Pain and Discomfort. Ralph's deictic gesture toward damaged areas of his body relates to the reactions from the pain that he has exhibited in the bathroom scene, which is moving his left shoulder, swallowing while explaining, and shutting his eyes briefly due to the sudden stinging sensation. Similarly, in the latter part of the film, Ralph appears to be experiencing vision loss, and tremors. According to the National Institute of Neurological Disorders and Stroke (n.d.), a tremor is mainly caused by a problem in the part of the brain in charge of movements. In addition, during the bathroom and ending scenes, the rabbit casually scratches his back showing that the tests performed on him had also caused skin irritation; this is later proven near the end of the film when the audience gets to see it in full view.

Positive Reaction to Freedom. Charles Darwin considers eyes that sparkle and drawn back corners of the mouth as an expression of happiness, whereas raised eyebrows signify surprise (Matsumoto & Ekman, 2008). These gestures by the other tester rabbits, along with the straightening of their ears, are a response to having received good news. The event of

having people from the outside sparked surprise and joy in them, thinking that the production team filming the entire ordeal could help them leave the laboratory.

Table 5
Audial Data

Theme	Time Marker	Observation/Transcript
Character's Voice	0:00-1:42	Ralph nonchalantly talks about his job.
Sound Effects	1:46	Knocking sound.
Background Music	0:38-0:42	The sound of a clock ticking.

Audial Mode

This subsection contains the data on the audial elements noticeable within the film.

Character's Voice. The character's voice centers on the characteristics of Ralph's voice such as intonation and pitch levels. Ralph's nonchalant voice while talking about his job as a tester, and positive voice while visibly in pain imply that he either feels indifferent or in denial of his circumstance. Psychological science has shown denial leans more on self-preservation than coping (Ritchie, 2014). Furthermore, while eating breakfast the rabbit speaks in a quieter voice, signifying that he feels sorrowful; a contradiction to what he had just said. On another note, Ralph's physical distress caused by his job is also emphasized when he hisses and speaks in a trembling voice while being tested.

Sound Effects. Sound effects, particularly synchronous sounds, synchronize with what is viewed in the film (Marshall, n.d.). The sound effects heard throughout *Save Ralph* are generally used to accompany what is occurring during the scenes, such as the sound of running water, the sound of the roof being destroyed, and others.

Background Music. Background music helps the film in displaying emotion and rhythm, and represents a change in mood; it also helps link scenes for the viewer (Marshall, n.d.). There is a lack of background music allowing viewers to observe it with a sense of realism. The whirring noise dominant in the bathroom and laboratory scene creates a dreadful feeling. The knocking sound made by the laboratory worker signifies a transition in setting from home to work or laboratory; meanwhile, the immediate cut of the censor beep is a transition from the experiment to the ending scene.

Contribution of the Multimodal Elements to the Effectiveness of the Film as a Tool for Propaganda

Efficient propaganda can influence and alter the attitude of a population towards a specific cause, position, or agenda to form a consensus on a standard set of belief patterns; it can be informative, persuasive, and even deceitful and manipulative (Ginsberg, 2017).

Linguistic Mode

The researchers looked into the propaganda techniques used in the film's language that would contribute to its effectiveness.

Loaded language and obfuscation. These techniques were present in all of Ralph's lines. In Da San Martino et al.'s (2020) list of techniques and definitions in their study, loaded language is used to "*appeal to emotions or stereotypes*", and obfuscation is the "*use [of] deliberately unclear and obscure expressions to confuse the audience.*" Noticing his first to

his last one, Ralph's narratives about his job regarding his injuries indicate that he is appealing to the emotions of the viewers. The obfuscation aspect lies in his way of nonchalantly explaining those injuries and even reassuring the audience that he is alright, despite the obvious physical pain he is in, enticing the viewers to come up with their conclusions regarding his case as well as his hidden message.

Repetition. Defined simply as the repeated use of the same message several times to convince or place emphasis on a given component and prevent further discussion (Propaganda Critic, 2018). This can be seen in his lines at 0:44, 1:04, 1:23, and 2:57, where he repeatedly tells the viewers that everything is okay. Also, in his repeated use of "Yeah" in 0:26, 0:44, and 1:23, he tries to convince the audience, seeking approval or agreement from them when he says he is all good and happy. Finally, in his line at 1:23, he repeats the word "tester" three times in one line to emphasize that being a tester is great and a family legacy. However, these repetitions can mean the opposite, only repeating them out of bitterness or spite and calling the attention of the audience to his case, quietly crying for help.

Demoralization. Schumaker (2017) describes demoralization as "*the breakdown of a person's 'cognitive map'*". It is when the subject loses their direction or something erodes their fighting spirit, causing them to surrender. This is usually used by another person, or in war by an enemy. In Ralph's case, he is demoralizing himself, subjecting himself to his job and the humans. 1:04 shows he has completely placed himself far inferior to humans. 1:23 shows he has surrendered to his fate as a tester, so he is also viewing it as simply '*doin' his job*' in 1:55. Finally, in 2:57, he already views it as a real occupation, so he says he would be unemployed had there been no animal testing. His act of self-demoralization pushes the audience to act on his behalf. His fighting spirit has gone down so Ralph invites the audience to read through his language and act on them.

Visual Mode

The visual mode of communication contributes to the effectiveness of *Save Ralph* as a tool for propaganda through non-verbal means.

Appeal to Emotion. The short film displays instances of appealing to emotions such as sadness and horror. An example is how Ralph was carelessly grabbed by the head with one hand. Seeing this happen can cause a stirring of emotions, such as shock due to witnessing that the doctor is not handling him properly. An even worse example is the final scene, where all of Ralph's injuries are in full view; this serves as the most obvious form of physical evidence as seeing Ralph's injuries contrast with how he seemed in the beginning. The viewers' natural reaction would be to feel horrified towards Ralph's suffering and would be appalled to know that innocent rabbits being captured and subjected to harsh experimentation happens in real life. Riess (2017) says that empathy enables sharing of experiences, needs, and desires between individuals and provides an emotional bridge that promotes pro-social behavior. Exploiting the viewer's capacity for empathy enables the film to execute its objective of spreading awareness of the cruelty of animal testing.

Cognitive Dissonance. This refers to the mental discomfort caused by two ideas or settings misaligning with each other out of conflicting beliefs. (Festinger, 1957). The reason people experience this is due to the human need for consistency. One example of this is the scene where Ralph scratches himself with a toothbrush immediately after using it to clean his teeth. The idea behind this is the fact that we have certain cognitive structures, or "schemas" that serve as the templates for our knowledge regarding everyday things (Toren, 2014). In this case, the schema for personal hygiene is that a toothbrush is meant for oral hygiene instead of relieving oneself of itching. Another example would be the noticeable instances of wear, uncleanliness, and crookedness in the background; these do not align with the schemas for cleanliness and order in contrast to the rest of the background, which looks tidy and

ordinary. Viewers would feel uncomfortable having to look at these since the lack of consistency is subtly present in the entire film.

Association. This refers to linking two ideas or characters together. In the case of *Save Ralph*, a subtle, yet strong association is present through the use of color, as well as briefly tackling religious motifs. Looking at the use of colors, it is known that colors are associated with certain concepts and traits which vary according to social and cultural beliefs (Elliot & Maier, 2014). For instance, the color white used for the walls of the laboratory is meant to evoke isolation and hostility. As for the use of religious motifs, the scene where Ralph is picked up by a giant hand portrays the doctor as a godlike being as they tower over Ralph, and in a way, does play a part in his fate, giving the audience the impression that Ralph is helpless due to this supposed “all-powerful being.” The audience would subconsciously pick up on these associations, thus leading to an emotional response.

Classical Conditioning. This refers to the behavioral procedure where an individual can be conditioned to evoke an intended response through repeated exposure, which leads to associating a feeling or reaction with a given stimulus (Wolpe & Plaud, 1997). In *Save Ralph*, classical conditioning is present through the recurring motifs in the background, such as the clocks, books, and portraits. These recurring motifs are usually unnoticed, but the constant exposure can lead to people remembering the film; the moment they see a book or a clock (after having watched the short film) would suddenly leave them feeling sad, overall strengthening the mockumentary’s intended lesson.

Implicature. This refers to the act of suggesting an idea without explicitly stating it. Though normally done linguistically, such as in the case of conversational implicature developed by H.P. Grice (1975) which does exactly as the term suggests, this can also be executed visually; with *Save Ralph*, this is done through small items in the background that imply certain hints about elements that further expand the story. For instance, the cereal Ralph was eating in the dining room is called “Gasolio’s.”, which contains the root word “gasoline”; a product containing *petroleum*—which is used in cosmetic products. The implicature of Ralph eating it leads to the conclusion that every bit of his life, up to what he eats, is still a part of experimentation, which makes Ralph’s story all the more heartbreaking. As this is not explicitly stated, what the audience would do is try to mentally form a conclusion themselves with what little evidence they have; combining this with the fear that comes from the uncertainty of implicature is what makes it effective.

Selective Attention. This refers to the process of directing one’s awareness toward relevant stimuli while ignoring the ones that are considered irrelevant (McLeod, 2018). Throughout the short film, selective attention is initiated and encouraged through the camera’s focus on Ralph while everything else is blurred. The audience would be able to pay attention as they would think of the physical properties; Ralph is the only one in focus, and therefore everyone would pay attention to Ralph and ignore the background. The bright colors in the background place further emphasis on the items which have this color, making them stand out while every other component is ignored. This will cause a chain reaction in emotional response as the emphasis on these colors causes association, thus further establishing the film as an efficient tool for propaganda.

Spatial Mode

Spatial mode focuses on the surroundings in the film, the camerawork utilized during scenes, and the pacing of transitions, as well as the reflection of Ralph’s character and relatability through his surroundings.

Relatability. This refers to the ability to establish a logical or causal connection to a given subject. The spatial mode establishes a deep personal connection with Ralph through being able to relate to his situation; this is what is known as the “common man” method; a tactic

that involves using a figure that people can relate to further one's cause (Cooper, 1971). *Save Ralph* executes this method through camerawork; Canini et al. (2011) stated that certain camera shots imply certain concepts. For instance, the scene where Ralph had a substance injected into his only remaining eye was done with a close-up shot, which establishes intimacy with the audience. Looking at the other camera shots, Ralph is portrayed as someone the viewers can understand; everyone goes through suffering in life and knows how it feels to be isolated and lose loved ones.

Sensory Overload. This is a phenomenon involving one or more of your five senses taking in a larger amount of information than normal (Ohwovoriolè, 2021). In *Save Ralph*, sensory overload is present through the quick pace in the transition from one scene to another; this affects the viewer's spatial awareness and exhausts their visual perspective. This is present in the transition from Ralph's house to the laboratory. Ralph was grabbed without warning from his home, and the laboratory, in contrast to Ralph's home, was shown to be large and spacious. The transition affects the viewer's shock, as the size of the laboratory is the most noticeable component in the scene. The viewer would be mentally overwhelmed at the immediate change in the environment, and would then proceed to feel a heightened sense of emotion as a result, since sensory overload is known to lead to stress and anxiety. which also reinforces the reaction the viewer will display as the laboratory is the place where Ralph's suffering takes place and they are about to witness it happen.

Gestural Mode

Gestural language exhibited by Ralph also contributes to the film's effectiveness as propaganda.

Evoke Emotions Through Gestures. Ralph's facial expressions and body language portray emotions that also affect the emotions of viewers. It is mentioned that in social interaction, emotion, and physical expression tend to inform others about our current feelings which in turn affect social outcomes (Semantic Scholar, 2014). This can be applied in scenarios where viewers interact with the film by observing the emotions that the characters feel through their gestures. To exemplify, Ralph's smiling facial expression to hide his pain encourages sympathy from the audience and to feel strongly against animal testing.

Setting the Atmosphere. The film begins by showing Ralph sitting on a couch in the living room. As the interview takes place, it is observed that both of his hands are on his lap while his back is slouched which represents formality and relaxation respectively. These two representations promote two contradicting moods which are seriousness and satirical, both of which can be attributed to the mockumentary characteristic of the film. In addition, Ralph's open palm gesture at the start displays a sense of vulnerability and truthfulness that makes his statements more believable to the viewers. According to Raj (2019), the open palm gesture has symbolized trust and is also used to build rapport among people.

Audial Mode

The findings below center on the audial elements that add to propagandistic effectivity.

Evoke Emotions Through Sound. The characteristics of the main character's voice, sound effects, and background music elicit emotions from viewers, allowing them to feel compassion toward the tester rabbits. Görne (2019) proposed that the emotional effect of an auditory object is built through matching linguistic metaphors associated with cross-modal metaphors. This means that an auditory object may connote a deeper meaning, such as when darkness is associated with a low-pitched sound. The data surrounding Ralph's shaky voice and grunts show his current state and signify the horrendous condition tester rabbits experience.

Directing Attention. Sound effects were used to direct the attention of the audience. According to Holman (1999), sound in the film has two roles which are the narrative role and

grammatical role; the narrative role has two types: 1) Direct Narrative Role, and 2) Subliminal Narrative Role. Sounds with a direct narrative role directly influence the storytelling of the film and are exemplified when the click sound made by the clapperboard signals the start of the film. A subliminal narrative role, on the other hand, unconsciously works on the audience, exemplified by making the viewers focus on Ralph through the sounds he makes as he moves. Lastly, the grammatical role of sound refers to its ability to form continuity for films. During the scene where a laboratory worker knocks on the house's roof, the film undergoes changes in the scene without making it awkward for the viewers.

Infographic on How to Make an Effective Propaganda Film

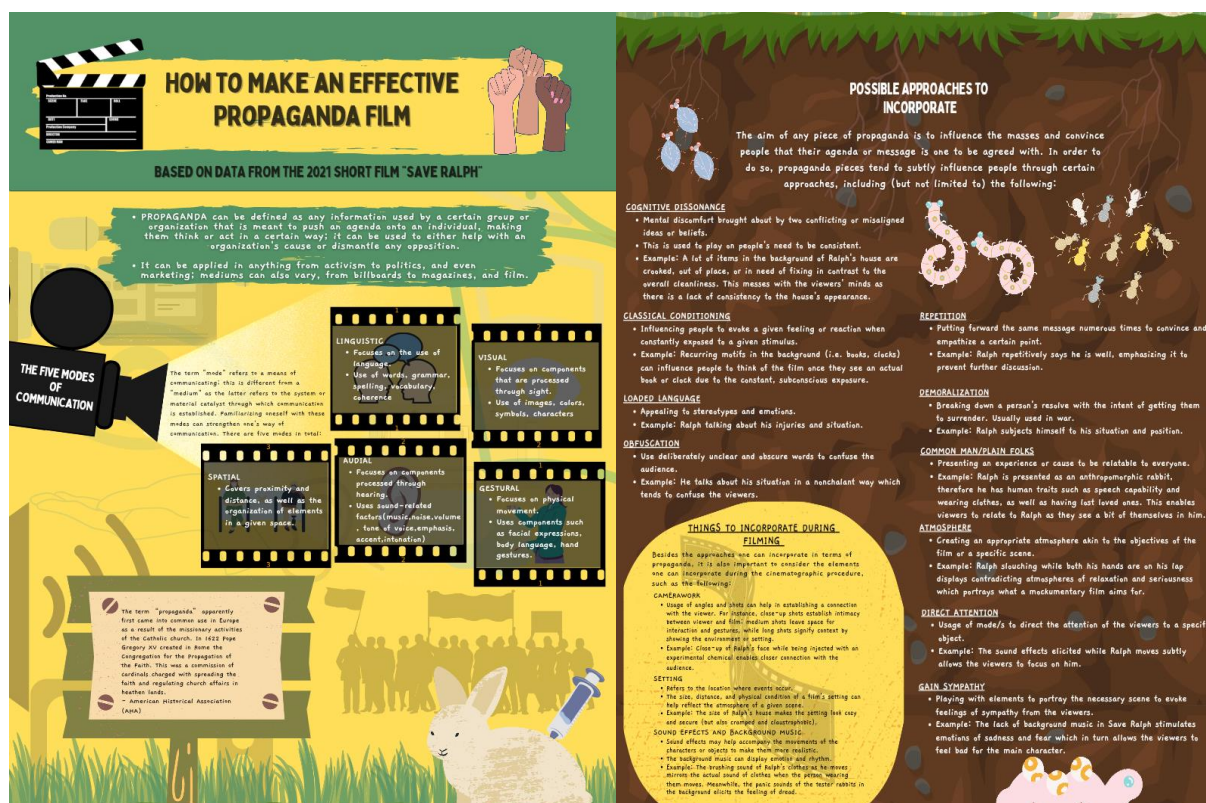


Figure 1. How To Make an Effective Propaganda Film Infographic

For the output-based problem, the researchers have put together an infographic using data gathered from this research, forming an instruction manual on how to create an effective propaganda film based on the findings discovered during data gathering and analysis, complete with examples from the paper itself, as seen in Figure 1 above. The infographic was constructed using images and shapes from Canva; the first part contains the definition of propaganda, followed by an explanation of the five modes of communication before moving on to a list of propaganda approaches and methods present in *Save Ralph* as well as a list of technical, and cinematographic techniques that can be used to make a propaganda film more efficient.

V. CONCLUSIONS AND RECOMMENDATIONS

Regarding the results of the study, the researchers have concluded that *Save Ralph* perfectly utilizes each of the Five Modes of Communication to its advantage through the themes and concepts symbolized by each one, effectively helping HSI further its cause. Examples found for each mode of communication were subtle, occurring in the background,

or were simply used as support, yet each one provided assistance in the interpretation of the film as a whole about presenting its message, explicit and inexplicit. The harmony of the individual modes catches the attention of the viewers, indirectly inviting them to take action.

All five modes of communication utilized, combined with the meanings and intentions behind each one, deliver effective contributions to the film in terms of its usage as propaganda, being able to subtly captivate the audience and influence them into supporting HSI and its cause against animal testing through subliminal usage of given methods and approaches used in propaganda construction.

Based on the results and conclusions, the following are recommended for future research:

- I. Future researchers may integrate the insights of the film's creator/s if they are reachable, to provide additional substance to the research.
- II. Apart from using themes based on the five modes, future researchers could consider the literary aspects of the short film, such as the storytelling devices used.
- III. Future researchers may explore different kinds of outputs such as short films, audio recordings, posters, etc.
- IV. Students and teachers in the field of Purposive Communication (PRPCOM) are invited to utilize this paper in their studies and to use this as teaching material.

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EFL Distance Learning: Korean Students' Perception of Online Conversation and Writing Class

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Abstract: *Since the COVID-19 pandemic, instructors, professors and learners, in all disciplines, have had to adapt according to strict guidelines and protocols to protect against infection and to reduce the rate of the spread of the virus. This involved a near total shift from in-person tuition to online learning in most educational institutions. After two years of adaptation, which included a massive degree of online learning, students and educators both have had several months of experience learning and working in an online or virtual classroom environment. Before the onset of the pandemic, there were several theories and research projects centered on the effectiveness and qualities of online compared to offline learning. This study examined 12 Korean university students who spent one or two semesters studying EFL entirely online. To understand each student's perception of online EFL class, the grounded theory method was used. For data gathering, students were interviewed, in English (and Korean, where necessary), for approximately 15 minutes. The findings of this research suggest that most students had a somewhat favorable perception of EFL overall, but had several unfavorable opinions on the weaknesses of the online format.*

Keywords: *Online EFL, Students' Beliefs, Constructivism, Korean EFL, Korean University*

I. INTRODUCTION

Online learning, in a variety of different disciplines, has increasingly become a topic of concern, interest, speculation and planning. With the advent of the recent pandemic of COVID-19, educators around the world were left with no choice but to adapt to the situation and to craft and/or change to a different pedagogy — or, at least, to adapt their original in-class pedagogy to something befitting their online environment. According to the participants of this study, different professors from different disciplines adapted to this situation to very different degrees: some merely video recorded their lecture and then posted it on YouTube for their students, while others performed hour-long video conferencing lectures, or otherwise brief versions of their original lecture curriculums. Regardless, both students and teachers alike had to adapt with no small degree of difficulty.

Each country has its own pedagogical preferences, adapted for its own unique cultural needs, predilections and strengths. South Korea is no different. The country has a unique history and an especially unique EFL landscape, which has been studied and written about extensively. Before laying out the methodology and findings of this study, it might be useful to spend some time outlining the characteristics of the EFL industry and environment in South Korea.

II. LITERATURE REVIEW

Korean EFL Context

Park (2009:224) argues that there is a “fetishism” of the English language in Korea. English is not considered an official second language of the country —not yet, anyway. Nevertheless, it is so pervasive and prominent, from signboards to headlines in newspapers — and most pertinent to this paper, in its presence as a mandatory subject in the CSAT— that it is in some sense an unofficial second language. In fact, there have been calls in the past, from prominent members of the government and educational boards, to officially declare it as such.

In the Korean EFL context, from their first year in high school, students are under a great deal of pressure to pass the College Scholastic Ability Test (CSAT), which includes a very difficult English exam. Numerous empirical studies and statistics from various institutions have demonstrated that families invest massive amounts of time and money in preparing their children for the CSAT —in particular, for the English CSAT (Lee and Shouse, 2013; Byun et al, 2012). The CSAT is considered to be an “exceptionally accurate measurement of academic achievement” and is therefore the most significant factor predicting labor market success and entrance into superior colleges (Choi, 2008).

Online EFL: Expectations and History

There has been research done on the effectiveness and overall appraisal of students enrolled in online ESL or EFL classes. Enjoyment of a class is one of the fundamental factors contributing to learning outcomes and to positive perceptions of students, as well as having an influence on the sense of confidence and proficiency of the students (Huang et al, 2016; Wen-Chi et al, 2011) and it serves as a useful indicator of the success of a given class. The study done by Wen-chi et al (2011) wherein they used sophisticated statistical analysis tools to investigate EFL classroom factors in motivation, confidence and ability among university students in Taiwan, demonstrated that through interaction and active communication with their native speakers, the online medium became a fantastic tool for improving several important attributes among students in the class. They found that motivation and confidence in the usage of their target language was significantly improved (Wen-chi et al, 2011).

For many students and teachers, the notion of converting learning from a classroom environment, where in-person interaction and involvement would presumably facilitate an enhanced degree of quality interaction, feedback and so on, culminating in an overall better outcome for learning, it might seem like a difficult task to successfully convert this platform to a digital, online world. Fortunately, there was a study done to investigate blended learning, which involved both in-person and online class (Thorne, 2003). Grgurovic (2011) demonstrated all target language skills can be improved and taught successfully through online means, but perhaps this was best done with a supplement of some authentic in-person instruction. In this case study, a class of intermediate ESL students developing listening and speaking skills within an intensive English language program used both face-to-face classroom learning as well as online learning in a computer lab. The results seemed to confirm Thorne’s (2003) assertion that the future of education might involve an increasing degree of computerised and/or online components, because students showed that ‘all language skills can be successfully integrated into both modes’ (Grgurovic, 2011).

While still in its infancy, online learning has made tremendous grounds in terms of its variability, availability and convenience, reaching language learners through applications like *Duolingo*, or being integrated into tests by Pearson Education — it seems as though there is a wide range of possible applications for the technology (Lin & Warschauer, 2015).

Of course, among most people, with something as relatively new as online learning, there is bound to be a healthy dose of wariness about the efficacy of the process, especially compared to in-person learning. Parents of younger students tend to be especially skeptical of the quality of online education (Blake et al, 2008). This disposition is an important aspect to consider when examining the findings of this study. Researchers have noticed, for example, that there is one clear drawback in terms of concentration and engagement with class material, and that is students tend to require a high degree of self-regulation to perform adequately on online tasks, and therefore could yield to negative or undesirable outcomes in the students' language development (Lin & Warschauer, 2015; Queen & Lewis, 2011).

