

Technology Integration in Reading Instruction: Exploring its Status Dimension and Quality Outcomes

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ABSTRACT

This research examined the relationship between teachers' perceptions of technology integration and learners' reading performance. Fourteen teachers and one hundred Grade Two learners participated. Results revealed that teachers strongly agreed on the importance of technology in reading instruction, with an overall weighted mean of 3.37, indicating high acceptance. Among the aspects assessed, usefulness scored highest (3.64), followed by convenience (3.57) and self-efficacy (3.56), while obstacles scored 2.58, showing moderate challenges. Learners' performance showed that 63% were at grade level in word recognition, 45% in reading fluency, and 29% in reading comprehension, with most others transitioning or developing. Statistical analysis confirmed a significant positive relationship between teachers' perceptions and learners' reading outcomes, with a computed t-value of 3.153 exceeding the critical value of 2.306 at a 0.05 level of significance. Despite these positive findings, teachers encountered challenges such as heavy workload in preparing differentiated materials (ranked 1st), managing varied reading abilities without adequate tools (2nd), students' distraction with technology (3rd), and limited training for tech-based instruction (4th). Poor internet access and insufficient of structured school policies also hindered effective implementation. In light of these results, it is recommended that technology based integrated reading oriented training program can be developed.

KEYWORDS: *Technology-integrated reading instruction, quantitative research, instructional model, descriptive method, Cebu Don Carlos A. Gothong Memorial Elementary School, San Nicolas Elementary School, Sawang Calero Elementary School, Tagba-o Elementary School, Division of Cebu City, Cebu, Philippines, Development Education.*

1. THE PROBLEM AND ITS RESEARCH DESIGN

INTRODUCTION

Rationale of the Study

Reading is a key skill in learning because it helps students understand other subjects better. For young learners, especially beginners, figuring out the meaning behind what they read can be quite challenging. This shows that reading is not just important as it is necessary for learning and doing well in school. The researcher believe that being fluent in reading plays a big role in a student's overall academic growth. If students struggle with reading, it can affect how well they learn other subjects as they move to higher grade levels. Reading is a vital skill

for students because most of the information encountered-whether online or in books, magazines, or newspapers-is presented in written form. While images can help, it's usually the text that carries the main message. As students move up to higher grade levels, schools rely more and more on written materials to teach lessons, making reading even more important for learning and understanding.

In the early years of elementary school, students usually do not have textbooks at home. Instead, they use simple reading materials like short stories or decodable books borrowed from the library. But by third grade, textbooks start becoming part of their home learning, and being able to understand and use

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information from these books becomes more important for their academic success. As students reach high school, teachers-especially in subjects like history-expect them to read at home to build background knowledge and then participate in class discussions. Textbooks in subjects like science, math, and history are often long and packed with diagrams, pictures, and lots of text. English teachers also assign novels and stories to be read outside of class. Unfortunately, many students struggle with these textbooks because they use difficult words, cover many topics, and often lack engaging or easy-to-follow structure. While students are still developing their reading skills in the early grades, they are expected to already have strong reading abilities by the time they reach secondary school.

Moreover, reading comprehension refers to the ability to understand and make sense of written text (Arnold, 2020; Yusmalinda & Astuti, 2020). Unfortunately, data from PISA shows that the Philippines ranked lowest in reading comprehension, highlighting the struggles Filipino students face with this skill (Philstar.com, 2019). Based on PISA data, many students around the world, including those in the Philippines, find reading comprehension challenging (Philstar.com, 2019). Aside from previously mentioned factors, other things like the difficulty of the reading material, the learning environment, and how students approach reading also affect their ability to understand what they read (Hardiante, Umamah & Ismiatun, 2020). The way reading comprehension is taught also plays a big role in how well students learn. Researchers suggest that using a variety of teaching methods and strategies can make reading instruction more effective. That is why good teachers know that reading comprehension can be taught in many different ways, depending on what works best for their students.

Globally, many students also find reading comprehension difficult, and this has been linked to several factors such as weak vocabulary, poor inference-making skills, low motivation, limited grammar knowledge, and underdeveloped critical thinking (Mohseni, Seifoori & Ahangari, 2020).

Audina, Zega, Simarmata, Situmeang, and Tarigan (2020) shared helpful ways to improve students' understanding when they read. They highlighted some effective teaching methods, like directed reading activity, which guides students step-by-step through a text, and inquiry-based learning, where students explore and ask questions to deepen their understanding. These strategies help make reading more engaging and meaningful for learners.

Research shows that skilled readers do not just read, rather they read with a purpose (Okasha, 2020). They adjust their goals depending on what they are reading and why. These readers use different strategies to help them understand the text better. Choosing the right approach helps them reach a specific goal or complete a task effectively while reading.

While strategies like guided reading and letting students ask questions help them become better readers, teachers still need bigger solutions to meet all the different learning needs in one classroom. That is where differentiated instruction comes in. It means understanding that students learn in different ways and at different speeds, so teaching should be adjusted to fit those differences. Thanks to modern tools like Smart TVs, teachers now have more ways to make lessons more personalized, fun, and easier for everyone to understand.

In the context of today's swiftly changing educational environment, differentiated instruction has become an essential method for meeting the varied learning needs of students. The incorporation of digital technologies like Smart TVs has opened up new possibilities for more engaging and inclusive teaching practices. According to Tomlinson (2000), differentiated instruction is a versatile approach that modifies the content, process, and product based on learners' readiness levels, interests, and learning preferences. The integration of Smart TVs supports this strategy by providing multimedia-rich resources that appeal to a wide range of learning styles.

Recent research shows that Smart TVs can really help make learning more fun and interactive, which supports the idea of teaching students in different ways based on their needs. In a study done in China, Xu and Cheong (2022) found that when teachers used Smart TVs along with tools like big data and smart classroom systems, they were better able to understand how students learn differently and adjust their teaching to fit. Their study also showed that using Smart TVs made teaching more efficient and helped teachers assess students more accurately by using real-time data.

Smart TVs also give students access to lots of learning materials like videos, animations, and fun quizzes that can be adjusted to fit each student's needs. This supports what Dhar and Samanta (2024) found in their research-they pointed out that using technology in the classroom can help make learning more inclusive. They explained that when teachers use tech the right way, it becomes easier to teach students with different learning styles and needs more effectively.

Using Smart TVs in the classroom also helps solve some common problems with traditional teaching methods, like having too many students in one class or not enough time for teachers to give individual attention. Ramaila (2025) found that when teachers use digital tools like Smart TVs, students become more interested in learning and do better in school. His review also showed that technology helps make learning fairer by recognizing each student's unique strengths and needs.

Smart TVs are especially helpful for young learners who are still learning how to read, because they support both visual and audio learning. According to Agarwal (2023), most teachers find Smart TVs easy to use since they are already familiar with them. This makes it easier for teachers to start using them in class. The interactive features also let teachers present lessons in different ways, which supports students who learn in different ways.

