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PERCEIVED USEFULNESS OF LEARNING RESOURCES MANAGEMENT AND DEVELOPMENT SYSTEM (LRMDS) IN TEACHING KINDERGARTEN STUDENTS

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ABSTRACT

This study, "Perceived Usefulness of Learning Resource and Management Development System (LRMDS) in Teaching Kindergarten Students," examined how kindergarten teachers' age, teaching experience, educational attainment, and school affiliation influence their perceptions of LRMDS. Using a quantitative descriptive design, the study surveyed all 30 public kindergarten teachers from four elementary schools in District 1, Marikina City (2024–2025) via a validated, researcher-made Likert-scale questionnaire. Data were analyzed using ANOVA and descriptive statistics. Results showed that most respondents were female, aged 31–40, and held bachelor's degrees, with varied teaching experience. Overall, teachers perceived LRMDS as an effective tool for enhancing instruction, developing learning materials, and supporting student engagement. The study emphasizes the value of continuous professional development to improve competence in using digital resources. In conclusion, the research highlights LRMDS's potential to enhance teaching effectiveness, support diverse learning needs, and promote student-centered learning in kindergarten classrooms.

Keywords: *Learning Resource Management and Development System (LRMDS), perceived usefulness, kindergarten teachers, instructional materials, early childhood education, digital learning resources*

INTRODUCTION

The adoption of digital platforms has become a fundamental aspect of modern education, aiming to enhance the general effectiveness of learning outcomes. As stated by Mingot & Marin (2024), digital technologies along with effective pedagogical strategies have become essential tool in transforming education system, promoting high quality and inclusion. Similarly, according to Alshammary (2023), digital platforms promote effective

learning and offer a range of resources allowing learners to engage with one another both in real time and at their own pace. Moreover, digital learning resources can be aligned with the curriculum to promote interaction and social participation, provide flexibility and adaptability, meet different learner needs, and encourage students to actively build their own understanding (Vidal-Esteve & Martín-Gómez, 2023).

While electronic technologies offer a wide range of resources in upper grade levels, kindergarten teachers face challenges in accessing materials that are age-appropriate, play-based and aligned with the kindergarten curriculum. Studies conducted across countries suggests that majority of teachers face challenges in accessing instructional materials through digital platforms. Francom, Lee, & Pinkney (2021) stated that 30.9% of U.S. K-12 teachers mentioned internet/computer access as a barrier when shifting to distance learning. In the same way, Lytvynova & Demeshkant (2022) found that primary school teachers in Ukraine identified internet interruptions and lack of digital resources as major challenge. Moreover, Vidal-Esteve & Martín-Gómez (2023), indicated kindergarten educators perceived insufficient connectivity, limited infrastructure, and inadequate training as obstacles to incorporating digital resources in the classroom, even with the extensive use of technological resources. In the Philippines, The Department of Education disseminated information regarding the implementation of the Learning Resources Management and Development System (LRMDS), whereas educators can freely access and download resources such as teachers guide, interactive storybooks, digital flashcards and other learning materials. (DepEd Order 77, S. 2011).

Several studies in the Philippines have discovered teachers' perceptions of the usefulness of the LRMDS in supporting instruction and resources development. According to a Division of Biliran research, the majority of teachers only made moderate use of the LRMDS portal, reflecting an average level of both perceived usefulness and actual engagement with the system WWJMRD (2021). Similarly, based on the study of Paglomutan (2022), public school teachers in Bacolod Division displayed moderate competency in using the LRMDS, suggesting that while teachers recognize its importance, technical and accessibility issues may limit its full potential. In a broader context, Bejar, Arciso, and Buladaco (2023) conducted a study on the perceived usefulness and usability of a learner data management system among teachers, revealing that the system was regarded as highly useful and advantageous in enhancing instructional delivery.

Thus, the researcher aimed to carry out a study to gather extensive information regarding kindergarten teachers' views on the usefulness of the LRMDS. This research has the objective of investigating how effectively LRMDS supports kindergarten teaching, uncover gaps in its current use, and recommend enhancements and professional development to improve its implementation.

Moreover, the outcome of this research may provide a foundational basis for researchers wishing to explore the perceived usefulness of the Learning Resources Management and Development System (LRMDS). Moreover, the program could be adopted by other localities, divisions, and schools to strengthen the application of LRMDS. In addition, its aim is towards achieving the Department of Education's targets, leveraging digital platforms and programs to achieve its literacy and numeracy goals through its Digital Rise Program and Learning Resources Portal, (DepEd 2022). The

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researcher initiated this study to aid in attaining the United Nations 2030 SDG #4, dedicated to ensuring inclusive and fair access to education and promoting ongoing learning opportunities for all.

This section outlines the theories and conceptual foundations that underpin the study. These theoretical perspectives guide the investigation, inform the analysis of data, and provide the basis for interpreting the findings. This study's theoretical foundation draws upon Technology Acceptance Model (TAM) proposed by Davis (1989) and Piaget's academic theory regarding cognitive development.

The Technology Acceptance Model (TAM), as formulated by Davis (1989), which specifies the variables influencing people's adoption and use of technology, forms the core framework guiding this investigation. Asa mentioned by TAM, users' attitudes toward technology are shaped by two fundamental components: perceived usefulness (PU) and perceived ease of use (PEOU). The highlighted qualities then influence users' behavioral intention (BI) and actual system use. In the context of Learning Resources Management and Development System (LRMDS), perceived usefulness is defined as teachers' opinions that using the system enhances their teaching performance, helps lesson planning, and improves access to excellent instructional materials.

However, the degree to which teachers perceive the usefulness of LRMDS can also be affected by teacher attributes, including age, experience, educational background, and exposure to training programs. Venkatesh and Davis (2000), in the extended TAM2, suggest that external variables—like experience, voluntariness, and social influence—can affect perceived usefulness and behavioral intention. Thus, teachers' demographic profiles serve as contextual factors that shape how they perceive and utilize digital systems like LRMDS.