III. METHODOLOGY

Research Design

In order to thoroughly understand the EFL students' perspective and views of online EFL learning, a grounded theory method was used as the primary research design system. This theory was chosen as research design framework because it is more dynamic, and more applicable for the given situation, where conversation or variable vectors could not easily be foreseen where the researcher had to first accrue information about the subjects before beginning to construct abstractions, to codify and understand the data (Creswell, 1998). For the purpose of this study, 15-minute interviews were done with Korean university students, enrolled in a compulsory EFL course.

Participants

The 12 participants in this study were Korean freshman and sophomore university students. They were all enrolled in bachelor's degrees, with a variety of majors, from Korean music through to engineering. In Korea, all university students are required to complete an English language course.

#	Gender	Age	Major
Student 1	Male	22	Design
Student 2	Male	23	Design
Student 3	Femal	20	Design
Student 4	Female	20	Korean Music
Student 5	Female	20	Korean Music
Student 6	Female	20	Korean Music
Student 7	Female	20	Design
Student 8	Female	22	Engineering
Student 9	Male	21	Engineering
Student 10	Male	23	Engineering
Student 11	Female	21	Engineering
Student 12	Female	22	Design

Data Collection

During the course of a summer vacation, right after most Covid-19 restrictions had been lifted, data were collected. For each participant, a single, 15-20 minute interview was held. While interview questions were prepared prior to each interview, there was a semi-structured characteristic, as each student had varying degrees of language fluency, confidence, and openness about their opinions. Interviews were recorded and transcribed where possible, given the preferences of students.

IV. RESULTS

The grounded theory method was employed to analyze the interview data and identify recurring themes and patterns in the participants' perceptions of online EFL learning. The constant comparative method was used to compare and contrast participants' responses, allowing for the emergence of themes. The analysis revealed several key findings regarding Korean students' perceptions of online EFL classes.

Perceptions of EFL Online Classes

The participants' perceptions of online EFL classes were found to be mixed. Most participants expressed a generally favorable view of EFL education in the online format, as an idea, acknowledging the convenience and flexibility it offered. They appreciated the ability to access learning materials and lectures at their own pace. However, these positive perceptions were often accompanied by reservations and criticisms related to the limitations of online learning.

Impact of Instructor Characteristics

The study identified that the characteristics of the instructors played a significant role in shaping students' perceptions of online EFL classes. Students highly valued instructors who demonstrated versatility in using technology and were able to create engaging online learning experiences. The presence of a native-speaking English instructor was particularly impactful on students' attitudes toward the class. This finding underscores the importance of instructor competence and proficiency in delivering effective online instruction.

All students had favorable comments to make about their native-speaking English instructor/professor. They regarded it as a valuable resource and learning experience. As documented in research by Fujii and Mackey (2009) and Gilmore (2007), the authentic, dynamic and direct interaction with native speakers of a language, through conversation and/or instruction, is invaluable for EFL learners.

Challenges of Online Interaction

Participants highlighted the challenge of limited interaction with fellow students in the online environment. They expressed that despite engaging lectures, they lacked sufficient opportunities for real-time practice and interaction with peers. This absence of peer interaction was viewed as a significant drawback of online EFL classes. Many students felt that the detached nature of online learning hindered their ability to develop language skills through meaningful interaction.

Role of Enjoyment

Consistent with previous research, the level of enjoyment emerged as a crucial factor influencing students' perceptions of online EFL classes. Classes that incorporated interactive and engaging elements, such as tech-savvy approaches and supplementary activities, were

more positively appraised by students. The study suggests that incorporating enjoyable and interactive components into online EFL classes can contribute to enhanced language development and a more favorable learning experience.

IV. CONCLUSIONS AND RECOMMENDATIONS

The findings of this study demonstrate that the perception of EFL students towards their online class seems to be decided on a few key factors. The first was the versatility, tech-savviness and/or charisma of their professor or lecturer. This seemed to have an even more important effect on the perception of students than has been found in other research on the relationship between teacher qualities, students in non-western teaching environments (Zhang & Watkins, 2007; Wu et al, 2011). It has been shown that teachers able to creatively integrate computing into their teaching systems tend to yield positive results (Pederson & Liu, 2003) in a variety of learning outcomes. Secondly, having a native-speaking English EFL professor was salient as well. Furthermore, given the recency of completion of the Korean CSAT exam, students were generally excited by the prospect of learning from a native speaker i.e. the professor/instructor for their class.

As Wu et al (2011) found, a big factor in the appraisal of students and whether they found their online EFL learning to be particularly beneficial in terms of language ability, was the enjoyment of their classes. The students in this study reported that those professors who were more tech-savvy or able to combine related but extra-curricular activities, games and so on, that their classes tended to be perceived both more favorably and more beneficial to the students' language development.

The study also identified the challenge of limited interaction among students in the online environment. This constraint hindered opportunities for meaningful practice and interaction, which are essential for language development. Students' enjoyment of the online classes was closely linked to their perceptions of effectiveness, suggesting that incorporating interactive and enjoyable elements into online instruction could enhance language learning outcomes.

This study sheds light on the complex interplay of factors that shape Korean students' perceptions of online EFL classes. As online education continues to evolve, instructors and educational institutions should consider these findings to design and implement effective online EFL programs that address both the strengths and limitations of the online format.

Limitations and Future Research

This study focused on a specific group of Korean university students who experienced online EFL classes during the COVID-19 pandemic. As such, the findings may not be fully generalizable to other contexts or student populations. Further research could involve a larger and more diverse sample to enhance the generalizability of the findings.

Additionally, this study primarily employed qualitative methods, such as interviews, to explore students' perceptions. Future research could incorporate quantitative approaches to gather more extensive data and examine potential correlations between variables.

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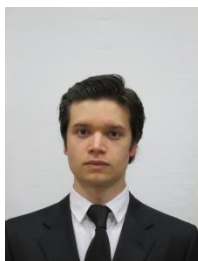
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An Analysis of the Levels of Code-Mixing in Facebook Captions: Kankanaey - English

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Abstract: *The goal of this study is to describe the Kankanaeys' level of English proficiency using code-mixing and communicative competency levels, as well as code-mixing advantages and disadvantages. The research employed both qualitative and quantitative methods to describe and explain the data gathered from users, as well as the outcomes. The most frequently observed competency in the participants' captions is strategic communicative competency. Kankanaey had an equal view of the disadvantages and advantages of code-mixing. Graduates have higher proficiency in English language skills when compared to active and inactive undergraduate students according to the findings, the broader an individual's exposure to the English language, the broader their knowledge and proficiency in the language.*

Keywords: *Code-mixing, Kankanaeys, communicative competency, proficiency level*

I. INTRODUCTION

Code-mixing is an inescapable result of shifting from one language to another, whether one is conscious or unconscious about it. This behavior is especially prominent in bilinguals and multilinguals who can speak two to three languages and make use of code-mixing for personal reasons. It is also rare for Filipinos to use one language as there are two main languages of the Philippines which are Tagalog and English, added by the mother tongue we've grown up with.

Kankanaey/Kankana-ey is a south-central Cordilleran language spoken by the Kankanaeys, a collective group of indigenous people known as the Igorot people, who are an ethnic group of the Philippines, located in the Cordillera area of Luzon. Kankana-ey language varies in its intonation and word usage; there is a contrast between hard Kankana-ey and soft Kankana-ey depending on which province these Kankana-eys came from. Kankanaeys are bilingual and multilingual; in addition to their mother tongue, they formally learned Filipino and English in school. Kankanaeys appreciate their local language; they use it to communicate within the region and only use English when the circumstances ask them to, which is why they make a conscious decision to use as little English as possible. There are parts of Kankanaey province that are remote and secluded, where English has limitations, unlike in the city, and while English is taught in schools, some regard it as merely a subject to pass and are not required to use and speak it inside and outside the community.

Facebook is an open platform with no language demands or restrictions when it comes to publishing captions; users are free to mix and switch languages. The majority of Kankanaeys use Facebook on a daily basis, with all of their captions posted online that contain code-mixing.

The purpose of this study is to describe language users' English language proficiency when using different levels of code-mixing in order to determine if code-mixing results in a

low number of proficient Kankanaeys when it comes to the English language, as well as the advantages and disadvantages of code-mixing for Kankanaey bilingual users.

Objectives of the study

The general objective of this study is to analyze the levels of code-mixing employed by Kankanaey-English bilinguals on their Facebook posts. Thus, the aims of this research are as follows:

1. To identify the different levels of code-mixing used by Kankanaeys in their Facebook captions.
2. To describe the level of proficiency in English language of the Facebook users.
3. To determine the significant differences of the level of proficiency among the FB users.
4. To identify the disadvantages and advantages of code-mixing as perceived by the participants.
5. Output-based goal: Photo poster with text showcasing the latest code-mixing discoveries which will be posted on Facebook.

II. RELATED LITERATURE

Types/forms of code-mixing

In Rabiatal's study (2021), the results of an investigation among IAIN Padangsidimpuan English education department students revealed that there are three types of code-mixing: insertion, alternation, and congruent lexicalization, which users employed in their Facebook status updates. (Hutasoit & Hutabarat, 2020) conclude that there are three types of code-mixing used in FB statuses of users: insertions, alternations, and congruent lexicalization, with insertion being the most prevalent because it was the easiest way to code-mix without being aware that the structure of the sentence was changed. The findings of Alfarisi's study (2012) are separated into two parts: the first shows that the users' preferred methods of code-mixing include insertion, alternation, and congruent lexicalization, and the second shows that the users' goals were to display their expressions to others. According to the findings of Hutabarat, Simbolon, and Sihotang (2020), users only utilized a Facebook status for social contact in friendship groups, and insertion is the most common type of code-mixing. According to (Aurima & Windyawati, 2018) Facebook users who are friends with the researcher use code-mixing in their updates by integrating English linguistic aspects into Indonesian. Code-mixing can be found in the form of words, phrases, hybrids, idioms, and repeats.

Advantages and disadvantages of code-mixing

According to Manihuruk (2016), code-mixing has both a positive and negative impact; integration is a positive effect because it expands the vocabulary of the Indonesian language, while interference is a negative effect because it stifles the development of the Indonesian language. Dwineta, Marjohan, and Batan (2014); The positive implications include improving English vocabulary and understanding the meaning of English sentences, while the negative implications include inappropriate use of English patterns and an inability to communicate effectively.

Reasons for using code-mixing

According to Pangestuti (2013), users code-mix when they want to find the most appropriate words to best represent their feelings; quote people's statements, lyrics, or wise words; to grumble and show their negative feelings; check-in at specific locations, and code-

mixing as a habit. As for the students' reasons: to catch people's interest; to share feelings and keep their privacy; to show their prestige; to enhance new words, and to follow bilinguals in their surroundings. Nashua (2019) The prevalence of foreign language interventions, as well as bilingualism by people who do have their own regional languages, contribute to the occurrence of code-mixing and code switching in Indonesian. She concluded from her investigation that the elements of their mother tongue (Javanese) and surrounding language environment promote the use of this mixed coding. She further stated that code-mixing will result in the loss of the qualities and identity of Indonesian as a national language, as well as linguistic assimilation, which will eventually lead to the language's extinction. Dwineta, Marjohan, and Batan (2014) Students' motivations for code-mixing included: assisting other Facebook users in understanding the topic, expressing group identification, citing famous expressions, and discussing a certain topic. (Abdul, Nadri & Mahmood, 2015) Bilinguals, as well as tutors and teachers, frequently use and practice code-mixing on Facebook. In posting a status or interacting with other users, code-mixing has become a social standard. In a formal context, the researchers believe there will be no code-mixing.

The studies have shared similarities in their findings, and the majority of them focus on the different forms of code-mixing that are utilized and what dominates among them, as well as the limited findings concerning the positive and negative implications and reasons why people code-mix. These studies, however, have failed to produce sufficient evidence about the impact of code-mixing, as well as to uncover the deeper meaning behind the individuals' use of code-mixing. As a result, this study provided new conclusions based on actual data from Kankanaey's Facebook captions and a questionnaire.

Code- mixing

As Mabule (2015) explains in his study, code- mixing includes expressions in which a mixture of the grammar of one language and another language is used without altering the grammar of the first language used. According to Mujiono, Wilujeng, and Suharto (2017), code-mixing is a communicative strategy studied primarily in relation to bilingualism. It is also described as the phenomenon in which a bilingual speaker shifts from one language to another in different clauses or sentences during a conversation as a conversational strategy.

This research uncovered new information by identifying the various levels of code-mixing based on Suwito's code-mixing theory. In Suwito's 1985 study (as cited in Handayani, 2019), there are numerous levels of code-mixing such as: word, phrase, idiom/expression, baster, reduplication, and clause.

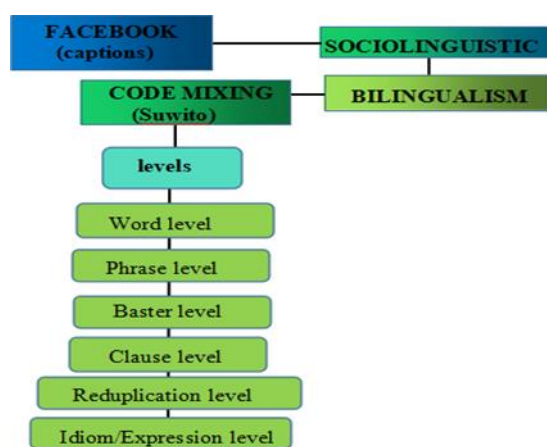


Figure 1. Levels of Code mixing

Suwito's (1985) theory of code-mixing served as the theoretical basis for this study, as one

of the objectives is to assess the levels of code-mixing used by the Kankanaeys in their Facebook captions. As a result, the framework facilitates the completion of the study.

One of the theoretical foundations of this study is Canale and Swain's (1980) components of communicative competence. Figure 2 shows the four components of communicative competence as proposed by Canale and Swain (1980 as cited in Navarro, J., Garbin, Z., Agena, E., & Garcia, o., 2017). The components are Grammatical, Sociolinguistic, Discourse, and Strategic.

COMMUNICATIVE COMPETENCIES (Canale & Swain, 1980)
Grammatical
Sociolinguistic
Discourse
Strategic

Figure 2. Components of Communicative Competence

One of the objectives is to describe the level of language competency of Kankanaeys in employing code-mixing in their Facebook captions. These competencies include grammatical, which is the ability to produce grammatically correct utterances, sociolinguistic, which is the ability to produce appropriate sociolinguistic utterances, discourse, which is the ability to produce coherent and cohesive utterances, and strategic, which is the ability to solve communication problems as they arise. As a result, the framework aids in the completion of the study as well as answering that goal.

III. METHODOLOGY

Study Design

This study was conducted utilizing a descriptive qualitative study, which can incorporate both qualitative and quantitative features, the data is subjective where answers are derived from the individuals' own experiences and perceptions, providing more detailed answers that suit the objectives of this research. This research is more focused with what rather than how or why something has happened (Nassaji, 2015, para.3).

Table 1
Respondents According to Categories

Categories	Frequency	Percentage
1) Active undergraduate Students	10	33.33 %
2) Inactive undergraduate Students	10	33.33 %
3) Graduate students	10	33.33 %
Total	30	100 %

Purposive sampling was used to determine the sample size of the target population for this study, which is divided into three categories: active undergraduate students who are still pursuing their degree in college, inactive undergraduate students who left school or college before finishing their studies, and graduate students who have already earned a bachelor's degree, some of whom are professionals. There are ten users in each group, for a total of 30 participants.

Sources of Data

The primary resource of this study is taken from Kankanaey participants' Facebook captions and the secondary data which was obtained from a question-and-answer survey. From October 2020 to October 2021, bilingual Kankana-eyes from Buguias, Kibungan, and Kapangan Benguet, which are divided into three sets: active undergraduate students, inactive undergraduate students, and graduate students, the author's FB friends list from 18 to 30 years old, and Kankanaey - English code-mixing was the study's inclusion. Exclusion criteria for this study were FB captions uploaded before October 2020 and after October 2021, participants who did not sign the consent form, and FB captions that did not have any code-mixing detected.

Data Gathering Tools

Mobile devices were the primary medium from which data was collected, studied, and examined. The captions and question sets are encoded on a laptop, Facebook app messenger is the channel of information exchange between the participants and the researcher, and a mobile phone is used to collect screenshots of the FB captions, which are then listed on a piece of paper.

The study used a table form adapted from Zulida and Zahara (2021), which has been altered by the researcher to get the desired result. This tabular format was utilized by the researcher to identify the levels of Code-mixing and the reasons that cause users to code-mix.

The study also used and adapted tabular form and 5 statement of proficiency in English by Makewa, Role & Taguta et al., (2013).

Table 2
Likert Scale

Numerical Range	Descriptive Rating	Verbal Interpretation
3.26 – 4.00	Proficient (P)	Facebook user shows proficiency in English language
2.51 – 3.25	Moderately Proficient (MP)	Facebook user shows moderate proficient in English language
1.76 – 2.50	Less Proficient (LP)	Facebook user shows less proficient in English language
1.00 – 1.75	Not Proficient (NP)	Facebook user shows not proficient in English language

This table was developed by the thesis statistician to compare the level of proficiency in the English language of Kankanaey Facebook users. It was used to examine and draw conclusions about the proficiency of Kankanaey users. A one-way between subjects ANOVA was conducted to compare the level of proficiency in English language of Facebook users.

Table 3
Data Interpretation

Numerical Range	Descriptive Rating	Verbal Interpretation
3.26 – 4.00	Strongly Agree (SA)	Facebook user strongly agree on the use of English language
2.51 – 3.25	Agree (A)	Facebook user agree on the use of English language
1.76 – 2.50	Disagree (D)	Facebook user disagree on the use of English language
1.00 – 1.75	Strongly Disagree (SD)	Facebook user strongly disagree on the use of English language

A questionnaire on a table in which each item was scored on a four-point scale with the following numerical values to indicate the degree to which respondents agreed or disagreed

with the statement as follows: 1- Disagree, 2- Strongly disagree, 3- Agree, and 4- Strongly Agree, is used. Users will be able to reflect on how capable they are in using the English language by using this tool.

Data Gathering Procedures

The researcher conducted a preliminary survey for the possible and potential Kankanaeys to participate in the study. The researcher asked the desired respondents if they were willing to participate and provide information for the study, and the researcher also ensured that the qualitative method used was one that the respondents would be able to easily answer. The researcher also took into account the respondents' availability and location. After considering the concerns, the survey questionnaire, with the goal of answering the objectives of this study, was created; before sending the questions to the participants, this set of questions was validated by two professional validators to ensure that the researcher complied and did not deviate from the approved research design, data collection procedures and risk management. A soft copy or a photograph of the questionnaire was sent to the respondents, giving them the option of doing what is more convenient and easier for them in answering the survey. The questionnaire included a self-evaluation type of question as well as one open-ended question for the participants, giving them the full freedom to answer. The term code-mixing was also explained on the questionnaire to ensure that all participants understood the terms written on the questionnaire.

Treatment of Data

The data was analyzed using content analysis, which produced a qualitative interference by studying the meaning and semantic relationships of words and concepts. This strategy was particularly useful and practical during this pandemic. To address objective number one, the researcher jotted down the Facebook captions on a piece of paper. Word Insertion, Phrase Insertion, Idiom/Expression Insertion, Baster Insertion, Reduplication Insertion, and Clause Insertion are the various levels of code-mixing that these captions are grouped under. Also, through the data from the questionnaire, the level of English proficiency, level of code-mixing, and perceived benefits and disadvantages of code-mixing among Kankanaey Facebook users are determined.

To solve objective number two, following the identification of the users' levels of code-mixing and communicative competency, a quantitative-descriptive statistical analysis was used to describe the users' levels of competency and proficiency in the English language.

To address objectives number three and number four, the researcher adapted a Spice (2018) set of seven questions about the advantages and disadvantages of code-mixing, and participants were asked to share their code-mixing experiences by answering this question. The responses were highlighted and categorized based on the main idea of each response.

Ethical Considerations

The researcher conducted an informal and preliminary survey of the respondents through messenger. This is to make sure that the researcher and the respondents will not be exposed to viruses due to a pandemic. This is done to determine their preferences for how their identities would be handled in the study, and the majority of the respondents voted to keep their identities hidden. Therefore, they are labeled as FBU (Facebook user) with a number. The researcher also sent a consent form for the participants to read. The researcher made sure to be transparent in explaining the role and outcome of the study. Kankanaeys from Buguias,

Kibungan, and Kapangan Benguet were chosen as they speak the type of Kankanaey that the author was exposed to. If the research is published the copies will be given to the university in order to utilize learning such as learning more about code-mixing. Thus, this research will be used for educational purposes. As a gesture of appreciation for their willingness to engage in the study, some copies will be provided to the participants, and they will be able to use it in the future, as some of the participants are students and will be conducting research soon.

IV. RESULTS

This research included 30 Kankanaey Facebook users from Buguias, Kapangan, and Kibungan, Benguet. There are three categories: active undergraduate students, inactive undergraduate students, and graduate students.

Levels of Code-mixing

Table 4
Data gathering Tool in Analyzing Code-mixing in FB Captions

<i>User's name</i>	<i>Facebook captions</i>	<i>Levels of code mixing</i>
FBU17	Paki click diiin usto ay picture... asii kayun paki ...salamat... ...man mensiiioon kayo kud eda.. salamatkn...	Word (2)
FBU3	Uiii, enta isaa nika as a friend	Phrase
FBU24	Agin a-update adi	Baster
FBU12	adi maegew met lang burasek et yummy yummy	Repetition
FBU8	"Colors are the smiles of nature" Leigh hunt views at Swamp, La Trinidad Benguet @ 5:30 AM mayat view ya karon first pic Sunday morning	Idiom
FBU2	Benguet is back to GCQ! Inviting everyone on June 26, 2021 at Bot-oan, Clause (2) Catlubong, Buguias as we start our Journey as Husband and wife... Umali kayo... kalajo.. ikayo.. -SDG	Clause (2)

Suwito's theory such as word, phrase, baster, repetition, idiom, and clause are the six levels of code-mixing. The researcher adapted the table from Zulida and Zahara (2021) and was used to identify every level of code-mixing that appeared on the caption of the users in a table to make the data classification easier to understand.

The researcher discovered 218 pieces of data. The phrase, *as a friend*, went viral and trendy during the time that the Kankanaey user included this in his caption. (Zhang, Zhao & Xu et al., 2015) The popularity of hashtags, topics, or even neologisms like Internet slang can reflect trends in online social media. Phrase is used on Facebook by Kankanaey users because phrases do not usually have a subject or predicate, which is why the users do not actually pay attention to complete sentences, especially because the app is not formal.

The users used the words click, picture, and mention; this is because almost all of the posts published on Facebook in the community are completely composed of Kankanaey words; additionally, the user misspelled the word mention into "mension.", which is caused by the fact that within the community you aren't really expected to use the English language properly given that you aren't in a formal situation, which eventually affects how users spell English words because of what they are exposed to. According to Fauziah, Apriliaswati & Susilawat et al., (2018), vocabulary is important to develop language skills in order to master the language. Because the user's mother tongue dominates the English language, the English language can only be seen in the form of words.

The researcher discovered 33 data points at the clause level. In the caption of FBU23 included an invitation clause in her caption; the use of the word everyone implies that her FB friends who see and read the invitation as a caption on her Facebook are invited. Users only use clauses for special events and advertisements, which are not likely to happen every day. They use this form of code-mixing as they see a need to be formal in their captions, and for this to be clear and understandable, it must have a complete thought. (Jamieson, 2017), clauses are the true building blocks of any sentence.