Several studies in the Philippines have shown that using technology can help improve how reading is taught to elementary students. One good example is an app called READTECH 1.0, which was made to help students who have trouble reading in a public school. The research showed that the app helped students get better at reading by using fun and personalized learning activities. The app was created using the ADDIE model, a method for designing effective learning tools (Ortega-Dela Cruz, 2024).

Nacional & Loyola (2025) created a project called RISE, which introduced a computer-based teaching and learning system (CATLS). This system gave students instant feedback and allowed teachers to adjust lessons based on each student's needs. It worked really well and was liked by both teachers and students, showing that it could be used in more schools to improve reading lessons with technology. Another study by Corales (2025) looked at using digital learning tools that match the K–12 curriculum to help Grade 1 students understand what they read. The results showed a big improvement in their reading skills, proving that using interactive and locally relevant digital tools can be very effective.

Even though Smart TVs offer many benefits, making them work well in the classroom still depends on proper teacher training and making sure all students have access to the technology. Smith (2025) pointed out that teachers need to learn how to use Smart TVs in a way that really supports their teaching. Also, the

Technology Integration Model – TPACK Framework

The TPACK Framework, created by Mishra and Koehler (2006), helps explain what teachers need to know to use technology effectively in their teaching. This is especially useful in this study, which looks at how using Smart TVs for differentiated instruction can help improve reading skills in Grade 2 students. TPACK focuses on three main areas of knowledge: Content Knowledge (CK), which is what the teacher is teaching (like reading

way lessons are designed should follow the ideas of smart education. It means that they should be personalized, flexible, and based on real data about students.

Using Smart TVs to teach in different ways based on students' needs is a great way to improve learning, especially for younger kids. By mixing good teaching methods with modern technology, teachers can build classrooms that are more inclusive, exciting, and effective for helping every student grow.

In reading tests like Comprehensive Rapid Literacy assessment (CRLA) often show that many Grade 2 students is classified Low Emerging with reading and do not meet the expected level. This ongoing concern means teachers need new and more inclusive ways to help students learn better. At the same time, many schools have received Smart TVs from the government or private groups, but these are not always used effectively because there is no clear plan on how to use them for teaching. With the new MATATAG curriculum focusing on basic skills in the early grades, there is a growing need for teaching methods that are flexible and centered on students' needs. However, many teachers still find it hard to apply differentiated instruction, especially in large or mixed-ability classes. Smart TVs can help solve this by making lessons more fun, interactive, and suited to different learning styles. Also, the division's efforts to promote digital learning and inclusive education match well with studies that show how technology can support all kinds of learners. Some schools are even being chosen as pilot areas for new teaching strategies. These circumstances presents the fertile ground for this study to be made. The output of this shall be the instructional model for Smart TV integration.

Theoretical Background

The foundation of the study's theoretical framework is a number of important theories and ideas about academic achievement and curricula in schools. These ideas offer a framework for comprehending how the curriculum could affect students' reading ability and academic achievement in general. The following elements make up the framework: Technology Integration Model – TPACK Framework (Mishra & Koehler, 2006), Tomlinson's Theory of Differentiated Instruction (2000), and Vygotsky's Sociocultural Theory (1978).

skills); Pedagogical Knowledge (PK), which is how the teacher teaches (such as using different strategies for different learners); and Technological Knowledge (TK), which is about using tools like Smart TVs to support learning. When teachers combine these three areas well, they can create lessons that are more engaging, meaningful, and suited to the needs of all students.

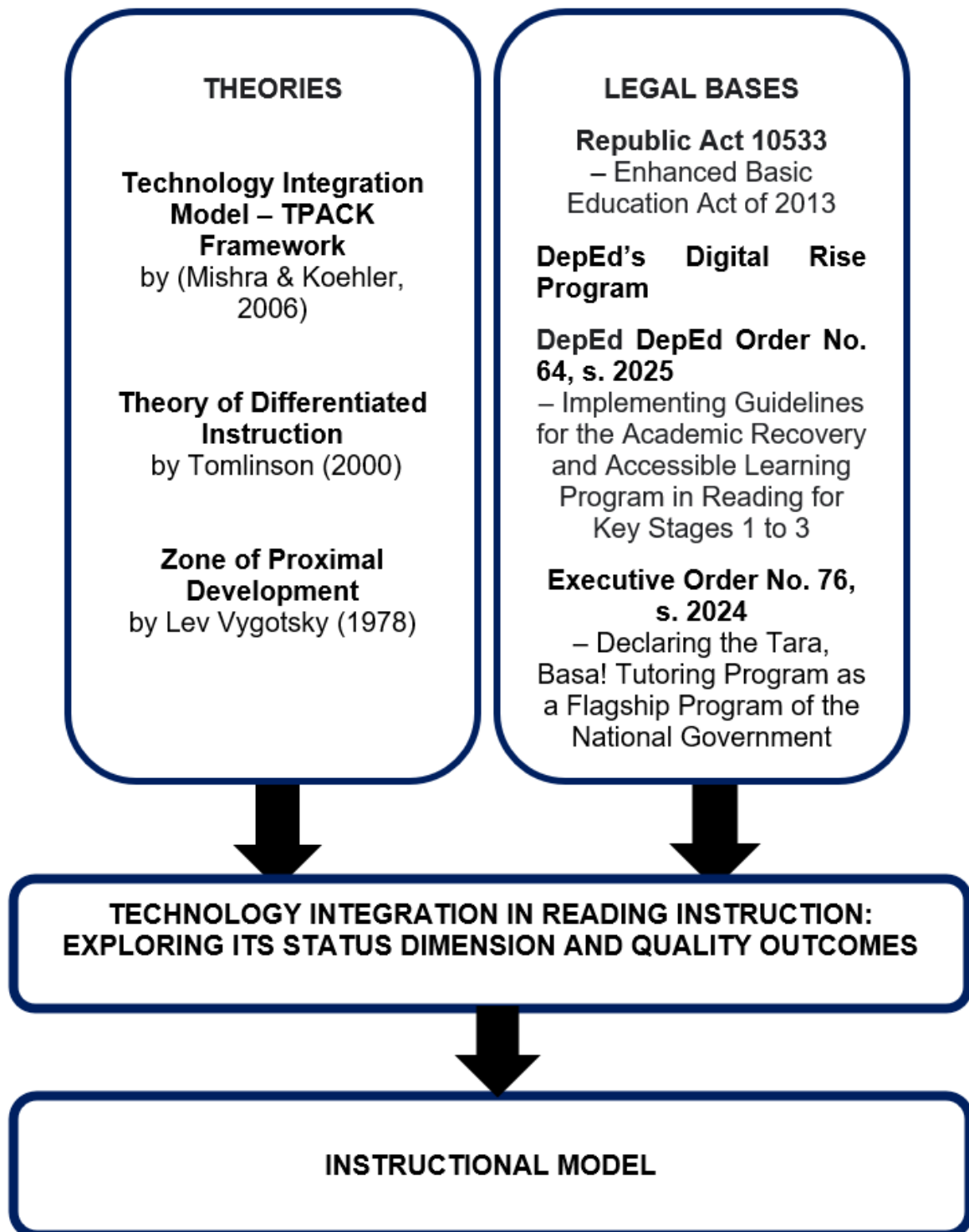


Figure 1 Theoretical – Conceptual Framework of the Study

Recent research supports how useful the TPACK framework is in helping teachers use technology effectively in their lessons. For example, López, Meneses, and Montenegro (2025) found that future teachers who had a strong

understanding of TPACK were better at creating meaningful learning activities using digital tools. Their study shows that TPACK helps teachers think carefully about how to use technology to meet the

different needs of their students. In a similar way, Jiménez Sierra et al. (2023) pointed out that TPACK is not just a fixed

model. It can be adjusted depending on the situation and works well when combined with teamwork strategies like lesson study. These studies show that TPACK is not just a theory but also a practical tool that can help teachers improve how they teach in real classrooms.