Specifically, younger teachers or those with broader exposure to technology may find LRMDS easier to use and more appropriate to modern pedagogical practices (Hong, Zhang, & Liu, 2021). In contrast, more experienced teachers may initially face challenges with digital systems but demonstrate higher perceived usefulness once they recognize its positive impact on instructional quality and efficiency (Usman et al., 2022). Similarly, educational attainment and training participation enhance teachers' confidence and skill in utilizing LRMDS, thereby increasing their belief in its usefulness and applicability in classroom instruction (De Guzman & Tarrayo, 2022).

In this study, TAM provides the core structure for analyzing teachers' technology acceptance, while the inclusion of demographic factors serves as moderating variables that help explain variations in perceived usefulness. This theoretical linkage helps establish that while LRMDS is a technological innovation aimed at improving teaching effectiveness, its perceived usefulness depends significantly on who the users are—their background, training, and readiness to adapt to digital educational tools.

In addition to Technology Acceptance Model (TAM), Piaget's theory of cognitive development serves as a theoretical foundation for the present study. Piaget's Cognitive Development Theory posits that learners aged 2–7, during the pre-operational stage, maximize learning outcomes through experiential learning, hands-on activities. Considering that their abstract thinking skills are still growing, real objects help them better understand new concepts. Picture books, construction blocks, puppets, and other

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educational resources are examples of instructional materials that contribute to the significance and interest of teachings (Pakpahan & Saragih, 2022).

To achieve the developmental requirements of kindergarten students, the LRMDS offers interactive, age-appropriate, and visually stimulating learning resources. Through the use of LRMDS resources, including storybooks, visual aids, activity sheets, and manipulatives, educators may craft meaningful learning experiences that support children's exploration, discovery, and understanding-building through play and connections to the real world. These resources support Piaget's theory that kids learn best when they actively interact with their surroundings (Galla & Ubayubay, 2024). These resources aid in learning by promoting active engagement, curiosity, and learners' ability to link new information with existing understanding.

According to Piaget (1952), children acquire understanding by engaging with their environment through practical experiences, allowing them to advance through the stages of cognitive growth. In this context, LRMDS provide instructional materials that serve as concrete learning tools that underpin the progression of cognitive structures used by children to organize and interpret knowledge. Through interaction with diverse and meaningful learning materials, learners are motivated to inquire, investigate, and experiment, which strengthens their comprehension and supports the transition from concrete to more abstract thinking. Thus, the use of LRMDS aligns with Piaget's view that effective learning occurs when children are meaningfully engaged in constructing their own knowledge rather than passively acquiring information.

Background of the Study

In October 2011, Department of Education implementing mandatory registration and utilization of Learning Resources and Management System (LRMDS) within the population with respect to public-school educators across the Philippines to provide teachers easily access to reliable and validated resources, supporting more effective and engaging classroom instruction. Through adaptive strategies, individualized content, and flexible features, the LRMDS ensures that students receive tailored learning experiences (DepEd Order No. 76, s. 2011).

Additionally, DepEd Learning Resources Management and Development System (LRMDS) manual outlines that professionally developed learning materials must be clearly connected to learning goals, suitable for the specific grade and reading levels, engaging and current with learning competencies, and effective for differentiated learning. These materials should also be designed to be visually stimulating and sufficiently flexible to support the unique learning styles and needs of each learner (Otero, 2019).

In Marikina City, the Schools Division Office (SDO) has instituted Electronic Library Resources Online (eLibRO) system—an extension of the LRMDS initiative—to localize and digitize educational resources for teachers at all grade levels. The eLibRO initiative seeks to provide teachers with structured, accessible, and contextualized digital learning materials to enhance instruction (DepEd Marikina, 2022). The portal functions as a digital repository, granting educators and students convenient access to localized and contextualized instructional materials, such as modules, worksheets, and multimedia resources. Before the submission of materials, they had undergone validation and approval to ensure quality and relevancy. Through improved access, teamwork, and

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sustained development in instruction, the eLibRO initiative supports and enriches the Basic Education Learning Continuity Framework. This also corresponds to DepEd's objective with regards in improving teachers' ability to produce, disseminate, and successfully employ digital learning tools (Department of Education – Schools Division Office of Marikina, 2024).

For kindergarten teachers in particular, the system enhances efficiency by streamlining lesson planning, organizing instructional resources, and accommodating diverse learning styles. Although it provides numerous benefits for teachers, the researcher observed issues in utilizing Learning Resources and Management Development System. Its effectiveness heavily relies on accessibility. Many teachers have raised concerns about the time required to connect to the portal. Thus, questions regarding its practical function remain (Otero, 2022). Susara (2023), found several key issues. These difficulties involved unclear instructions for resource development, restricted portal access time, inadequate teacher guidance and training, and a lack of incentive to generate learning resources. Additionally, problems involved inadequate monitoring and technical issues, such as difficulties accessing downloadable files, which were aggravated by the location of schools with poor internet access. Consequently, teachers resort to other available sites and sources to obtain the necessary resources. According to Dulay (2024), the accessibility of resources and facilities strengthens the overall effectiveness of instructional and learning activities.

As indicated in the study by Gajo and Padillo (2024), teachers using digital platforms during the COVID-19 pandemic faced similar barriers, including unreliable internet, inadequate ICT facilities, and insufficient training. These issues are more prominent among kindergarten educators, who require teaching materials aligned with young learners' developmental stages, Nery and Dulay (2024).

Accordingly, the researcher initiated this study to gather extensive data on the perceived utility of the LRMDS among kindergarten teachers. This research applied data analysis in examining the significant differences among kindergarten teachers when categorized by their profile, providing helpful information for those using the Learning Resource Management and Development System (LRMDS) to enhance how the portal operates and to develop teachers' abilities in producing, revising, and selecting learning resources. Furthermore, kindergarten students may also benefit on this study as it promotes the utilization of high-quality leaning resources, aids in building foundational literacy, numeracy, and 21st-century competencies and addresses different learning needs.

