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Student Teaching and Instructional Materials in the 21st- Century Classroom: A Literature Review

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ABSTRACT

Student teachers are expected to use various instructional materials to deliver quality instruction in the 21st century. The present study is a literature review on student teachers' use of instructional materials in their internship program. Five relevant studies are reviewed based on the PRIME model proposed by the researchers. Results indicate six themes, including (i) the importance of teaching practicum and instructional materials, (ii) types of instructional materials used, (iii) benefits of using instructional materials, (iv) challenges in using instructional materials, (v) solutions and effective use of instructional materials, and (vi) preparedness and exposure of student teachers to instructional materials. The review emphasizes the importance of instructional materials for enhancing student teachers' practicum experiences and notes benefits like improved effectiveness and catering to diverse learning styles. To overcome challenges such as limited access and insufficient student knowledge, comprehensive preparation, understanding student backgrounds, aligning materials with learning outcomes, and continuous support are recommended as part of the enhanced pre-service training.

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1. INTRODUCTION

In the contemporary educational landscape, there is a pressing need to attain and promote quality education. Thus, the effective use of appropriate Instructional materials (IMs) or teaching and learning materials (TLMs) is seen as a viable strategy in meeting the needs for quality education as specified in Sustainable Development Goal (SDG) No. 4. Both in-service and pre-service teachers are tasked with delivering the curriculum effectively and raising the quality of education. In doing so, IMs or TLMs play a very important role.

To meet this need, student teachers/student interns/pre-service teachers must be equipped to deliver quality instruction that leverages various materials, devices, tools, and platforms in their practicum/student teaching/student internship program. By doing so, they can enhance and revolutionize the learning experience, thereby facilitating the attainment of learning objectives and outcomes.

IMs or TLMs are a variety of educational materials used by teachers to support learning objectives. These materials should be available, accessible, appropriately used (Frimpong, 2021), diversified with information and communication technology (ICT), and locally produced. With these materials, an effective teaching-learning process can easily be facilitated and sustained, leading to better curricular, instructional, and academic delivery.

While teachers are typically seen as the primary instructional resource, the importance of diverse and interactive materials, devices, tools, or platforms to enhance students' interest, engagement, and outcomes cannot be overlooked. Teachers must develop, adopt, and implement quality instructional materials to boost learning outcomes (Basalo & Salvador, 2022). The same is true for pre-service teachers who are expected to apply what they have learned in their program about instructional material development to their actual teaching during the internship program.

Teachers and student teachers face many challenges in real-life classroom settings, such as instructional material selection, adoption, development, implementation, and evaluation. However, various instructional strategies can be employed to tackle these challenges, as attested from the literature, such as the use of ICT-based materials and teaching by identifying facilitating factors for the process, the use of targeted digital tools to align career-ready practices with 21st-century skills (Marakovits, 2022), the use of inquiry-based learning to engage students in exploring scientific phenomena, examining evidence, conducting experiments, and drawing conclusions, thereby fostering scientific literacy (Seema, 2024), and the use of project-based learning and digital technologies to enhance teacher efficacy in instruction aligned with 21st-century competencies (Aifan, 2022).

The significance of instructional materials in transmitting skills to learners and improving their achievement in the 21st century is well-documented (Ajoke, 2017). One effective approach is to utilize available resources within the local community as learning materials, especially those locally produced as mandated by RA 10533, or alternative learning resources that can enhance instruction. Moreover, there is a need for diversified use of teaching and learning resources, including ICT. This underscores the necessity for continuous evaluation of instructional materials used in developing 21st-century skills among learners, particularly those that address their learning needs and provide interactive opportunities.

Significantly, the student internship program in the Philippines (SIPP) provides opportunities for student teachers to apply what they have learned in formal schooling to their host training establishments (HTEs) or cooperating schools. It provides a hands-on or practical learning experience for student teachers to gain exposure and life skills.

In their programs, student teachers are taught all theories related to the selection, adoption, development, implementation, and evaluation of effective instructional materials

or teaching and learning materials that can be used for various types of learners and situations. However, like in-service teachers, pre-service teachers also face the same dilemmas regarding instructional materials.

With that information at hand, the study conducted a literature review on the student teachers' use of instructional materials during their internship program to provide details on how to improve support that can be provided to them as part of pre-service training.

