



Evaluating the Sufficiency of Multiplicity Functions of Visual Cues in English Modules for Remote Learning: Perspective from Public Junior High School Teachers

Richard M. Bañez*

College of Teacher Education, Batangas State University JPLPC-Malvar Campus, Batangas, Philippines

ORCID: 0000-0003-2896-1981

Helen G. Mosteyro

College of Teacher Education, Batangas State University JPLPC-Malvar Campus, Batangas, Philippines

ORCID: 0009-0002-2618-5368

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This study aims to evaluate the sufficiency of visual cues in English modules and examine the adaptation practices of public junior high school teachers in utilizing these modules. Employing a descriptive-correlational research design, the study analyzed the relationship between the sufficiency of visual cues and the extent of teachers' adaptation practices. Data were collected using a researcher-constructed survey instrument, validated and tested for reliability, and distributed to 70 junior high school English teachers in Tanauan City through an online platform. Statistical analyses, including mean, standard deviation, and Pearson Product-Moment Correlation, were employed to interpret the data. The findings revealed that visual cues in English modules were perceived as moderately sufficient, with teachers demonstrating a moderate extent of adaptation practices. A positive correlation was identified between the sufficiency of visual cues and the extent of adaptation practices which emphasizes their interconnected role in fostering effective teaching strategies. These results highlight the potential of well-designed visual cues and adaptive practices to enhance critical thinking and creativity among students by supporting more effective and inclusive learning experiences in diverse educational settings. This study calls for the implementation of professional development programs to enhance teachers' competencies in adapting and integrating diverse, culturally responsive visual elements into their instructional practices to foster deeper student engagement and more meaningful learning outcomes.

Introduction

The global pandemic, which had a significant impact on the world's educational system, forced educators to adapt to alternative learning modalities as traditional face-to-face teaching became untenable. In response to the crisis, the Philippines, like many other nations,

* Correspondency: richardbanez@g.batstate-u.edu.ph

implemented the Basic Education Learning Continuity Plan (BE-LCP) under DepEd Order No. 12, series of 2020, for the academic year 2020-2021. While this plan aimed to address the educational challenges posed by the pandemic, it also highlighted problems that needed to be tackled to ensure effective learning continuity. One of the key solutions to address these issues was the implementation of Modular Distance Learning (MDL) and the incorporation of visual cues to enhance students' comprehension and engagement.

To ensure the success of MDL and independent learning, it was essential to provide learning materials that incorporated visual cues. Visual literacy, the ability to interpret, evaluate, use, and create images and visual media, plays a crucial role in helping students grasp complex concepts. Visual cues not only aided in understanding but also enhanced engagement and comprehension, particularly for English Language Learners (ELLs) (Kong et al., 2019). Studies consistently showed that the use of visual cues in lesson delivery benefited ELLs, making it an essential component of effective teaching (Halwani, 2017; Hazan, 2006).

The versatility of visual cues encompasses various dimensions that significantly impact the learning process. A comprehensive examination of their effectiveness can be conducted by analyzing their relevance in different aspects, including drills, communication, understanding, ornamentation, prediction, and discussion (Harmer, 2015). Drills, for instance, involve systematic repetition of concepts, examples, and practice tasks, emphasizing the importance of reinforcing facts and achieving efficiency. The primary goal of such drill and practice methods is to enable learners to attain a high level of mastery of their skills (Padalia & Yatim, 2020).

Visuals in education offer a multitude of benefits, including improving communication, aiding understanding, enhancing engagement, supporting predictions, and encouraging active participation in discussions. Research has consistently shown that visuals deliver information swiftly and clearly, making it easier to comprehend and remember (Grootens-Wiegers et al., 2015; Paroutis & Knight, 2019). Visual cues play a pivotal role in helping students grasp and retain information more effectively. When students can mentally visualize concepts while reading or utilize visual aids such as diagrams and images, they find it considerably easier to comprehend complex subject matter. Additionally, the integration of colorful visuals injects enjoyment into the learning process, capturing students' attention and initiating dynamic and productive discussions. Furthermore, visual cues, like images and diagrams, prove invaluable in facilitating predictions, thereby fostering motivation and independent thinking. Engaging discussions supplemented with visual cues create an interactive learning environment, promoting active participation, reflection, and the development of critical-thinking skills (Lithoxoidou & Dimitriadou, 2021). Visuals can also be leveraged to formulate thought-provoking questions, initiate discussions, and encourage students to articulate their thoughts in writing.

In practice, the Self Learning Materials (SLMs) for Junior High School English, utilized by teachers in the Southern Tagalog region in the country, consider these aspects of visual cues. Each material for different grade levels comprises a maximum of forty (40) pages, meticulously aligned with the Most Essential Competencies (MELCs) and the prescribed number of teaching days. These materials incorporate a sufficient number of visual elements, including diagrams, intellectual cartoons, images, infographics, and charts, enhancing the learning experience.

In the current context of Modular Distance Learning (MDL), where learners rely on

prescribed self-learning materials provided by the education department, it is essential for teachers to adapt to this new teaching and learning paradigm. This adaptation entails assuming responsibility for preparing and delivering learning activities, addressing learner difficulties promptly, catering to their interests and preferences, and reinforcing student motivation. Effective teaching often involves teachers metacognitively reflecting on students' needs before, during, and after instruction, leading to adaptive teaching practices (Chew & Cerbin, 2021; Haigh, 2017). These adaptations, while not fundamentally altering teaching approaches, may involve streamlining curriculum activities and integrating new materials into existing practices.

As teachers face various challenges associated with remote teaching, it becomes crucial to consider how they can effectively utilize the provided learning materials to deliver instructions to their students within this context. This process of reflection involves evaluating the adequacy of visual cues within English modules and their instructional material adaptation practices to ensure the achievement of learning objectives. This approach can maximize the potential of SLMs in the context of remote teaching and learning. This endeavor can enhance teachers' familiarity with SLMs while complementing their existing practices within the MDL framework providing them valuable support to attain the curriculum's expected outcomes and addressing their specific needs in novel learning situations.

Objectives

The primary objective of this study was to evaluate the adequacy of visual cues within English modules used by Public Junior High School Teachers. To achieve this goal, the study had the following specific objectives:

- (1) To assess teachers' perceptions of the sufficiency of visual cues in English modules across various functions, including drills, communication, understanding, ornamentation, prediction, and discussion.
- (2) To measure the extent to which teachers adapt these English modules for their instructional purposes.
- (3) To examine the correlation between teachers' assessments of the sufficiency of visual cues and the extent to which they adapt these materials for their teaching.