The TPACK framework helps us understand how Smart TVs and differentiated instruction can work together in teaching. It makes sure that technology is not just used for the sake of using it, but is actually connected to what is being taught and how it's being taught (Mishra & Koehler, 2006). By using TPACK as the foundation of this study, the research follows modern teaching practices that focus on students' needs, use technology wisely, and aim to make learning more engaging. This is especially important when helping Grade 2 students improve their reading skills in today's digital classrooms.

Tomlinson's Theory of Differentiated Instruction

Carol Ann Tomlinson's idea of differentiated instruction (DI) is all about recognizing that students learn in different ways and at different paces. Instead of using a one-size-fits-all approach, teachers adjust what they teach, how they teach it, and how students show what they have learned to better suit each student's needs. Tomlinson highlights three important things to consider: how ready a student is to learn something, what topics interest them, and how they prefer to learn (like through visuals, hands-on activities, or quiet reading). She believes that having a mix of learning styles and abilities in the classroom is normal, so teaching should be flexible and inclusive to make sure every student gets a fair chance to succeed.

Recent studies have helped define what modern DI looks like, based on Tomlinson's ideas. According to Smale-Jacobse et al. (2019), DI means teachers actively adjust what they teach, how they teach it, how students show what they have learned, and even when and where learning happens. It is not just about changing lessons randomly. It depends on regular student assessments and the teacher's ability to organize and respond to different learning needs. In short, DI works best when teachers are prepared and use student data to guide their teaching.

Recent research shows that using technology in education, like Smart TVs and digital learning platforms, can really help teachers adjust lessons to fit each student's needs (Baron et al., 2019). Tools such as Lexia® Core5® Reading have proven to be effective in helping students from different backgrounds improve their reading skills. In fact, Besonia et al. (2025) found that using digital tools like interactive videos and games made a big difference for students who struggle with reading. These findings support the idea of using Smart TVs, since they can deliver personalized and engaging content that matches each student's learning level.

Recent research shows that the benefits of DI go beyond just helping students get better grades. It also

helps improve how students feel about learning, boosts their motivation, and builds their confidence in their academic abilities (Pozas et al., 2021). This is especially important for Grade 2 students, since their interest and confidence in reading can affect how well they learn to read in the long run. Using Tomlinson's ideas in a study that uses Smart TVs to improve reading means connecting the key parts of DI with technology. For example, Smart TVs can show reading materials that match each student's level, using multimedia stories with captions and audio to help them recognize words better. Lessons can be personalized through learning stations, where students watch videos, listen to stories again, and do practice tasks at their own pace, while teachers work with small groups. Students can also show what they have learned in different ways such as recording their voice, retelling stories digitally, or answering short questions. Therefore, everyone gets a chance to shine. Smart TVs can even help teachers group students more effectively by tracking how often they practice, how many times they replay lessons, and how accurate their answers are (Alqahtani, 2024)

Further, according to Förster et al. (2018) shows that when teachers use assessment results to guide their teaching, especially in early reading lessons, students tend to improve more, particularly those who struggle with reading. Basically, using data helps teachers know what each student needs and adjust lessons accordingly. A broader study by Am et al. (2023) also confirms that this kind of personalized teaching, called differentiated instruction, has a strong positive impact on student learning across different grade levels, including younger kids. These findings support the idea behind this study, suggesting that using Smart TVs to deliver customized lessons can help Grade 2 students become better readers.

Tomlinson's theory helps shape both how the reading program is designed and how its success is measured. To see if the program works, it is important to test students before and after using it, not just for basic reading skills, but also for things like recognizing sounds, reading smoothly, and understanding what they read (Alqahtani, 2024). Smart TVs can also track how students interact with the lessons, giving teachers detailed information about how engaged they are and how well they are doing. A checklist based on DI principles can help make sure teachers are really using the approach, by adjusting what they teach, how students learn, how they show what they have learned, and the learning setup itself (Smale-Jacobse et al., 2019). Pozas et al. (2021) added that it also makes sense to measure how motivated and confident students feel, since DI has been shown to improve

these areas, which in turn helps them stick with reading and keep improving.

Vygotsky's Sociocultural Theory

Zone of Proximal Development or ZPD is often used in education, but many people do not fully understand what it means. It comes from Lev Vygotsky's theory of how people learn and grow. ZPD refers to the difference between what a student can do on their own and what they can do with help from a teacher or a more skilled classmate. In simple terms, it is the learning sweet spot where a student is ready to learn something new but still needs guidance to succeed.

Vygotsky was not mainly focused on measuring a child's intelligence at a specific moment. Instead, he was more interested in how children can grow intellectually through social interactions. That is why he introduced the idea of the Zone of Proximal Development (ZPD)-a concept that helps explain how learning happens (Gauvain, 2020). The ZPD has two key parts. First, it offers a new way to look at intelligence: by seeing what a child can achieve when given the right support, rather than just what they can do alone. This was especially important in Vygotsky's work with children who had disabilities, as he aimed to create learning programs that matched their unique needs. Second, the ZPD shows how a child's thinking develops through interaction with more knowledgeable people, like teachers or peers. In this way, learning becomes a shared process between the child and others.

Understanding pediatric neuropsychological exams means knowing Vygotsky's ideas about how kids learn and grow, especially his concept of the ZPD. Vygotsky believed that a child's development is shaped more by their potential to learn through social interaction than by their current abilities (Gauvain, 2020). That is why Vygotsky considered one of the key figures in pediatric neuropsychology. These exams help with many things, like diagnosing learning issues, planning interventions, spotting future risks, and understanding how a child thinks. They are different from regular school-based assessments because they look deeper into brain development, and they require specialized training.

According to Weiler, Willis, & Kennedy (2019), it is important that these exams are realistic and reliable, meaning they reflect how a child functions in everyday life. Good evaluations follow research-based methods to make sure the results are accurate and useful. However, there are challenges that can affect the results, such as differences in children's backgrounds, how well the tests match real-life situations, and even mistakes in how professionals interpret the data.