2. METHODS

The study utilized the literature review as the research design. A literature review is an analytical, comprehensive, and evaluative survey of scholarly sources related to a topic. In using the literature review as a research design, the researchers proposed the PRIME model with the following steps: (i) Step 1 – Pinpoint specific studies relevant to the investigated topic from various scholarly sources; (ii) Step 2 – Relate previous studies to the topic/area being investigated; (iii) Step 3 – Identify themes and patterns in the content of the previous studies; (iv) Step 4 – Make sense of the themes and patterns through insight generation; and (vi) Step 5 – Evaluate which insights will be presented in the final review.

3. RESULTS AND DISCUSSION

The review generated essential themes on student teaching and instructional materials in the 21st-century classroom (**Table 1**). Six themes include the following: (a) importance of teaching practicum and instructional materials; (b) types of instructional materials used; (c) benefits of using instructional materials; (d) challenges in using instructional materials; (e) solutions and effective use of instructional materials; and (f) preparedness and exposure of student teachers to instructional materials.

Table 1. Reviewed studies on student teaching and instructional materials.

Author and Year	Research Title	Salient Findings
Rahayuningsih (2016)	Student Teachers' Challenges in Developing Teaching Materials During Teaching Practicum in Vocational School	<p><u>Teaching Practicum and Teaching Materials</u></p> <ul style="list-style-type: none"> • It is a crucial period for student teachers to apply what they have learned in college. • It involves learning to develop teaching materials suited to students' needs and knowledge levels. <p><u>Challenges in Developing Teaching Materials</u></p> <ul style="list-style-type: none"> • Student teachers may lack knowledge about the student field. • There may be insufficient supervision time. • Selecting appropriate media for students' knowledge levels can be confusing. <p><u>Solutions for Student Teachers to the Challenges in Developing Teaching Materials</u></p> <ul style="list-style-type: none"> • Student teachers should strive to understand the student field better. • They should communicate more with supervisors and fellow student teachers. • They should assess students' knowledge levels to choose suitable media.
Haruna (2022)	Design, Extent of Use, and Usefulness of Instructional Materials by Student Teachers on -	<p><u>Benefits of Instructional Materials</u></p> <ul style="list-style-type: none"> • Aid understanding and retention of concepts for students. • Support both students and teachers, especially inexperienced student teachers..

Table 1 (continue). Reviewed studies on student teaching and instructional materials.

Author and Year	Research Title	Salient Findings
Haruna (2022)	on Teaching Practice – The Mentors' Assessment	<u>Benefits of Instructional Materials</u> <ul style="list-style-type: none"> • Aid understanding and retention of concepts for students. • Support both students and teachers, especially inexperienced student teachers.
Lucy et al. (2022)	Social Studies Student-Teachers' Preparation for Effective Use of Teaching and Learning Materials: The Case of Northern Colleges of Education in Ghana	<u>Preparedness of Student-Teachers</u> <ul style="list-style-type: none"> • Not well exposed or adequately prepared to use Teaching and Learning Materials (TLMs) for social studies. <u>Availability and Accessibility of TLMs</u> <ul style="list-style-type: none"> • The colleges have TLMs, but they are not readily accessible. • TLMs are in limited supply and not frequently used. <u>Benefits of TLMs</u> <ul style="list-style-type: none"> • Reduce teachers' task of detailed explanations. • Provide visual explanations and enhance understanding. • Facilitate learning when used appropriately by tutors. <u>Challenges in Using TLMs</u> <ul style="list-style-type: none"> • Tutors have weaknesses in using TLMs effectively. • Limited access to TLMs for learners to manipulate and interact with. <u>Importance of Using TLMs</u> <p>Appropriate use of TLMs and learner interaction with them are key to effective teaching and learning.</p>
Romarate et al. (2023)	Development of Outcomes-Based Instructional Materials in Professional Teacher Education Courses for a Flexible Set-Up	<u>Variety of Instructional Materials Used</u> <ul style="list-style-type: none"> • Modules, videos, eBooks, PDFs, slides, computers, textbooks, cellular phones, handouts, software applications, multimedia, study guides, journals, television, films, tablets, and pamphlets. <u>Usage Criteria for Instructional Materials</u> <ul style="list-style-type: none"> • Chosen based on appropriateness and suitability. <u>Challenges Faced in Using Instructional Materials</u> <ul style="list-style-type: none"> • Both instructors and students encountered challenges while using instructional materials. <u>Contributions of Researchers' Developed Instructional Materials</u> <ul style="list-style-type: none"> • Developed instructional materials for specific courses: <ul style="list-style-type: none"> ✓ Foundation of special and inclusive education. ✓ Building and enhancing new literacies across the curriculum. ✓ The teacher and the community. ✓ School culture and organizational leadership. ✓ These materials were found to be satisfactory.

