

# Utilizing Interactive Instructional Materials In Enhancing The Competencies Of Grade Eleven Students In 21<sup>st</sup> Century Literature

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## Abstract

This study investigated the effectiveness of utilizing Interactive Instructional Materials (IIMs) in enhancing the competencies of Grade 11 students in the subject 21st Century Literature from the Philippines. Using a mixed-methods approach, pre- and post-tests were administered, and qualitative data were gathered through student interviews. Results showed significant improvement in competencies related to creativity, application, and self-assessment, particularly in identifying regional literature and conducting peer reviews. However, gains in foundational skills such as historical context comprehension and literary technique analysis were limited. Student feedback highlighted increased engagement and accessibility but also noted technical difficulties and the need for consistent teacher support. The study recommends integrating digital tools like interactive timelines, annotated texts, and multimedia comparison aids to supplement instruction. Overall, the findings suggest that well-implemented IIMs can enhance critical thinking and literary appreciation in senior high school settings.

Findings from the study revealed that the interactive instructional materials effectively enhance engagement and comprehension, and foundational competencies require targeted instructional strategies. The study concludes that Interactive Instructional Materials (IIMs) Enhance Student Competencies, findings of this study affirm that utilization of interactive instructional materials significantly enhances the competencies of Grade 11 students in 21st Century Literature. The present study hereby recommends in order to materialize the materials should be Institutionalize the use of Interactive Instructional Materials in Literature Classes. Given the significant improvement in students' competencies, it is recommended that schools formally adopt the use of IIMs as part of their regular instructional strategy in 21st Century Literature.

**Keywords:** *Collaborative Learning, Digital Learning Tools, Education Technology, Interactive Instructional Materials, Pedagogical Technology Integration.*



## INTRODUCTION

The contemporary education sector continues to be highly concerned with the development of students' competencies in 21st Century Literature from the Philippines, particularly in the context of the declining reading proficiency of Filipino learners. The imperative requirement for innovative and effective instructional strategies is underscored by global assessments, such as the Programme for International Student Assessment (PISA), which consistently demonstrate that Filipino students rank among the lowest in reading comprehension.

Technology has been progressively incorporated into the teaching and learning processes by educators in response to these challenges. Interactive instructional materials (IIMs) have emerged as promising tools that improve comprehension, enhance student engagement, and support the development of higher-order thinking skills and abilities. These materials offer multimedia-rich, dynamic learning experiences that are in accordance with the preferences and requirements of 21st-century learners, who are frequently more amenable to visual and interactive content. Additionally, the increasing demand for learning environments that are both flexible and accessible, and that accommodate a wide range of student abilities, is reflected in the utilization of technology in instruction.

The Connectivism Learning Theory, which was developed by George Siemens and Stephen Downes, serves as the foundation of this investigation. This theory posits that learning is a process that involves the establishment of connections within networks of information, individuals, and digital tools. Connectivism underscores the fact that knowledge is disseminated across a variety of platforms and that learning is facilitated by the capacity to navigate, access, and synthesize these connections. Interactive instructional materials function as digital nodes in this investigation, permitting students to actively engage with literary texts and concepts, thereby facilitating collaborative and meaningful learning experiences.

There is a dearth of research that specifically examines Grade 11 students in 21st Century Literature from the Philippines, despite the growing prevalence of interactive instructional materials in education. Competency-based outcomes that are consistent with the Most Essential Learning Competencies (MELCs) are rarely examined in existing research, which frequently focuses on general reading comprehension or lower grade levels. Additionally, there has been inadequate consideration of the identification of competencies that have been least mastered through empirical assessment and the subsequent development of supplementary instructional materials that are specifically tailored to these competencies.

This study endeavors to evaluate the effectiveness of interactive instructional materials in improving the competencies of Grade 11 students in 21st Century Literature from the Philippines in light of these disparities. In particular, it aimed to answer the following questions: (a) What is the competency level of Grade 11 students in 21st Century Literature from the Philippine based on the Pre-test and Post-test results? (b) What are the least mastered competencies revealed in the post-test that will need to be enhanced among Grade 11 students? (c) What are the experiences encountered by the Grade 11 students with the use of Interactive Instructional Materials? (d) Based on the results of the study, what supplementary materials may be proposed to address the least mastered competencies?



Ultimately, this study enhances literature instruction by offering practical recommendations for the development of learner-centered and technology-enhanced teaching strategies and by providing empirical evidence on the efficacy of interactive instructional materials.