Summary of Review of Related Literature

The review emphasizes the importance of high-quality, evidence-based instructional resources for enhancing teaching effectiveness in kindergarten. It highlights the Learning Resources Management and Development System (LRMDS) as a digital platform by the Philippine Department of Education (DepEd) designed to streamline access, creation, evaluation, and dissemination of instructional materials. LRMDS supports teachers by providing downloadable resources aligned with the K–12 curriculum, improving instructional quality, fostering interactive learning, and encouraging collaboration. However, some resources are limited and outdated.

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Kindergarten students today are digital natives, requiring multisensory, interactive, and guided digital learning experiences that complement play-based pedagogy. Effective instruction combines traditional play with technology, promoting literacy, numeracy, creativity, digital literacy, and responsible technology use. Challenges such as unequal access to digital tools and teacher readiness in rural areas underscore the need for equitable and inclusive digital learning strategies.

The usefulness of LRMDS is closely linked to teacher competencies. Studies show that teachers' effective use of LRMDS enhances instructional quality, engagement, personalized learning, and professional development, especially when supported by training, technical assistance, and continuous system improvements. Play-based materials, both traditional and digital, are critical for cognitive, social, emotional, and literacy development. The integration of such resources in teaching improves learning outcomes when coupled with teacher guidance and institutional support.

Teacher competencies and professional development are pivotal for maximizing LRMDS and play-based learning benefits. Competent teachers demonstrate expertise in pedagogy, child development, classroom management, and digital literacy. Continuous professional development, mentoring, and tailored training programs improve teachers' capacity to integrate digital and play-based instructional materials, fostering creativity, adaptability, and confidence in using technology.

Finally, the demographic profile of kindergarten teachers—age, gender, education, and experience—affects their adaptability to instructional innovations. Younger teachers tend to embrace technology more readily, while experienced teachers contribute classroom wisdom but may need support in digital literacy. Tailored professional development and collaborative mentoring can bridge these gaps, ensuring all teachers effectively utilize digital and play-based resources.

Overall, the literature underscores that the effectiveness of LRMDS in kindergarten education depends on resource quality, teacher competencies, digital integration, play-based pedagogy, and equitable access, highlighting the interconnectedness of resources, teacher readiness, and instructional outcomes.

Theoretical Framework

This section outlines the theories and conceptual foundations that underpin the study. These theoretical perspectives guide the investigation, inform the analysis of data, and provide the basis for interpreting the findings. This study's theoretical foundation draws upon Technology Acceptance Model (TAM) proposed by Davis (1989) and Piaget's academic theory regarding cognitive development.

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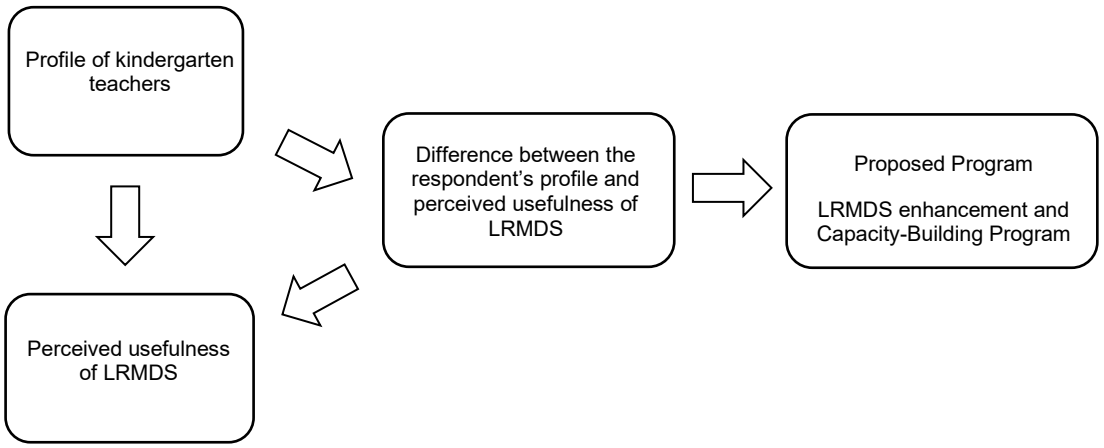
concrete to more abstract thinking. Thus, the use of LRMDS aligns with Piaget's view that effective learning occurs when children are meaningfully engaged in constructing their own knowledge rather than passively acquiring information.

Conceptual Framework

This section presents the conceptual framework that illustrates the key variables of the study and their presumed relationships. It serves as a visual and descriptive guide for understanding how the research components interact throughout the investigation. The figure below shows the conceptual framework:



The conceptual diagram illustrates the connection between the profile of kindergarten teachers, the perceived usefulness of LRMDS, and development of a proposed program. Profiles of kindergarten teachers, both demographic and professional, cover age, gender, educational background, teaching experience, and training associated with LRMDS. These characteristics are assumed to influence teachers views and utilize system in classroom instruction. The perceived usefulness of LRMDS pertains to how beneficial the teachers find the system in facilitating access to quality learning resources, improving instructional planning, and enhancing teaching effectiveness. The arrows connecting the profile and perceived usefulness signify that the research aims to identify whether substantial differences are observed among these variables. The box labeled the distinctions among respondents' profiles and perceived usefulness in relation to LRMDS represents the analysis of how teachers' characteristics affect their perception and utilization of the system. According to these results, a tailored program will be created to meet the identified needs and gaps, to deepen teachers' understanding, access, along with effective use of the LRMDS in kindergarten education.

Research Questions

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This research examined the perceived usefulness of the Learning Resources Management and Development System (LRMDS) in assisting kindergarten teachers in the utilization of learning materials for their pupils. It answered the following research questions:

1. What is the demographic background of the kindergarten teacher respondents with respect to:
    - Age
    - Sex
    - Years of Teaching Experience
    - School Affiliation
    - Highest level of Educational Background
2. What is the perceived usefulness of the LRMDS among kindergarten teachers in employing learning materials for their students?
3. Is there a statistically significant difference in perceived usefulness of LRMDS based on the respondents' demographic characteristics?
4. From the findings of this research, what program can be proposed to improve the effective use of LRMDS among kindergarten teachers?