In the FBU 24 caption, *a-update*, the English words were added with a Kankanaey word. The structure is *a* as prefix, *update* as words combined together become *a-update*. Kankanaeys are bilingual, hence the way they construct their sentences is prone to these types of mistakes. This is because basters are often used when Kankanaeys converse in person, which they subsequently bring online when publishing captions. Baster is most likely to be used unintentionally by users because it is given in a bilingual to combine two languages to create one meaning. (Masruroh, 2020), Usually baster occurs without the intention of the speaker.

FBU12 repeated *yummy* in her caption to show the viewers and readers how she felt about the foods she had just uploaded. Looking at her captions, she mostly used repetition to catch people's attention and try to reinforce in them what she had just posted because repetition of words makes people remember a word. Repetition is a figure of speech that shows the logical emphasis that is necessary to attract a reader's attention. Users rarely use this form because repetition can affect how readers respond to their captions. (Haines, 2021), Too much repetition might slow down the way readers understand your message.

FBU8 used the idiom, *Colors are the smiles of nature* as a quote cited by the user to describe what he sees at Swamp, La Trinidad, he didn't literally mean that the colors are what makes nature smile but how the place is filled with vivid colors that make it a beautiful place. According to Hoffman's Theory Study (as cited in Anggarini & Widhiasih et al., 2021) quoting somebody else is restating the statement or saying a famous expression written by the well-known figures. Given that Kankanaey only used a few idioms in publishing captions, the user used idioms to pique the readers' interest in his caption, but idioms may also require thinking outside the box and readers may not understand the captions, then they may not be reached in the way the user wanted, which is why only a few users use this form. (Bailey, 2022), an idiom may hinder effective communication more than improve it.

Table 5
Sample Data on the Levels of Code-mixing

Levels of code-mixing	Set 1	Set 2	Set 3	Total
Word level	87	28	24	135
Phrase level	155	32	33	218
Clause level	39	9	9	57
Baster level	14	2	4	20
Repetition level	10	3	2	15
Idiom level	5	0	0	5

The table above shows some examples of code-mixing levels in participant captions. The table depicts the most common to least common types of code-mixing employed by the user.

The phrase is the most used by Kankanaey users among the levels of code-mixing in their encoded captions in Facebook, because users do not pay attention to the structure of their

grammar, particularly because the app does not require users to be formal, instead they focus on their need to express what they wanted to say. (Sandoval, 2019), If they only want to converse in social settings, their focus may be solely on achieving fluency.

Due to the substantial disparity in the number of captions in each set, active undergraduate students have the highest level of proficiency, whereas inactive undergraduates and graduates have the same level of proficiency.

Table 6
Level of Proficiency in the English language of Facebook Users

Mean			Verbal Interpretation
1. My oral English is good	Active UndergradStudents	2.30	Disagree on the use of English language
	Inactive UndergradStudents	2.00	Disagree on the use of English language
	GraduateStudents	3.30	Strongly agree on the use of English language
	Total	2.53	Agree on the use of English language
2.I can express myself well in English	Active UndergradStudents	2.80	Agree on the use of English language
	Inactive UndergradStudents	1.80	Disagree on the use of English language
	GraduateStudents	3.10	Agree on the use of English language
	Total	2.57	Agree on the use of English language
3. I manage English well as a medium of instruction	Active UndergradStudents	2.50	Disagree on the use of English language
	Inactive Undergrad Students	1.60	Strongly disagree on the use of English language
	GraduateStudents	3.10	Agree on the use of English language
	Total	2.40	Disagree on the use of English language
4. I can talk about work or school without difficulty in English	Active UndergradStudents	2.30	Disagree on the use of English language
	Inactive UndergradStudents	1.40	Strongly disagree on the use of English language
	GraduateStudents	2.90	Agree on the use of English language
	Total	2.20	Disagree on the use of English language
5. I am a competent English speaker	Active UndergradStudents	1.90	Disagree on the use of English language
	Inactive UndergradStudents	2.00	Disagree on the use of English language
	GraduateStudents	2.80	Agree on the use of English language
	Total	2.23	Disagree on the use of English language
Overall		2.39	Not proficient in English language

Students were asked to rate their own level of proficiency in English. The mean for active undergraduate students is 2.30, while the mean for inactive undergraduates is 2.00, indicating

that both groups disagree on the use of the English language in oral communication. The mean score of 3.30 for graduates was interpreted as the group strongly agreeing that their oral skills in the language are good. The total mean of item 1 is 2.53, indicating that Kankanaey users agree on the use of the English language. The standard deviation for item 1 was .949 for active undergraduates, 1.054 for inactive undergraduates, and .483 for graduates, indicating that among the three groups, graduates are the most consistent in their responses to item 1, followed by active undergraduates and inactive undergraduates.

For item 2, the mean of inactive undergraduates is 1.80, indicating that the group disagrees on the use of the English language in expressing themselves. Active undergraduate students had a mean of 2.80 and graduates had a mean of 3.10, indicating that both groups agree on their ability to express themselves using the language. Item 2 has a total mean of 2.57, Kankanaey users agree on the use of the English language when expressing themselves, while for the standard deviation, set 1 had .789, set 2 had .919, and set 3 had .898 standard deviation, demonstrating that graduates are the ones who are consistent in their responses to item 3, set 1 is the second, and set 2 is the final.

Inactive undergraduates had a mean score of 1.60 on item 3, indicating that they strongly disagree with being able to manage the English language as a medium of instruction. The mean for active undergraduate students was 2.50, indicating that the group disagreed on how to manage English as a medium of instruction, whereas the mean for graduates was 3.10, indicating that the group agreed on how to manage English as a medium of instruction. Kankanaey users disagree on how they manage English as a medium of English, while for their standard deviation inactive undergraduate students are the most consistent with .843 when it comes to their responses towards the item, followed by graduate students with a standard deviation of .876 and finally active undergraduate students with .972.

For item 4, inactive undergraduate students had a mean of 1.40, while active undergraduate students had a mean of 2.30, indicating that both groups disagree, as they struggle to use English in school or at work. Graduates had a mean of 2.90, and the group agreed but still had difficulty using English in their work. The total mean for this item is 2.20, indicating that users disagree with the use of the English language, implying that they continue to find it difficult to use English when discussing school and work.

For item 5, inactive undergraduates had a mean of 2.00 and active undergraduates had a mean of 1.90, indicating that both groups disagree about being a competent speaker of the English language, whereas graduates had a mean of 2.80, indicating that they agree and can say that they are a competent speaker of the language. The total mean of 2.39 indicates that users disagree that they are competent English speakers. Total deviation reveals that graduates are the most consistent in their responses to the question, with a standard deviation of .632, followed by inactive undergraduates with a standard deviation of .816, and active undergraduate students with a standard deviation of .994.

For the overall total, participants had an overall mean of 2.39, indicating that users are less proficient in the use of the English language, while their standard deviation was .746, indicating that the distribution of responses was inconsistent, demonstrating that each participant in each set differed in terms of how they perceived their English language proficiency. This demonstrates that not everyone in each set is at the same level of proficiency.

Table 7
Significant Differences in Proficiency Levels in the English language of the Users

N	Mean	Std. Deviation	Verbal Interpretation	
Active Undergraduate Students	10	2.3600	.62397	Less proficient
Inactive Undergraduate Students	10	1.7600	.48808	Not proficient
Graduate Students	10	3.0400	.50596	Moderate proficient
Total	30	2.3867	.74636	Less proficient

English Proficiency Level

There was a statistically significant difference in the level of proficiency in English language of Facebook users for the 3 groups, $F(2, 27) = 13.926$, $p < 0.001$. Levene's test indicated homogeneity of variances ($F = .961$, $p = .395$) so a Tukey post hoc test was appropriate to use. Post hoc analyses using Tukey HSD test showed that the graduate student group had statistically higher proficiency levels than the active undergraduate student group ($p = .024$), as well as the inactive undergraduate student group ($p = .000$). However, there was no statistically significant difference between the active undergraduate student group and inactive undergraduate group ($p = .051$). It also implies that, unlike graduates, they still have a lot of molding to do to improve their English proficiency.

Communicative Competencies

Four communicative competencies were used to collect data for this study to describe the level of English language proficiency of Kankanaey FB users, as a supplement to the results of the users' perceived level of English language proficiency. Canale and Swain (1980) identified four components of Communicative Competence: grammatical, sociolinguistic, discourse, and strategic (as cited in Navarro, J., Garbin, Z., Agena, E., & Garcia, O., 2017). Canale and Swain (1980), initially their model was composed of three sub-competencies, including grammatical competence, sociolinguistic competence, and strategic competence, which later became four with the addition of Discourse Competence (Canale, 1983) as a distinct component instead of being an extension of Sociolinguistic Competence (as cited by Tas & Khan, 2020). The ability of Kankanaey users to communicate is described using these four competencies.

Table 8
Total of Communicative Competency Levels Observed in Participant Captions

Sets	Grammatical	Sociolinguistic	Discourse	Strategic
Students	4	111	1	119
Undergraduates	0	43	0	43
Graduates	4	38	1	38

Strategic competence is the mastery of verbal and nonverbal communication strategies that can be put into action. The findings revealed that users are capable of dealing with communicative challenges; they planned ahead of time and used tactics such as paraphrasing and changing phrases on their captions to avoid communicative issues before uploading these captions to Facebook. Facebook is an app that allows users to think about and plan what they will put as captions, all the captions are classified as strategic competence by the researcher. According to Brown (2001), you can plan the concept of writing and give it an unlimited number of revisions before publishing (as cited by Cakrawati, 2012).

Sociolinguistic competence refers to the extent to which utterances are produced and understood appropriately in various sociolinguistic contexts depending on contextual factors, such as participant status, interaction purposes, and interaction norms and conventions. Users are posting in languages that will appeal to their intended audiences. They make sure to select appropriate terms for their readers and for the caption to serve its purpose, although this is not always the case. The informal use of Facebook on the other hand refers to learner-initiated use of the social networking site for communication with native speakers, Alm (2015).

Grammatical competence was ranked third, reflecting users' weaknesses in constructing grammatically correct sentences and discourse competency is the mastery of combining grammatical forms and meanings to produce a unified or written text in various genres. Kankanaeys don't see Facebook as an application where they must be formal in how they encode their thoughts; rather, they view it as a site where they are free to express themselves and be creative in how they encode their points of view. Even among the graduates who are professionals, some of them do not pay much attention to grammar.

The researchers were close to some of these participants and knew that they can construct grammatically correct sentences, but when it comes to Facebook, they do not apply these rules unless it's an announcement or the need to be grammatically correct. Grammatical competence is the ability to recognize and produce the distinctive grammatical structures of a language and to use them effectively in communication. It is a kind of competence which deals with the understanding of language code (grammar, syntax, word formation, sentence formation, and pronunciation) by (Ilma, 2016). When users encode English sentences or words in their captions, the mother tongue Kankanaey always interferes within the sentences, causing the English language to be abrupt or the other way around. Not everyone was able to apply this skill in their captions, indicating that participants' sentence organization skills are sending the questionnaire to the participants, they provided numerous responses about the advantages and disadvantages of code-mixing.

Advantages

Eighty percent of the users code-mix for their own benefit; it allows them to communicate effectively and accurately without bringing awkwardness into the conversation. Kankanaeys code-mix to establish a smooth conversation when they lack vocabulary words in English or Kankanaey.

Three percent of the users code-mix, as they feel like they are given the opportunity to practice English because speaking English is not really required in the region unless you are in a formal setting. As a result, when users use English, they see it as a chance to at least practice their knowledge of the language.

Thirteen percent of users make use of code-mixing because they honestly believe that mixing two languages is more powerful and effective for the audience or viewers, and they use this strategy to impact people. For them, code-mixing is a way to engage their audiences, which makes them effective speakers.

To avoid being judged by others, ten percent of the users use code-mixing. This is because if they lack English vocabulary, they can easily switch to Kankanaey without interrupting or cutting their words. This is because if they kept having extended pauses to grasp for an English term, their efficacy as a speaker would drop and their audiences would lose interest. This is because English is widely used or spoken in the Philippines, and English is one of the official languages of Filipinos, to whom the Kankanaeys belong. Despite the fact that English is not the country's native language, and they are not expected to speak and write as natives of the language, there is still a backlash that a person receives when he makes grammatical errors.

Three percent of the users see code-mixing as an opportunity to promote their native language or dialect/Kankana-ey, particularly on social media, where information spreads quickly. Social media platforms are the most powerful publishers of our time. Information, opinions, stories, and ideas - real or not, true or false, right or wrong – spread around the globe in a click of a button and reach billions of people (Strarinsky, 2021).

Seventeen percent of users use code-mixing to explain an English phrase or term to pupils or individuals who do not understand the English term using Kankanaey. In the Philippines, schools have employed the mother tongue to teach children English; this is the best way of teaching individuals the language. Understanding a student's strengths is critical for the teacher. Teachers must decide how basic or sophisticated their language should be while communicating with students, which is why they code-mix.

Disadvantages

Even though code-mixing can save you from criticism, according to the twenty three percent of the users it can also lead to criticism, especially from those who see English as an important language and are proficient in it. This happens when Kankanaeys know the English term but are afraid of making errors like grammar and pronunciation and embarrassing themselves, so they use or insert Kankanaey words instead.

Using two languages may cause barriers. According to fifty three percent of the participants, the differences in language may cause misunderstanding especially if their viewers come from different cultures. Misunderstanding and communication breakdown are said to mark many intercultural encounters as participants rely on the norms of their mother tongue and native culture to interpret meaning, this is why teachers are also concerned that they will be misunderstood by listeners and readers due to differences in the meaning of words in other languages; they are concerned that they will endanger their profession, particularly since they are viewed as role models and respected individuals by the public. Language barriers also occur when adults do not understand what the younger ones are saying due to the user's exposure to the English language, which makes communication difficult unless the person can adjust from code-mixing to conversing only in Kankanaey.

Six percent of Kankanaey users are concerned that bringing their habit of code-mixing as a comfortable way of using language into a formal situation could adversely affect their performance. To be able to land a good job in the country, being formal and correctly using English is quite necessary, and the growing importance of English and better levels of English proficiency are required.

Thirty-seven percent of users are aware and concerned that code-mixing has an impact on their relationship with the English and Kankanaey languages, as well as those children who are constantly exposed to code-mixing, resulting in poor grammar construction in adults and children because children typically mimic adults. One of the participants is the researcher's aunt; she added wahahhaa to her response, demonstrating that even when a survey is given formally on the messenger, the participant could not insist on using informal words and became comfortable with her language; this demonstrates that the encoder-addressee relationship has something to do with language usage.

Seven percent of Kankanaeys believe that the ongoing practice of code-mixing will lead to the loss of the dialect because people will forget about it, especially if the second language is as widely used as the first. The ancient terminology may be modified and lost to future generations, especially because the dialect constitutes the Kankanaeys' ethnic identity.

Other Findings

Ten percent of the users code-mix because the term in Kankanaey has no accurate or exact term in English or vice versa, which is why they had to use Kankanaey within the English

language, and code-mixing is popularly used in the community, including on Facebook. The advantages and disadvantages of code-mixing were listed in an equal number of responses, totaling thirty-eight, implying that Kankanaey participants had a balanced view of the disadvantages and advantages of code-mixing, which is why they continue to code-mix. Code-mixing is a linguistic phenomenon that is hard to disregard, especially if it is promoted and used within a community. Kankanaey participants continue to use code-mixing because it is absolutely essential for them to communicate within their community. It is suggested that future studies observe and survey the perceptions of monolingual (Kankanaeys) toward code-mixing.

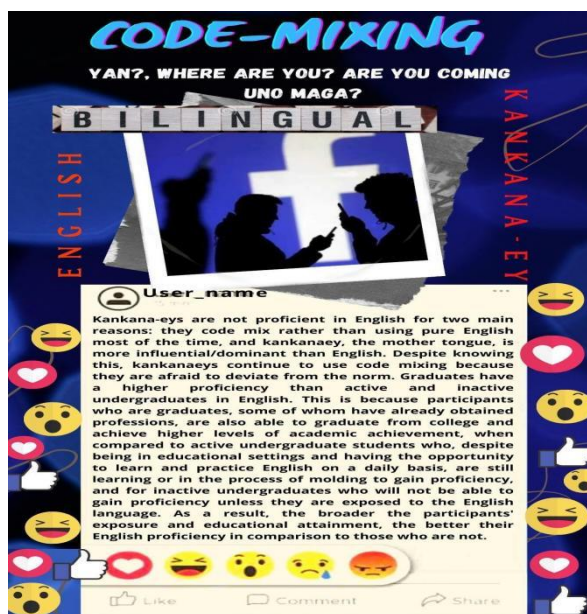


Figure 3: Photo Poster about Code-mixing

In relation to the objectives of this research, a photo poster with research findings about Kankanaey's code-mixing and their level of proficiency was created. Since Facebook is aligned with this research, this poster will be posted on the researcher's Facebook because it is the quickest and easiest way to disseminate this information to the users. Moreover, the purpose of this poster is to inform users about code-mixing.

V. CONCLUSION AND RECOMMENDATION

Kankanaeys continue to use code-mixing because it is popular/a trend, accepted, and practiced in their community and they are afraid to deviate from this norm. It is clear that they are unable to master the English language for two reasons. First, they use code-mixing rather than pure English most of the time. Second, Kankanaey, the mother tongue, is more influential than English, affecting their proficiency with English. Thus, the widespread use of code-mixing among Kankanaeys in Benguet has influenced their proficiency with the English language. Graduates have superior proficiency than both inactive and active students due to their educational achievement. Kankanaey users found code-mixing to be both advantageous and disadvantageous. Countries with several languages are prone to code-mixing; it is a common phenomenon that is difficult to manage. A user may be unaware of code-mixing, but they are doing it every time they communicate.

Based on the findings, the researcher suggested that future researchers select participants from each set who have a similar number of captions posted in their timeline over a one-year period in order to have a better comparison among the sets. Future researchers include other

places that speak Kankanaey besides Kibungan, Kapangan, and Buguias, Benguet, as well as increase the number of participants, to obtain more reliable data. Future researchers could conduct a study on Kankanaey language proficiency, selecting participants who were born Kankanaey but grew up in the city or abroad. It is also suggested to use a variety of tools, which includes a spoken and written test in English grammar as a support to the perceived level of proficiency among users to assess their English language proficiency. The researcher also advises future researchers to investigate the participants' proficiency with the local language Kankanaey. It is also recommended to select a questionnaire that specifically addresses the disadvantages and benefits of code-mixing in Facebook captions.

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About the Author



Vanessa Igueldo Bagesbes is a graduate of the University of Baguio in the Philippines with a Bachelor of Arts in English Language degree. She took the course because she was interested in language, its norms, its role in society, and social media. Vanessa's research interests include how language functions as a critical mode of interaction and how society communicates its thoughts and feelings through language, as well as how language has been manipulated, resulting in code-mixing that determines cultural identities and social relationships.

Generation and Expansion of the ‘*Dao X*’ Class of Adverbs -Taking ‘*Dao Chu*’ and ‘*Dao Di*’ as Examples “到 X”類副詞的生成與擴展—以“到處，到底”為例

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Abstract: This article focuses on examining the Chinese words ‘*daochu*’ and ‘*daodi*’ to explore the reasons for the formation and development patterns of the adverbial structure ‘*dao X*’. It is believed that the adverbialization of ‘*dao X*’ is directly grammaticalized from the verb-object structure, and the formation times of different words within the ‘*dao X*’ class are not synchronized, with uneven development among different words.

Keywords: ‘*dào X*’ class of adverbs ‘*dao chu*(到處)’ ‘*dao di*(到底)’ adverbialization

I. 引言

《現代漢語詞典(第7版)》中“到 X”副詞有“到處”“到底”“到了兒”和“到頭來”。其中，“到了兒”為北方方言詞(河北)，“到頭來”多用於口語，“到處”和“到底”是該類中最为典型的兩個副詞。現行字典對“到處”“到底”二詞的解釋可歸結為：“到處”用作副詞，表“說話者所指動作或狀態的全部範圍”；“到底”用作動詞表“到盡頭”義，用作副詞表“經過種種變化或曲折最後出現某種結果”“深究”或“畢竟”義。

“到處”是總括性範圍副詞。它在句中的位置可在謂語之前，也可在主語之前或句首位置。例如：

(1)這種忙碌是有意義的，到處他臉上放著紅光。(老舍長篇)

例(1)句中的“到處”位於主語之前，意在凸顯“臉部表情呈現狀態的全部範圍”。

“到底”有動詞和副詞之分。它在句中的位置可在謂語之前，也可在謂語之後，還可在主語之前或句首位置。不同位置所表達的語義也不相同。例如：

(2)審計調查，重要問題要及時向政府和上級審計機關報告，並認真追查到底。(1993年人

民日報5月份)

(3)問題是，到底是什麼樣的機制能有效促進農業投入的增加？(1993年人民日報5月份)

例(2)句中“並認真追查到底”的謂語為“追查”，“到底”為次要動詞用在謂語動詞後作結果補語表達“追查的結果與程度”。例(3)句是疑問句，“到底”用在句首，表示進一步深究，表達“究竟”義。

學界對“到底”的研究較多，而“到處”的研究相對較少，此外，對“到底”的歷時演化有較大爭議。本文試圖在“到 X”類詞語成詞的大背景下，對“到處”“到底”進行考察與闡釋，揭示其深層道理。

II. 生成前：間隔共現與緊鄰共現

1. “到”與“X”共現的形式

“到 X”類副詞成詞前，是兩個獨立的詞語。“到”在《說文》中的解釋是“至也”，本義是“到達”。“到”與其後搭配成分組合最初形成的是動賓結構，作為後續成分的“X”與“到”的共現順序應該是由遠及近，由間隔共現到緊鄰共現。“到處”“到底”“到了(兒)”“到頭(來)”都是如此。

1) “到”與“處”的共現

表“地方”義名詞“處”與“到”組成動賓結構。動詞“到”最初所接處所賓語應為定指的、具體的處所，而名詞“處”的語義確是不定指的、較為模糊的處所。在實際的語料中，“到”與“處”由間隔共現到緊鄰共現的時差很小，幾乎同步進行。

“到”與“處”的間隔共現出現於漢代以後，例如：

(4)到業死處齎祭，悲哀感動路人。《八家後漢書輯註·謝承後漢書卷五》

(5)唯飛仙有能到其處耳。(漢末魏晉《海內十洲三島記》)

例(4)和例(5)句中動詞“到”到達的處所“業死處”“其處”都是非常具體的。

從具體到一般，是事物發展的一般規律，“到”與“處”的間隔共現也是遵循此規律的。例如：

(6)伏波類西域賈胡，到一處輒止，以是失利。《後漢書卷二四·列傳第一四·馬援傳》

(7) 彪不下刀，便相隨下嶺到平處，謂劫曰：“卿須我頭，我身不去也。”《南史卷六四·列傳第五四》

例(6)和例(7)句中動詞“到”到達的處所“一處”“平處”就不是非常具體了。

間隔共現的進一步發展就是修飾“處”的限定成分省略或脫落，最終實現緊鄰共現。例如：

(8)然後躑躅守穴，於不到處巡伏，隱身者唯一人而已。《全後魏文卷·五十九》

例(8)句中“於不到處”是介賓結構，“不到處”意為“不到達的地方”，“到處”為偏正結構。

2) “到”與“底”的共現

“底”作為名詞，表“最下面”“底端”義時與“到”組成動賓結構。動詞“到”最初所接處所賓語同樣應為定指、具體的處所，而名詞“底”是不定指的，什麼東西的底部不很清楚，“到”與“底”同“到”與“處”的共現相同，都是以間隔共現為始。