Methodology

To achieve the study's objectives, a systematic and rigorous methodology was employed. This research utilized a descriptive-correlational design to evaluate the sufficiency of visual cues in English modules and examine the adaptation practices of public junior high school teachers.

Research Design

This study utilized a correlational research design to investigate the relationship between the sufficiency of visual cues in English modules and the extent of teachers' adaptation practices. According to Creswell (2014), correlational designs are appropriate for exploring relationships between variables without manipulating them, making this approach suitable for understanding how the sufficiency of visual cues influences adaptation practices among teachers. By examining these variables in a natural educational setting, the study effectively captures the interconnectedness of instructional resources and teaching strategies by providing valuable insights into their alignment and impact on pedagogical outcomes.



Study Group

The respondents of this study were 70 English language teachers from public junior high schools within the Division of Tanauan City during the 2020–2021 school year. The population comprised 85 English teachers from 16 secondary schools, distributed across four districts. A random sampling technique was employed to ensure equitable representation across districts. The Raosoft Sample Size Calculator, using a 5% margin of error and a 95% confidence level, determined the required sample size of 70 respondents.

The selected teachers met two key criteria: they had at least one year of teaching experience in English language at the junior high school level and had direct experience using English modules in their classrooms. These criteria ensured that the respondents were well-qualified to provide reliable and relevant data regarding the sufficiency and adaptation of visual cues in English modules. The final sample included 29 teachers from the East District, 18 from the North District, 10 from the South District, and 13 from the West District. This approach ensured that the findings accurately reflected the characteristics and practices of the target population while maintaining statistical reliability and validity.

These participants willingly consented to be part of the research and utilized the English modules provided by the city schools division for remote teaching. Their cooperation ensured the reliability of the data regarding the sufficiency level of visual cues in English modules and the extent of their adaptation practices.

Research Instrument

The study administered a researcher-constructed questionnaire to gather the needed data. This questionnaire was designed to achieve the study’s objectives and consisted of two main sections. The first section evaluated the sufficiency level of the multiplicity functions of visual cues in English modules across six dimensions: drills, communication, understanding, ornamentation, prediction, and discussion. These dimensions were carefully developed based on their pedagogical importance, with each addressing specific roles of visual cues in teaching. Drills focused on generating ideas, organizing information, and enhancing vocabulary through tools like mnemonics and concept maps, while communication assessed the facilitation of dialogues and expression of opinions through illustrations such as comic strips and bubble maps. Understanding explored the use of visual aids to interpret symbols, analyze plots, and derive meanings through maps and semantic tools. Ornamentation measured how visual elements engaged students and enhanced motivation through captivating graphics, while prediction focused on tools aiding in forecasting outcomes and sequencing events using charts and diagrams. Finally, discussion addressed the enhancement of concept explanation and elaboration through infographics and diagrams. This section comprised 69 items, each rated on a four-point Likert scale ranging from 4 (Highly Sufficient) to 1 (Least Sufficient).

The second section of the questionnaire assessed the extent of teachers’ adaptation practices in utilizing English modules. This section consisted of 10 items evaluating how teachers modify, simplify, or enhance visual aids to meet classroom needs. Specific items included practices such as replacing culturally inappropriate images, highlighting key components of charts, and simplifying overly complex visual tools. Responses were similarly rated on a four-point Likert scale, ranging from 4 (To a Great Extent) to 1 (To a Least Extent).

The questionnaire underwent a rigorous validation process to ensure its relevance and

reliability. Initially, items were drafted based on a comprehensive review of literature on visual cues and their educational applications. The first draft was reviewed by the research adviser, and revisions were made in line with feedback. This revised version was then submitted to a panel of three experts in English language teaching and instructional design for evaluation. The experts provided suggestions to improve clarity, alignment, and relevance to the study's objectives, which were incorporated into the final version of the instrument.

To determine the reliability of the questionnaire, a pilot test was conducted with 30 teachers possessing similar characteristics to the target population. Reliability analysis using Cronbach's alpha indicated high internal consistency, with values of 0.89 for the section on sufficiency levels of visual cues and 0.87 for the section on adaptation practices. These results affirmed the instrument's reliability in accurately capturing data on the sufficiency and adaptability of visual cues in English modules. Through this detailed development, validation, and reliability testing process, the questionnaire was established as a robust tool for generating meaningful insights into the integration of visual cues in English teaching.

Data Collecting

Following the validation and reliability testing of the questionnaire, the final version was administered to the study's target respondents, comprising 70 Junior High School English teachers from 16 public secondary schools under the Tanauan City Division. To facilitate the data-gathering process, the researchers first sought formal approval from the Schools Division Superintendent of Tanauan City. A letter of request detailing the study's purpose and procedures was submitted to obtain permission to distribute the questionnaire to the identified respondents.

Given the constraints of the pandemic in collecting the data, the researchers utilized an online platform, Google Forms, to disseminate the questionnaire efficiently. Once the request was approved, the questionnaire link was distributed to the respondents via their preferred communication channels. The use of Google Forms not only ensured accessibility but also allowed for the seamless collection and organization of responses.

Upon completion of the data collection, the responses were subjected to appropriate statistical treatments to ensure accurate interpretation of the results. These treatments were carefully selected to align with the study's objectives, enabling the researchers to draw meaningful insights into the sufficiency and adaptability of visual cues in English teaching modules. This methodical approach ensured a systematic and ethical data-gathering process, adhering to institutional and ethical guidelines.

Data Analysis

Quantitative data collected underwent analysis through Mean, Standard Deviation, and Pearson Product-Moment Correlation to determine the relationship between teachers' assessments of the sufficiency level of visual cues and the extent of their adaptation of English modules.

Results

This section presents the key findings of the study regarding the sufficiency of visual cues in English modules and the extent of teachers' adaptation practices. The data analysis



provides insights into how visual cues contribute to students’ understanding, engagement, and critical thinking, as well as how teachers adapt these cues to better meet students’ needs.

Sufficiency of the Multiplicity Functions of Visual Cues in English Modules

There were 70 respondents who assessed the sufficiency level of the multiplicity functions of visual cues in English modules based on the six functions: drill, communication, understanding, ornamentation, prediction, and discussion.

Table 1 reveals that the English modules incorporate drills that are moderately sufficient in terms of providing visual representations to help students better understand the discussed concepts. These drills within the modules offer students opportunities to practice and master the skills they are learning. Among these drills, those utilizing Venn Diagrams are particularly noteworthy, as they receive the highest mean score. Venn Diagrams enable students to easily compare and contrast concepts from the text, enhancing their comprehension.