LibreTexts (2021) explains that the ZPD is the space between what a student can do independently and what they can achieve with help from someone more experienced such as a teacher or a peer. This *more knowledgeable other* (MKO) helps the student learn by guiding them through tasks they could not do alone. As the student learns and improves, their ZPD shifts forward, showing growth. Because each student's ZPD changes over time, teaching needs to be adjusted regularly to match their current learning needs. Vygotsky believed that the best learning happens within this zone. Teachers should first figure out what a student can do on their own, then offer just enough help to support learning. Over time, this support is slowly reduced-a process called "fading"-until the student can do the task independently. This helps the learner become more confident and self-directed.

Cherry (2021) explains that ZPD is always changing as students grow and learn. In the classroom, teachers can help students move forward by giving them tasks that are just beyond what they can do alone, and then offering the support they need to succeed. For example, in a psychology class, a teacher might first guide students step-by-step through an experiment. Later, the teacher gives less help, and eventually lets students do the experiment on their own. In early literacy, a teacher might give worksheets with traceable letters or use a whiteboard to show how to write. If students struggle, the teacher can have them practice together until they get it. For reading, a teacher might read a sentence aloud, have students repeat it, then group them for practice before assigning solo reading. These examples show how teachers adjust their support based on each student's changing ZPD.

Vygotsky's Zone of Proximal Development (ZPD) gives a helpful way to understand how to make reading instruction more effective for Grade 2 students, especially when using tools like Smart TVs. ZPD is the idea that kids learn best when they are given tasks that are just a bit harder than what they can do on their own, but still doable with the right support (McLeod, 2025). This means using Smart TV to deliver reading lessons that match each student's current skill level while gently pushing them forward.

By combining ZPD with DI, teachers can adjust reading tasks to fit each child's learning stage, helping them stay engaged and make progress (Wibowo et al., 2025). Smart TVs make this easier by offering videos, interactive stories, and visual aids that act as learning supports or "scaffolds." These tools help bridge the gap between what students know and what they are ready to learn next (Fadeev, 2019).

Also, Smart TVs can support group learning and track student progress, which fits well with ZPD's focus on learning through social interaction and ongoing assessment (Samanta & Mudi, 2024). Overall, using ZPD helps create a learning environment where students are challenged just enough, supported properly, and encouraged to grow into confident readers.

On the other hand, the legal bases of this study are Republic Act 10533, DepEd's Digital Rise Program, DepEd Order No. 64, s. 2025, and Executive Order No. 76, s. 2024.

Republic Act No. 10533

Republic Act No. 10533 was passed to improve the quality of education in the Philippines. It added two more years to the basic education system, making it Kindergarten to Grade 12 (K–12) instead of just ten years. The goal is to give Filipino students a better chance to succeed in college, work, or business by making sure they get a more complete and globally competitive education. This law marks a major change in the country's education system. It does not just add years, it also improves the curriculum to help students develop important skills like critical thinking, creativity, and lifelong learning. The law also supports teachers through training and encourages schools to meet the diverse needs of students, including those with disabilities or from different cultural backgrounds.

Concerns about the reform's first implementation are brought up due to the fact that teachers are the primary suppliers of education, and all parties involved are asked to make it effective for Filipino students. The government has already created the rules that will strengthen the foundations of education, even if other stakeholders, such as business and industry, parents, administrators, and Teachers who are in charge of carrying out the K–12 program, need to do more to aid our nation. We need committed educators who improve their knowledge via ongoing study and professional development if we are to spread the idea of teaching excellence across the K–12 curriculum. DepEd undertakes mass teacher training every summer, but it is clearly insufficient since it gradually integrates the K–12 curriculum by grade level. The performance patterns of Filipino students won't improve unless teachers continue to develop as educators after they dare to teach. They may then critically assess the hastily produced training materials and fix any glaring mistakes, such as typographical and conceptual flaws. The K-12 program aims to provide the nation with high-quality education, but high-quality education requires consistency from planning to implementation.

Moreover, this Act gives every student the chance to get a top-notch education that complies with international standards and is built on a pedagogically sound curriculum. Increase the scope of high school education to cover college preparation, chances for technical and vocational work, as well as creative arts, sports, and entrepreneurial occupations in a world that is changing quickly and becoming more globally interconnected. By using the right languages for teaching and learning, including the use of mother tongue as a learning resource, education will become more learner-centered and responsive to needs, cognitive and cultural capacity, circumstances, and variety of learners, schools, and communities.

The Order uses Vygotsky's ZPD to explain how students learn best, not by jumping from one skill level to another, but by gradually moving from guided learning to doing things on their own. ZPD is all about helping students with tasks they can't yet do alone but can accomplish with support. The Order also talks about two types of assessment: formative and summative. While it treats assessment as a formal process rather than a teaching method, it still recognizes that formative assessment has many useful goals such as giving feedback, adjusting instruction, and helping students grow at their own pace (Knestrick, 2025).

DepEd's Digital Rise Program

The DepEd Digital Rise Program is a big effort by the Department of Education to modernize how students and teachers learn and teach in the Philippines. It focuses on using technology in schools through three main areas: teaching digital skills, using tech to help teachers teach better, and helping students learn with digital tools. For teachers, this means getting equipment like Smart TVs, laptops, and microphones to make lessons more engaging. For students, it means having access to learning materials online through platforms like DepEd Commons, DepEd TV, and the DepEd Learning Management System (DLMS) (Department of Education, 2022).

The Digital Rise Program also helps improve the K to 12 curriculum by teaching students useful tech skills like using computer tools, basic coding, creating multimedia projects, and learning practical job-related skills. According to Salonga (2023), this shows DepEd's commitment to Education 4.0, which means using modern technology to prepare students for the fast-changing world and the demands of today's careers.

The DepEd Digital Rise Program gives schools official permission and guidance to use Smart TVs and other digital tools for teaching. This program directly supports this study as it recognizes Smart

TVs as important teaching tools under its ICT-Assisted Teaching component, which aims to help teachers use technology to improve classroom instruction (Teach Pinas, 2023).

The program also matches the goals of RA 10533, which says that education should be learner-centered, inclusive, and responsive to the different needs of students. The Digital Rise Program helps make this happen by using technology to support differentiated instruction-meaning teachers can adjust lessons based on each student's skill level, interests, and learning style. The Digital Rise Program gives official support for using Smart TVs and other digital tools in teaching. This means that the idea of using Smart TVs to deliver customized reading lessons is not only a good teaching strategy-it is also backed by national education policies. The program helps make sure this approach fits with the country's goals, especially in improving reading skills and teaching students how to use technology from an early age.

DepEd Order No. 64, s. 2025

The DepEd Digital Rise Program and DepEd Order No. 64, s. 2025 work together to support better reading instruction for young learners. This order introduces the ARAL Program (Academic Recovery and Accessible Learning), which is designed to help students in Grades 1 to 3 who are struggling with reading. It provides focused and inclusive reading support using technology like Smart TVs, online platforms, and even TV broadcasts to make learning more accessible-especially for students in remote or underserved areas. This means this study, which uses Smart TV to deliver customized reading lessons, is directly supported by this policy. It shows that the approach is not only effective for teaching but also aligned with DepEd's official strategy to close learning gaps and improve reading outcomes for early grade learners.