Hypothesis: *There is no significant difference between the respondents and perceived usefulness when grouped according to their demographic profile.*

Scope and Delimitation

The objective of this research is to analyze kindergarten teachers' view in regards with the usefulness of Learning Resources Management and Development System (LRMDS) in teaching kindergarten. It mainly examines how kindergarten teachers utilize the LRMDS in preparing and implementing instructional materials and how it supports teaching effectiveness and learning involvement. The study was also concentrated on four (4) public elementary schools across District 1, Marikina City, for the 2024–2025 academic year. Participants consist of public kindergarten teachers who are familiar with and have experience utilizing the LRMDS portal along with associated digital resources.

The study is limited to evaluating teachers' perceptions regarding the usefulness of the system in terms of accessibility, functionality, relevance of materials, and its contribution to improving classroom instruction. The assessment of student performance data, the technical design of the system, and comparisons with other educational platforms are not included in this study. The findings will be based solely on the responses gathered through survey questionnaire, which reflect the participants 'insights and experiences with the LRMDS within their teaching context.

METHODOLOGY

Research Design

This research employed a Quantitative Descriptive Research Design to assess kindergarten teachers perceived usefulness of the Learning Resources Management and

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Development System (LRMDS). Descriptive design was employed to systematically describe current conditions, practices, and teachers' perspective regarding the utilization of LRMDS in teaching practices and educational outcomes. By means of numerical data gathered from a structured questionnaire, the researcher aimed to quantify teachers' responses and identify trends or patterns that reflect their experiences with the system. This method is ideal since it allows data to be presented accurately and objectively without altering any variables. Creswell (2014) states that descriptive research seeks to outline features of a population or phenomenon in its natural state, offering clear insight into the current situation.

Locale of the study

The research was performed within District 1 of Marikina City, focused on four public elementary schools: San Roque Elementary School, Malanday Elementary School, Sto. Niño Elementary School, and Marikina Elementary School. These schools are located within a short distance of each other, approximately 1 to 3 kilometers apart, making them easily accessible for the researcher. Their close proximity allows for convenient coordination, timely follow-ups, and efficient data gathering throughout the research process. Furthermore, since all selected schools are located in the same district, they share similar administrative structures and educational practices, ensuring consistency in the study's implementation. The selection of these schools was based on their accessibility and suitability for conducting data gathering within a confined geographic scope.

Participants

The study comprised kindergarten educators during 2024–2025 school year. Total population sampling was employed to determine all participants of the study. Selection of participants was conducted using this sampling method in accordance with researcher's discretion. As stated by Etikan and Bala (2017), in overall population sampling, all members who fit the study's specific characteristics are included to ensure that every possible perspective is considered, particularly when the group is small or specialized.

Since the study focused on kindergarten teachers utilizing Learning Resources Management and Development System (LRMDS), total population sampling technique allows selection of participants based on predetermined criteria which is those teachers who actively using LRMDS.

A total of 30 permanently employed public kindergarten teachers were selected from four elementary schools within District 1, Marikina City: 3 from Marikina Elementary School, 5 from San Roque Elementary School, 8 from Sto. Niño Elementary School, and 14 from Malanday Elementary School. These public kindergarten teachers are familiar with and have experience in utilizing the LRMDS in teaching.

Instrument of the Study

Data collection was primarily facilitated through a structured questionnaire in this research aimed to determine teachers' insights into the effectiveness in relation to LRMDS in kindergarten teaching. Questionnaire employed a five-point Likert scale, facilitating respondents' expression of the extent to which they agree or disagree with each statement regarding the use of LRMDS. The scale was set from 5 – Strongly Agree,

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4 – Agree, 3 – Neutral, 2 – Disagree, to 1 – Strongly Disagree. This format provided a quantitative measure of teachers 'perceptions, allowing for easier identification of trends and degrees of usefulness according to participants' experiences**.** To ensure reliability, clarity, and relevance to the targets of the study, the instrument underwent expert validation.

Data Gathering Procedure

A formal request was submitted by the researcher to the Schools Division Superintendent to secure approval to undertake study in selected elementary schools in Marikina. After the approval has been obtained, the researcher shows the approved formal permission letter to early childhood education supervisor and school heads for confirmation. Then, the distribution of questionnaire through google form was conducted. The URL for the Google Form was distributed to the kindergarten grade leader of selected elementary schools. The Grade Leader will then send the link to her co- kindergarten teachers. The responses are expected to be submitted within two weeks.

Data Analysis

Quantitative descriptive method was adopted in this research to evaluate kindergarten teachers' insights into the usefulness regarding LRMDS in educating kindergarten students. The researcher developed survey through questionnaire with specific questions that aimed to measure the effectiveness of LRMDS.

Frequency distribution and percentage were employed in SOP 1 to summarize the respondents' profile. In SOP 2, to find out the intensity of perceived usefulness in relation to LRMDS, collected evidence were subjected to analysis through weighted mean and composite mean. Finally, in SOP 3, Pearson's r was applied to the gathered data to examine whether differences between respondents' profiles and their perceived usefulness of LRMDS are significant.

Ethical Considerations

Current study upheld the ethical standards of research conforming to the Department of Education (DepEd) and relevant institutional review protocols. The researcher upheld respectful conduct toward all participants, fairness, and dignity throughout the study. Voluntary participation agreement was provided by all respondents before data gathering, clearly outlining the purpose of the research, their participation was entirely voluntary, and they were assured of their right to withdraw from the research at any time without any repercussions. Data privacy and anonymity were strictly upheld with coding responses and removing any identifying evidence. All information gathered was utilized solely for research purposes and securely stored in order to avoid unofficial access.

Research ethics protocols were followed in utilizing Artificial Intelligence (AI) technologies during analysis and preparation of the research outputs. AI technologies were employed exclusively to provide assistance in grammar checking, paraphrasing, and organizing ideas—without compromising the authenticity and originality of the researcher's work. All outputs generated with AI assistance were thoroughly evaluated, edited, and validated by the researcher to maintain accuracy and academic integrity.

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Furthermore, AI-generated information was not used as primary data but rather as supplementary support for writing and idea organization. Proper citations and attributions were applied to all secondary sources obtained through AI or online databases.