### *Literature Review*

Recent research has underscored the increasing significance of interactive instructional materials (IIMs) in improving students' comprehension and engagement in English and literature courses. In vocational and senior high school contexts, instructional materials that are meticulously crafted to meet the requirements of learners significantly enhance comprehension and facilitate the development of competencies (Oktarina, Inderawati, & Petrus, 2022; Menggo, Ndjung, & Midun, 2022). In comparison to conventional teaching methods, interactive materials, which incorporate multimedia components including text, audio, visuals, and assessments, foster deeper learning and active participation (Sundari et al., 2024).

In the context of 21st century education, learners are anticipated to cultivate higher-order thinking abilities, such as critical thinking, creativity, collaboration, and digital literacy. Interactive learning and reversed classrooms, which are technology-driven, have been demonstrated to enhance these abilities by transitioning instruction from teacher-centered to learner-centered environments (Mitsiou, 2019; Avery, Huggan, & Preston, 2018). These methodologies motivate students to actively construct knowledge, engage with content in a meaningful manner, and implement their learning in real-world scenarios (Serin, 2019; Wasriep & Lajium, 2019).

Additionally, the integration of digital tools and open educational resources (OER) has increased the availability of high-quality instructional materials, allowing both students and instructors to access adaptable and cost-effective learning resources (Downes, 2019; Wiley, 2020). These advancements are consistent with the requirements of contemporary learners, who are classified as digital natives and favor interactive and technology-supported learning environments.

Additionally, the development of students' competencies is significantly influenced by the implementation of effective teaching strategies. Research underscores that critical thinking and problem-solving abilities are improved by learner-centered approaches, project-based learning, and concept mapping (Kim, Raza, & Seidman, 2019; Barta et al., 2022). Nevertheless, the efficacy of these strategies is contingent upon the competencies, professional development, and ability of teachers to effectively integrate technology into instruction (Vanslambrouck et al., 2019; Christoforidou & Kyriakides, 2021).

In spite of these developments, research indicates that a significant number of students, particularly those who are learning English as a second language, continue to experience difficulties with literary comprehension and English proficiency (Felix-Aguelo, 2017). This underscores the necessity of instructional innovations that not only captivate learners but also address specific competency deficits. Khotimah and Hidayat (2022) have identified interactive instructional materials as effective tools for bridging these gaps by providing dynamic, accessible, and learner-responsive content (Siber-Varod, Ashet-Alkalai, & Geri, 2019).

Additionally, the utilization of educational and assistive technologies has been demonstrated to facilitate inclusive learning by increasing the motivation and engagement of a diverse student



body. Nevertheless, effective implementation is impeded by obstacles such as insufficient training, technical difficulties, and a scarcity of resources (Campado et al., 2023).

In general, the potential of interactive instructional materials to enhance learning outcomes and cultivate 21st-century competencies is supported by the existing literature. Nevertheless, there is a dearth of research that specifically evaluates their efficacy in Grade 11 21st Century Literature from the Philippines, particularly in the identification of least mastered competencies and the subsequent development of targeted supplementary materials. This investigation endeavors to resolve these deficiencies by furnishing empirical evidence regarding the contribution of IIMs to the improvement of students' competencies.

## **METHODOLOGY**

### **Research Design**

The quantitative data were collected and analyzed first, followed by qualitative data to elucidate and support the quantitative findings. This study utilized a mixed-methods research design, specifically an explanatory sequential design. This method facilitates a more thorough comprehension of the research problem by combining numerical results with the experiences of participants (Creswell, 2014; Creswell, 1999).

The study also employed a descriptive research design to investigate the effectiveness of interactive instructional materials in improving the competencies of Grade 11 students in 21st Century Literature from the Philippines. This design allowed the researcher to document the current state of affairs and quantify changes in students' competency levels by conducting pre- and post-test assessments.

### **Participants and Sampling**

The study was conducted with Grade 11 students who were enrolled in the 21st Century Literature from the Philippines and the World course at the City of Meycauayan Vocational Senior High School. 50 students from two academic disciplines—Home Economics (H.E.) and Information and Communications Technology (ICT)—engaged in the investigation.

The study implemented purposive sampling, which involved the selection of participants based on their direct relevance to the research objectives, particularly their enrollment in the target subject. These strands were selected for their active engagement with the course and their substantial number of enrolled students.

The participants were divided into two intact sections, each of which was in charge of an English instructor. During the implementation of the interactive instructional materials, the use of intact classes facilitated a more authentic classroom environment. The respondents were typical senior high school students, aged 16 to 17.

### **Data Collection Procedures**

The researcher ensured that all ethical requirements, including informed consent, were satisfactorily addressed and obtained the requisite permissions from school authorities prior to



data collection. The validated research instruments were prepared for administration upon receiving approval.