The guidelines encourage teachers to use differentiated instruction, which means adjusting reading lessons based on each student's skill level, interests, and learning style. It also supports using technology, like Smart TVs and digital content, to make reading lessons more engaging and effective. This helps students catch up and improve, especially those who need extra support in reading.

DepEd Order No. 64, s. 2025 officially supports the use of differentiated instruction and Smart TV technology in teaching reading to young learners. This study fits perfectly with this policy because it uses Smart TVs to deliver personalized reading lessons for Grade 2 students. The order highlights the importance of using flexible and accessible teaching methods-especially in schools that may not have

many traditional resources-making Smart TVs a valid and helpful tool.

It also focuses on helping students catch up in reading and making sure all learners are included, which is exactly what differentiated instruction is designed to do. By using Smart TVs to give students reading materials that match their skill level and learning style, this study supports the goals of the ARAL Program-to close learning gaps and promote fairness in education.

In short, this DepEd order not only supports this study's idea but also places it within the bigger national effort to improve reading and learning through modern, inclusive strategies.

Executive Order No. 76, s. 2024

Executive Order No. 76, signed in 2024, officially makes the Tara, Basa! Tutoring Program a major government project. Its main goal is to help young students, especially those having trouble reading, improve their basic reading skills. The program brings together different government agencies like the DSWD, DepEd, CHED, local governments, and colleges to work as a team. It also gives college students who need financial help a chance to earn money by becoming tutors, and it encourages parents to be more involved in their children's learning.

This study supports the goals of the executive order by focusing on Grade 2 students who struggle with reading. It uses differentiated instruction, which means adjusting lessons to fit each child's learning needs. The use of Smart TVs as a tool for teaching fits well with the program's push for creative and inclusive ways to educate children, especially in communities. The executive order also backs the idea of creating customized learning activities and working with different groups, which strengthens the foundation of this study. By combining technology and personalized teaching, the study helps achieve the bigger goals of the executive order, making quality education more accessible and supporting national plans like the Philippine Development Plan and the United Nations' goals for sustainable development.

These are the theories and bases that will serve as the backbone of this study.

THE PROBLEM

Statement of the Problem

This research aimed to explore teachers' perceptions and self-efficacies of technology-integration for teaching learning reading instruction in Grade two learners in selected public elementary schools of Cebu City Division South District VIII, Cebu during School Year 2025-2026 towards instructional model.

Specifically, it sought answer the following questions:

1. What relevant information can be derived from:
 - 1.1. Teachers,
 - 1.1.1. age and gender;
 - 1.1.2. civil status;
 - 1.1.3. highest educational attainment;
 - 1.1.4. years of service
 - 1.1.5. frequency of use of technology-based tools in classroom instructions, and;
 - 1.1.6. number of relevant trainings, seminars, and workshops attended related to technology integration in classroom reading instructions?
 - 1.2. Learner's age and gender?
2. As perceived by the teachers, to what extent is the status technology integration in teaching learning as to:
 - 2.1. Instructional technology tool:
 - 2.1.1. Technology tools that are used in the classroom
 - 2.2. Integration dimension
 - 2.2.1. availability;
 - 2.2.2. self-efficacy;
 - 2.2.3. importance;
 - 2.2.4. usefulness;
 - 2.2.5. convenience, and;
 - 2.2.6. obstacles?
3. What is the level of reading performance of Grade two learners in terms of:
 - 3.1. word recognition,
 - 3.2. reading fluency, and
 - 3.3. reading comprehension?
4. Is there a relationship between the teachers' perceived extent of status of technology integration in teaching learning and the level of reading performance of Grade two learners in word recognition, reading fluency, and reading comprehension?
5. What challenges and barriers experienced by the teachers in implementing the use of technology in reading?
6. Based on the findings, what technology integration-based reading instruction program can be developed?

Null Hypothesis

This null hypothesis will be tested at the 0.05 level of significance.

H₀1: There is no relationship between the teachers' perceived extent of status of technology integration in teaching learning and the level of reading performance of Grade two learners in word

recognition, reading fluency, and reading comprehension.

Significance of the Study

The following specifically describes the importance of this study, namely:

Education Policy Makers. This study matters to policy makers because it shows that using technology in reading lessons helps students learn better. It points out the need to give schools the right tools, train teachers, and update teaching methods. By supporting tech-based reading programs, policies can help make learning easier, fairer, and more suited to today's classroom needs.

School Heads. this study will help them see how useful Smart TVs can be in teaching reading in different ways to suit each student's needs. The results will help them decide if it is worth spending money on this kind of technology to improve learning. By understanding how Smart TVs can support personalized reading lessons, principals can better guide teachers and help them come up with creative ways to teach Grade 2 students. The study might also inspire schools to start reading programs, set new policies, or offer teacher training that includes using technology in the classroom. In the end, this can help create a more fun, inclusive, and tech-friendly learning environment that boosts students' reading skills and overall school success.

School. This study will help improve reading programs that use technology to meet the needs of young learners. By using Smart TVs to teach reading in ways that match each student's learning style, schools can find a smart and affordable way to boost reading skills using tools they already have. The results will help schools make their reading lessons better, encourage creative teaching, and build a culture of innovation. It can also lead to training for teachers, new learning materials that use technology, and teaching methods that include everyone and keep students interested. In the long run, this can lead to better reading scores, higher student performance, and a stronger school reputation for offering modern, high-quality education for all.

Teachers. This study will give useful ideas on how to use different teaching methods to help Grade 2 students with different reading levels. By using Smart TVs, teachers can create fun and easy-to-understand lessons that match each student's needs and learning style. The study can also help in making learning materials and classroom activities that use technology to improve reading skills. On top of that, it can help teachers grow professionally by boosting their confidence and skills in using tech in their lessons. In

the long run, this research can help teachers become more flexible, creative, and effective in teaching reading in a way that includes and supports all learners.

Students. This study will help meet each student's reading needs by offering different ways to learn through lessons shown on a Smart TV. These lessons are designed to match each child's level, interests, and learning style, so they can build important reading skills, such as recognizing words, reading smoothly, and understanding what they read, at their own pace. Using Smart TVs also makes learning more fun and interactive, which helps students stay interested and involved. Learners who struggle with reading can get the help they need, while those who are ahead can do extra activities to keep improving. In the end, this study can help students do better in school, feel more confident, and enjoy reading more - giving them the skills they need for future learning and everyday life.

Future researchers. This study can be a helpful guide in exploring how to combine different teaching methods with new technology to solve reading problems in the early grades. The ideas, strategies, and teaching model from this research can be used or adjusted for other grade levels, subjects, or school settings. It also adds to the growing knowledge about using technology to make teaching more inclusive and effective. This study might also inspire others to look into related topics, such as teaching digital skills, using tech in classrooms with different languages, or how personalized teaching affects students over time. By building on this research, future studies can improve and create new ways to help students

become better readers and make the most of educational technology.

RESEARCH METHODOLOGY

This part of the chapter includes the major components of the research methodology. It is the measurement and description, analysis and interpretation of data throughout the data research process.