The research author also conformed with the Data Privacy Act of 2012 (Republic Act No. 10173) by guaranteeing that no particular or sensitive data of the participants were disclosed. All research procedures followed ethical principles of doing good, avoiding harm, respecting individual choice, and promoting fairness, guaranteeing that the study contributed to educational improvement without causing harm or bias to any participant.

RESULTS

Research Question 1. Demographic profile of the kindergarten teacher pertaining to:

1.1 Age
1.2 Sex
1.3 Years of Teaching Experience
1.5 School Affiliation
1.5 Highest Educational Attainment

Table 1.1
Demographic Profile of the Kindergarten Teachers Respondents in Terms of Age

Age	Frequency	Percentage
25-30 years old	9	30.0
31-40 years old	14	46.7
41-50 years old	4	13.3
above 50 years old	3	10.0
Total	30	100.0

Table 1.2
Demographic Profile of the Kindergarten Teachers Respondents in Terms of Sex

Sex	Frequency	Percentage
Female	30	100
Total	30	100.0

Table 1.3

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Demographic Profile of the Kindergarten Teachers Respondents in Terms of Years of Teaching Experience

Years of Teaching Experience	Frequency	Percentage
0-5 years	9	30.0
6-10 years	7	23.3
11-15 years	8	26.7
16-20 years	4	13.3
above 20 years	2	6.7
Total	30	100.0

Table 1.4

Demographic Profile of the Kindergarten Teachers Respondents in Terms of School Affiliation

School Affiliation	Frequency	Percentage
Sto. Nino Elementary School	8	26.7
Malanday Elementary School	14	46.7
San Roque Elementary School	5	16.7
Marikina Elementary School	3	10.0
Total	30	100.0

Table 1.5

Demographic Profile of the Kindergarten Teachers Respondents in Terms of Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
Bachelor's Degree	15	50.0
Bachelor's Degree with Masteral Units	12	40.0
Master's Degree Holder	3	10.0

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Total	30	100.0

Research Question 2. Level of perceived usefulness of the LRMDS among kindergarten teachers in utilizing learning materials for their students.

Table 2.1
Level of Perceived Usefulness of the LRMDS Among Kindergarten Teachers in Utilizing Learning Materials for Their Students

Instructional Management	**WM**	**VI**
1. I can efficiently navigate and use LRMDS without difficulty.	4.13	A
2. LRMDS improves instructional quality and encourages collaboration among teachers.	4.23	A
3. LRMDS helps teachers personalize learning to meet students' individual needs.	4.17	A
4. LRMDS supports teachers in meeting the individual needs of young learners.	4.23	A
5. LRMDS effectively facilitates the accomplishment of learning goals and objectives.	4.17	A
6. LRMDS delivers up-to-date materials that correspond with the kindergarten curriculum.	4.30	A
7. I am pleased with the standard of the learning materials provided through the LRMDS.	4.07	A
8. LRMDS allows teachers to update and modify content to align with new pedagogical approaches.	4.27	A
9. I have obtained enough training to operate LRMDS properly.	3.77	A
10. I experience minimal technical difficulties when using the LRMDS.	3.97	A
Composite Mean	4.13	A

Legend: 5(4.50-5.00) - Strongly Agree (SA), 4(3.50-4.49) – Agree(A),3(2.50--3.49)- Neutral (N), 2(1.50-2.49)- Disagree (D), 1(1.00-1.49)-Strongly Disagree (SD)

Research Question 3. Difference on the level of perceived usefulness of LRMDS when grouped according to their profile.

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Table 3
Difference on the Level of Perceived Usefulness of LRMDS When Grouped According to Their Profile

Profile	Mean	Computed ANOVA Value	p-value	Decision	Interpretation
Age					
25-30 years old	4.13	0.200	0.895	Do not Reject the Hypothesis	Not Significant
31-40 years old	4.18				
41-50 years old	4.15				
above 50 years old	3.87				
Sex					
Female	4.13	Cannot be computed because of one variable			
Years of Teaching Experience					
0-5 years	4.13	2.954	0.040	Reject the Hypothesis	Significant
6-10 years	4.60				
11-15 years	3.85				
16-20 years	4.25				
above 20 years	3.35				
School Affiliation					
Sto. Nino Elementary School	4.44	2.997	0.049	Reject the Hypothesis	Significant

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Malanday Elementary School	3.81				
San Roque Elementary School	4.42				
Marikina Elementary School	4.33				
Highest Educational Attainment					
Bachelor's Degree	4.15	0.041	0.960	Do not Reject the Hypothesis	Not Significant
Bachelor's Degree with Masteral Units	4.13				
Master's Degree Holder	4.03				

Note: p-value ≤ 0.05 – significant, p-value > 0.05 – not significant

Table 4.2
Post Hoc Analysis for Years in Teaching Profile

Variables	Mean Difference	p-value	Interpretation
0-5 years vs 6-10 years	-0.467	0.577	Not Significant
0-5 years vs 11-15 years	0.283	0.881	Not Significant
0-5 years vs 16-20 years	-0.117	0.998	Not Significant
0-5 years vs above 20 years	0.783	0.050	Significant

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6-10 years vs 11-15 years	0.750	0.161	Not Significant
6-10 years vs 16-20 years	0.350	0.896	Not Significant
6-10 years vs above 20 years	1.250	0.113	Not Significant
11-15 years vs 16-20 years	-0.400	0.831	Not Significant
11-15 years vs above 20 years	0.500	0.847	Not Significant
16-20 years vs above 20 years	0.900	0.465	Not Significant

Table 4.3
Post Hoc Analysis for Years in School Affiliation Profile

Variables	Mean Difference	p-value	Interpretation
Sto. Nino ES vs Malanday ES	0.630	0.050	Significant
Sto. Nino ES vs San Roque ES	0.017	1.000	Not Significant
Sto. Nino ES vs Marikina ES	0.104	0.994	Not Significant
Malanday ES vs San Roque ES	-0.612	0.237	Not Significant
Malanday ES vs Marikina ES	-0.526	0.536	Not Significant
San Roque ES vs Marikina ES	0.086	0.997	Not Significant

Note: p-value ≤ 0.05 – significant, p-value > 0.05 – not significant

Research Question 4. Based on the findings of the study, what program or intervention can be recommended to enhance the effective utilization of LRMDS among kindergarten teachers?