“到”與“底”的間隔共現最早出現於東晉時期，例如：

(9)諸患猶爾，憂勞深似關江侯闕到行底。足下遺臨憒次冷取書。(王羲之《晉王右軍集》)

例(9)句中的“行底”作“到”的賓語，句中“到達的處所”是定指的，終點非常具體。

唐代，“到”與“底”緊鄰共現，其多見於對仗工整的詩歌中，例如：

(10)試覽鏡湖物，中流到底清。(孟浩然《與崔二十一遊鏡湖，寄包、賀二公》)

(11)茲泉由太潔，終不畜纖鱗。到底清何益，含虛勢自貧。(李德裕《惠泉》)

例(10)和例(11)句中的“底”看似虛指，實為實指，分別所指作者所處位置的“湖底”與“泉底”。

在唐代未見“到”與“底”的間隔共現，可能受所選當時文獻為詩歌文體之故，五代時期，“到”與“底”的間隔共現與東晉時期用法同，例如：

(12)舜子上樹摘桃，阿娘也到樹底。(五代《敦煌變文》)

(13)雲：“前日到岩頭石霜底阿師出來，如法舉著。”(五代《祖堂集》)

2. “X” 限定成分省略與隱現的因素

“X” 限定成分的省略與隱現也是有條件的。有些句子，如果把修飾“X”的成分去除就會不合文法。例如：

(14)a. 須與到一處，天地漆黑，張岸曰：“二郎珍重。”《河東記·李敏求》

*b. 須與到處，天地漆黑，張岸曰：“二郎珍重。”

(15)a. 軍到丘頭，凌面縛水次。《三國志卷二八·魏書二八》

*b. 軍到頭，凌面縛水次。

(16)a. 未到桃源時，長憶出家景。及到桃源了，還似鑑中影。《全唐詩·第八七〇》

*b. 未到桃源時，長憶出家景。及到了，還似鑑中影。

例(14)a. 句中形式上雖然到達的處所是任指的，但是就當事人而言是真實到達的地方，是實指的，是有指的，所以，“到一處”不可省略“一”，b. 句就不成立。例(15)a. 句中到達的處所也是實指的，就到達什麼樣的丘頭、哪裡的丘頭，我們不用去管，如果把“丘”省略掉，就變為無指的，而實際到達一個無指的地方是不存在的，所以，“到丘頭”不可省略“丘”，b. 句不成立。例(16)a. 句式對仗工整的詩句，如果把其中某一部分省略，當然也是不對的，所以，“到桃園了”不可省略“桃園”，b. 句不成立。

以下，我們以承前省略和隱含兩個面向來說明“到”與“X”緊鄰共現的條件。

1) 承前省略

在語篇中，說話者如果在前文提供了足夠的信息，那麼其在後文省去重複信息，信息總量不變，這種省略就是承前省略。A 詞與 B 詞的共現形式從間隔共現到緊鄰共現的一個條件就是限定 B 詞的成分，其在前文中確有提及，並且是前文中的主要信息，而在後文中的敘述中成為限定性的、背景性的，那麼，從語言經濟性角度來說，限定 B 詞的成分需要省略。“到”與“X”從間隔共現到緊鄰共現就涉及到承前省略。例如：

(17)似投石井中，非到底不止。《舊唐書·卷一七一》

(18)遂命水精曰：“汝可與我投此井到底，看有何怪異。澤亦當有所賞也。”(北宋《太平廣記》)

例(17)句中“到底”是承前省略了“石井”，應為“到石井底”；例(18)句中“到底”是承前省略了“東海”，應為“到此井底”。

2) 隱含

“X”的限定成分隱含的另一個因素就是“隱含”。張國憲(1993)指出：“所謂的‘隱含’，就是不能填補但在語義上暗含著某個詞語，或者可以填補但填補的詞語不止一種可能的語言現象。”“到”與“X”的緊鄰共現，其實隱含了“X”的限定成分。例如：

(19)十娘詠盞曰：“發初先向口，欲竟漸伸頭；從君中道歇，到底須休。”(唐小說·《遊仙窟》)

(20)行時實從過前事，到處杉松長舊圍。《鑑誠錄·卷八·衣錦歸》

(21)貪生莫作千年計，到了都成一夢閒。《全唐詩·第六八六卷》

(22)每歲送寒衣，到頭歸不歸。《全唐詞·林楚翹》

例(19)-例(22)句中“到底”“到處”“到了”“到頭”都是動詞“到”與“底”“處”“了”“頭”直接組合，形成動賓結構。動詞與受詞之間形式上無需補出限定成分，表達意義完整。

III. 生成中：角色轉變與角色定位

1. 轉變為副詞前的結構

“到”與“X”組合的最初結構在這裡我們統一處理為動賓結構，那麼，由動賓結構到副詞是否經歷其他階段呢？

楊榮祥(2005)對於副詞的虛化，列為兩類：直接虛化和間接虛化，直接虛化是指一個副詞直接由實詞虛化而來，間接虛化是指詞義由“實”到“虛”的過程不是體現在詞的層面，而是體現在構詞語素層面。

“到 X”副詞化前的結構，可以通過兩個標準來加以界定：一是“到 X”組合前項“到”是否虛化，二是“到 X”組合後項“X”是否具體？

“到 X”中的“到”如果已經虛化，“X”為具體人或事物，“到”的作用為介引功能。只有這樣，可認定其為介詞結構，否則不可以。例如：

(23)覓食道不見道，到頭還自惱。《六祖壇經》

例(23)句中的“到頭”雖然分佈在“還自腦”的前面，但是，並沒有語法化為副詞，是處於副詞化前階段。句中“到”的動詞性非常明確，“頭”也不表具體，所以，此處的“到頭”仍是動賓結構，與前句“覓食道”結構相同、對仗呼應。

“到 X”的副詞化無需經歷中間結構階段，直接由動賓結構語法化為副詞。換言之，“到 X”副詞化路徑為：動賓結構>副詞。

1) “到底”的副詞化路徑

關於“到底”，以往研究普遍認為其副詞化路徑為：動賓結構“到底”>介賓結構“到底”>副詞“到底”。此觀點以楊榮祥(2005)、馮雪艷(2009)、張秀松(2011、2012b)等為代表。楊榮祥(2005)指出：“到底”本是介賓短語，是“到最終的時候、到盡頭”的意思，此後，馮雪艷(2009)、張秀松(2011、2012b)皆引於此，認為“到底”副詞化之前的結構為介賓結構。

筆者認為，“到底”的副詞化路徑為：動賓結構“到底”>副詞“到底”。“到底”副詞化前，“到”的意義並未虛化，“底”在組合形式中也不具體。例如：

(24)秤槌落東海，到底始知休。《唐·寒山詩》

例(24)句中的“到底”不可以被理解為介賓片語，“到”的動詞性非常明確，此處的“到底”仍是動賓結構，是句法分佈在狀語位置上的動賓結構。

2) “到處”的副詞化路徑

“到處”組合的結構類型可分為兩類：一是動賓結構，二是偏正結構。那麼，副詞“到處”是來自動賓結構，還是偏正結構呢？例如：

(25)春山到處喜相從，又是天門十六峰。《全唐詩補編·全唐詩續拾·卷三十二》

(26)到處君須看水勢，水勢莫問江與溪。《撼龍經》

(27)武德元年，敕右武侯驃騎將軍高靜致幣於始畢可汗，路經豐州，會可汗死，敕於所到處納庫。突厥聞而大怒，欲南渡。《舊唐書卷五七·列傳第七》

例(25)句中的“到處”為動賓結構，意為“到達春山這個地方”；例(26)句中的“到處”也是動賓結構，意為“到達一地方”；例(27)句中的“到處”是偏正結構，意為“到的地方”，“到處”前加“所”，使得處所有具體所指，成為“所”字結構，“所到處”是處在介詞結構“於……”中。

動賓結構的“到處”使用較為自由、靈活；而偏正結構的“到處”使用受到限制，必須處在特殊結構之中，才能成立。此外，偏正結構的“到處”在古代漢語中的早期

形式應是“到之處”或“所到之處”。“到之處”最早出現在唐代，僅有 1 例，“所到之處”最早出現在北宋。例如：

(28)不到之處謂之退落，猖強之處謂剛雄。(唐《葬法倒杖》)

(29)勿使勞繁當行賞罰之科各竭忠公之力所到之處宣示百姓達我勸人之心(北宋《冊府元龜》)

不論是使用彈性程度還是從產生年代考察，“到處”是動賓結構的直接副詞化。“到處”的語法化路徑為：動賓結構“到處”>副詞“到處”。

2. 角色轉變的因素

1) 句法位置

句法位置是副詞形成的決定性條件。一個詞或一個詞組或某種語言成分，如果經常處於謂語前，它就極有可能發展成為副詞。“到 X”在句中主要動詞前高頻共現，為其向副詞轉變提供了句法條件。在唐代，“到處”和“到底”位於主要動詞前呈優勢分佈。

在此，我們考察了“到處”和“到底”在《全唐詩》中的分佈情況，“到處”用例為 113 例，“到底”用例為 17 例。如下表所示：

表 1：“到處”“到底”《全唐詩》分佈表

	謂前狀位	句末
到處	93 例	20 例
到底	16 例	1 例

雖然“到底”的用例要遠遠少於“到處”，但是兩者的優勢分佈都是在句中主要動詞前。從句法的角度看，謂前狀位為“到處”“到底”的副詞化創造了句法條件。

2) 語義基礎

語義基礎是副詞形成的基本條件。我們既要考慮“到 X”內部各個語素的意義，又要考慮組合後的意義泛化和虛化。

“到 X”中的“到”有“動作結束”義，“X”的語義存在特殊性，區別於其他與動詞“到”組成的一般動賓結構。“到 X”組合的語義演變涉及語義泛化和虛化的過程。

張秀松(2011)通過語料說明了“底”的語義演變，進一步指出“到底”的語義泛化和語義虛化。“到底”中的“底”最初表物體的底端，是物件名詞，物件名詞“底”早在先秦就有，到晉代，引申出“盡頭”義，其方位詞用法逐漸發展起來，唐代，其方位義進一步泛化，可表“上、中、下、旁、裡”義。

“底”的語義泛化固然如此，但就“到底”而言，應該把“底”放在組合中考慮。“到底”組合中，“底”的語義泛化是由具體到一般，“底”由表達實指的實在物體之底到表達任指的事物之底、再到表達空間域之外的抽象之底。“底”的深層語義有“最低端”極點義色彩，其與表“動作完結”義的“到”組合，有進一步語義泛化和虛化的基礎。

《現代漢語詞典(第7版)》所列的其他3個副詞“到處”“到了(兒)”和“到頭(來)”中的“處”“了”“頭”的語義泛化都是由具體到一般。具有“動作結束”義的“到”和具有泛化“終點”義詞語的組合，是“到X”副詞化的語義基礎。

3. “到X”類副詞內部成員的角色形成

“到X”類副詞的形成時間並不同步。“到處”成為副詞的時間要早，“到底”稍晚，“到了(兒)”和“到頭來”更晚。

根據語料，副詞“到處”產生於唐代，例如：

(30)時時微雨洗風光。天街遠，到處引笙簧。《全唐詞·和凝·小重山》

(31)楊敬之祭酒贈詩雲：“幾度見君詩總好，及觀標格過於詩。平生不解藏人善，到處逢人說項斯。”《唐才子傳·卷七》

(32)五湖四海隨緣去，到處為家一不歸。《祖堂集·卷第十五》

副詞“到底”產生於宋代，例如：

(33)筆墨有時間作戲，功名到底是無緣。《陸遊詩全集·一》

(34)英雄到底是癡絕，富貴但能妨礙眠。《陸遊詩全集五》

(35)天那！我到底也只是個死。《琵琶記·第二十五出·祝發買葬》

IV. 生成後：停滯阻斷與有效擴展

“到 X”類副詞內部各詞的發展存在不平衡性。“到處”“到了(兒)”“到頭來”沒有繼續發展，“到底”有效擴展。

1. 停滯阻斷

《現代漢語詞典(第 7 版)》有“到案”“到場”“到達”“到處”“到底”“到點”“到頂”“到訪”“到家”“到來”“到期”“到任”“到手”“到頭”“到位”“到職”“到了兒”“到頭來”等詞。標註的詞性如下表：

表 2：“到 X”《現代漢語詞典(第 7 版)》詞性標註

到案	到場	到處	到底	到點	到頂	到訪	到家	到來
V	V	Adv	V/Adv	V	V	V	Adj	V
到期	到任	到手	到頭	到位	到職	到達	到了兒	到頭來
V	V	V	V	V	V	V	Adv	Adv

以上 18 個字在成詞前的結構有兩種：述賓結構和聯合結構。

“到訪”“到來”“到任”與“到達”是動詞與動詞的聯合結構構詞，其他的 14 個字皆為述賓結構構詞。述賓結構構詞中，一部分詞是合成性謂詞，一部分有轉化為副詞的傾向。

部分述賓式謂詞發展停滯的原因是句法上無轉化條件。例如：“到案”“到場”“到點”“到期”“到手”“到職”等沒有演化為副詞的句法條件，它們長期處在句子的核心謂語位置上，所以演化被停滯阻斷。

“到處”“到底”“到了兒”和“到頭來”詞性標註非常明確，先暫且不談。謂詞“到家”“到頂”和“到位”，實際上是有向副詞轉化傾向的。“到底”“到家”“到頂”和“到位”都可以分佈在句中謂詞核心之後，表示“程度之深”，由“空間移動”到“程度表達”，詞的性質也會有所轉變。

2. 有效擴展

分佈在謂語核心後的“到底”“到家”“到頂”和“到位”，主要做前項動詞的補語成分，表達程度，它們很難再進一步擴展表達其他的意義。

分佈在謂語核心前、狀語位置上的“到處”“到底”“到了兒”和“到頭來”，發展也是不平衡的。“到底”是擴展最遠的，其由表達“時間”的副詞向“究竟”義和“畢竟”義語氣副詞擴張。“到處”是表達空間全量的副詞，它沒有進一步向“程度”或“語氣”擴展。

沈家煊(1999)從語義上把表示極大量或極小量的語詞統稱為“極量詞”。“到 X”類副詞都可以看作是極量詞，表示量級最大，“全量”與“足量”。

空間是物質存在的客觀形勢，由長度、寬度、高度表現出來，是物質存在的廣延性和伸張性的表現。空間方位說認為，空間的表達在語法上和語義上比種種非空間的表達，包括時間的表達在內，都更為具體。“到處”體現了物質的廣度之廣，“到底”體現了物質的深度之深。

說話人在交代某件事情的時候，總會持有一定的態度，或直陳、或疑問、或祈使、或感嘆，即為語氣。極量詞“到處”可直陳可感嘆，“到底”可直陳可疑問可感嘆。

“物質的深度”有些面向更能激發出人物的主觀情感，從而由“空間域”到“時間域”再到其他領域轉化。

V. 結語

“到 X”類副詞成詞前，是兩個獨立的詞語。“到”與其後搭配成分組合最初形成的是動賓結構，作為後續成分的“X”與“到”的共現順序應該是由遠及近，由間隔共現到緊鄰共現。

“到 X”的副詞化無需經歷中間結構階段，直接由動賓結構語法化為副詞。“到 X”副詞化路徑是：動賓結構>副詞。轉變為副詞的因素基本上有兩點：一是句法位置，二是語義基礎。“到 X”在句中主要動詞前高頻共現，為其向副詞轉變提供句法條件；具有“動作結束”義的“到”和具有泛化“終點”義詞語的組合，是“到 X”副詞化的語義基礎。

“到 X”類副詞形成時間並不同步，“到處”成詞較早，“到底”稍晚，“到了(兒)”和“到頭來”更晚。“到 X”類副詞內部發展不平衡，“到處”“到了(兒)”“到頭來”沒有繼續發展，“到底”表達意義有效擴展。

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The Semantic Evolution and Subjectification of ‘Che’ “扯”的語義演變及主觀化

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Abstract: *The evolution from hand movements to verbal verbs is considered to have cross-language commonality. This paper analyzed the transformation of the hand verb "Che" into a verbal verb under the action of the metaphorical mechanism, and holds that in modern Chinese, the phenomenon of "Che" has been de-categorized, and its semantics have been further simplified to represent the speaker's subjective evaluation meaning, which is subjective.*

Keywords: *Che semantic evolution subjectification de-categorization*

I. 引言

“扯”在《現代漢語詞典(第7版)》中的釋義如下：①拉②撕；撕下③談，多指漫無邊際地閒談或非正式地交談(中國社會科學院語言研究所, 2016)，這些釋義“扯”均標注為動詞。然而現代漢語中，“扯”還存在以下用法，例如：

(1)這個採訪更像是一個讓人看了想笑的小品,感覺有點扯。(BCC 微博)

(2)我剛買的電腦居然死機了，實在是太扯了。(BCC 微博)

(3)說你戒酒比說你去拯救地球更扯。(BCC 微博)

例(1)-(3)中“扯”出現在含有“程度”義的詞“有點”、“太”、“更”之後，並且詞典中現有的釋義無法對其進行解釋。我們認為類似上述例句中的“扯”語義發生虛化，偏離了動詞範疇，表示事件內容超出說話人主觀認知上所能接受的範圍，含有說話人對命題或事件的主觀評價。

“扯”是“撻”的俗字，本義為“撕而裂之”。這一語義可以看作由兩個部分組成，具體的動作“撕”和由該動作造成的結果“裂之”，也即事物形態變化與變化後的狀態。北京大學 CCL 語料庫檢索顯示，“扯”最初在五代出現，到了明代“扯”的實語範圍擴大，出現了表示言說內容的“謊”，還出現了“喉嚨”“嗓子”“口”等與言說相關的人體部位名詞。但此時，“扯”還不能單獨表示言說義，即“扯”還未

發展成言說動詞。判斷“扯”是否已經完全發展為言說動詞，我們採取和董正存(2009)一樣的方法，即“扯”是否依賴其他言說動詞(短語)或是否與言說名詞賓語搭配使用。清代時，就出現了“扯”明顯表示言說義的情況，《紅樓夢》中出現含有動詞“扯”的語句共 67 條，其中言說動詞用法的“扯”有 30 條，占總數的 44%。現代漢語中，“扯”用於言說動詞的情況更為常見，以王朔的小說集為檢索範圍，得到含有動詞“扯”的句子共 48 例，表示言說義的“扯”有 28 條，占總數的 54%。本文首先分析“扯”從手部動作到言說動詞、表示動作義到表示主觀評價義的語義演變，討論其語義演變的機制，並結合去範疇化理論分析現代漢語中“扯”的特殊用法。

II. 從手部動詞到言說動詞

2.1 “扯”的語義演變

“扯”在幾部代表性辭書中的釋義分別如下：

《康熙字典》：【正字通】俗撻字。【正韻箋】扯，本作撻。(清 張玉書等編纂 2009)

《漢語大詞典》：①拉；牽引②方言。猶連。與“帶”同用，表示前後兩者都包括在一起③拔④撕，撕下⑤方言零買⑥依託⑦談，閒聊。(羅竹風主編, 2011)

《現代漢語詞典(第 7 版)》：①拉②撕；撕下③多指漫無邊際地閒談或非正式地交談。(中國社會科學院語言研究所, 2016)

不同時期的字典對“扯”的釋義大致與北京大學 CCL 語料庫的檢索結果相符。“扯”最初在五代出現，五代到明代“扯”常用的義項既有本義“撕裂”，同時也常用於“拉、牽引”之意。例如：

(4)興哥大怒，把書扯得粉碎，撒在河中。(元·《話本選集》)

(5)三巧兒問道：“你沒了什麼東西？”婆子袖裡扯出個小帕兒來。(元·《話本選集》)

(6)王定本不肯去，被翠紅二人拖拖拽拽扯進去坐了，甜言美語，勸了幾杯酒。(元·《話本選集》)

例(4)受事“書”由於動作“扯”，出現了粉碎的結果，此例中“扯”顯然表示本義。例(5)動作“扯”作用於受事“小帕”，受事“小帕”從一個地方移動到另一個地方，在這裡“扯”的語義已經發生變化，表示“拉、牽引”之意。同樣，例(6)“扯”

的物件為具體某一個人，使受事“王定本”從一個地方移動到另一個地方。“扯”表示手部動作時其語義轄域是它的受事實語。

明代開始，“扯”所帶的賓語範圍擴大，出現了與言說內容有關的名詞賓語“謊”例如：

(7)也只因他福至心靈，隨口就扯出一個謊來，說道：“那中生，你還有所不知……。”(明·《三寶太監西洋記》)

(8)尊者就扯個謊，說道：“地方上事熟、人頑……”(明·《三寶太監西洋記》)

上述兩例，除了動詞“扯”外句子中還另外出現表示言說的動詞，也即“扯”還未能單獨表示言說義。賓語名詞“謊”的作用在於解釋說明後面具體言說內容的性質。

“扯”所帶的賓語範圍擴大，還表現在賓語位置上可以出現與言說有關的身體部位名詞“喉嚨”“嗓子”“口”等。例如：

(9)劈頭就扯開喉嚨來，大喝一聲：“哇！”(明·《三寶太監西洋記》)

(10)眉頭一皺，計上心來，扯開笑口道：“老身已替你排下計策，只看你緣法如何。”(明·《今古奇觀》)

根據“扯”的賓語搭配情況不同“扯”的語義已經發生了分化，當賓語名詞為形狀可改變、可分割的具體事物時，“扯”為本義，記作“扯₁”。當賓語名詞為形狀不可改變、或受動詞支配後形狀沒有分割時，“扯”表示“拉、牽引”之義，記作“扯₂”。從認識語言學的角度看，動詞會依賴與其共現的名詞論元不同而改變它們的意義，從而產生動詞的多義現象(verbal polysemy)(王葆華, 2006)。

清朝晚期，“扯”已經明確成為了一個言說動詞，發展出言說義。其語義轄域從受事實語擴大為言語內容。例如：

(11)“子固不要胡扯！我只問你，把你的美人、我的芳鄰藏到那裡去了？”(清·《孽海花》)

(12)“你今天發了瘋了，怎麼扯出這些話來。”(清·《二十年目睹之怪現狀》)

“扯”的語義演變結合不同時期辭書對“扯”的釋義，我們大致可以推測，明末開始到清朝這一時期是“扯”從手部動詞到口部動詞演變的重要時期。清朝晚期，“扯”從手部動詞到口部動詞的詞義演變已經完成，因而在晚清時期的文學作品中言說動詞“扯”的用法和數量大幅增加。

2.2 “扯”語義演變的機制

上文指出，“扯”在明代語義已經發生了分化，形成“扯₁”和“扯₂”。在隱喻機制的作用下，“扯₁”、“扯₂”的語義進一步發生演變，產生不同的演變路徑。隱喻是指 A、B 兩個概念在某方面有相似之處，用一個概念表達另一個概念，從而引起語義演變。“扯₁”表示“撕而裂之”，句法上表現為“碎”常做補語出現在“扯”之後。同一個範疇的成員往往可以按他們的數量或程度大小排列起來(沈家煊, 2015)，表示事物的破損狀態也可以按照程度排列為：〈破、裂、碎〉，因此可以認為某物“撕而裂之”後的狀態是其形狀改變的一個極點狀態。“扯開嗓子”“扯起喉嚨”“扯著嗓子”“扯破嗓子”等組合中，賓語名詞由具體的可感知的名詞變為不可視的人體器官，但仍然存在變化的極點狀態，其外化的形式為聲音達到最大值。句法形式上表現為在動詞和賓語中間存在表示事物因動作發生而出現變化的補語，這些補語在一定範疇內也可以按照程度大小排列起來。正是基於狀態變化的極點這一相似之處，“扯”也可以用於口部動作，但未進一步發展出言說義。現代漢語中，僅表示口部動作而不表言說意義的“扯”依舊大量存在，通常出現在無具體言說內容，只表示通過某一動作發出某種聲音的語境中，且動作發出者不僅可以是人，還可以是其他有生動物。若後續成分有言談內容，則句中還有其他言說動詞共現，例如：