Table 1. *Sufficiency of multiplicity functions of visual cues in terms of drills*

Indicators	Mean	SD	Verbal Interpretation
1. Comparing items using Venn diagram	3.51	0.65	Highly Sufficient
2. Repeating important concepts using textbox and diagram	3.47	0.58	Moderately Sufficient
3. Sequencing of events aided by vital clues using story boarding	3.36	0.70	Moderately Sufficient
4. Generating new ideas and constructing sentences from pictures	3.36	0.57	Moderately Sufficient
5. Improving vocabulary through crossword puzzle	3.34	0.74	Moderately Sufficient
6. Preparing an outline to recognize major ideas and subordinate details using graphic organizer	3.34	0.63	Moderately Sufficient
7. Unlocking topics through pictorial analysis	3.33	0.72	Moderately Sufficient
8. Classifying ideas to develop critical thinking by concept mapping	3.27	0.64	Moderately Sufficient
9. Organizing information systematically using sequential map	3.24	0.65	Moderately Sufficient
10. Memorizing items quickly and clearly through mnemonics	3.13	0.80	Moderately Sufficient
11. Articulating words even during independent study through phonetic chart	3.10	0.73	Moderately Sufficient
12. Recalling story details using Freytag’s pyramid.	3.04	0.86	Moderately Sufficient
Overall	3.29	0.69	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

Additionally, students exhibit enthusiasm for drills that present essential concepts repeatedly through the use of textboxes and diagrams. These activities, which are moderately sufficient in nature, aid in clarifying the citation of sources within the text. The inclusion of clues in these textboxes facilitates students’ ability to identify the relevant words, enabling them to successfully complete the tasks by providing the correct and necessary information as requested in the visual presentations.

However, it is worth noting that drills involving visual cues designed to help students memorize items quickly and clearly through mnemonics, articulate words effectively using phonetic charts during independent study, and recall story details utilizing Freytag’s pyramid,



are found to be less sufficient in the English modules. It is recommended that teachers further engage with these visual elements to guide students in maximizing their utility. The inclusion of such drills in the module aims to introduce a creative and innovative approach to presenting concepts.

Table 2 illustrates that the English modules employed by teachers feature activities of moderate sufficiency that facilitate the communication of concepts. Within these modules, students are provided with visual cues, primarily in the form of pictures, which offer them the opportunity to express their thoughts, ideas, and opinions. This engagement with visual content is observed to be moderately effective in promoting communication.

Table 2. *Sufficiency of multiplicity functions of visual cues in terms of communication*

Indicators	Mean	SD	Verbal Interpretation
1. Providing ideas on issues presented in pictures	3.49	0.58	Moderately Sufficient
2. Facilitating conversation on presented picture	3.46	0.65	Moderately Sufficient
3. Formulating dialogues from images	3.43	0.60	Moderately Sufficient
4. Articulating ideas based on story's images	3.39	0.67	Moderately Sufficient
5. Constructing dialogues based on comic strips illustration	3.39	0.64	Moderately Sufficient
6. Narrating events through picture analysis activity	3.36	0.68	Moderately Sufficient
7. Creating oral arguments based on pictures	3.34	0.66	Moderately Sufficient
8. Expressing agreement on issues depicted in illustrations	3.33	0.63	Moderately Sufficient
9. Raising personal opinions on sample editorial cartoon	3.27	0.64	Moderately Sufficient
10. Exchanging discourses through bubble maps	3.21	0.72	Moderately Sufficient
11. Executing panel group or pair discussion from pictures	3.16	0.75	Moderately Sufficient
Overall	3.35	0.66	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

Notably, the activities with the highest mean score are those that encourage students to share their ideas in response to the issues presented in the pictures. These activities allow students to quickly analyze specific lessons by interpreting visual representations of the situations. Following closely in terms of the mean score are activities that foster discussions based on the pictures presented. These discussions naturally arise when students encounter intriguing images within their Student Learning Materials (SLMs). Importantly, images that relate to topics students can personally connect with tend to stimulate meaningful exchanges of ideas among them.

Furthermore, the modules include activities of moderate sufficiency that promote group discussions and pair discussions through the use of pictures. While face-to-face collaboration may have its limitations in remote teaching and learning, students still have avenues to engage in such discussions through platforms like social media and video conferencing.

The incorporation of various visual elements such as pictures, maps, comic strips, and editorial cartoons in the modules offers significant advantages for students in terms of honing their communication skills. Students are more inclined to use visual information to communicate, prefer professional communication that incorporates visual content and tend to comprehend and perform better and faster when visuals are integrated, especially when



dealing with complex ideas.

Table 3 provides an overview of teachers’ assessments regarding the sufficiency of visual cues in terms of facilitating understanding within the English modules. The table clearly demonstrates that the English modules utilized by teachers incorporate visual cues that are moderately effective in ensuring that students fully comprehend the presented ideas and topics.

Table 3. *Sufficiency of multiplicity functions of visual cues in terms of understanding*

Indicators	Mean	SD	Verbal Interpretation
1. Comparing and contrasting ideas in narrative using Venn diagrams	3.46	0.58	Moderately Sufficient
2. Interpreting ideas from samples of non-linear texts.	3.46	0.58	Moderately Sufficient
3. Describing characters in narratives through character web	3.44	0.61	Moderately Sufficient
4. Interpreting symbols through pictures	3.44	0.58	Moderately Sufficient
5. Analyzing meaning through word-picture analogy	3.41	0.60	Moderately Sufficient
6. Deriving meaning from posters or printed advertisements	3.40	0.55	Moderately Sufficient
7. Defining words using signs and symbols	3.39	0.69	Moderately Sufficient
8. Demonstrating story’s theme through poster making	3.33	0.70	Moderately Sufficient
9. Associating meaning using semantic mapping	3.33	0.68	Moderately Sufficient
10. Presenting synonyms and antonyms through word continuum mapping	3.26	0.74	Moderately Sufficient
11. Interpreting word using derivational chart	3.19	0.71	Moderately Sufficient
12. Describing story’s geographical setting through maps	3.17	0.70	Moderately Sufficient
13. Analyzing plot through episode map or Freytag’s pyramid	3.06	0.76	Moderately Sufficient
Overall	3.33	0.65	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

To achieve this level of effectiveness, teachers have integrated activities designed to enhance comprehension. These activities include opportunities for students to easily understand and compare ideas within a narrative, employing tools like Venn Diagrams. Additionally, students are encouraged to interpret ideas from non-linear texts, a practice found to be moderately sufficient in aiding understanding. Even though the utilization of Freytag’s pyramid is rated as moderately sufficient, its inclusion proves valuable as it assists students in analyzing the plot of a story by utilizing the episode map. While this approach may be less preferred, it is undeniably helpful in promoting a deeper understanding of the narrative.