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Program Objectives

By the end of the program, participants will be able to:

1. Understand the features and functionalities of LRMDS.
2. Select, develop, and organize digital learning resources effectively.
3. Integrate LRMDS resources into lesson planning and teaching strategies.
4. Address challenges in digital teaching and resource management.
5. Promote continuous professional development in using digital tools.

Target Participants:

- Kindergarten teachers from public elementary schools (30 participants).

Program Duration:

- 3 days (6–8 hours per day)

Day	Time	Session	Description
Day 1 – Introduction and Exploration of LRMDS	8:00–8:30 AM	Registration & Opening	Welcome, program overview, icebreaker activity
	8:30–9:30 AM	Introduction to LRMDS	Overview, importance in teaching, research insights
	9:30–10:30 AM	Navigating LRMDS	Platform orientation, interface, and key features
	10:30–10:45 AM	Break	Refreshments
	10:45–12:00 PM	Understanding Learning Resources	Selecting and evaluating materials for young learners
	12:00–1:00 PM	Lunch Break	
	1:00–2:30 PM	Hands-On Activity: Exploring LRMDS	Logging in, browsing, and basic navigation
	2:30–3:30 PM	Group Discussion	Sharing experiences and challenges in using digital resources

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	3:30–4:00 PM	Reflection & Q&A	Recap of the day
Day 2 – Resource Development and Integration	8:00–8:30 AM	Recap & Motivation	Review of Day 1
	8:30–10:00 AM	Developing Resources in LRMDS	Uploading materials, creating activities, customizing content
	10:00–10:15 AM	Break	Refreshments
	10:15–12:00 PM	Integrating LRMDS into Lesson Plans	Designing lessons using LRMDS resources
	12:00–1:00 PM	Lunch Break	
	1:00–2:30 PM	Classroom Simulation	Teachers demonstrate lessons with LRMDS resources
	2:30–3:30 PM	Peer Feedback	Constructive feedback on lesson demonstrations
	3:30–4:00 PM	Reflection & Q&A	Summary of learnings
Day 3 – Managing, Evaluating, and Sustaining LRMDS Use	8:00–8:30 AM	Recap & Motivation	Review previous days
	8:30–10:00 AM	Managing Learning Resources	Organizing, updating, and monitoring resources
	10:00–10:15 AM	Break	Refreshments
	10:15–11:30 AM	Overcoming Challenges	Addressing difficulties in digital teaching
	11:30–12:00 PM	Action Planning	Teachers create a plan for integrating LRMDS in their classrooms
	12:00–1:00 PM	Lunch Break	
	1:00–2:30 PM	Assessment & Evaluation	Evaluating teacher competence and confidence using LRMDS

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	2:30–3:30 PM	Group Sharing & Best Practices	Participants share strategies and experiences
	3:30–4:00 PM	Closing & Certificates	Program wrap-up and awarding of certificates

The table below illustrates the approximate cost of budget for comprehensive training program for teachers.

Budget Items	Details	Unit cost	Quantity	Total Cost
Food	2 meals + 2 snacks per day per teacher or participant.	PHP 400 per pax	30 pax X PHP 400 X 3 days	PHP 36,000
Resource Speaker Honoraria	2 speakers x 3 days	PHP 2,000	2 speakers	PHP 6,000
Token for speakers	Certificate + Token of Appreciation	PHP 1,000	2 speakers	PHP 2,000
Supplies	Pens, notepads, folders, markers, etc.	PHP 100 Pesos	30 pax	PHP 3,000
TOTAL ESTIMATED BUDGET				PHP 47,000

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DISCUSSION

Table 1.1 displays the demographic profile of the kindergarten teacher respondents in relation to age. As demonstrated in the table, most participants (46.7% or 14) were between 31 and 40 years old, while 30% (9 respondents) were between 25 and 30 years old. Meanwhile, 13.3% or 4 respondents belong to the 41 to 50-year-old age group, representing a smaller proportion of more experienced educators. At the lower end, 3 respondents or 10.0% within the cohort of individuals over 50. This indicates that the significant number of kindergarten teachers among the respondents are composed of early and middle-aged individuals, with a smaller proportion of respondents in the older age brackets.

Kindergarten teachers need a lot of emotional energy, physical activity, and patience; therefore, the job may be more difficult for older teachers who are dealing with age-related problems. According to Matsuo et.al. (2021) for kindergarten teachers aged 25–40, the decision to stay in the profession for less than five years is often shaped by personal and family circumstances. Factors include marriage, health or family issues, heavy workloads with overtime, and conflicts between workplace policies and their own childcare responsibilities.

Ishihara and Mizunoya (2021) emphasized that for Asian kindergarten teachers, work–family conflict and health concerns substantially affect their inclination to continue in the profession.

In the Philippines, these problems are made worse by bad working conditions, a lack of resources, and low pay in the public school system. As a result, many experienced teachers either retire early or look for better jobs abroad (Braid, 2024). These contributing factors explain as to why older teachers represent the least number in the teaching staff.

Table 1.2 demonstrates the participant background information in relation to sex. Table shows that all 30 respondents or 100% are female. This implies that all kindergarten teachers in this sample are female which typical in Early Childhood setting. According to UNESCO (2023), Females constitute the largest proportion of the primary-level teaching force. According to Zhu 2024, there are significantly more female than male kindergarten teachers, a disparity often attributed to several factors. First, the relatively low income associated with the profession may discourage men, who are traditionally expected to pursue higher-paying careers. Second, kindergarten teaching is frequently misconceived as primarily a childcare role, which is culturally perceived as women's work. Finally, prevailing stereotypes suggest that men generally lack the patience, attentiveness, and meticulousness required for working with young children, further contributing to their underrepresentation in the field.