Several topics are considered:

- (i) Theme 1: Importance of Teaching Practicum and Instructional Materials. The reviewed studies articulate the importance of instructional materials in student teachers' practicums. Rahayuningsih (2016) noted that teaching practicums are essential for student teachers to apply college learning and develop teaching skills. More so, instructional materials enhance teaching and learning processes (Haruna, 2022; Romarate et al., 2023).

- (ii) Theme 2: Types of Instructional Materials Used. Another interesting theme in the reviewed literature is the documentation of the various instructional materials used by the student teachers. The conventional instructional materials used by student teachers, such as posters, charts, textbooks, and everyday items, while [Romarate et al. \(2023\)](#) highlighted the non-conventional and digital resources used by student teachers, such as the modules, videos, eBooks, and software applications.
- (iii) Theme 3: Benefits of Using Instructional Materials. The reviewed studies disclose essential benefits of student teachers' use of instructional materials in their practicum. These benefits include enhancing teacher effectiveness and efficiency, promoting learner-centered approaches and different learning styles ([Haruna, 2022](#)), saving time for students and teachers, and helping students understand and retain concepts ([Haruna, 2022](#)).
- (iv) Theme 4: Challenges in Using Instructional Materials. The reviewed studies also highlight imminent challenges student teachers face in using instructional materials. These challenges include the following: lack of student teacher knowledge on the student field ([Rahayuningsih, 2016](#)); insufficient supervision time ([Rahayuningsih, 2016](#)); difficulty selecting appropriate media ([Rahayuningsih, 2016](#)); limited access to TLMs and lack of frequent use ([Lucy et al., 2022](#)); weaknesses in tutors' use of TLMs ([Lucy et al., 2022](#)); and other general challenges faced by instructors and students ([Romarate et al., 2023](#)).
- (v) Theme 5: Solutions and Effective Use of Instructional Materials. The reviewed studies articulate key solutions and effective use of instructional materials by the student teachers. Among the solutions are the following: learning the student field ([Rahayuningsih, 2016](#)); communicating with supervisors and peers ([Rahayuningsih, 2016](#)); understanding student knowledge levels and choosing suitable media ([Rahayuningsih, 2016](#)); considering learners' socio-cultural backgrounds, disabilities, and learning differences ([Haruna, 2022](#)); using materials that align with course objectives and learning outcomes ([Haruna, 2022](#)); and encouraging learner interaction with TLMs ([Lucy et al., 2022](#)).
- (vi) Theme 6: Preparedness and Exposure of Student Teachers to Instructional Materials. Lastly, the reviewed studies also emphasize the importance of preparedness and exposure of student teachers to instructional materials. [Lucy et al. \(2022\)](#) noted that student teachers are not well exposed or adequately prepared to use TLMs for social studies, and tutors are expected to use TLMs appropriately to facilitate learning. However, student teachers are well-prepared since they can create instructional materials independently and use various methods to disseminate information and illustrate abstract ideas. Such is also attested by [Haruna \(2022\)](#), pointing out that student teachers frequently use these materials in their lessons.

4. CONCLUSION

The review highlights six key themes that emphasize the significance of instructional materials in enhancing the teaching practicum experiences of student teachers in the 21st-century classroom. Using these materials, ranging from conventional to non-conventional or digital resources, brings numerous benefits, such as improved teacher effectiveness and catering to diverse learning styles. However, student teachers also face challenges like limited access to materials and insufficient knowledge of the student field, which hinder optimal utilization. To overcome these obstacles and ensure effective use, the studies recommend comprehensive preparation, understanding students' backgrounds, aligning materials with

learning outcomes, and continuous support and communication with supervising instructors and peers for improved pre-service training.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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