It is worth noting that some modules offer an alternative to Freytag’s pyramid by providing a story table. Although presented differently, both methods seek the same details from the story read, ensuring a comprehensive understanding.

Moreover, the sufficiency of incorporating symbols, pictures, maps, printed advertisements, charts, posters, and diagrams within students’ modules enhances their ability to grasp and comprehend the activities presented. This visual approach aids learners in creating mental images before, during, and after reading, eventually facilitating their understanding of the



material.

Table 4 provides insights into the teachers' assessment of the sufficiency of visual cues with regard to ornamentation within the English modules. It is crucial to incorporate a range of activities that employ ornamentation to capture learners' attention and the English modules utilized by teachers are found to do this at a moderately sufficient level.

Table 4. *Sufficiency of multiplicity functions of visual cues in terms of ornamentation*

Indicators	Mean	SD	Verbal Interpretation
1. Engaging in text through interesting pictures or images	3.41	0.65	Moderately Sufficient
2. Stimulating thoughts by mind-provoking images	3.34	0.72	Moderately Sufficient
3. Motivating students through eye-catching graphics	3.34	0.72	Moderately Sufficient
4. Increasing participation through interesting images	3.34	0.72	Moderately Sufficient
5. Activating schemata through captivating pictures	3.31	0.75	Moderately Sufficient
6. Developing vocabulary using Picture-Word Game	3.29	0.76	Moderately Sufficient
7. Strengthening class involvement through interesting graphics	3.29	0.66	Moderately Sufficient
8. Capturing interest by fascinating illustrations	3.23	0.73	Moderately Sufficient
9. Awakening perception by remarkable illustrations	3.21	0.81	Moderately Sufficient
10. Setting mood through creative graphics	3.21	0.78	Moderately Sufficient
11. Encourage responses by unusual yet thought-provoking images	3.17	0.78	Moderately Sufficient
12. Getting attention through engrossing icons	3.16	0.75	Moderately Sufficient
Overall	3.28	0.74	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

One effective strategy is the use of eye-catching, thought-provoking, and engaging photographs or illustrations. These visual elements not only stimulate dialogue between students and teachers but also between students and their home facilitators. This engagement with visuals provides students with the opportunity to immerse themselves in the text through captivating images, as indicated by the highest mean score in this category. An example of this can be found in a lesson within one of the modules, where students are tasked with examining each picture or image to discern the messages they convey. This activity encourages meaningful dialogue between learners and their teachers or home facilitators, allowing them to express their unique interpretations of the images.

On the other hand, activities that rely on engrossing icons received the lowest mean score in this category. However, it is important to note that even though these icons may not be the most attention-grabbing, they still represent a moderately sufficient use of visual cues in the English modules. This suggests that using captivating symbols to attract students' attention can be beneficial for unlocking their greater learning potential. Particularly for visually-oriented learners, more interesting and appealing visuals create a sense that they are absorbing and comprehending the information more effectively.

Table 5 provides an overview of the teachers' assessment of the sufficiency of visual cues within the English modules, specifically in terms of prediction. The data in the table reveals



that the English modules used by teachers incorporate moderately sufficient visual cues that enable students to make predictions promptly. When making predictions, students draw upon their background knowledge to envision what will unfold in the given topic. This predictive process encourages students to plan ahead and ask questions, fostering an opportunity for them to generalize data presented in diagrams, charts, tables, and graphs. This aspect, which garners the highest mean score, is moderately sufficient and contributes to the development of students' critical thinking skills as they engage with the visual materials.

Table 5. *Sufficiency of multiplicity functions of visual cues in terms of prediction*

Indicators	Mean	SD	Verbal Interpretation
1. Generalizing data in diagrams, charts, tables, and graphs	3.41	0.63	Moderately Sufficient
2. Noting cause-effect relationship of images presented	3.40	0.65	Moderately Sufficient
3. Sequencing of events through story boarding	3.37	0.68	Moderately Sufficient
4. Visualizing story's denouement through cause-and-effect map	3.29	0.76	Moderately Sufficient
5. Anticipating story outcomes through graphics in texts	3.29	0.70	Moderately Sufficient
6. Envisioning story through flow chart or diagram	3.27	0.68	Moderately Sufficient
7. Discovering topics through springboard images	3.24	0.73	Moderately Sufficient
8. Inferencing themes in literary selection through cover design	3.23	0.80	Moderately Sufficient
9. Drawing conclusions on literary piece through picture analysis	3.23	0.78	Moderately Sufficient
10. Conceptualizing story through story boarding	3.20	0.73	Moderately Sufficient
11. Picturing story's ending through comic strip	3.16	0.81	Moderately Sufficient
Overall	3.28	0.72	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

Another valuable activity involves students picturing the conclusion of a story through the use of comic strips. While this aspect receives a lower rating, it still falls within the moderately sufficient range. This suggests that there are activities within the modules that encourage students to logically analyze and anticipate the outcomes of a story.

Furthermore, prediction activities incorporated into self-learning modules provide students with opportunities to enhance their critical thinking abilities. They are prompted to visualize future scenarios based on the visual elements presented to them. This type of inference and higher-level reasoning necessitates students to practice formulating and supporting their predictions. Using prediction as a prereading strategy taps into students' prior knowledge and prepares them for the text, promoting motivation and critical thinking. Importantly, this practice places the responsibility of making predictions on the students themselves, empowering them in the learning process.

Table 6 presents the teachers' assessment of the sufficiency of visual cues within the English modules, particularly focusing on the aspect of fostering discussion. The data in the table highlights that these modules incorporate visual cues that are moderately sufficient in promoting effective discussions on various topics. These visual cues serve as catalysts for collaborative exchanges of ideas between teachers and students, contributing to the enhancement of students' thinking, learning, problem-solving, comprehension, and literary appreciation skills.