Table 1.3 demonstrates the participant background information in relation to Teaching tenure. The data shows that largest portion of respondents with 30.0% or 9 respondents fall in 0-5 years of teaching experience, showing that a substantial portion of respondents are new to the profession. The next highest group includes 8 respondents or 26.7% with 11-15 years of instruction experience, which demonstrates a marked number of moderately experienced teachers. 23.3% or 7 respondents fall in 6-10 years in their profession whereas 13.3% or 4 individuals reported a teaching tenure of 16 to 20 years. Finally, 6.7% or only 2 respondents have more than 20 years in service. On the

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whole, the data shows a various range of teaching experience among respondents, with a significant proportion of respondents at the early and mid-career levels.

The findings indicate that older age, being married, caring for younger children, good mental health, and strong work engagement increase teachers' intent to remain in service. In contrast, challenges pertaining to personal well-being and family obligations, excessive time to work, policy mismatches, scheduling issues, work environment relationships, and childcare difficulties negatively affect retention. Providing welfare benefits and supportive systems within the workplace can enhance job satisfaction, mental health, and overall well-being, which helps motivate teachers to sustain their professional career. (Matsuo, et. al, 2021).

Table 1.4 illustrates the background information of the kindergarten teacher respondents in relation to school affiliation. The table illustrates that almost half of the respondents are affiliated with Malanday Elementary School which has 46.7% or 14 respondents. This means that Malanday Elementary School contains the highest proportion of respondents. Next is the 8 respondents or 26.7% affiliated with Sto. Niño Elementary School. 16.7% or 5 respondents are Affiliated with San Roque Elementary School and the lowest respondents which accounts 10.0% or 3 respondents affiliated with Marikina Elementary School. This data indicates that the respondents come from various schools with a significant portion from Malanday Elementary School. In the 2024 Countryside Figures in the City of Marikina report, Barangay Malanday has the most number of household population which may account for this and with Malanday Elementary School having the greatest number of pre-school student enrolment.

Table 1.5 displays the demographic information of kindergarten teacher participants in relation to highest educational attainment. The highest group hold a bachelor's degree with 50.0% or 15 respondents. A slightly lower proportion of respondents have completed some masters units but have not earned a full master's degree. The smallest group consist of those who have obtained full master's degree, accounting for 10.0% or 3 participants. This data reflects that while the largest proportion of participants have acquired undergraduate program recognized as the essential qualification for the teaching profession according to R.A 9293 (2024), a considerable proportion pursuing or have pursued further graduate studies.

In the study of Costelo (2023), most of the teachers were not academically grounded in early childhood education, making them less prepared to handle kindergarten classes. Furthermore, to be fully equipped for teaching at the preschool level, a kindergarten teacher should possess a specialization in early childhood education. Analysis of the data further demonstrated that teachers assigned to kindergarten lacked the necessary qualifications, highlighting an ongoing shortage of professionally trained kindergarten educators in the educational system. It is worth noting that pursuing a postgraduate degree can further enhance teachers' skills and knowledge in kindergarten instruction.

Table 2.1 presents the level of perceived usefulness of the LRMDS among kindergarten teachers in utilizing learning materials for their students. The table demonstrates that the weighted mean (WM) for all items falls within the "Agree" category with the range of 4.30% - 3.77%. This is indicating that all respondents are agree on the usefulness of the LRMDS. Moreover, composite mean falls within the "Agree" category which signifies the positive perception on the use of LRMDS. However, adequate training on how to use LRMDS

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effectively, as well as technical difficulties related to the portal, were among least frequently cited concerns.

Various Philippine based studies provide evidence of adequate training is important for effective teacher involvement with digital tools. According to Mantayao and Tantiado (2024), to boost teachers 'confidence in using digital tool, it is essential to have training, support and collaboration. Additionally, according to Legarde (2023) offering comprehensive training for teachers and technical assistance is vital to improve the digital skills that play an essential role in the use of the platforms like LRMDS. These findings highlight that without proper capacity-building, teachers may underutilize available resources, limiting their potential impact on student learning. Continuous professional development, paired with institutional support, ensures that teachers can integrate technology more effectively into their instructional practices. Ultimately, sustained training and assistance foster not only teacher competence but also long-term engagement with digital learning systems.

Table 3 demonstrates the analysis of variance (ANOVA) findings about the level of perceived usefulness of LRMDS when respondents are classified based on their demographic variables. The table indicates that age has no significant effect on perceived usefulness, as reflected by a p-value of 0.895. Similarly, highest educational background with the p-value of 0.960 has no significant effect in perceived usefulness of LRMDS. This is indicating that teachers among different age group have similar perceptions of the LRMDS. Explicitly, analysis based on sex cannot be computed due to lack of variability since all the respondents were female. Nevertheless, years of teaching experience with the p-value of 0.040 and school affiliation with the p value of 0.049 were found to have statistically considerable influence on perceived usefulness.

Moreover, teachers with the highest level of perceived usefulness were participants possessing 6–10 years of professional experience in teaching obtained a mean score of 4.60, in contrast, teachers with over 20 years of experience reported the minimum mean score of 3.35, this indicates that teachers within the mid-career group may find LRMDS more beneficial than to less or more experienced teachers. With regard to school affiliation, San Roque Elementary School and Sto. Niño Elementary School evaluated LRMDS more favorably than Malanday Elementary School. Analysis indicates that years of teaching service and school affiliation act as a meaningful role in guiding teachers' perceptions of the LRMDS, which may have implications for how it is implemented and supported across different schools and teacher groups.

LRMDS provided by Department of Education, has the potential to significantly improve the quality education when fully utilized by public school teachers to their students (Torbila, 2021). Sustained integration and training on LRMDS can contribute to improved quality of teaching and better learning outcomes, notably in public early childhood education (DEPED Learning Resource Portal, 2025). Furthermore, the willingness of teachers to fully engage with and utilize the resources and features of the LRMDS has a significant influence general effectiveness (Torbilla, 2021).

To accurately measure teachers' willingness to utilize and engage with the LRMDS, selecting an appropriate sample size plays a key role in guaranteeing that the study's findings are both valid and consistent. As stated by RUBIKTOP (2023), Generally a sample consisting of 30 individuals is regarded as adequate toward achieving

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meaningful difference, since the central tendency theorem in statistics shows that the distribution of sample means tends toward normality as the sample size grows. Thus, using 30 or more participants ensures that data analysis yields reliable and valid results, making it a widely accepted benchmark in quantitative research.