A structured sequence was implemented during the data collection process. Initially, the pre-test was implemented to ascertain the participants' baseline competency levels. The subject teacher facilitated the lessons using the prepared materials, and this was followed by the implementation of interactive instructional materials during the regular class sessions. The post-test was administered to assess any modifications in students' competencies that occurred following the intervention period.

Subsequently, a structured interview was conducted with a select group of participants to collect qualitative data regarding their experiences with interactive instructional materials. The responses offered a more profound understanding of the learning process, students' engagement, and their perceptions. The data that was collected was meticulously organized, retrieved, and prepared for analysis.

### **Research Instrument**

The study employed instruments that were devised by the researcher to collect both qualitative and quantitative data. In order to evaluate the competencies of Grade 11 pupils in 21st Century Literature from the Philippines, the primary quantitative instruments were pre-test and post-test questionnaires, each of which contained 25 items. The Table of Specifications (TOS) was used to ensure that the test items were distributed appropriately across cognitive levels, and they were aligned with the Most Essential Learning Competencies (MELCs).

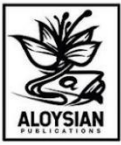
To corroborate the quantitative data, a structured interview questionnaire was implemented to document students' experiences with interactive instructional materials. The interview queries were intended to elicit responses regarding the materials' perceived efficacy, comprehension, and engagement.

In guaranteeing content validity, clarity, and conformance with the study objectives, all instruments were subjected to expert validation by three English education specialists. Based on their input, modifications were implemented. Additionally, the instruments were subjected to a pilot test to verify their reliability and validity prior to their implementation in the study.

### **Data Analysis**

The quantitative data collected from the pre-test and post-test were analyzed using the appropriate statistical tools to ascertain the changes in the competency levels of the students. The level of competencies was described using the weighted mean, and a paired t-test was implemented to ascertain whether there was a substantial difference between the pre-test and post-test scores.

The actual scores of the pupils were used to interpret the level of competency, which ranged from least mastered to advanced mastery. This facilitated the researcher's identification of specific areas of strength and vulnerability, particularly the competencies that were least mastered. This information was used to propose supplementary instructional materials.



Thematic analysis was employed to analyze the responses from the structured interviews for the qualitative data. In order to elucidate and substantiate the quantitative findings, emerging themes were identified, particularly in the context of students' engagement, perceived efficacy, and experiences with the interactive instructional materials.

### **Ethical Considerations**

The research was conducted in accordance with the established ethical standards for research involving human participants. Informed assent was obtained from all participants and the essential permissions were obtained from school authorities prior to data collection. Participants were provided with a comprehensive explanation of the study's objectives, procedures, and rights.

The study was conducted with the utmost confidentiality and anonymity. The identities of the participants were not disclosed, and all data collected were exclusively used for research purposes in accordance with the Data Privacy Act of 2012.

The study was wholly voluntary, and respondents were permitted to withdraw at any time if they felt uneasy. Throughout the course of the investigation, the researcher guaranteed that the participants were not subjected to any form of emotional, psychological, or physical injury.

## **RESULTS AND DISCUSSIONS**

### *Competency Level of Grade 11 Students (Pre-test vs Post-test)*

Table 1 presents the pre-test and post-test competency levels of Grade 11 students in 21st Century Literature from the Philippines.

**Table 1. Pre-test and Post-test Competency Levels of Grade 11 Students**

<b>Competency Domain</b>	<b>Pre-test Mean</b>	<b>Post-test Mean</b>	<b>Mean Gain</b>	<b>Interpretation</b>
Identify geographic, linguistic, and ethnic dimensions	14.20	14.28	+0.08	Developing Mastery
Identify representative texts and authors	13.10	14.12	+1.02	Approaching Mastery
Compare and contrast literary genres	13.50	13.74	+0.24	Developing Mastery
Discuss context and meaning of texts	13.80	14.32	+0.52	Approaching Mastery
Produce creative representations using ICT	14.00	14.58	+0.58	Approaching Mastery
Self- and peer-assessment	14.20	14.94	+0.74	Approaching Mastery
<b>Overall Mean</b>	<b>15.12</b>	<b>18.06</b>	<b>+2.94</b>	<b>Approaching Mastery</b>



Table 1 illustrated that the integration of Interactive Instructional Materials (IIMs) resulted in an overall mean increase of +2.94, indicating a transition from developing mastery to approaching mastery. This improvement was observed across all competency domains, suggesting that the intervention was effective in enhancing students' competencies and thereby directly addressing Research Question 1 (RQ1).