(13)狗兒也扯開嗓子大吼。(《魔戒》)

(14)就在那一刻在城市的某個庭院裡，一隻公雞扯開喉嚨啼叫。(《魔戒》)

(15)車夫把錢放在車頭上那只破箱裡，扯著嗓子說：“這個學校好啊，小弟弟半隻腳踏在大學裡了。”(韓寒《三重門》)

隱喻與“扯₂”的語義演變：當“扯₂”為手部動作時，“扯”作用於可感知的、具體的、有形的受事實語，使受事實語從一個地方移動到另一個地方，且賓語位移前後必定產生物理上的距離。當“扯”用於言說語境時，其實語論元變成含有言說義素的名詞，這一變化使“扯”不再表示具體的動作，而表示需要依賴言說內容實現的動作，“扯₂”使抽象的想法從內移動到外，產生了和言說相關的動作義。“扯₂”從手部動詞到言說動詞的演變正是基於賓語名詞可“移動”這一相似點而發生。同時語言表達力求經濟，在交際效果不變的情況下，盡可能減少語言形式上的數量，當關涉言語的語境中不再出現除了“扯”以外的[+言說義]詞語，該義素完全由“扯”承擔，“扯”成為單獨表示言說的動詞。言說動作場景中“扯”關涉的言談內容通常是抽離事件核

心的部分，也即言談內容與事件內容之間存在抽象距離，因此兩個動作場景中存在的“距離”也是隱喻發生的基礎。

(16)可陳丕顯同志顯得很不自然，就是不談開會，老和瑞卿東拉西扯地談些莊稼啦，雨水啦，工業生產情況啦等等。(CCL 讀者)

綜合上述對“扯”的分析，“扯”首先語義分化出現“扯₁”與“扯₂”，在隱喻機制的的作用下，“扯₁”“扯₂”分別發生演變，“扯₁”發展成無言說意義的口部動詞，“扯₂”先發展成有言說義的動詞，接著發展成言說動詞；“扯”的演變路徑如下圖所示：

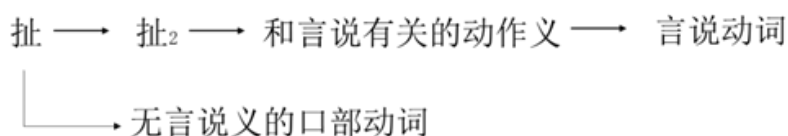


圖 1 “扯”從手部動詞到言說動詞的演變圖

某一特定語言中意義相近的詞語往往經歷相同的演變路徑，且存在跨語言的演變模式，通過與別的語言對比，這一語義演變模式在人類語言中具有普遍性(董秀芳, 2005)。上文討論手部動作“扯”發展為言說動詞符合董正存(2009)提出的手部動詞的演變都遵循“手部動作>口部動作>言說”的語義演變模式(董正存, 2009)，只是“扯”語義演變的特點在於言說動詞“扯”並不是直接來源於本義，而是通過其引申義發展而來。

III. 從動作義到主觀評價義

3.1 “扯”的主觀化

“扯”從手部動詞轉變為言說動詞後，仍在動詞範疇內，現代漢語中，“扯”衍生出了一些特殊用法，某些句法形式裡，“扯”既不表示“撕裂、撕開”、“拉、牽引”義，也不表示言說動作，語義上出現虛化的傾向。例如：

(17)頂樓真的是近幾年看過最扯的韓劇，沒有之一。(微博 2022-7-4)

(18)要說壟斷全世界的“生命蛋”市場，目前似乎有點扯。(CCL 報刊)

(19)這藉口也太扯了吧，敢不敢再抽查幾個批次。(微博 2022-7-4)

觀察上述幾例可以發現“扯”出現在含有[+程度義]的詞語“最”“太”“有點兒”之後，句法形式發生了變化，同時語義轄域進一步擴展，從管轄言說內容擴大到整個命題，顯然“扯”已不表示手部動作或言說動作，而是表示說話者對命題合理性超出正常範疇這樣一種主觀認識，屬於認識情態範疇。認識情態是情態範疇中的一種類型，它與事實相對，表示對事件的知識和信念，表達說話者對一個判斷真值的主觀估價(姚占龍, 2008)。如例(18)“扯”出現在“有點”之後表示言者對整個命題不夠合理的負面判斷。為何在“扯”在演化過程中語義進一步抽象，甚至虛化，我們認為這與語言的主觀性相關。語言形式不僅搭載命題意義，而且表現說話人的情感和態度。說話人在說出一段話的同時表明自己對這段話的立場、態度和感情，從而留下自我的印記，這就是主觀性。表言說義的動詞在漢語發展史上經常發生從具體的言說義到抽象的認知義的引申，這一引申遵循“言說義>認為義>以為義”的路線，這是一種語義主觀化的變化(董秀芳, 2003)。

句法是語義內容的重組和象徵化，句法形式的變化反映了語義的變化和凝固化。因此，本文將從“扯”的句法形式的變化觀察其意義的主觀化。“扯”最初為手部動詞時，無疑是作為謂語動詞的核心成分出現在小句中，當“扯”轉變為言說動詞後，出現了“扯”與其他修飾成分單獨成句的情況。例如：

(20)彩雲嫣然一笑道：“別胡扯！你說人家，幹我什麼！”(清·《孽海花》)

(21)茶房笑道：“別瞎扯了！什麼新娘子，她是個唱戲的。”(張恨水《夜深沉》)

(22)衛公聽了皺眉道：瞎扯八道！往哪裡跑？(王小波《懷疑三部曲》)

類似於上述幾例的“胡扯”“瞎扯”“扯淡”等語言形式已經成為一個獨立的句法單位，常出現在對話言談中回應話語的位置，表示說話人認為前一說話人的言談內容不合事理的負面態度。例(18)彩雲認為前一說話人的內容與自己無關，所以使用“別胡扯”表示對前一說話人話語內容的否定。例(19)由茶房對另一人物二和的回應構成，二和認為一同離去的兩人中的女性的身份為“新娘子”，茶房在告知事實之前先用“別瞎扯”對二和的話語內容進行否定。例(20)同樣衛公認為前一說話人提出的逃跑想法不現實，用了“瞎扯八道”進行否定。這些情況裡“扯”依舊屬於言說動詞範疇，但說話者的主觀情感在語言形式中已經有所體現，評價義得到凸顯，然而語言形式孕含的主觀不滿態度和情感並非“扯”本身就具有的，而是由語言結構所處的句法位置和句法形式共同賦予。“胡扯”“瞎扯”等語言形式在對話言談中多出現在話

語回應位置，且通常為祈使句式。與其他句式相比，祈使句的主觀性較強，因為表達請求是祈使句的基本功能。如例(16)是說話人希望聽話人禁止某些言談內容的行為，表現出說話人希望和實施行為的主語達成某種認同，祈使句的主語也被稱作言者主語。推理機制是虛化的重要機制，在“扯”的使用發展過程中，由上下文或語境生髮的評價義逐漸被其吸收，語義進一步虛化。

語義的虛化和主觀化往往是不同機制共同作用的結果，“扯”的語義進一步發展除了推理，還有隱喻的選擇性。Lakoff(1990)提出隱喻映射的“不變原則”，即始發域的結構特點與目標域的結構特點系統地保持一致。但這種映射還是存在很大的選擇性(馬雲霞, 2012)，在一個手部動作場景中，主要包括動作本身、主體、客體；言說動作行為場景中，除了動作本身，還包括：說話人、聽話人、言說內容這幾個主要的因素，所以從手部動作行為義到言說動作行為義的隱喻映射並不是簡單地一一對應關係，其關係如下圖所示：

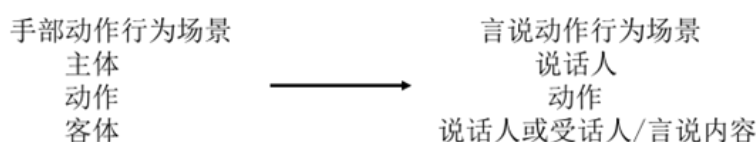


圖 2 手部動作場景到言說動作場景的隱喻映射

上圖表明從手部動作行為義到言說動作行為義的映射，“客體”存在兩種不同的情況：一種映射為說話人或聽話人，即言談參與者；一種映射為言語內容。所以言說動詞既可以表示說話人和受話人之間的關係，也可以表示言談參與者和言說內容之間的關係。“扯”從手部動作映射到言說動作後，言說動詞可以用於表示說話者和言說內容的關係，也即說話者對言說內容的評價。

3.2 “扯”的去範疇化

去範疇化是語言演變的重要階段，“去範疇化”是指在一定條件下範疇成員逐漸喪失範疇屬性特徵的現象(陳勇, 彭小川, 2015)。依據去範疇化的理論，通過語料考察，“扯”的“去範疇化”就是“扯”在使用過程中其動詞範疇屬性特徵的消失。

“扯”在去範疇化的過程中最明顯的表現之一是句法形式的變化，在句法結構中“扯”不再充當小句謂語，而出現在某些程度副詞之後，有時與評價類認證義動詞共現。例如：

(23)#西安不是封城#太扯了，外地網友比我們當地人還瞭解西安情況。(微博 2022-7-6)

(24)今天最扯的事情發生了，我同學竟然打電話讓我過去幫她挪車，幾個膽啊。(微博 2022-6-4)

(25)我覺得她說純棉就不能機洗就有點扯。(BCC 微博)

例(21)“扯”出現在過量副詞“太”之後，整個語言形式出現在標籤之後開啟話輪，表示言談者對事件的看法和評價。例(22)逗號後小句裡出現語氣副詞“竟然”，含有說話人認為不該發生某事實際卻發生的意義，“扯”用在程度副詞“最”之後充當定語修飾“事情”，不僅點明出乎說話人意料之外，還凸顯了說話人認為所發生的事情不合常理的評價義。例(23)“扯”不僅出現在含“程度”義“有點”之後，還與表示評價的動詞“覺得”共現。句法分佈特徵上，出現在這些句法位置上的“扯”喪失了一些動詞的典型功能：不可以加表示時態的標記“了”、“著”、“過”；“扯”沒有重疊形式，比如不說“最扯扯”、“太扯扯”等；後面不能出現形容詞組成動補結構。

語義內涵的變化是去範疇化過程中的一種內在表現，主要表現為語義的喪失、轉指、抽象泛化。其中語義喪失與抽象泛化這兩種變化在“扯”去範疇化的過程中表現得較為明顯。如上述例(15)-(17)中的“扯”本義與引申義都喪失，沒有明確的語義真值，語義高度抽象化。如上述例(21)-(23)“扯”都無概念義，而表示說話人對某一事件的發生其合理性與說話人的主觀認知不符。“扯”用於主觀評價，常表示說話人的負面立場，這一現象與“扯”的本義存在密切關係。漢語實詞意義虛化後新產生的意義或詞的句法語義環境分佈往往仍受源詞意義的控制，這一現象稱之為“語義俯瞰”(儲澤祥，謝曉明，2002)。“扯”用作手部動詞時，其受事的處所位置或狀態會發生變化，與施事相比受事產生的變化具有[-自主]的特徵，另外對比施事與受事的權勢、力量，施事在力量上比受事更具優勢，也即“扯”的語義作用物件具有[-自主][-力量弱][+權勢低]的特徵，如例(26)、(27)。“扯”表示評價義時，語義轄域擴大為整個命題，受源詞意義的控制，“扯”對命題的評價往往表現出負面傾向。

(26)若是惱咱性兒起，揪住耳朵采頭髮，扯破了衣裳抓碎了臉，漏風的巴掌順臉括，扯碎了網巾你休要怪。(南宋·《話本選集》)

(27)扯一把椅子拿過來，一直坐下，長籲了一口氣。(元·《話本選集》)

上述從去範疇化的角度討論“扯”的語義虛化，虛化的結果造成“扯”的主觀性進一步增強，意義變得越來越依賴於說話人對命題的主觀信念和態度。另外，我們注意到“扯”的特殊用法中“太扯了”可以單獨使用，而這個句子背後通常隱含這一個更高層次的主語，即“我”主觀上認為某一事件“太扯了”。

詞義演變是一個緩慢的過程，“扯”的虛化從歷時的角度看仍處在演變的過程中，首先，從現有的語料觀察“扯”表示認識情態義時只能出現在“最”“太”“有些”“有點”這些小範圍的程度副詞之後，其他句法環境中依舊表現出其動詞特徵。其次，表示說話人主觀評價的結構內部也還未完全統一，例如“太扯了”可以單獨出現在句首或句末表示某一事件在說話人看來與客觀事實非常不符，也可以是對命題的說明，這時“太扯了”的主觀情態義明顯減弱。漢語多方言裡存在“扯”的形容詞用法，例如北京話“錢花得扯了去了”、西南官話“這個人說話好扯啣”，“扯”在虛化過程中是否受方言的影響同樣有待進一步考證。

虛化研究雖屬於歷史研究，但共時平面的細微差異能幫助我們更好地揭示語義虛化的機制，因此對現代漢語中特殊用法的“扯”還應做更為細緻地探討與分類。

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The ‘We’re nothing but insects who live in this world but one day, mere specks of grain in the vastness of the ocean’ of ‘Chibi Fu’ 關於《赤壁賦》中的“寄蜉蝣於天地，渺滄海之一粟”

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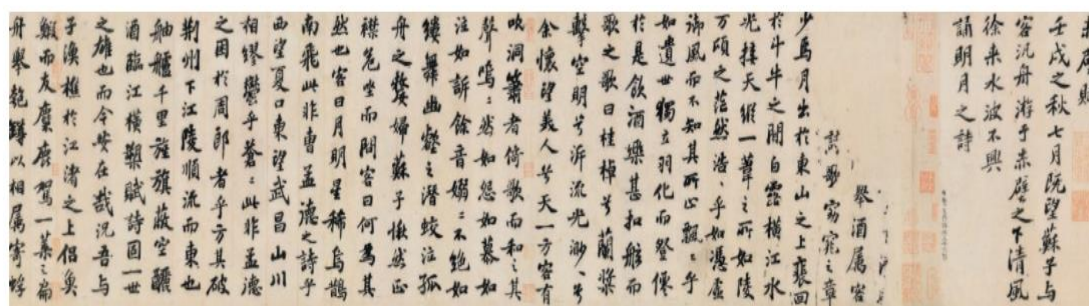
Abstract: Su Shi's ancient masterpiece ‘Chibi Fu (First Visit to the Red Cliff)’ has always been a key topic in the study of classical Chinese, and its literary and calligraphy value cannot be underestimated. Regarding this article, Su Shi's handwritten calligraphy works have been preserved, and the handwriting differs from the commonly used versions in terms of useful characters, namely variant writing.

Keywords: Su Shi First Visit to the Red Cliff Chibi Fu Variant text

I. 引言

《赤壁賦》一般指《前赤壁賦》，是蘇軾在被貶黃州期間所作的文章。全文駢散相間，語言靈動，透露出文豪蘇軾在身處逆境之時的豁達樂觀，不僅具有極高的文學價值，一直以來，也是書法家們喜愛書寫的篇目。現需要學習文言文的學生，其通用教材中皆有收錄，如袁行霈主編的人教版高中語文教材必修2 第三單元¹，再如王力主編的普通高等教育“十一五”國家級規劃教材《古代漢語》第四冊²。

蘇軾的文章多異文，《赤壁賦》一文中，就有九處異文，其中“寄蜉蝣於天地，渺滄海之一粟”一句，值得註意。蘇軾手跡（收藏於臺北故宮博物院，為長卷，見圖 1）寫作“寄蜉蝣於天地，渺浮海之一粟”，但流傳下來的版本都將此句寫作“寄蜉蝣於天地，渺滄海之一粟”。然“浮海”與“滄海”相去甚遠，那麼為何會出現這樣的不同，依照蘇軾原意此處又該寫作什麼，有待討論和確定。



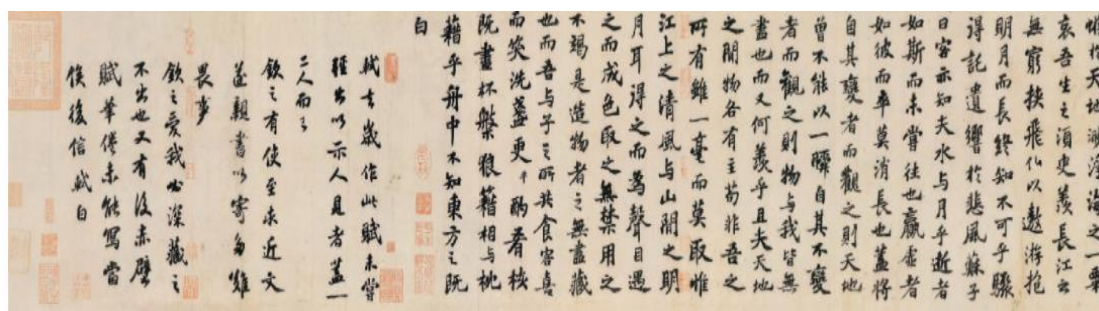


圖 1 蘇軾《赤壁賦》手稿

II. 《赤壁賦》異文整理

蘇軾的詩詞文章多異文，筆者認為，原因不外乎三點。一是因為傳抄的過程中出現手誤，二是蘇軾自己修改，三是後人憑借自己的理解進行修改。

關於《赤壁賦》一文，蘇軾手跡與現行版本（較為權威的《經進東坡文集事略》卷一《四部從刊》本），有諸多不同之處。姜舜源先生曾撰文說明，現引用其說法³，將九處異文做系統的整理。

為方便閱讀，以表格的形式加以體現，引號所引之字，即異文。

表 1 《赤壁賦》蘇軾手跡與現行版本的異文比較

	蘇軾手跡	現行版本	
1	“裴回”於鬥牛之間	“徘徊”於鬥牛之間	古文同
2	“陵”萬頃之茫然	“凌”萬頃之茫然	古文同
3	“憑”虛禦風	“馮”虛禦風	通假字
4	羽化而登“僊”	羽化而登“仙”	異體字
5	渺渺兮“餘”懷	渺渺兮“予”懷	音同義同
6	渺“浮”海之一粟	渺“沧”海之一粟	\
7	“贏”虛者如彼	“盈”虛者如彼	假借字
8	而吾與字之所共“食”	而吾與子之所共“适”	\
9	杯“槃”狼藉	杯“盤”狼藉	異體字

蘇軾的作品幾經磨難，輾轉流傳，出現異文並不奇怪，但這九處異文中，第六、第八處爭議較大，並不同於其他異文的常見處理方法，如通假、異體、同音同義等，在此，本文主要討論第六處。

倪誌雲在《蘇軾〈赤壁賦〉墨跡與刊本異文的辨正》一文中，對“浮”、“適”二字作過詳細的考辨⁴，在此，以倪先生研究成果為基礎，借助其整理的文獻：（一）《東坡集》，殘存三十卷，藏北京圖書館（今國家圖書館）。（二）《四部叢刊初編》影印吳興張氏南海潘氏藏宋刊本郎暉編註《經進東坡文集事略》。（三）《四部叢刊初編》影印古裏瞿氏藏宋刊本《皇朝文鑒》，討論究竟是“浮海”還是“滄海”，到底哪一種說法更符合蘇軾原意。

III. “浮海”與“滄海”

1. 異文校勘

關於“渺滄海之一粟”一句，經倪誌雲先生考證，蘇軾手書墨跡寫作“渺浮海之一粟”，《東坡集》與《皇朝文鑒》也作“渺浮海之一粟”，而《經進東坡文集事略》作“渺滄海之一粟”，現通行版本多采用《經進東坡文集事略》中所收錄的《赤壁賦》，“滄海一粟”也由此而來。

筆者查閱資料，清光緒十八年(1892)刻石《景蘇園帖》，亦作“渺滄海之一粟”，楊守敬《書學邇言》有文曰：“景書園貼六冊，此為成都楊葆初所選刻，大抵皆從舊本摹出，皆流傳有緒之跡，絕少偽作，故應為蘇書巨觀。”⁵楊守敬先生對蘇軾頗有研究，亦長於考證，他認為六冊景書園貼大多數是從舊本臨摹而來，多真跡，少有偽作。由此，亦有觀點認為“渺滄海之一粟”也是蘇軾所寫，是蘇軾在寫完《赤壁賦》之後，在後來的書寫中個人修改而來的。

作者修改自己的文章是常有之事，但目前為止，蘇軾親書墨寶流傳下來的僅一卷，寫為“渺浮海之一粟”，此外，再無手跡可直接證明蘇軾曾將此句改為“渺滄海之一粟”，故“蘇軾自己修改”這一觀點尚站不住腳。

2. “浮海”與“滄海”之較量

現從“浮海”和“滄海”兩詞的來源與使用情況出發，一探究竟。

“浮海”一詞，見於《論語·公冶長》：子曰：“道不行，乘桴浮於海，從我者其由歟？”並由此衍生成語乘桴浮海。孔子此句的意思是，我的大道與主張，如果不能推行於天下，那我就乘坐著竹筏子到東海去遊蕩，大概仲由能跟隨我吧？結合當時的時代背景，孔子極力推行自己的主張，但實際上也屢屢受挫，難免偶爾會產生感慨。此句可以理解為孔子一時的抱怨牢騷之語，蘇軾在此使用“浮海”一詞，再結合其當時仕途失意，命途多舛的經歷，大約亦有跨越時空效仿先賢之意，略表自己內心的苦悶。

再者，“浮海”一詞在是古詩文中的常用詞。經檢索，先秦宋玉《高唐賦》有“崕中怒而特高兮，若浮海而望碣石”一句，就已經出現了“浮海”一詞，唐宋以來，“浮海”在詩詞中的使用更是多如牛毛，蘇軾的弟弟蘇轍曾作《和子瞻金山》，其詩中便有“潮平風靜日浮海，縹緲樓臺轉金碧”一句。可見，在蘇軾的年代，在詩詞文章中使用“浮海”，是一個常見的現象。蘇軾作《赤壁賦》時使用該詞，也就合情合理了。

“滄海”一詞，漢代董仲舒的《春秋繁露·觀德》有“故受命而海內順之，猶眾星之共北辰，流之宗滄海也”一句。滄海，指大海，古時也代指東海，或者是代指神話中的仙島。在詩詞中出現時，也無外乎這三種意象。如唐代的李商隱寫《謁山》，有“欲就麻姑買滄海，一杯春露冷如冰”一句，蘇軾本人也寫過滄海，《清都謝道士真贊》中，有“一江春水東流，滔滔直入滄海”一句。

僅從“浮海”、“滄海”兩個詞語來看，似乎都說得過去，二詞都是詩詞中常見的詞匯，但詞語是有語境的，結合《赤壁賦》中“渺滄海之一粟”一句，或有新的收穫。

3. “浮海一粟”與“滄海一粟”之較量

“寄蜉蝣於天地，渺滄海之一粟”，意為在廣闊的天地間，人就如同小小的蜉蝣，在浩瀚的大海裏，人就如同一顆小米粒，意圖表達人之渺小。

結合語境，要確定到底是“浮海”還是“滄海”，不能忽略“一粟”。

徐昂先生在《文談》一書中，指出了問題的關鍵所在：“《前赤壁賦》‘渺滄海之一粟’一句，‘一粟’與‘滄海’何涉？‘渺太倉之一粟’或‘渺滄海之一勺’皆可。是或坡公隨筆而未之審，或傳寫有舛耳。”⁶徐昂先生認為，“一粟”與“滄海”