Building on the importance of selecting an adequate sample size for statistical validity, previous studies have also demonstrated the effective use of inferential tools such as ANOVA in analyzing perceptions and group differences among respondents. In the study by Harefa and Sihombing (2022), the researchers utilized statistical tools such as Analysis of Variance (ANOVA) to assess the variation in students' insight of online learning across various educational levels. This method was appropriate for comparing mean responses among multiple groups, even with relatively small sample sizes. Similarly, employing ANOVA in a study with 30 respondents can effectively determine whether significant differences exist among groups, ensuring that findings remain statistically sound and reflective of group variations within limited samples (Kang, 2021).

Table 4.2 illustrates the post hoc analysis of kindergarten teachers' years of teaching experience to see if the variable being measured differs significantly between groups. Comparisons across the various teaching experience groups mostly resulted in p-values above 0.05, suggesting that the groups do not differ significantly. Within the group of teachers having 0–5 years of experience, a marked variation was observed, reflected in a mean difference of 0.783 and a p-value of 0.050. This demonstrates a significant disparity between teachers with the least and most experience regarding the measured outcome.

The data demonstrate that the least experienced teachers (0–5 years) and the most experienced teachers differ significantly in the variable measured, indicating that teaching experience can shape perceptions, practices, or outcomes in meaningful ways. Novice teachers often face challenges in confidence, classroom management, and adapting to institutional demands, while veteran teachers typically demonstrate greater stability and resilience, which may account for the observed difference (Zhang et al., 2023). Kindergarten teachers' quality of work life varied significantly when grouped by years of experience, Teachers who are less experienced showed reduced well-being in comparison to their more experienced peers (Li et al., 2023). These findings reinforce the idea that professional growth over time contributes to significant changes in teachers' professional outlook and work-related well-being.

Table 4.3 indicates the post hoc analysis of kindergarten teachers' school affiliations to see if the variable being measured differs significantly between groups. The results illustrate that teachers from Sto. Niño Elementary School and Malanday Elementary School show an empirically significant difference, having a mean difference of 0.630 and a p-value of 0.050. There is no significant difference among the following school comparisons: Sto. Niño Elementary School vs. San Roque Elementary School, Sto. Niño Elementary School vs. Marikina Elementary School, Malanday Elementary School vs. San Roque Elementary School, Malanday Elementary School vs. Marikina Elementary School, and San Roque Elementary School vs. Marikina Elementary School, as all p-values exceed 0.05. This implies that the respondents' school affiliations generally do not vary significantly with regard to the measured variable, except for the comparison between Sto. Niño Elementary School and Malanday Elementary School.

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Significant differences between schools in terms of years of affiliation can occur because school culture, leadership, resources, and community support vary across institutions. Teachers who stay longer in one school may benefit from stronger adaptation, training, and alignment with the school's values, while some may encounter difficulties due to limited resources or heavier workloads. In addition, the surrounding community and level of parental involvement can shape the school climate and affect long-term teacher satisfaction. These factors shape teachers 'professional growth, job satisfaction, and resilience differently (Gallego & Caingcoy, 2021).

Based on findings of the study, a comprehensive training program for kindergarten teachers should be developed. This should include hands-on technical support to ensure that teachers can navigate the LRMDS portal effectively. In addition, context-specific training programs must be provided and differentiated according to the unique needs of various schools and teachers. To ensure the effective utilization of LRMDS, consistent monitoring and evaluation should be conducted. This focused and adaptive approach can effectively address existing challenges, such as insufficient training and technical issues, ultimately promoting more meaningful and consistent use of the LRMDS in early childhood learning environments.

The projected budget is very helpful in ensuring effective delivery, participant engagement, and proper resource allocation during the teachers' training. It prioritizes participant welfare, speaker support, and the provision of necessary training materials. It ensures that both participants and resource speakers are adequately supported throughout the program.

Conclusions

Based on the findings the following conclusions were drawn:

1. The demographic background of kindergarten teachers indicates that a considerable number of participants are young to middle-aged women, completed undergraduate program, and are affiliated with various schools in Marikina.
2. Kindergarten teachers responded positively regarding the perceived usefulness regarding the Learning Resource Management and Development System (LRMDS). However, matters of concern included the adequacy of training and the technical issues encountered when accessing the portal, which affect its effective use.
3. Teaching experience among kindergarten teachers influenced their perceptions of LRMDS utilization, with less experienced teachers reporting perspectives that differ from their more experienced peers. Consequently, schools require context-specific support to ensure the effective utilization of the LRMDS.
4. The analysis indicates that while most teaching experience groups do not differ significantly in their responses, a meaningful variation exists between teachers with 0–5 years of experience and those with the most extensive teaching backgrounds. This suggests that less experienced teachers perceive or utilize the measured variables differently compared to their more experienced counterparts.
5. The results highlight the need for strengthened capacity among kindergarten teachers in effectively using the Learning Resources Management and

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Development System (LRMDS), underscoring the importance of structured and accessible training.

Recommendations

In light of the study's conclusions, the following recommendations are suggested:

1. Offer consistent, targeted training sessions, especially to teachers with less teaching experience, to build their confidence and skills in applying LRMDS and to guarantee its effective use.
2. Enhance technical support and infrastructure to address issues encountered when accessing the portal, ensuring smooth and reliable use.
3. Develop a localized support program that takes into account teachers' levels of experience and the specific needs of different schools, allowing for more tailored and effective assistance.
4. Encourage kindergarten teachers to engage in advanced studies as part of their lifelong professional development, which may help enhance their capability to integrate technologies like LRMDS.
5. Professional development initiatives be differentiated based on teaching experience, with targeted support provided to novice teachers to bridge the gap in practices or perceptions identified in the analysis.
6. Comprehensive and ongoing training program on LRMDS be developed and implemented, ensuring that kindergarten teachers acquire the competency to navigate, select, and utilize digital learning resources effectively in their classrooms.

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