Design

This research used the descriptive correlational method of research to determine the relationship between the teachers' perceptions and self-efficacies of technology-integrated reading instruction in Grade two learners in selected public elementary schools of Cebu City Division South District VIII. Selected grade two teachers in the identified schools of Cebu City Division South District VIII will be the selected as respondents to this study. The study's objective will be explained to participants and throughout the whole research process, ethical issues will be closely followed. All data will be securely saved and just the researcher will have access to it, confidentiality and anonymity will be preserved.

Flow of the Study

Figure 2 presents the flow of the study which covers the entire research activities. The input considered the teachers' profile of Cebu City Don Carlos A. Gothong Memorial Elementary School, San Nicolas Elementary School, Sawang Calero Elementary School, and Tagbao Elementary School, their perceptions and self-efficacies of technology-integrated reading instruction, the reading performance of the learners.

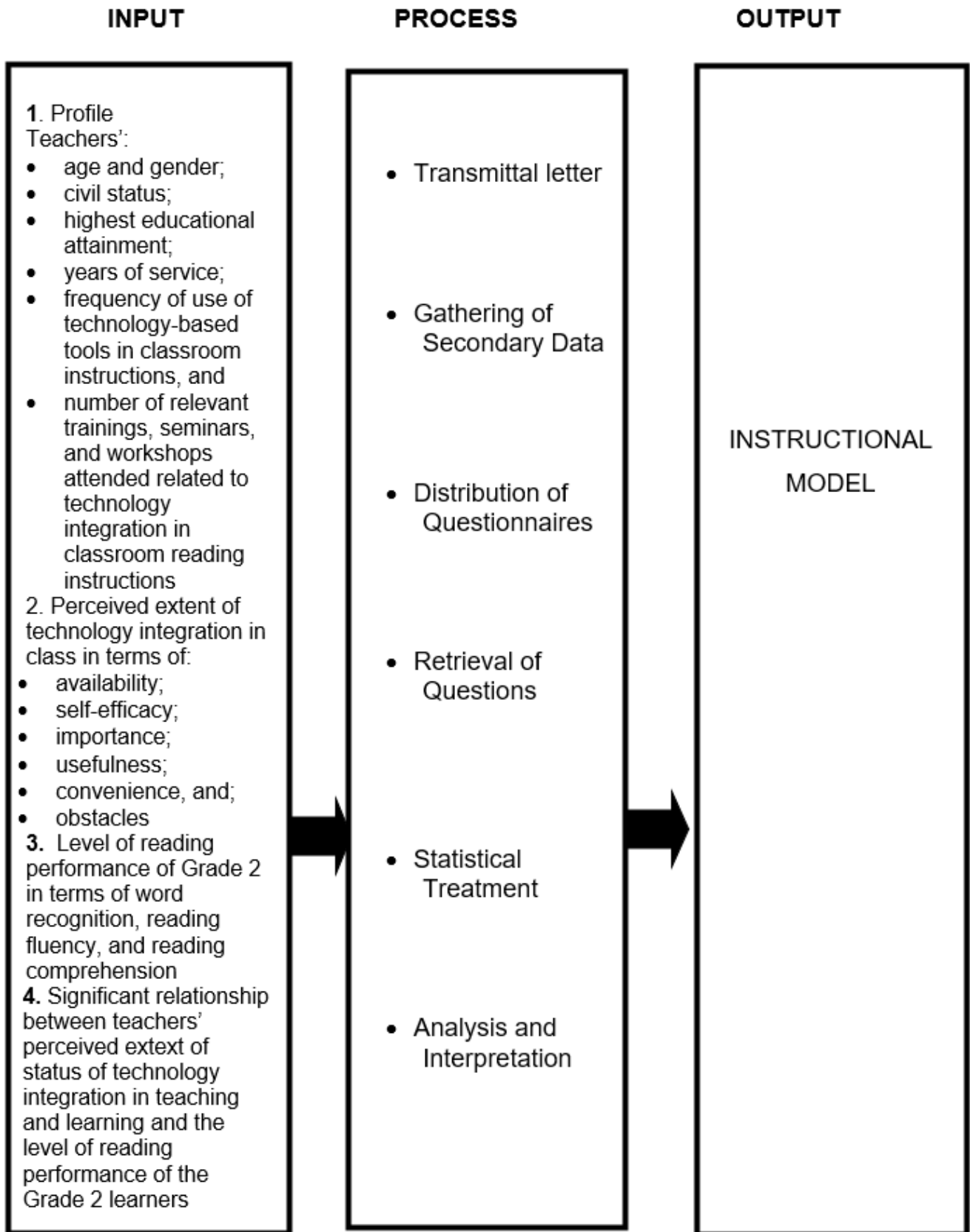


Figure 2. Flow of the Study

The gathering of secondary data, questionnaires, statistical treatment and the analysis and interpretation are all parts of the process. The output is the result of the study, which is the proposed enhanced capacity building on the Matatag curriculum for teachers.

Environment

This study carried out in all the schools of Cebu City Don Carlos A. Gothong Memorial Elementary School, San Nicolas Elementary School, Sawang Calero Elementary School, and Tagba-o Elementary School, as shown in Figure 3.

Cebu City Don Carlos A. Gothong Elementary School

Cebu City Don Carlos A. Gothong Elementary School was founded last June 2008 under the leadership of Mrs. Benedicta Arcilla, the school principal of Cebu City Don Carlos A. Gothong Memorial National High School, guided by Dr. Liberato A. Lauronilla, the public schools district supervisor. The creation of the school was a brainchild of Hon. Joy Augustus Young, the chairman of the Committee on Education, Cebu City Council, during that time, to decongest San Nicolas Elementary School and to provide a public elementary school in every barangay due to a Cebu City Resolution Ordinance. The school is located at Barangay San Nicolas Proper, C. Padilla Street, Cebu City near San Nicolas de Tolentino Church. The school is situated inside the campus of Cebu City Don Carlos A. Gothong Memorial National High School, occupying two floors of the Visayas Building. The school’s land area is 2,300 sq. meters. The district office, San Nicolas Elementary School, can be found on the north-eastern part of the school. On the west, the Police Station 6 can be found. On the south-west, the San Nicolas de Tolentino Church can be found. The Taboan Public Market and San Nicolas Barangay Hall can be found on the south-eastern side. The school can be reached through its telephone number (032) 252 2877.