並沒有關係，因為粟並不生於海，一般也不會出現在海中，寫作“渺太倉之一粟”或“渺滄海之一勺”尚且說得過去，即用太倉裏的一粒米，一勺滄海之水來形容渺小都是符合現實的。“渺滄海之一粟”也許是蘇軾寫文章時隨手寫就，並沒有考慮到是否符合現實情況，也許是流傳的過程中出現了訛傳。

據前文，蘇軾原作即寫作“渺浮海之一粟”，故並不存在書寫時“隨筆而未之審”的情況，徐昂先生質疑之處的關鍵，是指出“一粟”與“滄海”從現實角度來看，並不應該放在一起，“一粟”指一顆小米粒，然米粒與大海，並沒有聯系，所以“渺滄海之一粟”或許真的有誤。

研究蘇軾的大家王水照先生，曾在他選註的《蘇軾選集》中討論過蘇軾作品異文的問題，並結合了徐昂先生的觀點。王水照先生認為，“徐昂《文談》：‘一粟’與‘滄海’何涉？‘渺太倉之一粟’或‘渺滄海之一勺’皆可，是或坡公隨筆而未之審，或傳寫有舛耳。蘇軾《送頓起》詩有‘大海浮一粟’，知非傳寫之誤，又言‘浮’，於理亦通。今‘滄海一粟’已為成語。”⁷

王水照先生的這段話，提供了一個思路。即蘇軾 43 歲時(1080 年)寫《送頓起》一詩，其中有“回頭望彭城，大海浮一粟”一句，而《赤壁賦》寫於宋神宗元豐五年，即 1082 年，也就說，在《赤壁賦》之前，蘇軾就已經將“海”、“浮”、“粟”等字放在一起使用，結合《送頓起》後句“故人在其下，塵土相逐蹴”可作如下理解：回頭看彭城，就像大海中浮起的“一粟”，老朋友在彭城之下，就像飄起的塵土一樣渺小。此句與“渺滄海之一粟”所表達的意義有異曲同工之妙，所以蘇軾在寫《送頓起》之後再次寫出“渺浮海之一粟”的句子，同樣表示天地之間人的渺小，也就講得通了。

由此可見，“渺滄海之一粟”一句為誤傳的可能性很大。粟與海，本是不相幹的兩個事物，是蘇軾通過想象構建了一個畫面，用一個“浮”字，使“粟”與“海”之間有了聯系。

再說“滄海一粟”。王水照先生說“今‘滄海一粟’已為成語。”看似在肯定“渺滄海之一粟”，但細推其邏輯，即可見端倪。“滄海一粟”作為成語，是從《赤壁賦》“渺滄海之一粟”中衍生而來的，所以並不能因為成語“滄海一粟”而倒推“渺滄海之一粟”是正確的版本。

在蘇軾的其他詩文中，也沒有使用過“滄海一粟”或與之相似的字眼。《漢語大詞典》將“滄海一粟”解釋為大海中的一粒米粟。比喻渺小，微不足道⁸。蘇軾表達“渺小、微不足道”時，曾寫過“茫茫太倉中，一米誰雌雄”，化用莊子《莊子·秋水》“計中國之在海內，不似稊米之在太倉乎？”一句，“太倉一米”也由此而來。可見，蘇軾沒有用“滄海一粟”表達“渺小”的寫作習慣。“渺滄海之一粟”應為誤傳。

IV. 結語

由於年代久遠，很多詩詞文章的原本已不能得見，但蘇軾的《赤壁賦》有其親筆書寫的書法作品保存至今，故不論是學習還是臨摹《赤壁賦》，都不可忽視蘇軾親筆手跡版本的意義。後世的版本常有以訛傳訛的現象出現，都是以刻本為標準本，忽略了原作手跡的重要性及其價值的原因。在此，通過分析蘇軾手跡這一“第一手資料”，再結合其他文獻資料，《赤壁賦》中的“浮海”與“滄海”之異文，應當以蘇軾手跡為準，寫作“渺浮海之一粟”。

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Comparative Analysis of Online Education Systems in China and the United States

中美線上教育體系的比較與分析

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Abstract: This paper is about a comparative analysis of the online education systems in China and the United States, delving into their similarities and differences within the realm of online education. The authors examined the components, policies, developmental trajectories, and challenges of these online education systems, unveiling their unique characteristics. Notably, significant disparities exist between the roles of governments, development paths, and technological innovations in online education between the two countries. However, both China and the United States played vital roles in global education. The authors discussed how mutual experiences can be leveraged to offer valuable insights and recommendations for the field of online education. This research provided profound insights into the understanding and development of online education, emphasizing its potential in catering to diverse cultural and educational needs.

Keywords: China-US comparison online education system analysis
educational development

※章天彥(第一作者), 董克明(通訊作者)

I. 引言

隨著資訊技術的不斷進步和全球化的浪潮愈演愈烈，教育領域正處於一場深刻變革之中。線上教育，作為這一變革的關鍵推動力之一，正在逐漸改變傳統教育的面貌。線上教育(e-learning)，是指利用互聯網或其他數位化平臺進行學習和教育的方式，它充分利用現代信息技術提供的全新交流方式和豐富的學習資源，為學習者提供了一種創新的學習體驗(何克抗, 2002)。全球範圍內，教育者和學生都開始認識到線上教育的潛力，它不僅提供了更廣泛的學習機會，還為各種文化背景的學生打開了通往知識的大門。此外，跨國合作和國際教育交流的不斷增加，也使線上教育在不同文化背景下的有效推行更加重要。線上教育已經不再僅僅是一種創新，而是成為了滿足學習者需求的必要工具，可以跨越地域限制，提供靈活的學習機會。尤其是在面對全球性挑

戰如 COVID-19 大流行期間，線上學習成為保持教育連續性的重要方式，為每一個學習者提供了高效的學習平臺。

作為東西方文化和教育體系的兩大代表，中國與美國擁有龐大的線上學習體系和不同的教育政策。在這一背景下，本論文旨在通過比較研究中美線上學習體系，探討它們在結構、政策和發展方面的相似之處和差異之處，以及這些因素對線上學習的品質、可及性和發展產生的影響。我們還將探討中美兩國線上學習體系的最佳實踐和經驗是否可以互相借鑒，從而為全球線上教育提供有價值的經驗和建議。

II. 中美線上學習的發展歷程

1. 中國的線上學習發展歷程

中國線上教育發展過程可以追溯到 20 世紀末和 21 世紀初，隨著互聯網技術的普及和中國教育體制的改革，這個領域取得了巨大的進展。以下是中國線上教育發展的主要階段和關鍵發展點：

早期階段(1990 年代末 - 2000 年代初)：中國的線上教育起源於電腦網路的普及，一些高校和教育機構開始嘗試將教育內容提供給遠端學生。1999 年 4 月，教育部批准清華大學等四所學校為中國遠端教育首批試點院校，拉開了我國現代線上教育的序幕。2002 年，中國政府發佈了《中國教育資訊化“十五”發展規劃》檔，其中明確了教育資訊化發展的戰略方向。

基礎建設和試驗階段(2000 年代中期 - 2010 年代初)：在這一時期，中國加大了對網路基礎設施和互聯網接入的投資，提高了網路覆蓋率。各級政府支持了線上教育試點項目，包括基礎教育和職業教育領域。隨著網路頻寬的提升，以視頻課件形式為主的線上教育模式得以推行，為日後的發展打下基礎。

井噴式增長階段(2010 年代中期 - 2020 年代初)：2010 年代中期，一些知名線上教育平臺如學堂線上(xuetangx)和中國大學 MOOC(中國大學慕課)開始嶄露頭角。2015 年，政府層面首次提出“互聯網+”行動計畫，規範了線上教育市場，鼓勵創新和投資。中國線上教育市場迎來了快速增長，眾多創業公司湧現。線上教育也開始深入發展到學前教育、素質教育、職業教育等各個賽道領域中。

逐步成熟階段(2020 年代初 - 至今)：2020 年，疫情爆發，學生居家隔離，而線上教育用網路科技打破了地理隔閡，滿足了學生們的上課需求。線上教育經歷了一次爆

發性增長，成為了一項重要的教育手段。同時，政府也加強了對線上教育行業的監管，規範了課程內容、教學品質和廣告宣傳等方面的行為。線上教育開始成熟，規範化、專業化、品牌化，教學品質和效果得到了學生以及教師的認可。隨著互聯網水準的進一步發展，一些線上教育企業開始走向國際市場，尋求更廣泛的國際合作和業務擴展。

總的來說，中國線上教育在過去幾十年裡取得了巨大的進展，從最初的試點項目發展到一個多元化、成熟的市場。政府政策、互聯網技術的創新、高校和企業的投資，以及不斷增長的需求，都推動了中國線上教育的發展。興起的傳播形式，如直播和短視頻，也與教育領域相融合，引發了線上教育領域的積極研究與探索。隨著技術的進一步演進和教育模式的不斷改進，中國的線上教育體系持續蓬勃發展。

2. 美國的線上學習發展歷程

美國的互聯網發展較早，隨著互聯網的普及和數位技術的進步，美國的線上教育領域也經歷了多個關鍵階段和重要事件。以下是美國線上教育的主要歷史發展：

早期階段(1980年代末 - 2000年代末)：1989年，鳳凰城大學(University of Phoenix)第一個推出以互聯網為基礎，具備完整體系的線上教學機構，並且可為線上教學機構學習的用戶提供學士和碩士學位。在這一時期，越來越多的美國大學和高校開始認識到線上教育的潛力，並投資於開發線上課程和學位專案。第一批 MOOC 源于麻省理工學院開放課程項目，該項目也是開放教育資源(OER)運動的先驅，這一舉措不僅引發了全球範圍內的開放教育資源運動，也讓線上教育從雛形階段到逐漸受到重視和投資。

商業化和 MOOC 的崛起(2010年代初)：《紐約時報》曾稱 2012 年為“MOOC 年”，多家資金雄厚、與頂尖大學合作的提供商不斷湧現，其中包括 Coursera、Udacity 和 edX。大規模開放線上課程(Massive Open Online Courses)成為線上教育的一大亮點，吸引了全球學生。與大型 MOOC 提供商建立合作夥伴關係成了許多大學爭先恐後加入的“下一件大事”。其中由美國斯坦福大學創立的 Coursera 線上課程在四個月的時間內就擁有了百萬名學生，成為全球線上教育里程碑式的事件。科技巨頭如谷歌和 Facebook 也進入線上教育領域，提供技能培訓和認證課程。

混合學習和線上學位項目(2010年代後期 - 至今)：各類教育機構逐漸採用混合學習模式，將傳統課堂教育與線上教育相結合。許多大學提供了線上學位項目，允許學生完全線上完成學位要求，這些項目在職業發展中具有重要意義。COVID-19 疫情爆發後，線上教育迅速普及，成為許多學生繼續學業的主要方式之一。

美國線上教育經歷了從早期試驗階段到現在成為多元化、成熟市場的演變。技術的不斷進步和不斷增加的需求推動了線上教育的發展，並改變了教育的面貌。線上教育將繼續在未來發揮重要作用，為學生提供更靈活的學習機會和職業發展途徑。

3.發展歷程的比較

中國和美國的線上學習發展歷程有著一些相似之處，如都經歷了技術進步的影響和政府支持的階段。中國和美國都經歷了線上教育的迅速發展，但兩國的發展路徑和市場特點有所不同。中國線上教育市場在政府支持下蓬勃發展，如中國大學 MOOC(中國大學慕課)。並且制定了一系列政策，支持了線上教育的發展，特別是在技術基礎設施建設和監管方面。

而美國線上教育更加市場化，側重於創新和商業化，大部分線上教育發展受到大學和私營企業的推動，Coursera、edX 和 Udacity 等平臺吸引了全球學生，成為線上教育的一個關鍵元素。兩個國家都在為全球教育提供了重要的資源和機會，瞭解這些發展歷程有助於我們理解中美線上學習體系的演變過程，以及它們在不同歷史背景下的特點和長處。

III. 中美線上學習體系概述

1.中國的線上學習體系

1) 政策和法規

中國政府在線上教育領域制定了一系列政策和法規，以推動和規範行業發展。2018年4月13日，中華人民共和國教育部正式提出了《教育資訊化 2.0 行動計畫》，以資訊化推動教育現代化，開啟教育的智慧時代，標誌著教育資訊化進入 2.0 階段。另外，2019年7月12日，中華人民共和國教育部等六部門發佈《關於規範校外線上培訓的實施意見》，其中規定內容健康，時長適宜，師資合格，資訊安全，經營規範。這些規定旨在確保校外線上培訓在提供教育服務時符合一系列標準和要求，以保障學生的權益和教育品質。

2) 教育體系和平臺

國內知名的線上教育平臺和資源如中國大學 MOOC 和學堂線上提供了豐富的課程內容，涵蓋了從大學課程到職業培訓的廣泛領域，吸引了大量學習者。這些豐富的教

育資源不僅滿足了學生的學習需求，還為他們提供了更多的教育選擇和機會。學校內部分課程採用慕課形式授課，並將學分制引入網課，學生可以通過網課獲得學分。然而課程也存在些許問題，如課程設計的理念基本上是將高校已有課程免費公開到互聯網上，而並非針對通過互聯網學習課程的學習者專門設計課程(周曉華, 2013), 理念較落後，且更新較慢。中國的線上教育體現了獨立于傳統全日制高校之外的招生體系、教學模式和學歷證書頒發方式。主要體現為兩種組織形式：一是電大(開放大學)體系，二是試點網路學院。除此之外，傳統高校僅開展網路輔助教學(朱永海, 韓錫斌, 楊娟, 程建鋼, 2014)。

3) 技術和基礎設施

截至 2023 年 7 月底，中國累計建成 5G 基站 305.5 萬個，城市重點地區深度覆蓋，並且進一步向鄉鎮和農村地區延伸。“十四五”提出要加快數字鄉村建設，推進鄉村數位教育，使偏遠地區的人們也能得到現代化的線上教育。

4) 學習者群體

線上學習的受眾，包括學齡兒童、高中生、大學生、職業人士和成年學習者。為回應“雙減”政策，中國禁止線上平臺發佈面向學齡前兒童、中小學及高中的學科付費專欄。而面向成人的教育付費專欄需明確標識。

2. 美國的線上學習體系

1) 政策和法規

美國的線上教育領域相對於中國更加去中心化，聯邦政府的角色主要是提供資金支持和制定一些全國性的教育政策指導。線上教育主要由私人企業、各州以及各院校推動。各州在線上教育方面有較大的自主權，有自己的政策和法規，以確保線上教育的品質和合法性。如疫情期間，康涅狄格州利用教育預算，為低收入家庭購買電腦，確保學生的線上教學。

2) 教育體系和平臺

美國的教育體系和機構在線上教育領域也呈現出多樣性和廣泛性。美國擁有眾多知名的線上教育平臺和資源，如 Coursera、edX、Udacity 等，它們彙聚了來自世界各地的頂尖大學和機構的線上課程。這些平臺為學生提供了廣泛的學科選擇，從文學、科學到工程和技術等各個領域。美國高校線上教育不僅提供了線上課程，也包含了線上學位。早在 2013 年 5 月，佐治亞理工學院設立了第一個完全基於 MOOC 的碩士學

位，費用僅七千美元。在美國，線上教育已經成為一種重要的教育方式，為學生提供了更多的學習機會和靈活性。

3) 技術和基礎設施

在美國，多家電信運營商已經開始部署 5G 網路，包括使用毫米波頻段，更快的傳輸速率以滿足直播等新興線上教育。然而這些部署主要集中在城市和人口密集區域，以提供更高速的無線通訊，一些農村和偏遠地區面臨互聯網覆蓋不足的問題。

4) 學習者群體

線上學校的學生不少是來自收入較少的有色人種家庭，因為線上教育每學分收費較少，這些學校承諾讓學生以合理的費用獲得上大學的機會。

3.對比中美線上學習體系

雖然中國和美國的線上學習體系都擁有龐大的用戶群體和眾多線上學習機構，但它們之間也存在一些顯著的異同點。通過深入分析這些異同點，我們可以更好地理解中美線上學習體系的特點和各自的長處，從中可以給中國的線上學習提出如下建議：

1) 鼓勵創新與競爭

中國政府在線上教育領域扮演更為積極的角色，制定了更多的政策和法規，而美國通常更注重市場競爭和自由度，其多樣性和競爭也在一定程度上推動了教育創新。中國可以鼓勵更多的教育科技創業公司和機構參與線上教育，以促進創新和提高教育品質。

2) 提供多樣性的學科和課程選擇

美國的線上教育平臺為學生提供了廣泛的學科和課程選擇，包括職業培訓、大學課程和興趣愛好課程。中國可以借鑒這種多樣性，滿足不同學生的需求，包括職業人士、學生和成年學習者。

3) 技術和基礎設施建設

繼續加強數字基礎設施建設，以支持線上教育的發展，尤其是在農村和偏遠地區。建設高傳輸速率的網路，以適應直播授課等新興線上教育。

4) 學生的支持和參與

美國的線上教育平臺通常提供學生支持和互動機會，以增強學生的參與度和學習效果。中國可以考慮如何改善線上學生的支援體系，以確保他們能夠充分參與課程和獲得必要的幫助。

5) 慕課與高校教育的融合與發展

高校要認識到慕課在高等教育方面的價值和發展潛力，鼓勵網路融入本校正式課堂，拓展網路課程的數量，促進線上教育的發展，使慕課成為高校教育的重要組成元素(王麗華, 2014)。

IV. 中國線上學習面臨的挑戰與機遇

1. 挑戰

1) 教育品質

線上學習的品質保障一直是一個挑戰，特別是對於自主學習的學生。如何確保線上教育與傳統教育一樣具有高品質，是一個重要議題。因此，需要教師起到交互、監管職能，通過與學生進行交流，增強社區凝聚力，從而形成良好的協作交流氛圍(姜卉, 張振虹, 黃榮懷, 2008)。

2) 監管

管理和監管線上學習平臺和內容的複雜性使得政府在維護品質和監管市場方面面臨挑戰。

3) 接受度較低

線上教育作為資訊時代新型學習和人才培養方式，社會(尤其是未來雇主)的接受和認可度較低(梁林梅, 夏穎越, 2016)。深化線上教育，需要提高人們的認可度。

2. 機遇

1) 全球學習：全球化帶來了線上教育的資源分享，中美線上學習平臺吸引了全球學生，促進了國際化、跨文化交流和優質教育資源的整合。

2) 創新教學方法

個性化學習：線上學習使個性化學習成為可能，通過智慧教育技術和資料分析，說明學生更好地適應自己的學習需求。學習者就像身處一個“教育超市”，許多教學資料和學習資源開架展示，學生們有了更多、更直接的選擇權，在這裡可以根據自己的需求自由選擇他們感興趣的教育產品和教學模式(周勇, 2009)。同時，通過資料分析，改進線上學習體驗、個性化學習路徑和教學方法也變得更加順暢。

互動性和多媒體：線上學習平臺可以豐富課程內容，提供互動性和多媒體元素，增強學生的參與度和學習效果。2018年1月，布朗大學在EdX上開設了第一門“遊戲化”課程。詹姆斯·伊根教授題為《奇妙的地方，非人的人類：通過文學探索人性》。它的情節是幫助迷失的機器人在不同的世界中徘徊，學習者必須玩迷你遊戲才能完成課程，並得到與課程相關的啟發。

V. 結論

本文比較了中美線上教育體系，分析了它們的發展歷程、政策、組成、技術和學生群體等各個方面的異同。通過研究，我們發現中美線上教育在政府角色、發展路徑和市場特點等方面存在顯著差異，同時也共用了一些挑戰和機遇。中美線上教育體系都為學生提供了豐富的學習機會，但也需要應對教育品質、監管和數位鴻溝等方面的挑戰。

最後，我們認為線上教育是教育領域的未來趨勢，它為學生提供了更靈活、多樣化的學習方式，有助於提高教育的可及性。中美線上教育體系都有其獨特的優勢和發展路徑，可以互相借鑒和學習。在未來，中美兩國可以繼續加強教育合作，分享最佳實踐，共同推動線上教育的發展，為全球教育提供更多有價值的經驗和建議。

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Application of 'Five Senses' Teaching Method in Korean Language Teaching 淺談“五感”教學法在韓語教學中的應用

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Abstract: *In today's university classrooms, there are always some practical problems in Korean teaching, such as ordinary teaching effect, low enthusiasm for learning and poor classroom interaction. Korean pronunciation is the first step for students to learn Korean, which has a great impact on their future learning. Although there are a lot of learning content, students are still biased against Korean pronunciation courses compared to other training. This paper mainly used the Korean Phonetic Training course as an example to explore how to inject the five senses into the traditional teaching in the tide of teaching.*

Keywords: *Korean Teaching five senses experience Korean pronunciation visual translation*

I. 引言

今日大學的課堂教學，已經從傳統的單一敘述不斷向多維教學方法探索發展。從翻轉式課堂到慕課以及其他網路課程，大學的教學模式不斷創新，始終未達到更優質的學習效果、更愉快的教學體驗、更科學的知識架構而努力。從教學改革現況來看，韓語教學的教學模式難以像其他專業類課程一樣尋求更多突破，並且始終處於步履蹣跚的狀態。

韓語發音是學生學習韓語的第一步，對未來的學習有著非常重要的影響。韓語專業生源的特殊性決定了授課對象一方面呈現出比文理生更活潑、更感性、更跳躍的思維特質，另一方面也存在著學習惰性大、缺乏理論素養等現實問題。面對這些問題，筆者經過幾年的教學實踐，不斷鑽研教學方法，總結出的“五感體驗”在教學中不僅可行性強，還有重大的現實意義。

II. “五感體驗”概念解析

五感，即視覺、聽覺、觸覺、味覺、嗅覺這五種人體基本感覺。五感在日常生活中扮演著重要的角色。視覺作為人體最重要的感覺，參與現代社會絕大部分的資訊交流

活動。德裔美籍作家、知覺心理學家、格式塔心理學美學的代表人物魯道夫·阿恩海姆(Rudolf Arnheim, 1904—1994 年)提出的視覺思維概念進一步深化了人體視覺的體驗深度,並總結出一系列視覺規律,使視覺思考成為各領域研究的熱點。同樣,在韓語發音教學中,視覺對符號、文字等內容的認知規律可大大提高理論學習的效率,並給韓語發音教學模式以更多啟發。作為人體第二大感覺,聽覺雖然不如視覺直接,但聽覺對人體的刺激可以幫助人們進行辨識和記憶。聽覺和視覺是不同媒介所引起的感覺經驗,早在中國古代便有“聽聲類形”等說法,可見聽覺與視覺的緊密連結。關注聽覺的規律以及與視覺的連結也可以為韓語發音教學提供更多的啟發。觸覺,通過觸摸獲得的感覺可以輔助視覺體驗,並加強對事物的認知。當然,觸覺不僅可以通過觸摸來獲得,還可以以視覺為通道獲得心理上的觸感。如何把觸覺加入韓語發音教學中,還是一片幾乎未被開發的沃土。味覺和嗅覺,是和味道融合在一起的感覺,在大多數情況下互相轉換,在理論教學中可以通過視覺轉譯的方式共同豐富人體的感官體驗。對人體而言,五種感覺並非單獨存在,而是互相轉化、共同作用。中國現代作家、文學研究家錢鐘書(1910—1998 年)1962 年在《文藝評論》上發表的一篇題為《通感》的文章中,以“通感”來描述五感之間的關係:“顏色似乎會有溫度,聲音似乎會有形象,冷暖似乎會有重量,氣味似乎會有鋒芒(錢鐘書,1979)。”五種感覺的相互轉化,一方面說明每種感覺的重要性,另一方面要求在教學中,教師應盡可能豐富的教學方式,喚醒學生的五感體驗,激發學生的學習興趣。