However, a deeper analysis revealed that the improvement was not uniform across all domains. The competency on geographic, linguistic, and ethnic dimensions showed the lowest gain (+0.08), while identifying representative texts and authors yielded the highest gain (+1.02). This uneven pattern suggested that IIMs were more effective for certain types of learning tasks than others.

More specifically, the competencies that showed the greatest improvement were those that: (a) relied on recognition, visualization, and contextual familiarity, and (b) were supported by multimedia elements, such as images, videos, and interactive content.

These findings support the view that interactive materials enhance comprehension by providing multiple representations of information, thereby making abstract literary concepts more accessible to learners.

In contrast, competencies that required higher-order thinking skills, such as critical analysis, synthesis, and contextual interpretation, demonstrated relatively minimal improvement. These skills typically require explicit scaffolding, guided instruction, and repeated practice, which are not fully developed through interaction alone.

This interpretation was further supported when the results in Table 1 were cross-referenced with the qualitative findings in Table 3, where students reported that although the materials were engaging, they still experienced difficulty in performing complex analytical tasks. Thus, the limited gains in certain domains were not due to the ineffectiveness of IIMs, but rather to the mismatch between the nature of the competencies and the level of instructional support provided.

Moreover, the statistical results presented in Table 2 confirmed that the improvements observed in Table 1 were statistically significant, indicating that the gains were not due to chance but were attributable to the intervention.

From a theoretical perspective, these findings aligned with Connectivism, as students engaged with digital tools and resources to access and connect information across multiple platforms. However, the results also highlighted a limitation of networked learning—without sufficient scaffolding, learners may struggle to construct deeper meaning from complex content.

Similarly, the findings were consistent with the principles of Universal Design for Learning (UDL), particularly: (a) Multiple Means of Representation, which supported recognition-based competencies, and (b) Multiple Means of Engagement, which increased motivation and participation.

However, the relatively limited improvement in higher-order competencies suggested that Multiple Means of Action and Expression were not fully maximized, particularly in guiding students through complex analytical tasks.



Overall, the findings in Table 1, when interpreted in conjunction with Tables 2 and 3, indicated that while IIMs significantly enhanced engagement and foundational competencies, their effectiveness in developing higher-order skills depended on the presence of structured scaffolding, guided instruction, and differentiated support.

### *Statistical Significance of Improvement*

**Table 2. Paired t-test Results of Pre-test and Post-test Scores**

Competency	Mean Gain	Interpretation
Geographic, linguistic, and ethnic dimensions	+0.08	Developing Mastery
Compare and contrast genres	+0.24	Developing Mastery

The competencies that necessitated complex cognitive processing, such as historical contextualization and comparative analysis, were the least mastered, as illustrated in Table 2.

These domains consistently exhibited the lowest gains when cross-referenced with Table 1, suggesting that persistent learning gaps persisted despite the intervention.

A number of factors contributed to this result: (a) The competencies necessitated the development of higher-order reasoning skills, such as synthesis and analysis; (b) Students' prior knowledge was restricted, particularly in the field of literary history; (c) The instructional materials did not offer an adequate level of scaffolding; (d) Certain activities prioritized engagement over in-depth analysis.

When compared to Table 3, students demonstrated challenges in comprehending intricate concepts and indicated a need for additional teacher guidance, which further elucidated the reason for the low level of mastery of these competencies.

These results indicated that although IIMs improved engagement, they required structured instructional support to cultivate higher-order skills.

### *Students' Experiences with IIMs*

This section addressed SOP 3, which explored students' experiences with the use of interactive instructional materials.

**Table 3. Students' Experiences with Interactive Instructional Materials**

Experience	Description
Enhanced Engagement	Increased participation
Improved Comprehension	Better understanding through visuals
Accessibility	Flexible learning
Digital Literacy	Improved ICT skills
Collaboration	Peer interaction
Technical Challenges	Connectivity issues
Need for Support	Requires teacher guidance

Students generally reported positive experiences, particularly in terms of engagement and comprehension, as illustrated in Table 3. The statistical significance presented in Table 2 and the improvements observed in Table 1 were both supported and elucidated by these findings.

Students observed that multimedia elements facilitated their comprehension of literary texts, which account for the enhancement in competencies related to recognition and comprehension. Nevertheless, students also identified obstacles, such as inadequate teacher assistance and technical difficulties. Table 2 identifies that these issues influenced participation and elucidated the reason why specific competencies remained at the developing level.