Table 6. *Sufficiency of multiplicity functions of visual cues in terms of discussion*

Indicators	Mean	SD	Verbal Interpretation
1. Elaborating ideas using infographics	3.46	0.67	Moderately Sufficient
2. Noting comparisons through Venn diagram	3.41	0.69	Moderately Sufficient
3. Extracting information from diagrams and graphs	3.40	0.67	Moderately Sufficient
4. Detailing concepts depicted in posters or advertisements	3.39	0.67	Moderately Sufficient
5. Detailing concepts depicted in posters or advertisements	3.39	0.67	Moderately Sufficient
6. Expanding story details based on images presented	3.37	0.62	Moderately Sufficient
7. Explaining visual-verbal relationships of graphics in texts	3.33	0.65	Moderately Sufficient
8. Illustrating process using cycle maps or flow charts	3.29	0.66	Moderately Sufficient
9. Tracing word etymology through word mapping	3.10	0.78	Moderately Sufficient
10. Clarifying syntax using sentence diagram	3.09	0.79	Moderately Sufficient
Overall	3.32	0.69	Moderately Sufficient

Legend: 3.50-4.00 Highly Sufficient, 2.50-3.49 Moderately Sufficient, 1.50-2.49 Slightly Sufficient, 1.00-1.49 Least Sufficient

Among the activities, those involving the use of infographics and Venn Diagrams score the highest mean, indicating a moderately sufficient level of support from visual cues. These tools help learners digest information from captivating images and diagrams, facilitating communication, inferential thinking, and the exploration of multiple perspectives. Engaging in various learning tasks that incorporate Venn diagrams and infographics encourages students to think critically about a topic, dataset, or complex ideas, fostering creativity by prompting them to shift their perspectives.

Visual representations play a significant role in clarifying topics and highlighting similarities and differences swiftly, making learning and retention more accessible. Furthermore, discussions based on images tend to be more dynamic and engaging in the classroom. Learners find that visual-based discussions encourage greater interaction among participants in the class.

Activities embedded with visual elements in learning modules promote discussions that accommodate different learning styles, as students can process the concepts behind the materials regardless of their preferred modality. In summary, visuals play a pivotal role in encouraging students to engage in more profound and meaningful classroom discussions, ultimately enhancing their overall engagement with the content compared to text-based discussions.

Teachers' Adaptation Practices to English Modules

Table 7 presents an overview of the level of adaptation demonstrated by Junior High School teachers concerning the English modules. The data within the table reveals that the teachers' adaptation of these modules falls within a moderate extent. This observation signifies that teachers have effectively adapted and employed the English modules in a



productive manner, despite the ever-changing and sometimes uncertain educational settings, conditions, and circumstances they encounter.

Table 7. *Extent of teachers' adaptation of English modules*

Indicators	Mean	SD	Verbal Interpretation
1. Substitute inappropriate images or pictures.	3.40	0.65	Moderate Extent
2. Change gender-biased images or concept maps.	3.40	0.65	Moderate Extent
3. Highlight important parts or components of charts or maps.	3.37	0.64	Moderate Extent
4. Provide similar graphs or images to clarify content.	3.37	0.62	Moderate Extent
5. Modify confusing graphics organizers or concept maps.	3.36	0.66	Moderate Extent
6. Replace culturally inappropriate images.	3.36	0.59	Moderate Extent
7. Supplement existing graphics by providing other pictures with relative content.	3.30	0.55	Moderate Extent
8. Simplify overly presented concept maps and charts.	3.29	0.62	Moderate Extent
9. Skip excessively used and redundant graphic organizer.	3.26	0.61	Moderate Extent
10. Reorder sloppy graphics or concept mapping.	3.19	0.69	Moderate Extent
Overall	3.33	0.63	Moderate Extent

Legend: 3.50-4.00 to a Great Extent, 2.50-3.49 to a Moderate Extent, 1.50-2.49 to Some Extent, 1.00-1.49 to a Least Extent

The indicators with the highest mean scores pertain to the substitution of inappropriate images or pictures and the alteration of gender-biased images or concept maps. The teachers' use of gender-sensitive materials in the classroom is recognized as a means to cultivate more gender-sensitive attitudes among students and establish an inclusive learning environment where all students are motivated to excel.

In their pursuit of ensuring the quality of learning materials provided to students, English language teachers find these actions to be effective. In this context, teachers also exhibit a moderate extent of reordering sloppy graphics or employing concept mapping. This implies that within the module tasks, teachers restructure visuals or idea mapping to align with students' interests and comprehension.

Furthermore, the significance of teachers in the learning process is emphasized. Their viewpoints are deemed just as crucial as those of the learners. To facilitate effective learning among students, promote differentiation, and cultivate learner-centeredness, teachers must successfully navigate current challenges, especially in remote learning settings. In this role, they should be prepared to act as facilitators on various remote learning platforms, ensuring the continuity of effective education.

Teachers' Assessment of the Sufficiency Level and Adaptation of English Modules

Table 8 presents the correlation between the assessment of teachers regarding the sufficiency of multiplicity functions of visual cues in English modules and the extent of their adaptation in utilizing these cues. The table reveals a significant positive relationship between the sufficiency level of multiplicity functions of visual cues within the English modules and

teachers' adaptation practices. Furthermore, this relationship is characterized by a moderate level of correlation between the respective subscales.

Table 8. Correlation between assessment on sufficiency and adaptation of English modules

Variables	Computed Pearson r	P value	Decision	Interpretation
Drills	.596**	0.000	Rejected	Significant
Communication	.646**	0.000	Rejected	Significant
Understanding	.702**	0.000	Rejected	Significant
Ornamentation	.578**	0.000	Rejected	Significant
Prediction	.623**	0.000	Rejected	Significant
Discussion	.673**	0.000	Rejected	Significant

***. Correlation is significant at the 0.01 level (2-tailed).*

This finding suggests that a moderately sufficient level of multiplicity functions of visual cues exists when the modules incorporate appropriate activities that enhance visual signals, making it easier for students to understand the concepts being taught. Consequently, teachers are more inclined to positively adapt to the use of visual cues to a moderate extent, enabling them to effectively incorporate such cues into their English classes.

This correlation also illustrates the teachers' ability to adapt to flexible teaching-learning modalities, particularly in response to the evolving scenarios within the education system. This adaptability is indicative of their commitment to ensuring effective education despite the changing circumstances.

Table 9 presents the results of the regression analysis identifying significant predictors of the adaptation of English modules, as assessed by teachers regarding the sufficiency level of various visual cues. The analysis explores the relationship between specific aspects of the visual cues—namely, understanding and discussion—and the extent to which teachers adapt the modules in their instructional practices. The unstandardized and standardized coefficients, along with their respective significance levels, are provided to highlight the strength and direction of these predictors. The table also includes key statistical measures, such as the adjusted R-squared value and the F-statistic, to assess the overall fit and explanatory power of the model.