五感體驗是在體驗式教學法的基礎上,以感官體驗為重點,以學生為主體,通過教師創設的情境,帶動學生主動體驗、感受,繼而在獲取知識的同時獲得感官上的快感。正如捷克教育家揚·阿莫斯·誇美紐斯(Jan Amos Komensky, 1592—1670 年)在《大教學論》中所言:“先運用他們的感官(因為這最容易),然後運用記憶,隨後再運用理解,最後才運用判斷,這樣才會次第井然;因為一切都是從感官的感知開始的,然後才由想像的媒介進入記憶的領域,隨後才由具體事物的探討對普遍生出理解,最後才有對於業已領會的事實的判斷。這樣,我們的知識才能紮實(誇美紐斯,傅任敢譯,1999)。”經由五種感覺到記憶理解再到思考判斷的循序漸進的學習過程,必定會激發學生學習的動力,提高學習的效率。(《大教學論》是捷克教育家揚·阿莫斯·誇美紐斯的教育學著作,首次出版於 1632 年。該書重點闡述了教學理論問題,書中明確提出並詳細論證了一系列教學原則、教學規則和各種教學方法,並擬定了各級學校的課程設置,確定了學校教學工作的基本組織形式,制定了編寫教科書的原則要求。此外,書中也論

述了道德教育、宗教教育、藝術教育和體育等議題。《大教學論》的問世為近代教育學的建立奠定了基礎，被譽為“教育學之父”。同時，他也提出了許多超越時代的先進教育思想，對教育的組織形式和教育方法進行了創新，使教學變得更加科學也更加易於實踐。)

又如日本設計大師原研哉(Kenya Hara)在《設計中的設計》一書中指出：“人不僅僅是一個感官主義的接收器官的組合，同時也是一個敏感的記憶再生裝置，能夠根據記憶在腦海中再現出各種形象。在人腦中出現的形象，是同時由幾種感覺刺激和人的再生記憶相互交織而成的一幅宏大圖景(原研哉, 2006)。”這段話也指出了五感刺激與後續記憶、思考、再現之間的關係。在韓語發音教學中，導入五感體驗，不僅讓學生以愉悅的方式接收知識，還能進一步感知與知識互動的過程。

III. 五感教學法在《韓語語音實踐》教學的應用

《韓語語音實訓》(筆者承擔的專業課程之一，對象為韓語專業學生，每週 2 課時。教學目的為該專業學生避免韓語發音偏誤，正確了解韓語語音系統及發音原理)這門課程是大学生邁入校門後學習的第一門專業課，是所有韓語專業課的基礎。在教學中，傳統的理論灌輸式教學方法已然不能滿足今日的大學課堂要求，針對授課對象的特點，以五感體驗為基礎的教學方法的探索不僅可以豐富課堂教學，還能真正實踐以學生為主的現代教育理念。

1. 視覺在教學中的應用

視覺是人體最重要的感覺，在教學課堂中研究學生的視覺法則尤其重要。視覺不僅參與課堂中大部分的訊息交流，也是其他感覺的轉譯管道。另外，視覺具有的思維本領，也就是視覺思考可以幫助教師即使在無語言溝通的情況下，也可以讓學生通過視覺思考對所學產生更深刻的思考。《韓語語音實訓》課程更需要輔助大量的視覺資料來完善學生對韓語字母的理解。強調視覺的重要性並非單純地為學生呈現更多的圖片，而是應依據視覺規律，如視覺的連貫性、視覺的選擇性、視覺的相似性等觀看規律合理進行教學。

視覺連貫性的特性是由於人類視覺系統更傾向於感知連續性的物體和形狀，而不是孤立的、不連續的元素。在韓語語音教學中，教師可以利用這個視覺規律，將韓語字母組合成連續的形狀或圖案，幫助學生更好地理解 and 記憶。例如，韓語字母可以按

照它們的形狀和發音特徵進行組合和排列，形成一個連續的語音序列，讓學生通過觀察這個序列來掌握正確的發音方法。

視覺選擇性的特性在於人類視覺系統在感知外部刺激時具有選擇性，即更容易注意到與周圍環境差異較大的物體。因此在韓語語音教學中，教師可以利用這個視覺規律，將韓語字母中發音相似的字母進行比較和區分，幫助學生更好地掌握它們的發音差異。例如，相似發音的字母可以分別設定成不同的顏色或形狀，讓學生通過觀察它們的差異來準確掌握各自的發音特徵。

視覺相似性也是由於人類視覺系統在感知物體時，對於形狀、顏色等相似的物體更容易產生聯想與理解。在韓語語音教學中，教師可以利用該視覺規律，將韓語字母中形狀相似的字母歸納和總結，幫助學生更好地掌握它們的形狀特徵和記憶方法。例如，可以將形狀相似的字母歸類在一起，讓學生通過觀察它們的相似之處來加深對各自形狀和發音特徵的記憶和理解。

具體開展來說，例如在板書教學中，可以通過改變板書文字的大小、顏色等方式加強學生對不同內容的不同認知，從而領會學習重點。在多媒體教學中，也可以通過PPT 課件的版面設計來強化學生對層級知識的快速判斷與認知。在具體的教學內容上，更應該考慮學生的視覺規律，例如圖片案例的選擇、圖片本身的吸引程度、圖片的清晰度等細節都應該仔細把握，以學生的觀看指導教師的備課，這樣才能讓學生在學習時一目了然，有效地輔助教學。

2. 聽覺在教學中的應用

聽覺，作為人體的第二大感覺，在教學中也扮演著重要的角色。在教學中，師生一直以來被“講”與“聽”的單一教學模式束縛，即使加入了聽覺教學手段的豐富，大多也是通過播放一些視訊、音訊等形式，學生的聽覺規律沒有被深層喚醒。五感體驗中的“聽覺”體驗不僅要求授課教師繼續通過視訊、音訊、動畫等方式，豐富、加強對重點理論知識的理解，也要求授課教師掌握學生的聽覺規律，講課中聲音的大小、快慢、情緒以及播放的音訊、影片都應與所講內容一一對應，以便學生對所學內容迅速判斷與辨識。

在講課中，聲音的大小和快慢對於學生的聽覺體驗有著重要影響。授課教師應根據所講內容的重點和困難點，適當地調整聲音的大小和語速的快慢。例如，在講解發

音方法時，可以適當放大聲音並放慢語速，以便學生可以更清晰地聽到每個音素的發音細節。而在講解課文時，則可以適當提高語速並保持正常音量，以幫助學生更好地適應實際交流中的語速和音量。此外，聲音的情緒對學生的聽覺經驗也有重要影響。授課教師應盡可能保持良好的情緒狀態，並通過聲音的抑揚頓挫、語氣等傳遞出正向、熱情的情緒，以激發學生的學習興趣和積極性。例如，在講解重點理論時，可以通過提高音量、加強語氣等方式來突出重點，讓學生感受到重要性和關注。而在講課中，適當播放音訊和影片可以幫助學生更好地理解 and 掌握所講內容。授課教師可依所講內容的需要，選擇合適的音訊和影片進行播放。例如，在講解韓國文化時，可以播放一些韓國傳統音樂或影視片段，讓學生通過聽覺體驗更了解韓國文化的特徵和文化背景。有關所講內容的對應方面，是指在講課中，聲音、音頻、影片等聽覺元素應該與所講內容一一對應，以便學生能夠迅速對所學內容進行判斷和辨識。例如在講解某個韓文字的發音時，可以播放該字母的標準發音音頻或視頻，讓學生通過聽覺體驗更好地掌握其發音方法。

同時，當學生接收到聽覺刺激適應一段以後，就應及時調整並轉換成其他感覺刺激，避免學生長時間接收後漸漸失去刺激效果，影響聽課效率。所以，在《韓語語音實訓》教學中，通過課時的合理分配以及設定不同的小專題，例如“咖音秀”、“你猜我答”、“韓國文化分享”等活動，把一部分時間分配給學生，讓學生講，教師聽，激發學生的學習主動性和課堂的表現欲，以此豐富學生的學習方式。

3. 觸覺在教學的應用

觸覺作為一種觸摸體驗獲得的感覺，似乎與教學難以融合在一起。其實不然，在《韓語語音實訓》課中，觸覺體驗也應該加入到教學手段中，以豐富學生對知識的理解。長久以來，外語教學一直囿於灌輸式教學法難以突破，說到底還是被“理論”所束縛。今日大學教學課堂的改革趨勢亟需解決外語教學的效果問題，打破“只聽不做”教學模式便是重要的突破口，而這一步需要把學生的觸覺加入進來，讓學生在觸摸、觸碰中領會中韓語化的不同，“由技入道”，主動理解韓國語言及文化。

觸覺作為一種通過觸摸獲得的感知體驗，在教學中的應用可以幫助豐富學生對知識的理解。在《韓語語音實訓》課程中，觸覺體驗可以作為一種教學手段，以幫助學生更好地掌握韓語的發音和音調。在韓語語音學習中，學生需要掌握不同的音素和音

節的發音方法和口腔動作。這些發音方法和口腔動作可以通過觸覺體驗來加深理解。例如，在發某些音時，可以用手指輕輕觸碰舌頭或口腔內部，以感受舌頭和口腔的動作和位置。通過這種方式，學生可以更好地理解發音方法和口腔動作，從而更好地掌握韓語的發音和音調。

此外，觸覺體驗還可以用來區分不同的音素和音節。例如，可以通過讓學生觸摸喉嚨，感受不同音素的發聲位置和發音方法，以區分它們之間的差異。這種觸覺體驗可以幫助學生更好地掌握韓語中的語音差異。在該課程中，觸覺體驗可以作為一種豐富教學手段的方式，以幫助學生更好地理解和掌握韓語的發音和音調。通過觸覺體驗的加入，學生可以更深入地理解韓語語音的細節和技巧，從而更好地掌握韓語。但需要注意的是，觸覺體驗只是一種輔助教學手段，不能過度依賴。教師需根據具體情況進行靈活運用，以避免忽略其他教學方法。同時也需要確保學生的個人空間和舒適度，以避免不必要的困擾或不適。

4. 味覺、嗅覺在教學中的應用

味覺、嗅覺本是跟味道有關的感覺，但《韓語語音實訓》課程中也可以通過視覺轉譯的方式，進而獲得味覺、嗅覺體驗。以學習收音為例，相關字詞有許多與韓國飲食有關，教師通過圖片、影片等方式向學生展示韓國代表飲食，讓學生在觀看的同時能夠達到味覺和嗅覺的轉化。通過視覺轉譯的方式，能讓學生感受到不同文化、不同語言的味道和氣息，使其從心理上獲得滿足感，並豐富自身的感官體驗。味覺和嗅覺在《韓語語音實踐》教學中具有一定的應用價值，它們可以幫助學生更好地理解和掌握韓語的發音和調的升降。當然，這些教學方法需要根據具體情況進行靈活運用，以避免過度依賴感官體驗而忽視其他語音要素的學習。

IV. 結論

隨著社會的發展，今天的大學教育不應僅是傳授知識，還應讓學生獲得更豐富的學習體驗。韓語發音課程是韓語專業的基礎課程，如何讓課堂擺脫枯燥乏味的尷尬局面，是授課教師必須深刻思考的問題。

在五感體驗教學中，學生通過視覺、聽覺、觸覺、味覺和嗅覺等多種感官的刺激，更全面地感知和理解所學內容。這種教學方法將傳統的教學方式與現代科技結合，為

學生提供了更生動、形象、直覺的學習體驗。教學實踐表明，五感體驗教學法一方面豐富了學生的學習體驗，激發了學習興趣，提高了學習效率；另一方面，也真正做到了課堂以學生為主。以五感體驗為教學指導，讓韓語發音教學擺脫了灌輸教學的單一模式，通過遵循學生的視覺、聽覺、觸覺、味覺、嗅覺規律，以舒適、合理、有效的教學內容刺激學生的感官體驗，讓學生學得開心、學得高效。

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Enlightenment of South Korea Football Youth Training Model on the Development of Chinese Football- From an Educational Perspective 淺談韓國足球青訓培養模式對中國足球發展的啟示-以教育為中心

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Abstract: South Korea's football youth training and competition system has been mature and stable, and at this stage, Chinese football urgently needs to sort out and stabilize the core parts from the management organization, the type of youth training teams, the youth coaches, and the youth football competition system. Football should start with in childhood. Youth training is the foundation of the enduring football life, and education is very important throughout the entire football career. The combination of campus and football, sports and education is key at the stage of the youth player development. Football training and education is a systematic project so the author have to rationally analyze the problems of youth football training in China in reference to the successful operation of other countries in youth training according to the law of football development and step by step cultivation of young football talent.

Keywords: Korea football Chinese football football youth System football education

I. 引言

韓國作為亞洲足球的強國，儘管沒有隔海相望的日本“旅歐”球員多，但在諸多方面已經走在了亞洲足球發展的前列。儘管韓國國內足球市場相比棒球較小，職業聯賽的規模和影響力相對有限，但韓國足球在世界杯賽事，頂級球員輸送及青訓培養方面有其獨特的一面。從 20 世紀 80 年代在德甲留下歷史戰績的 20 世紀亞洲最佳球員-車範根，到 2002 年世界盃橫空出世，“紅魔”曼聯登頂歐洲之巔的朴智星，再到如今在英超聯賽金靴的“亞洲太陽”孫興慜以及轉會法甲豪門巴黎聖日爾曼和姆巴佩成為隊友的李剛人，一代又一代的韓國足球人在世界足球的歷史長河中留下了濃墨的一筆。韓國足球的發展和在世界足球的成功與成功的青訓培養密不可分，而在韓國青訓中教育恰恰是核心的部分，本文主要研究韓國的足球青訓培養理念與培養模式，從管理組織機構、青訓球隊類型、青訓教練員培養、青少年足球競賽體系等方面進行分析，為中國足球的青訓培養提供一些參考和建議。

II. 韓國足球青訓培養模式

1. 管理組織機構

發展全民足球是韓國足球長盛不衰的重要保障，在強大的足球後備人才培養體系支撐下，韓國足球才有走向世界的資本，才具有足球外向型人才發展戰略的根基和底氣，才能為其足球發展方式的轉型提供重要的人力資源動力(浦義俊, 2020)。曾經韓國青少年足球主要是由各級別聯盟即幼少年足球聯盟、中等足球聯盟、高等足球聯盟負責管理所屬等級的球隊註冊、管理、選拔、賽事運營、培訓等事務。各級別聯盟的收入中除大韓體育會和韓國足協的財政撥款外，每年舉辦的各級別賽事的收入占絕大部分。但隨着三年疫情期間的賽事取消和無觀眾比賽，各聯盟獲得的收益驟減，導致入不敷出，無法維持正常的組織運營。其次，各級別聯盟會長均是連任多屆的“老人”，在任期內，利用職務之便非法獲得利益，甚至控制和威脅球員家長，從球員家長處收受巨額財務賄賂，以便讓球員獲得韓國國字型大小代表隊名額等犯罪事實被韓國檢察機關依法查處。為此，韓國足協本着提高球員競技水平，提高青訓教練員指導能力，提升專業的賽事運營和發展目的將各級別聯盟解散後統一由韓國足協管理和運營。

多部門共同參與協調配合是韓國足球青訓人才培養的重要保障。韓國足協作為主導部門，制定了韓國足球青訓的足球哲學和整體發展規劃，組織各級別聯賽和賽事。每年派遣優秀青訓教練員和球員到歐洲和日本進行海外研修。同時韓國教育部、文化體育觀光部等青少年相關部門也在政策和財政上為校園足球的開展提供各項支持，聯合高校制定訓練指導方案，印製分發足球指導教材，贊助各項聯賽和錦標賽，開發遠程線上課程等方式保障學生球員的學習權。為此韓國教育部和韓國足協共同出臺了“學習型足球選手”的政策，制定了青少年球員參賽資格准入的最低學時和成績限定，未達標的青少年球員，不得參加韓國足協舉辦的所有賽事。

2. 青訓球隊類型

韓國青少年足球隊主要分為兩大類，俱樂部球隊和校園足球隊。其中俱樂部足球隊又分為 K 聯賽職業俱樂部青訓梯隊和業餘俱樂部精英球隊。K 聯賽青訓球隊由參加 K1 聯賽的 12 支職業俱樂部梯隊和 K2 聯賽的 10 支職業俱樂部梯隊構成。每支球隊的球員規模和運營接近職業隊規模，達到了 30~40 名球員。若想進入職業俱樂部梯隊，必須首先成為隊內的佼佼者才有可能獲得職業俱樂部球探的青睞，進而有機會加入職業梯隊。截止到 2023 年 4 月在韓國足協正式註冊的小學生球隊分別是校園隊 65 支，

俱樂部 298 支，共計 363 支。中學生足球隊數量分別是校園隊 81 支，俱樂部球隊 178 支，共計 259 支球隊。高中生足球隊數量分別是校園隊 100 支，俱樂部 91 支，共計 191 支球隊(據韓國足球協會官方統計報告)。通過數據可以發現韓國青訓 U12 級別的校園球隊從 2011 年的 201 支到 2023 年減少為 65 支，其原因是韓國足協引入市場機制，鼓勵退役職業球員和高校畢業生開辦足球青訓俱樂部和校園球隊形成良性競爭的同時擴大足球人口。在初中 U15 階段因為有大量 U12 業餘俱樂部的興起，自然而然地帶動了 U15 球隊的建設，相比 2011 年的 13 支，2023 年 178 支，增加了將近 13 倍，保證了小學階段的優秀足球後備人才的晉升通道，起到了承上啟下的至關重要作用。在高中 U18 階段，因為升大學的原因，校園球隊屬於主導地位，這也恰恰證明了職業足球的殘酷性，只有極少數的青少年才能通過層層選拔進入足球金字塔尖的職業足球，大部分青少年球員還是要回歸校園，進入大學，走向社會。

表 1 在韓國足協註冊球隊統計 (截至 2023 年 4 月)

	類別	2011 年	2013 年	2015 年	2017 年	2019 年	2021 年	2023 年
U12	校園	201	349	173	155	133	88	65
	俱樂部	102	409	169	154	192	266	298
	合計	303	758	342	309	325	354	363
U15	校園	170	213	164	147	119	99	81
	俱樂部	13	269	89	90	116	153	178
	合計	183	482	253	237	235	252	259
U18	校園	127	162	128	122	143	106	100
	俱樂部	0	139	44	60	73	79	91
	合計	127	301	172	182	187	185	191

III. 韓國青訓教練員培養模式

曾任韓國足協技術委員會委員長的金判坤在就任儀式上提出了教練訓練體系建構的重要性。成績至上導致球員和教練的發展滯後是韓國足球界普遍存在的現象，尤其是教練員以成績為主的指導導致只有高水平的球員和高年級的球員得到出場機會，而低年級和相對水平較弱的球員鮮少出場，成長和進步遲緩。

隨著韓國足協每年定期組織各級教練到歐洲足球先進國家的訪學，教練們開始對訓練的重要性的認知。為此韓國足協積極組織和發展多樣化針對性的培訓，除常規的教練員培訓外，增設了守門員教練，體能教練，視頻技術分析員等特殊崗位的培訓。隨著教練訓練內容的豐富逐漸在教練圈內形成了“為了培養優秀球員多學一門訓練課程”的學習氛圍。

韓國足協技術部強調教練服務的對象是球員，教練要具備為球員未來負責的責任感和情感，以人性為中心的教育哲學在球員身邊起到導師的角色和作用。身為教練即使擁有豐富的知識和哲學，但不一定能將這些內容正確地傳授給球員，因此通過教練培訓課程學習正確的指導方法是非常必要的，不僅要通過多樣的訓練方法讓球員獲得的技能同時也要培養球員自己判斷場上局勢和自我決策解決問題的能力。

韓國足協為了確保教練的指導能力和教練等級的晉升，制定了線上和線下同步進行的教練進修培訓制度。所有持有相應等級證書的教練必須在規定的時間內完成規定課時的進修訓練才能維持現有等級的證書，若未能修滿規定的訓練課程時將會降級處理。若想晉升上一等級，同樣需要修滿規定的進修課程方可獲得上一級教練等級申請資格。韓國足協目前開設的進修課程有：AFC/KFA 教練講師培訓，邀請外國專家講師培訓，球員父母研修，海外教練研修，市道足協及旗下各聯盟主辦教育培訓，線上培訓(體育倫理，體育科學，技術)等多元的訓練課程。

韓國足球協會在 2017 年對參加 P.C.G(Professional Coaches Group)論壇及 B 級和 C 級教練培訓班的 343 名教練為對象進行了進修培訓相關的問卷調查。調查結果顯示，161 人(62.4%)的教練指出訓練次數不足的問題，141 人(54.65%)的教練提出改善訓練地點的問題。大部分第一線教練因為緊密的錦標賽及聯賽的日程以及訓練地點的限制導致不能正常接受進修訓練。針對這些問題韓國足協不僅增加了各級教練培訓班的次數，提前公佈下一年度培訓計劃，而且對基礎階段的 D 級教練員培訓採取了集中製(集中 4 天)和周末制(連續兩個週六日)的彈性訓練行程體系，方便初級教練們參加訓練和考取相應等級證書。關於進修培訓內容相關的調查問卷中 260 人(75.8%)指出“現代足球的戰術發展相關的最新信息”，“邀請海外優秀教練員和講師特別講座” 173 人(50.44%)，“進攻，防守，守門員等特別位置訓練” 148(43.15%)，“體育營養學，心理學等專業課程” 138(40.23%)。

表 2 在韓國足球註冊的教練員人數統計 (截止 2022 年 10 月)

級別	P 級	A 級	B 級	C 級	D 級	GK	體能	五人制	合計
人數	208	1311	2115	5799	4194	565	235	802	15229

注：數據來源於韓國足球協會 (<https://www.kfa.or.kr>) 發佈報告

但理想與現實總是存在距離，青少年足球的現實是球隊必須獲得較高的成績，教練才能繼續留在球隊中的同時也容易招募更多的球員。大多數青訓教練普遍為簽約 1~3 年的合約制教練，執教成績和球員數量是延續合約的決定性要素，但是韓國足協要求青訓階段不鼓勵追求成績而已技術發展為中心的目標與現實存在著較大的衝突。

隨著業餘俱樂部的興起，校園球隊和俱樂部之間的衝突也逐漸升高。俱樂部球隊不受地區限制可以招收任何地區的球員入隊，反觀校園球隊只能以本校的學生球員為主。雖然校園球隊在管理以及監督上較俱樂部球隊有一定的優勢但整體上對俱樂部球隊更有利。

IV. 韓國青少年足球競賽體系

2019 年 5 月，FIFAU-20 世界盃上韓國隊取得了歷史性的亞軍成績。在本屆比賽中發揮出色穩坐主力的白昇浩和李剛仁分別在 2009 年和 2010 年作為大同小學的隊員參加了當年的王中王戰，並成為當年的“希望之星”。韓國 U18 國家隊的全世振更是分別在 2010 和 2014 年獲得了小學和初中王中王戰的冠軍，是此項賽事中為數不多的跨年齡段冠軍。僅僅 2 個月之後，擁有無數輝煌瞬間的王中王賽事賽事卻走進了歷史的舞台。

韓國足協於 2019 年 7 月通過理事會議決定從 2020 年開始取消每年 11 月份進行的小學男子組和初中組的年末王中王戰，改為 3 月至 10 月期間的周末聯賽。此舉的改變與第一線青訓教練持續性建議的有著密不可分的關係。