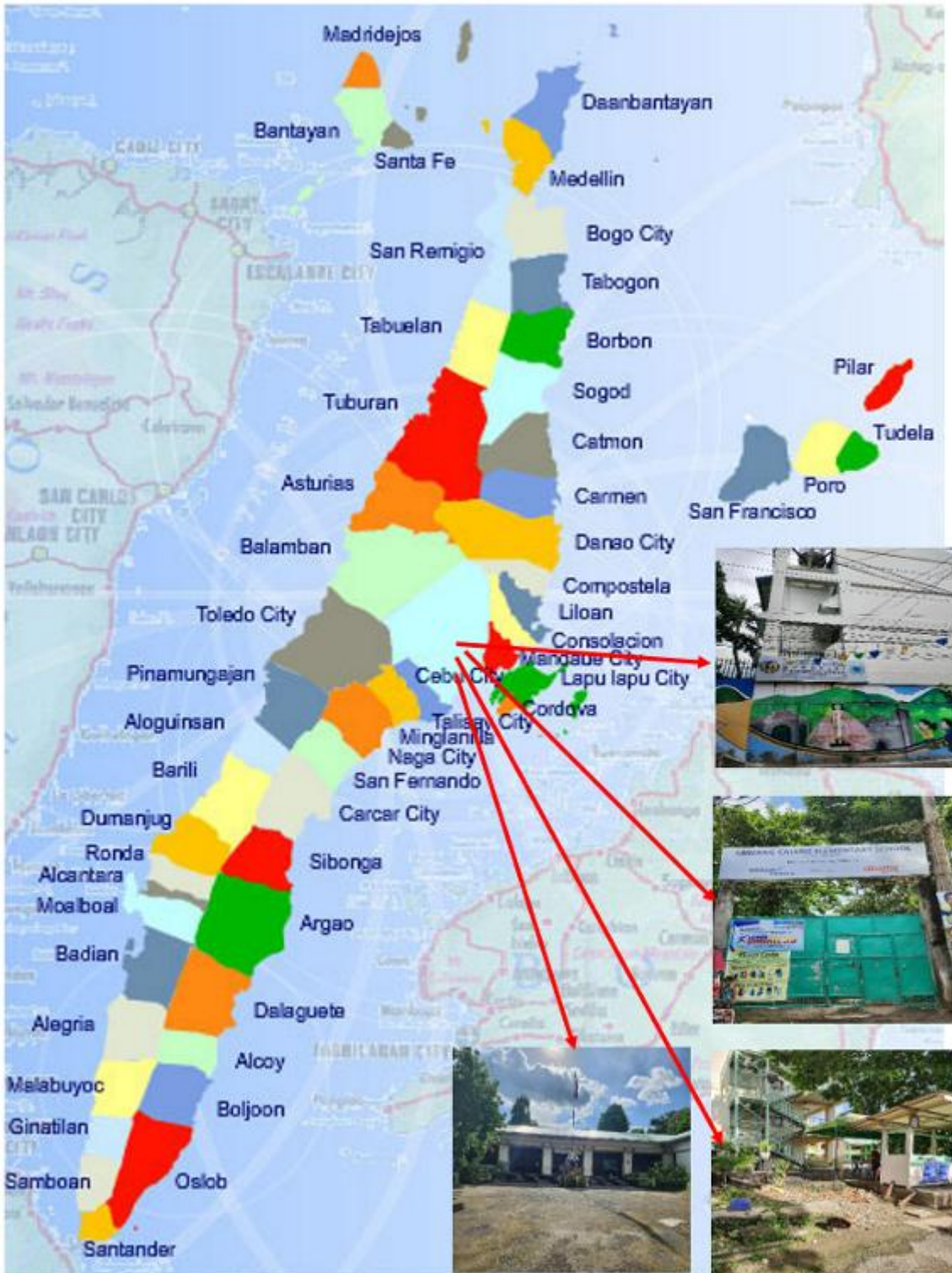


Figure 2 Location Map of the Study

San Nicolas Elementary School

San Nicolas Elementary School was established in 1930. It started with one section for every grade level. The classes were held at the Gabaldon building which is still existing. In fact, it is considered as one of the oldest Building in the Philippines and was declared as National Heritage. Now, aside from the Gabaldon building, several buildings were constructed to accommodate the growing population of our learners. The school belongs to South District 8. It was named in honor of the Patron Saint of the Parish, San Nicolas de Tolentino.

Sawang Calero Elementary School

Sawang Calero Elementary School opened its door officially on June 15, 1982 when the reclaimed portion along coastal side of Tupas Street had finally reached its completion. The school buildings were erected in a lot under Slum Improvement Resettlement (SIR) Program with an area of 897 square meters. The entire school site is approximately 2,200 square meters. It is 350 meters away from Sawang Calero Barangay Hall. The learners are from Blocks 1 & 2 (C. Padilla and LUDO), Blocks 3 & 4 (Tupas, J.M Basa and Figueroa), Blocks 5 & 6 Magsaysay Street & Magsaysay Extension) and Block 7 (Gen. Gines, Sitio Buwaran). It shares a common border with barangays Duljo, Suba and San Nicolas Central. The school is situated in a slum area . Children from poor families are given the anti-poverty program of the DSWD- the Pantawid Pamilyang Pilipino Program (4Ps). Most of the families living in blocks 6 and 7 are dried fish vendors. The stakeholders and institutions near the school are LUDO & LUYM Inc., Tinong's Bakery, Condrada's Food Haus, the PNP Station 6, BFP San Nicolas and the barangay of Sawang Calero. These partners continuously extend their support to our school.

Tagba-o Elementary School

Tagba-o Elementary School is situated at Proper, Tagba-o, Cebu City which is approximately 35 kilometers away from the heart of the city. It has a land area of 1,475 square meters. Based on the Deed of Donation executed dated March 18, 1991, the lot was donated by Mr. and Mrs. Alfonso Tabal on the same year. It is located around one kilometer away from the barangay hall. It is surrounded by mountains, amidst lush, verdant, and varied greeneries of forest and edible fruit-bearing trees, vegetables, corn field and some areas are punctuated with flowers and ornamental plants. The residents are mostly farmers, and the mode of transportation is motorcycle that passes through mountains and landslide prone areas.

The school has 2 School Buildings. Building 1 is the Marcos type school building with 2 classrooms which was constructed in the year 1991. This building is currently occupied by the Office of the School Principal and the Kindergarten class. Building 2 is the Bagong Lipunan type School Building with 6 classrooms that was constructed in 1993 and currently occupied by the Grades 1 to Six classes.

Respondents

The respondents of this study are the grade two teachers and learners of Cebu City Don Carlos A. Gothong Memorial Elementary School, San Nicolas Elementary School, Sawang Calero Elementary School, and Tagba-o Elementary School. A total of 231 respondents.

The researcher will utilize a fundamental universal sampling methodology. Universal sampling is a research method where all individuals in a specific group who meet certain conditions are included in the study. Instead of selecting just a few people to represent the group, everyone who qualifies is part of the research. This helps make sure the results truly reflect the whole group, making the findings more complete and reliable.

As noted in recent studies, universal sampling works best when the group is small and easy to manage, and when researchers want to avoid bias by including all eligible participants (Wisdomlib, 2025).