Table 9. Significant Predictors of Adaptation of English Modules based from the Teachers' Assessment on Sufficiency Level

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.952	.308		3.090	.003
Understanding	.455	.242	.471	1.882	.044
Discussion	.352	.198	.392	1.781	.049

Dependent Variable: Adaptation of English Modules

Adj. R2 = 0.475

F(6,63)=11.410

N=70



A multiple linear regression was conducted with the level of adaptation to English modules of the teachers as the dependent variable to the six (6) constructs on the sufficiency level of visual cues as independent variables. The multiple regression analysis revealed that the understanding and discussion parameters on sufficiency level contributed significantly to the regression model $F(6,63) = 11.410$ and accounted for 47.5% of the variation in the adaptation of the English modules. Hence, the model suggests that the visual cues considered in the preparation of the modules that enable students to understand easily and can thoroughly discuss the topics revealed significantly predict for the teachers to adapt the English modules as venues to elevate language proficiencies.

The equation above further justifies that if there is a corresponding .455 units increase on sufficiency level of the visual cues that caters venues of understanding significant follow a 1-unit increase in the adaptation level of the English modules keeping other factors constant.

Moreover, the equation above further justifies that if there is a corresponding .352 units increase on sufficiency level of the visual cues that allow discussion of the concepts significantly follow a 1-unit increase in the adaptation level of the English modules keeping other factors constant.

Discussion

The study's findings reveal the pivotal role of visual cues within English modules and the module adaptation practices of public junior high school teachers. The inclusion of visual cues within English modules goes beyond mere aesthetics; rather, it substantially enhances students' comprehension of complex concepts (Ali, 2013). This improvement in comprehension is attributed to the engaging and stimulating nature of visual cues, which serve as catalysts for active cognitive processes. Consequently, students not only grasp information more effectively but also engage in higher-order thinking, such as critical analysis and creative problem-solving (Moeller et al., 2013; Noor & Samsudin, 2016).

The study also emphasizes that the integration of appropriate visual elements into instructional materials caters to the multifaceted nature of learning preferences and styles (Sankey et al., 2011). By accommodating this diversity, educators can create more effective and inclusive learning experiences, tailoring to a broader spectrum of students.

The study reveals that while visual cues in English modules are moderately sufficient in enhancing student understanding, engagement, and critical thinking, there is room for improvement in fostering higher-order cognitive skills such as prediction and analysis. These findings align with Meidl and Meidl's (2011) perspective on curriculum adaptation, emphasizing the need for visual elements that are culturally relevant and linguistically supportive to meet the diverse needs of learners. To improve pedagogical practices, it is recommended that teachers incorporate a broader range of contextually relevant visuals, promote critical thinking through problem-solving visuals, and personalize learning materials to cater to students' linguistic backgrounds. Additionally, ongoing professional development for teachers should focus on integrating these visuals effectively to support inclusive, engaging, and cognitively stimulating learning environments that can enhance the overall English language learning outcomes.

A noteworthy finding of this study lies in the observation of a moderate level of teacher adaptability concerning the utilization of visual cues. This adaptability illustrates educators' versatility and resilience in adjusting to the complex educational landscape, characterized by

constant change and uncertainty. Teachers' demonstrated ability to adjust their instructional approaches to accommodate various teaching and learning modalities underscores their commitment to delivering quality education (Meng, 2023). Whether in traditional classroom settings or in the context of remote learning, teachers exhibit a steadfast dedication to their students' learning journeys.

The moderate level of teacher adaptability observed in this study reflects educators' ability to adjust their instructional strategies, particularly in the use of visual cues, to accommodate diverse teaching and learning contexts. This adaptability is a response to the complexities of a rapidly changing educational landscape, including the shift to remote learning and evolving pedagogical practices. Teachers' resilience in modifying their methods reflects a commitment to delivering quality education despite external challenges. The causes of these adaptations lie in the necessity to maintain student engagement and comprehension in varied learning environments. Visual cues, such as infographics and videos, have become essential in bridging gaps, particularly in remote learning, where direct interaction with students is limited. Additionally, the shift to digital platforms has prompted teachers to integrate technology, enhancing their instructional flexibility. These adaptations not only foster a more inclusive learning environment but also improve student outcomes by addressing diverse learning styles.

The moderate level of teacher adaptability observed in this study aligns with findings from previous research that emphasize the importance of educators' flexibility in adapting their teaching strategies to evolving educational contexts. For example, Troyer (2019) highlights how teachers adjust their approaches to fit the demands of an adolescent literacy curriculum, demonstrating the importance of adaptability in fostering student engagement and meeting diverse learning needs. Similarly, Karataş et al. (2024) discuss how teachers are reshaping curriculum adaptation in response to emerging technologies, including artificial intelligence, and how this drive for innovation pushes educators to modify instructional materials and strategies. In this study, the adaptation of visual cues by teachers reflects a similar drive to embrace new teaching methods, particularly in response to the challenges posed by remote learning and the need for more interactive and engaging content. Visual cues, much like the AI-driven adaptations discussed by Karataş et al. (2024), enable teachers to create more personalized learning experiences, addressing the varied needs of students across different modalities. As both studies suggest, these adaptations are not only a response to immediate challenges but also reflect a broader shift in educational practices towards more flexible, technology-integrated approaches that prioritize student engagement and critical thinking.

Another significant result from the study is the recognition of the importance of gender-sensitive materials in fostering inclusivity within classrooms. This finding advocates for a shift toward more equitable educational practices, where gender disparities are actively addressed. By prioritizing gender-sensitive materials, educators can play a pivotal role in cultivating gender-equitable attitudes among students (Du et al., 2021; Niones-Bojos, 2022). This fosters an inclusive learning environment where all individuals feel motivated and empowered to succeed. This step towards inclusivity aligns with broader efforts to promote equitable education systems that prioritize the well-being and success of every student.

The positive correlation identified between the sufficiency of visual cues and teachers' adaptability practices signifies an essential association. Visual cues not only enhance students' comprehension but also serve as a catalyst for critical thinking and creativity (Basco, 2020; Wang et al., 2020). Teachers can harness this connection to design learning



materials that are not only engaging but also thought-provoking. These materials facilitate deeper comprehension and encourage students to approach problems innovatively, developing essential skills that extend beyond the classroom.