2017 年開始，在一線青訓教練員間充斥著取消王中王戰的言論。其理由是畢業年級學生的升學問題。根據韓國教育部的規定，若想升入理想的學校需要將住址遷入到該學校所在地附近，因此在 11 月王中王戰開始前，作為球隊主力的準畢業生們在開賽前就已轉學，造成球隊實力大打折扣。雖然韓國足協曾允許同一年份轉會球員回到原所屬球隊進行王中王戰的比賽，但這與大韓體育會的規定相衝突，因此未能實現。特

別是地方球隊的球員在畢業季時紛紛轉學到首都圈附近的學校，造成地方球隊主力大量流失，整體實力下降，難以參加王中王戰的比賽。

小初高聯賽自 2009 年推出以來取得了良性的發展。根據韓國足協的統計顯示 2009 年聯賽元年，共有 576 支球隊參加了聯賽，其中小學 266 支，國中 175 支，高中 135 支。經過長時間的穩定發展截止 2022 年共有 842 支球隊參加了聯賽，其中小學 370 支，初中 275 支，高中 135 支。不僅是球隊的數量上有所增加，在參賽球隊的種類也有了新的變化。聯賽元年主要是以校園足球部球隊為主，但隨著業餘俱樂部的發展，如今在小學和初中階段俱樂部球隊已經超越了校園足球部，形成了校園足球部，俱樂部(職業，業餘)雙軌制並行的局面。

採用單淘汰賽制度的王中王比賽對於青少年球員有著超越同年齡的壓迫感，同時誘發了過度的競爭。週末聯賽的初衷是“建立快樂足球”為目標，過去的錦標賽是在某一時段集中進行的賽會制比賽，幾乎每日進行一場的高強度賽制以及勝利至上的競爭心理對青少年球員的發展有著潛在的危機。相反週末聯賽通過長時間定期的比賽不僅提高了球員的競技水平能力，而且比起眼前的勝利更能獲得長久的快樂。經過 9 年時間的發展，週末聯賽已深入紮根青訓基層，成為貫穿全年的完整賽事。在每年暑假進行多項賽會制錦標賽的前提下，11 月份進行的王中王戰比賽不僅增加了青少年球員的經歷和學業授課的缺失，而且還加重了家長們的經濟負擔。

韓國小初高足球發展聯席會由幼年足球聯盟(小學)、中等足球聯盟(中學)、高等足球聯盟(高中)及各級教練代表，各市道足協負責人組成。通過該會議的決議並上報韓國足協理事會決定從 2020 年開始廢除小學和初中階段的王中王比賽，但因為考慮到高中升大學的需要，保留高中階段的王中王比賽，並從每年一次改為春秋兩次進行，此舉是為了更多球員通過王中王比賽獲得優異成績從而升入理想的大學。

對於中小學階段王中王比賽的取消俱樂部球隊層面是比較惋惜的，相對於校園球隊，俱樂部球隊不存在所有球員集中在同一學校的問題，可以靈活招募球員，球隊整體運作相對完善，但王中王比賽的取消失去了與全國同年齡層高水準球隊之間競技的機會。前文中講到週末聯賽是地區性質的聯賽，只有聯賽的冠軍才能參加全國性質的王中王比賽，與不同地區的冠軍隊較量。

V. 結語

以上韓國足球青訓三方面進行的分析只是整個韓國足球青訓培養模式裏比較重要的幾個方面，要想真正提高中國青少年足球的發展還需要各方面的努力。現階段中國足球迫切需要從管理組織機構、青訓球隊類型、青訓教練員培養、青少年足球競賽體系等核心部分進行梳理和穩固。沒有統一有效的管理機制領導，各省市各自為戰，無法統籌和全面發掘我國優秀足球人才。需要教育部、國家體育總局、中國足球協會等各部門聯合管理，相互合作。其次，在積極開展校園足球的同時，也要鼓勵職業俱樂部和業餘精英俱樂部和校園的合作，校園足球水準提高的同時保障了青少年精英球員的教育和學習。優秀的青訓教練員是青少年足球培養的關鍵執行人。當前我國的校園足球師資短缺已經影響到了校園足球的開展。因此，完善教練員培養和校園足球教練員的薪資保障，教育培訓等方面還需要逐步完善。穩定的出場比賽和高水準的聯賽和杯賽是青訓球員成才的關鍵途徑，韓國青少年青訓競賽體系已經成熟穩定，鑒於我國足球發展不均衡的情況，可在足球發展重點城市逐步開展並完善小學、初中、高中、大學以及暑期學生足球賽、校際聯賽、區際杯賽、國際邀請賽的“四縱四橫”競賽體系(王莉華、王長梅、麻晨俊，2020)。足球要從娃娃抓起，青訓是足球經久不衰的基礎，而教育是貫穿整個足球生涯的重中之重。校園與足球，體育與教育的相結合是在青少年球員培養階段的關鍵，校園與教育是缺一不可的，足球青訓和教育一樣是一項系統工程，因此我們要理性的分析我國青少年足球培養上存在的問題，參考他國在青訓培養上的成功經營，按足球發展規律循序漸進地進行青少年足球人才的培養。

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**The Reception and Dissemination of French Literature in China
in the 20th Century**
略論 20 世紀法國文學在中國的接受與播遷

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Abstract: *Chinese Literature in the 20th century, has been influenced by various foreign literatures in the process of modernization transformation and historical evolution. Among them, French literature played an extremely important role in the development of Chinese Literature in the 20th century. Therefore, as a basic research, the researchers want to understand the influence of French literature on Chinese literature in the 20th century, as well as the inheritance and changes of the characteristics of French literature in Chinese literary works, and the role and significance of these characteristics in the development of modern Chinese literature. It is necessary to sort out and summarize the French literature translated into Chinese during the response period. This study attempted to sort out the translation of French literary works in the 20th century from both vertical and horizontal perspectives, and summarize its characteristics.*

Keywords: *French literature reception dissemination Chinese literature in 20th century*

※吳雅暄(第一作者) 隋雨竹(通訊作者)

I. 引言

文化交流中,文學翻譯發揮著重要的作用。對 20 世紀中國文學而言,其在現代化轉變以及歷史嬗變的過程中受到了各種外國文學的影響。其中,法國文學對 20 世紀中國文學的發展起到的作用佔據極為重要的位置。因此,想了解法國文學對 20 世紀中國文學的影響以及法國文學自身體現出的特點在中國文學作品中的傳承與變化,對近現代中國文學發展的作用和意義,作為基礎性研究,有必要對響應時期中國譯介的法國文學進行整理歸納。本文嘗試以縱橫兩個角度對 20 世紀法國文學作品的譯介進行梳理,並對其特點進行歸納說明。

II. 譯介的幾個階段

1. 譯介的發端

法國文學在中國譯介開始較晚。嚴格意義上，學界以小仲馬所著《茶花女》的翻譯本為第一部被譯介的法國純文學小說。

這部譯作由筆譯專家林序(1852-1924)與口譯家王壽昌(1864-1926)共同翻譯。最初於1899年2月發行木刻本《巴黎茶花女遺事》，刻板請福州刻板名匠吳玉田製作。福州版隨後被上海出版人汪康年(1860-1911)購得版權並製作活字版，於上海素隱書屋出版。與福州版不同，上海版《巴黎茶花女遺事》即《茶花女》始料未及地在上海各界，尤其是知識分子階層中獲得極大關注。該版本於1901、1903、1906年被加印三次，其人氣可見一斑。正因如此，更被視為第一部譯介的純法國文學小說作品。第一次再版的1901年，女翻譯家薛紹徽(1866-1911)與丈夫晚清外交官陳壽彭(1855-?)合譯凡爾納的《八十日環遊記》由經世文社出版，又引發大眾關注。至此，法國文學在近代中國的譯介拉開序幕。

值得一提的是通常認為《茶花女》為最早純文學譯作，但實際有關法國作品的最早翻譯可考證至1871年王韜(1828-1897)與張芝軒(未詳)合譯的《馬賽曲》(中國近代翻譯文學概論)。清末思想家王韜與翻譯家張芝軒於香港出版《普法戰紀》中首次以文言文翻譯《馬賽曲》(中文譯名《麥須兒詩》)並介紹至中國。



王韜、張芝軒合譯《麥須兒詩》採用中國傳統七言形式翻譯其中四段。例舉其中第一段的譯文：“法國榮光自民著，愛舉義旗宏建樹。母號妻啼家不完，淚盡詞窮何處訴？籲王虐政猛於虎，烏合爪牙廣招募。豈能複睹太平年，四出搜羅囚奸蠹。奮勇興師一世豪，報仇寶劍已離鞘。進兵須結同心誓，不勝捐軀義並高！”從文學翻譯角度，該作品的翻譯極具意義。劉半農(1891-1934)在隨後的1917年將馬賽曲譯為白話文發表在《新青年》2卷。其後至《茶花女》譯介前，又有一些作品得以翻譯。

時間	作品	譯者
1872	《中西聞見錄》刊錄《法人寓言》一則	William Alexander Parsons Martin 丁韋良
1874	《寓言》五則	Jean Gabriel Deveria 德微理亞
1897.07	麥爾香《穡者傳》	朱樹人
1897.10	《卓舒及馬格利小說 Georges er Marguente)》(Théodore Cahu)	陳季同

(麥爾香《穡者傳》中,“法國麥爾香原著,上海朱樹人譯述”的《穡者傳》,1897年7月起連載於上海農學會編輯,羅振玉主辦的《農學報》(據陳鳴樹《二十世紀中國文學大典》及上海圖書館編《中國近代期刊篇目彙錄》。卓舒及馬格利小說 Georges er Marguente)》為法國賈雨著,陳季同翻譯(譯者筆名“三乘槎客”)的《卓舒及馬格利小說》,1897年10月-1989年3月發表於譯者本人和他弟弟陳壽彭合辦《求是報》第2-12冊。)

由上可知,至1899年林紓譯《巴黎茶花女遺事》前,已有一些作品得到翻譯。目前這些作品暫不被認為是法國文學譯介發端的原因大致因為這些譯介多以報刊為載體,刊載原著較難尋找,同時其文學價值與《茶花女》相比較低。但作為譯介而言,其所起到的作用仍不可忽視,可視為譯介發端的序曲。

2. 譯介的三個階段

自法國文學譯介以《茶花女》出版為發端標誌起步,百余年時間裡法國文學的譯介呈現出發展態勢。若從譯介作品的影響、作品數量等方面考慮,中國的法國文學譯介大致可以分為三個階段。

1) 啟蒙階段。

對近代中國影響極大的五四運動後,便是五四新文化運動。作為該運動旗手的《新青年》雜誌在該階段刊載了大量翻譯的外國文學作品。這些西方的文學形式對中國文學產生了巨大影響。在五四運動的背景下,法國思想家的著作格外得到青睞。如18世紀法國啟蒙主義時期思想領袖伏爾泰、盧梭等。除《新青年》外,《莽原》、《新月》、《語絲》、《晨報》等刊物刊載了大量伏爾泰的小說翻譯、作品評論,成就了當時的“伏爾泰熱”現象。此外,《文學週報》、《詩》等刊物在這段時期刊載了法國小說、戲劇、詩歌等各種題材的法國文學作品百餘部,幾乎包括所有法國文壇著名作家的作品。其中《小說月報》出版三部法國文學專刊,1924年《法國文學研究專號》輯錄310位法國文藝家資料。同時《莫泊桑短篇小說集》、《法國短篇小說集》、《莫里哀戲

劇集》、《法國文學史》等作品也得到譯介。商務印書館《法蘭西文學叢書》系列翻譯長篇小說 6 部，也是當時備受矚目的作品。1896 年至 1916 年大致 20 年間，譯介至中國的國外文學小說達 800 餘種，翻譯數量第一位英語小說，第二便是法國小說。其中凡爾納的科幻小說最受歡迎，其次為大仲馬、維克多雨果、莫泊桑等法國一流作家。

五四新文學運動背景下的法國文學譯介的啟蒙階段，具有明顯的當時的時代特征。僅從譯介規模上，啟蒙階段的成果已包含了當時法國最有影響最優秀的文學作品。風格也包含浪漫主義，現實主義和自然主義等多種風格的作品。結合當時實際情況，譯介的標準大致很容易分辨出，即全新的文學思潮、風格，或者說有別於傳統中國文學。如魯迅在《摩羅詩力說》顯示“立意在反抗，指歸在動作，而為世所不甚愉悅者”的文學。沈雁冰在 1920 年《小說月報》的《小說新潮欄》指出：“現在新思想一日千里……所以一時間便覺得中國翻譯的小說實在是都‘不合時代’……中國現在要介紹新派小說，應該先從寫實派、自然派介紹起。”當時的譯介也確實是呈現出以啟蒙思想家伏爾泰、盧梭作品為代表，同時加上批判揭露現實的雨果以及羅曼羅蘭等作品，以及各種不同於傳統中國文學的作品為主的特點。這些作品的翻譯自身並非追求文學本審，而是利用文學作品影響社會，引發變革。尤其是翻譯時採用再創造式翻譯的方法付，這不僅僅在於文學性的考慮，更是當時思想浪潮下的自發契合。

2) 發展階段。

由於啟蒙階段的良好基礎，發展階段的法國文學譯介逐漸呈現出更多的特征。首先是傳承性。啟蒙階段的譯介仍在發揮著影響。如陳鈞所譯《福祿特爾小說集》1935 年由商務印書館出版並被列入世界文學名著叢書。伏爾泰的作品在該階段仍對大眾產生著影響，同時對於中國現代文學的創作產生了更大的影響。陳鈞也在譯文中指出：

“其小說集中每以懷疑之態度，寫其孤憤之思，悲天憫人，醜詆當世。用筆既深且刻，立意曲曲可悲。讀其文固無不擊節嘆賞也！雖然彼於提倡維新肆意破壞之中行文則置為整飭遣詞則極其雅馴，而且譬喻百出，奇趣橫生，文章思想，靡不美備。”

在該時期雨果的著作得到極大重視。雨果經常被譽為法國 18 世紀浪漫主義文藝思潮的代表作家，其為西方文壇所知在於其詩歌與戲劇方面的才華。如詩集《頌詩集》（1822 年）、《新頌詩集》（1824 年）、《頌歌與長歌》（1826 年）、《東方吟》（1829 年）、

《秋葉集》(1831年)、《黃昏之歌》(1835年)、《光與影》(1840年)等。但啟蒙階段的翻譯選擇了《巴黎聖母院》、《悲慘世界》等現實性特征的作品。這是由於當時背景下，雨果浪漫風格的務實性略顯不足，加上當時譯者多重視思想性，導致其譯介屬於不溫不火的狀態。改變出現在1927，1930年《克倫威爾序言》發表紀念以及《歐那尼》演出百年紀念，當時在西方形成一股雨果熱，這也引起了中國文學界的關注。1935年雨果逝世50年之際，中國刊物紛紛推出雨果相關文章，逐漸形成不遜於西方的雨果熱潮。雨果作品的翻譯體現了發展時期法國文學作品翻譯的理念轉換。啟蒙階段的翻譯以思潮下的社會需求為主，在發展階段翻譯者們開始重新審視這些作品的內在風格。如雨果的作品開始有理性轉向其浪漫風格的創作特征上，可視中國文藝界認識並理解其作品風格，將其置於浪漫主義背景下進行文學性翻譯。

該時期中國著名詩人戴望舒(1905-1950)自學習法語時便展現出法國詩歌的熱愛，雨果、拉馬丁之外偏愛魏爾倫、果爾蒙。雖然戴望舒第一首譯作是雨果的《良心》，但其後詩歌翻譯集中在波特萊爾、果爾蒙兩位象征派詩人的作品上。他的名作《雨巷》所展現出的韻律美、形象流動性、主題矇矓性均明顯受到魏爾倫詩歌風格的影響。1932年他的詩集《望舒草》特征也分外明顯，吸收了象征派詩人福爾、果爾蒙等詩歌風格的自由、朴素、親切特征，並且十分明顯。小說譯介方面，早期的戴望舒翻譯過保爾穆航的短篇小說集、夏佈多里昂的小說《少女之誓》，但進入30年代後陸續翻譯了高萊特《紫戀》，梅裡美《高龍芭》、《卡門》，布爾熱《弟子》以及其他通話故事集、短篇小說集等。該時期中國詩歌的創作呈現出一種新的氣象，文藝界多認為是法國派作家創作的豐盛時期。

進入到40年代，法國長篇文學的譯介呈現出繁榮景象。巴爾扎克《哀吹錄》自1915年林紓、陳家麟首次翻譯後，47-49年間《人間喜劇》中的25篇作品得到翻譯。如穆木天《貝姨》(1940)、《邦斯舅舅》(1943)、《幻滅》(1944年)、《巴黎煙雲》(1949)、《絕對追求》(1949年)等。高名凱《歐也妮·葛朗台》、《獨身者》、《杜爾教士》(1946年)。《幽谷百合》、《單身漢的家事》(即《攪水女人》)、《兩位詩人》、《外省偉人在巴黎》、《發明家的苦惱》、《於絮爾·彌羅埃》(1947年)。

許多作品在該時期出現各種版本。如羅曼·羅蘭《李柳麗》(1944年)和《群瑯》(1947年)各有兩種譯本。夏萊蒂，徐培仁翻譯初版於1928年的《愛與死的角逐》於1937、1939、1940、1943、1944、1946、1947年各再版一次。《約翰·克利斯朵夫》也有4種：

1941年傅雷、1944年鍾憲民、齊蜀人、1945年鍾憲民，1945年至1948年的傅雷再版等。司湯達除李健吾譯其中短篇外，1944年趙瑞蕪節譯其《紅與黑》，並於1947年補完出版。此外，《法尼娜·法尼尼》(1943年)、《愛的毀滅》(1946)、《卡斯特盧的女修道院院長》(1949年)等也得到出版。

由此，發展時期法國作品的譯介更為全面豐富，但最終要的特點在於該時期的譯介推動了中國本土文學的發展。這種發展是一種融會貫通後的交融式發展。即中國文學借鑒法國文學作品中的批判性、現實性，同時注意轉向浪漫、象征主義為代表的一些著作。所以這一時期的譯介作品外，中國本土的文學作品也層出不窮。

3) 復興階段。

60-70 年代末期，法國文學作品的譯介陷入停滯。改革開放後，無論是經濟還社會思想都快速回復，無論是法國文學的譯介還是本土文學都進入了快速發展的局面。

70 年代末，中國大陸開始迎來了新的西方文化思潮。雖然西方文藝界已開始後現代文學的嘗試，但各種文學景觀如象征主義、表現主義、未來主義、超寫實主義、存在主義等，仍對中國的文藝界產生了重大影響。其中，法國文學的譯介不僅表現重譯再版，各種文學作品都開始被翻譯出版。中國社會科學院外文所編撰“20 世紀西方文藝思潮論叢”(七輯)、10 種“法國現當代文學研究資料叢刊”、70 種“法國 20 世紀文學叢書”等三大文叢是當時最具代表性的譯介成果。

其中，《法國 20 世紀文學叢書》是目前最為全面的法國作家文叢。從 1985 年開始啟動，至 1998 年完成。林林總總囊庫 20 世紀法國文學各種流派、風格、特色的作品。主編柳鳴九同時編選《法國浪漫主義作品選》、《法國自然主義作品選》、《法國心理小說名著選》、《法國短篇小說選》、《法國散文選》等多套叢書。另外，該階段對於法國文學的重要成果以及最新成果的介紹逐漸多了起來，相關作品也很快在中國市面出現。如北京大學出版社的《二十世紀法國思想家評傳叢書》等書籍收錄了法國文學重要理論作家巴士拉、熱奈特、羅伯一格里耶、布朗肖、羅蘭巴特、托多羅夫等代表作及相關作品譯介，對法國文學作品的譯介更為全面。再比如，瀋江出版社的《法國 20 世紀文學叢書》、安徽文藝出版社的《法國 20 世紀文學叢書》、上海譯文出版社的《法國當代文學叢書》、譯林出版社的《法國當代文學名著叢書》等等這些叢書收入了羅伯格里耶、尤瑟納爾、安德烈莫洛亞、瑪格麗特杜拉斯、波伏娃、卡繆、薩特、紀德、瓦揚、莫蒂亞諾、莫利亞克、聖瓊佩斯、米歇爾圖尼埃、聖埃克蘇佩里、勒克萊齊奧等幾乎

所有法國當代知名作家的作品(于輝, 2014)。

該時期除了文學譯介的對象豐富外，經典的翻譯仍在持續。除糾正以往翻譯中的錯譯誤譯外，不同於以往，該階段的翻譯更為關注文學本身的特性，從人文角度進行詮釋。

III. 譯介的特點

從法國文學在中國譯介的三個階段看，譯介的特點主要體現在以下幾個方面。

1. 早期譯介易受思潮影響。啟蒙階段受到五四運動影響下的譯介多以現實主義為主導，具有明顯的當時的時代特征。即雖然作家作品風格多樣，仍選擇其具現實性或批判性一面進行譯介，同時輔以在創作以達到利用文學作品影響社會的目的。恢復階段前的停滯期，相關譯介也受到當時文化政策的影響，即強調其社會政治作用。如荒誕劇在這一階段被譯介至國內(尤內斯庫《椅子》)。

2. 譯介題材豐富。除各經典外，各種類型的作品都被關注。隨著各階段重點的不同，各種類型無論詩歌、小說、戲劇，還是各種譬如浪漫主義、現實主義、自然主義、象徵主義、存在主義、表現主義、未來主義、超寫實主義、意識流、新小說、荒誕劇、黑色幽默、魔幻寫實、後現代文學等，均可發現其譯介成果。

3. 保持一定延續性。啟蒙階段前已有較為系統的翻譯成果，雖然啟蒙階段受到五四新文化運動較大影響，但有些譯介保持有傳承性，如經典的翻譯。此外在 50-60 年代的譯介仍與 30, 40 年代的譯介保持有延續性。該階段學界延續以往，以經典作家作品為主，有計劃、有選擇地譯介文學作品，使得作品譯介得到較系統性介紹。如文藝復興時期的拉伯雷，古典時期的莫里哀、拉辛、高乃依，啟蒙運動時期的伏爾泰、孟德斯鳩、狄德羅、盧梭，19 世紀的雨果、巴爾扎克、司湯達、梅里美、喬治桑、繆塞、福樓拜、莫泊桑、左拉等法國文學代表作家的經典名著都被翻譯成書甚至幾經再版。

IV. 結語

本文簡要討論了 20 世紀法國文學在中國的接受與傳播。首先簡要回顧 20 世紀法國文學譯介，並在該基礎上對 20 世紀法國文學在中國譯介的階段及接受特點進行分析。由於篇幅限制，未能全面展開，但在後續研究中，若能從巨視文化視界，將法國文學

的譯介置於不同階段社會因素影響，文學交流背景中開展研究，對譯介成果對於文學或其他領域的作用進行客觀評價是努力的方向之一。

法國文學源遠流長，經典層出，是世界文學歷史中重要的組成部分。從 20 世紀起，中國的相關學者持續對法國文學進行全方位的譯介。這項工作的開展從個人到集體，從個人偏好到綜合系統，持續了百年。由此，無論是中世紀的英雄史詩、宗教文學、騎士文學、公民文學，還是 16 世紀的人文主義文學、17 世紀的古典主義文學、18 世紀的啟蒙文學，19 世紀的象徵主義文學、寫實文學、自然主義文學均得到系統有序的譯介。進入 20 世紀，隨著融入歷史人文思考，理性分析下的交流愈加深入，法國文學的譯介一定會更加蓬勃，兩種文學的交融發展前景也會更加光明。

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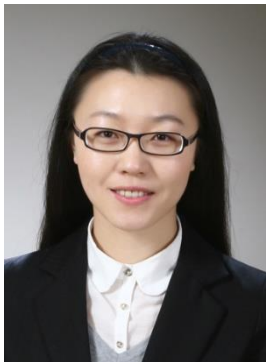
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