The triangulation of Tables 1, 2, and 3 illustrated that learning outcomes were not solely influenced by the instructional materials, but also by task complexity, access, and support. The results were consistent with Constructivist principles from a theoretical standpoint, as students were actively involved in the learning process. Knowledge construction was also influenced by social interaction and collaboration.

### Proposed Supplementary Materials

This section addressed SOP 4, which proposed supplementary materials to address the least mastered competencies.

**Table 4. Proposed Supplementary Materials**

Competency	Proposed Material
Literary history	Interactive timelines
Literary techniques	Annotated texts
Genre comparison	Multimedia comparison charts
Contextual analysis	Video-based learning

The proposed materials were directly aligned with the least mastered competencies identified in Table 2, as illustrated in Table 4.



The purpose of these materials was to: (a) Structured scaffolding for the acquisition of intricate skills; (b) Content that is represented in multiple ways (UDL); and (c) Opportunities for the active construction of knowledge

For example, multimedia comparison charts were developed to facilitate analytical thinking, while interactive timelines were intended to facilitate historical comprehension. The study guaranteed that the proposed interventions were data-driven and targeted, rather than general or theoretical, by connecting Table 2 (weaknesses) with Table 4 (solutions).

## CONCLUSIONS

Based on the results gathered from the quantitative and qualitative phases of the study, the researcher came to the following conclusions regarding the utilization of interactive instructional materials in enhancing the competence of Grade 11 students in 21st Century Literature: as a results of the findings of the study:

Interactive Instructional Materials (IIMs) Enhance Student Competencies, the findings of this study affirm that the utilization of interactive instructional materials significantly enhances the competencies of Grade 11 students in 21st Century Literature. Quantitative data from pre-test and post-test results indicate a notable improvement in students' comprehension, interpretation, and critical analysis of literary texts, validating the effectiveness of these materials in achieving learning objectives.

Interactive materials foster greater student engagement, the use of multimedia tools such as videos, digital story maps, and interactive quizzes led to increased student engagement and enjoyment in literature classes. These interactive strategies captured learners' attention more effectively than traditional methods and contributed to a more focused and motivated learning environment.

IIMs address diverse learning styles, the integration of visual, auditory, and kinesthetic elements in the instructional materials provided meaningful support to student with diverse learning preferences. Particularly, learners with different reading abilities benefited from the adaptability of the materials, enabling them to learn at their own pace and according to their strengths.

IIMs support the development of 21st century skills, beyond content mastery, the use of interactive instructional materials facilitated the development of essential 21st-century competencies including critical thinking, collaboration, communication, and digital literacy. These skills are crucial not only for academic success but also for preparing students to become globally competitive and socially responsible individuals.



## RECOMMENDATIONS

In light of the conclusions drawn from the study, several recommendations are presented to further enhance the competencies of Grade 11 students in 21st Century Literature through the effective use of Interactive Instructional Materials (IIMs). The findings confirm that IIMs not only significantly improve students' comprehension, analysis, and engagement in literary learning, but also cater to various learning styles and contribute to the development of essential 21st-century skills. The following are some of the suggestions that the researcher puts forward:

1. To materialize the materials should be Institutionalize the use of Interactive Instructional Materials in Literature Classes. Given the significant improvement in students' competencies, it is recommended that schools formally adopt the use of IIMs as part of their regular instructional strategy in 21st Century Literature. English teachers should be encouraged to integrate tools such as interactive quizzes, digital story maps, and multimedia content to enhance comprehension and literary analysis. It is preferable to customize materials to cater to diverse learning styles, interactive instructional materials should be differentiated to accommodate various learning preferences (visual, auditory, kinesthetic, and reading/writing). Teachers are encouraged to use multimodal approaches to instruction, ensuring all learners-including struggling readers can access and engage meaningfully with the content.
2. Integrate IIMs into the Standard Curriculum for Literature, given their proven effectiveness in improving comprehension, interpretation, and critical analysis, interactive instructional materials should be formally integrated into the Grade 11 literature curriculum. This includes incorporating tools such as video dramatizations, annotated digital texts, and interactive quizzes aligned with learning competencies in the K to 12 curriculum.
3. Encourage student-centered and collaborative learning, IIMs should be designed to promote collaborative learning activities, such as online discussions, digital group projects, and peer-assessment tools. This foster engagement and builds essential 21st-century skills such as teamwork, communication, and creativity. Lastly, encourage cross-curricular integration, since IIMs help develop broad skills such as digital literacy, critical thinking, and collaboration, it is recommended that similar approaches be adopted across another subject. A school -wide culture of digital and interactive learning will better prepare students for holistic academic and career readiness.

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