The positive correlation between the sufficiency of visual cues and teachers' adaptability practices highlights the critical role of visual aids in enhancing student comprehension and fostering critical thinking and creativity. The study's multiple regression analysis reveals that the "understanding" and "discussion" functions of visual cues significantly contribute to the adaptation of English modules, accounting for 47.5% of the variation in teachers' adaptation practices. Specifically, visual cues that facilitate understanding and enable discussion are more likely to lead to adaptations that elevate language proficiency. This finding stresses the importance of designing visual aids that not only support students' comprehension but also stimulate active participation and deeper engagement with the material. As the analysis indicates, even modest increases in the sufficiency of visual cues, such as a 0.455-unit increase in understanding and a 0.352-unit increase in discussion, correspond to significant improvements in the adaptation of instructional materials. These results imply that small adjustments in visual cue quality can substantially impact teachers' instructional flexibility; thus, improving student outcomes. Therefore, educators and curriculum designers need to prioritize integrating high-quality visual cues in English modules that enhance understanding and promote discussion which can foster adaptive teaching practices and supporting diverse learners in both traditional and evolving learning environments.

The positive correlation between the sufficiency of visual cues and teachers' adaptability practices in this study aligns with the findings of Yazıcılar Nalbantoğlu et al. (2022), who emphasize the importance of teachers' ability to adapt their instructional practices to meet the diverse needs of students. In their study, they identified various patterns of curriculum adaptation, with teachers' responsiveness to students' learning needs and the context of instruction being central to effective teaching. Similarly, the results of this study suggest that teachers' adaptability is closely linked to how well visual cues are integrated into instructional materials. Visual aids that enhance comprehension and encourage discussion are particularly influential in prompting teachers to adjust their teaching practices. The significant contribution of the "understanding" and "discussion" parameters to the adaptation of English modules in this study echoes the idea that teachers who effectively integrate and adapt curriculum materials, including visual cues, are more likely to foster engaging and supportive learning environments. This reinforces the notion that curriculum adaptation is not only about modifying content but also about enhancing instructional strategies, such as the use of visual cues, to better support student learning.

The study's emphasis on the adaptability of educators in response to evolving educational contexts is of paramount importance. In an era marked by rapid changes and uncertainties, teachers' ability to pivot and adapt their teaching methods is a testament to their commitment to providing quality education. This adaptability ensures the continuity of effective education, whether in traditional brick-and-mortar classrooms or within the dynamic landscape of remote and online learning environments (Niemeyer-Rens et al., 2022).

Conclusion

The study revealed that visual cues in English modules have a significant impact on enhancing students' understanding of concepts, promoting engagement, stimulating critical thinking, and fostering creativity. The incorporation of appropriate visual elements into

instructional materials emerged as a key factor in improving learning outcomes. This significant impact on students' learning is ensured when teachers apply appropriate adaptation practices to supplement the visual cues in English modules, even in changing and uncertain educational environments. This adaptability is indicative of educators' dedication to delivering quality education, regardless of the challenges they may face as affirmed by the significant correlation identified in this study. Meanwhile, the recognition of gender-sensitive materials as a means to create more inclusive and equitable learning environments is a noteworthy contribution, aligning with broader efforts in education to address diversity and promote equal opportunities for all students.

The results of this study have important implications for how visual cues can be used effectively in educational settings to enhance student learning. Educators can leverage these findings to develop more engaging and accessible instructional materials that cater to diverse learning needs, particularly in diverse classrooms with varying levels of language proficiency. By strategically integrating visual cues, teachers can simplify complex content, making it easier for students to grasp and retain information. This is particularly valuable in settings where students may struggle with traditional text-based instruction, such as in language learning or special education environments. Furthermore, visual cues can help bridge gaps for students with different learning styles, including visual learners and those with learning disabilities, thereby promoting a more inclusive and supportive classroom environment.

The impact of visual cues on learning extends beyond merely aiding comprehension; they can stimulate critical thinking and creativity, especially when used to encourage discussion and problem-solving. In the context of English language teaching, for example, visual aids such as concept maps, storyboards, and infographics can prompt students to analyze relationships between ideas, generate predictions, and engage in higher-order thinking. These visual tools are particularly effective in fostering creativity, as they allow students to visualize abstract concepts, express ideas through graphic representations, and collaborate in group activities. By incorporating diverse visual cues into lessons, teachers can not only enhance cognitive engagement but also encourage students to approach problems in innovative ways.

To maximize the effectiveness of visual cues in the classroom, teachers can consider several practical strategies. First, they can ensure that the visual elements used in teaching are diverse, culturally relevant, and tailored to students' interests and learning backgrounds. This could involve integrating real-world visuals, such as photographs, videos, and infographics, that reflect students' experiences and communities. Teachers can also combine visual cues with interactive activities, such as group discussions, role-playing, and hands-on projects, to deepen student engagement and promote collaborative learning. Additionally, professional development programs focusing on the effective use of visual cues can be provided to teachers, ensuring that they are equipped with the skills to adapt and integrate visual elements into their instructional materials.

Based on the study's findings, several recommendations can be made. Educators may proactively incorporate visual cues into their instructional materials to enhance student engagement and comprehension. This should include the use of appropriate images, diagrams, and infographics to support the learning process. Content writers and those who are in charge of disseminating the modules may revisit the content of existing modules for junior high school English to enhance the visual cues in the modules and further enable the provision of scaffolding for students to easily learn concepts covered in the modules. With the leadership of the Education Program Supervisor (EPS) for English Language Teaching, upskilling



training for English language teachers on module adaptation practices can be undertaken to empower teachers in supplementing cues on modules for Junior High School English. Schools and educational institutions may prioritize the use of gender-sensitive materials to create inclusive and equitable learning environments. This can help foster gender-equitable attitudes among students and promote a more inclusive educational system. Teachers may strive to receive ongoing professional development and training on effectively utilizing visual cues in their teaching practices. This can empower them to leverage these cues to enhance learning outcomes. They may also continue to demonstrate adaptability to changing educational contexts and modalities. This flexibility is crucial in ensuring the continuity of quality education, particularly in remote and evolving learning environments. Policymakers may advocate for the inclusion of professional development programs focused on the effective use and adaptation of visual cues for teachers. These programs should empower educators with the skills to adapt visual materials in ways that stimulate critical thinking and foster creativity in students. For future researchers, there is a need for continued exploration of the role of visual cues in enhancing learning outcomes, particularly in diverse and evolving educational contexts. Future studies could investigate the specific impact of various types of visual cues on different learning outcomes and explore innovative approaches to integrating visual elements in teaching. Further research in the field of visual cues and their impact on learning may be explored. This can provide additional insights into best practices and innovative approaches to incorporating visual elements into education.

References

- Ali, N. (2013). The effects of visual cueing opacity level on reducing split attention. *International Review of Contemporary Learning Research*, 2(1), 31-40. <http://dx.doi.org/10.12785/IRCLR/020103>
- Basco, R. O. (2020). Catalyzing creativity and critical thinking through science graphic organizers. *Instabright International Journal of Multidisciplinary Research*, 2(2), 79-86. <https://doi.org/10.52877/instabright.002.02.0012>
- Chew, S.L., & Cerbin, W.J. (2021) The cognitive challenges of effective teaching. *The Journal of Economic Education*, 52(1), 17-40. DOI:10.1080/00220485.2020.1845266
- Creswell, J. W. (2014). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research* (4th ed.) Pearson.
- Department of Education. (2020, June 19). Adoption of the basic education learning continuity plan for school year 2020-2021 in light of the Covid-19 public health emergency. Retrieved from https://authdocs.deped.gov.ph/deped-order/do_s2020_012-adoption-of-the-be-lcp-sy-2020-2021/
- Du, H., Xiao, Y. & Zhao, L. (2021). Education and gender role attitudes. *J Popul Econ*, 34, 475–513. <https://doi.org/10.1007/s00148-020-00793-3>
- Grootens-Wiegers, P., De Vries, M. C., Vossen, T. E., & Van den Broek, J. M. (2015). Readability and visuals in medical research information forms for children and adolescents. *Science Communication*, 37(1), 89-117. <https://doi.org/10.1177/1075547014558942>
- Haigh, N. (2017). Teaching teachers about reflecting and ways of reflecting. *Waikato Journal of Education*, 6(1). <https://doi.org/10.15663/wje.v6i1.457>
- Halwani, N. (2017). Visual aids and multimedia in second language acquisition. *English Language Teaching*, 10(6), 53-59. doi: 10.5539/elt.v10n6p53
- Harmer, J. (2015). *The practice of English language teaching*. London: Pearson.

- Hazan, V., Sennema, A., Faulkner, A., Ortega-Llebaria, M., Iba, M., & Chung, H. (2006). The use of visual cues in the perception of non-native consonant contrasts. *J. Acoust. Soc. Am.*, 119(3), 1740-1751. <https://doi.org/10.1121/1.2166611>
- Karataş, F., Eriçok, B. & Tanrikulu, L. (2024). Reshaping curriculum adaptation in the age of artificial intelligence: Mapping teachers' AI-driven curriculum adaptation patterns. *British Educational Research Journal*, 00, 1-27.
- Kong, H., Zhu, W., Liu, Z., & Karahalios, K. (2019). *Understanding visual cues in visualizations accompanied by audio narrations*. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 50, 1-13. <https://doi.org/10.1145/3290605.3300280>
- Lithoxoidou, A., Dimitriadou, C. (2021). *Teaching strategies to promote critical thinking skills in an online learning environment*. In: Reis, A., Barroso, J., Lopes, J.B., Mikropoulos, T., Fan, CW. (eds) Technology and Innovation in Learning, Teaching and Education. TECH-EDU 2020. *Communications in Computer and Information Science*, vol 1384. Springer, Cham. https://doi.org/10.1007/978-3-030-73988-1_13
- Meidl, T., & Meidl, C. (2011). Curriculum Integration and Adaptation: Individualizing Pedagogy for Linguistically and Culturally Diverse Students. *Current Issues in Education*, 14(1). Retrieved from <https://cie.asu.edu/ojs/index.php/cieatasu/article/view/579>
- Meng, S. (2023). Enhancing teaching and learning: aligning instructional practices with education quality standards. *Research and Advances in Education*, 2(7), 17-31. <https://www.paradigmpress.org/rae/article/view/703>
- Moeller, M., Cutler, K., Fiedler, D., & Weier, L. (2013). Visual thinking strategies = creative and critical thinking. *Phi Delta Kappan*, 95(3), 56-60. <https://doi.org/10.1177/003172171309500312>
- Niemeyer-Rens, R.F., Sullivan, G.I., & Self, S. (2022). Leadership adaptability within higher education. *Journal of Higher Education, Theory, and Practice*, 22(9) doi: 10.33423/jhetp.v22i9.5357
- Niones-Bojos, S.M. (2022). Teachers' gender sensitive attitudes towards their students in relation to the parameters of gender sensitivity. *International Journal of English Literature and Social Sciences*, 7(2), 136-143. DOI: 10.22161/ijels.72.17
- Noor, H.M., Samsudin, Z. (2016). *Visual thinking courseware: Enhancing critical thinking skills through art criticism*. In: Abidin, S., Legino, R., Noor, H., Vermol, V., Anwar, R., Kamaruzaman, M. (eds) Proceedings of the 2nd International Colloquium of Art and Design Education Research (i-CADER 2015). Springer, Singapore. https://doi.org/10.1007/978-981-10-0237-3_34
- Padalia, A., & Yatim, H. (2020). Implementation of the drill method in learning art and culture in high schools. *International Journal of Scientific & Technology Research*, 9(2):1607-1613. <https://www.ijstr.org/final-print/feb2020/Implementation-Of-The-Drill-Method-In-Learning-Art-And-Culture-In-High-Schools.pdf>
- Paroutis, S., & Knight, E. (2019). *Visuals in open strategy*. In D. Seidl, G. Von Krogh, & R. Whittington (Eds.), *Cambridge Handbook of Open Strategy* (pp. 205-218). Cambridge: Cambridge University Press. doi:10.1017/9781108347921.013
- Sankey, M., Birch, D., & Gardiner, M. (2011). The impact of multiple representations of content using multimedia on learning outcomes across learning styles and modal preferences. *International Journal of Education and Development Using Information and Communication Technology*, 7(3), 18-35. https://research.usq.edu.au/download/f246c91d2f6459dc39d6625f221ebdca8769f66078c4e5cba72079ebb89bc379/545733/Sankey_Birch_Gardiner_EDICT_201_PV.pdf

- Troyer, M. (2019). Teachers' adaptations to and orientations towards an adolescent literacy curriculum. *Journal of Curriculum Studies, 51*(2), 202-228
- Wang, X., Lin, L., Han, M., & Spector, J.M. (2020). Impacts of cues on learning: Using eye-tracking technologies to examine the functions and designs of added cues in short instructional videos. *Computers in Human Behavior, 107*, 106279. <https://doi.org/10.1016/j.chb.2020.106279>
- Yazıcılar Nalbantoğlu, Ü., Bümen, N. T., & Uslu, Ö. (2022). Teachers' curriculum adaptation patterns: A scale development study. *Teacher Development, 26*(1), 94-116