Table 1 Distribution of Respondents

School	Teachers	Learners	Total	Percentage
Cebu City Don Carlos A. Gothong Memorial Elementary School	3	30	33	10%
San Nicolas Elementary School	5	30	35	57%
Sawang Calero Elementary School	5	30	35	24%
Tagba-o Elementary School	1	10	11	5%
Total	14	100	114	100%

Instruments

The questionnaire for the teacher respondents for which is the main tool to gather data is divided into these parts, namely, demographic profile, perceived extent of technology integration in class in terms of the following dimensions: availability, self-efficacy, importance, usefulness, convenience and obstacles,. Level of reading

performance of Grade two learners in terms of word recognition, reading fluency, and reading comprehension, relationship between the extent technology use and challenges and barriers experience by the teachers in implementing the differentiated instruction using available technologies. The researcher-edited survey questionnaire from Si (2024). Responses are based on a 4-level Likert Scale of 'strongly agree, agree, disagree, and strongly disagree. The respondents will be asked to choose the most appropriate number which indicated their opinion toward each statement. The purpose is to determine how the teachers of Cebu City Don Carlos A. Gothong Memorial Elementary School, San Nicolas Elementary School, Sawang Calero Elementary School, and Tagba-o Elementary School perceive their extent is their technology integration in class as basis for instructional model for Smart TV integration.

Moreover, The Comprehensive Rapid Literacy Assessment (CRLA) is a reading test used by the Philippine Department of Education (DepEd) to check how well young students (Grades 1–3) can read. It helps teachers figure out which students need extra help so they can plan lessons and support them better (DepEd, 2025a).

The CRLA divides students into five levels based on their reading skills: Low Emerging, High Emerging, Developing, Transitioning, and At Grade Level.

- Low Emerging students are just starting to learn the basics of reading. They may not know many letters or sounds and usually need a lot of help (DepEd, 2025b).
- High Emerging students know more letters and sounds but still read slowly and may not understand everything they read (DepEd, 2025b).
- Developing students can read more words and sentences, but they are not yet fast or fully confident.
- Transitioning students are close to reading at their grade level. With some extra help, they can catch up and read fluently (DepEd, 2025a).

At Grade Level students read well for their grade. They are usually fluent and understand what they read, though they still need practice to maintain their skills (DepEd, 2025b).

These levels are important because they tell teachers which students need extra support and which ones are doing fine. For example, students in the Low Emerging or High Emerging levels need special reading programs to improve quickly. The CRLA also helps the Department of Education plan resources and track how well students are improving over time (DepEd, 2025a; GMA News, 2025).

Data-gathering procedure

The research endeavor will adhere to a methodical approach in its execution. Initially, a letter requesting permission to conduct the research would be sent to the Schools Division Superintendent, DepEd Cebu City Division.

The survey questionnaire will be delivered in person to the respondents upon approval of the letter. The respondents will be informed of the study's objectives and the value of their cooperation in providing thoughtful responses to the survey, which is an essential component of the current study. The questionnaire will be delivered to the respondents and with plenty of time to complete it. The answered instruments will be collected. The findings will be arranged, tallied and tabulated. Then, these will be analyzed and interpreted as basis the proposed reading program. The statistician will receive the gathered data and process it statistically.

Statistical Treatment

The study used the descriptive method and so the data will be collated, tabulated and subjected to statistical treatment.

Simple Percentage. This statistical treatment will be utilized to determine the relevant information taken from teachers such as their age, gender, civil status, highest educational attainment, number of years in service, frequency of use of technology-based tools in classroom instructions, number of relevant trainings, seminars, and workshops attended related to technology integration in classroom reading instructions, as well as the level of reading performance of Grade two learners in terms of word recognition, reading fluency, and reading comprehension.

Weighted Mean. This statistical treatment will be utilized to determine the teachers' extent of their technology integration in class in terms of the following availability, self-efficacy, importance, usefulness, convenience, and obstacles.

t-Test. A statistical technique for determining if the differences between two groups are statistically significant is the t-test, which compares the means of the two groups (Field, 2020). To assess hypotheses on group differences or changes over time, the test is frequently used in quantitative research. According to Cohen et al. (2020), there are three primary kinds of t-tests: one-sample, paired samples, and independent samples. Depending on the study design and research topics, each category has a certain function. This will be used to significant compute the relationship between teachers' demographic profile variables and their perceptions of technology-integrated reading instruction.

Scoring Procedure

To assess the teachers' perceived extent in their technology integration in class in terms of the six dimensions such as availability, self-efficacy, importance, usefulness, convenience, and obstacles.

Scale	Numerical Rating	Descriptive Rating	Verbal Interpretation
4	3.26 – 4.00	Strongly Agree	Teachers very familiar with technology integration in classroom instructions
3	2.51 – 3.25	Agree	Teachers very familiar with technology integration in classroom instructions
2	1.76 – 2.50	Disagree	Teachers somewhat familiar with technology integration in classroom instructions
1	1.00 – 1.75	Strongly Disagree	Teachers not familiar with technology integration in classroom instructions

DEFINITION OF TERMS

The definitions of the following terms will be based on how they are used in the study:

Academic Performance - The quantifiable results of students' education, such as grades, test scores, and general curricular success

Demographic profiles - Individual characteristics that might affect opinions and reactions include age, gender, years of teaching experience, the subject matter taught, and other pertinent characteristics.

Differentiated instructions - means teaching in a way that meets the different learning needs of students. Instead of giving all students the same lesson in the same way, the teacher adjusts how they teach based on each child's ability, interest, or learning style. For example, some students might learn better through videos, others through reading or hands-on activities. In this study, the lessons are shown on a Smart TV and are designed to help each Grade 2 student improve their reading skills in a way that works best for them.

Instructional model - The teaching plan or strategy that guides how lessons are delivered. It helps teachers organize what to teach, how to teach it, and how students will learn best. In this study, the instructional model uses Smart TV to present reading lessons in different ways, depending on what each Grade 2 student needs to improve their reading skills.

Integration – It means combining something into the teaching process to make learning better. In this study, it refers to using Smart TV as part of the classroom instruction. Instead of just using books or traditional methods, the teacher includes videos, interactive lessons, or digital content shown on the Smart TV to help Grade 2 students improve their reading skills.

Performance - This refers to the level of proficiency or accomplishment achieved by the Grade 2 learners in a particular task or activity. In the context of education, performance can refer to academic achievements, such as test scores, grades, or completion rates.

Reading Comprehension – This is the understanding what one reads. It is not just about reading the words correctly, but also knowing what they mean, what the story or passage is about, and being able to answer questions or talk about it. In this study, it refers to helping Grade 2 students better understand what they read by using Smart TV lessons that match their learning needs.

Reading Outcomes - The results or progress students make in reading. This includes how well they can read words, understand what they read, and apply reading skills in different situations. In this study, it means measuring how much Grade 2 students improve in their reading abilities after using Smart TV lessons that are tailored to their learning needs.

Smart TV - This is a television that can connect to the internet and play videos, apps, and educational content. In this study, the Smart TV is used as a teaching tool to show interactive reading lessons, videos, and activities that help Grade 2 students learn better in a fun and engaging way.

Student Outcomes - These are the talents, knowledge, and skills that students should possess by the conclusion of a course or academic year. Put more simply, student outcomes refer to the knowledge and skills that students should possess upon finishing their education.

Technology - Refers to tools or devices that make tasks easier or more effective. In this study, it means using modern equipment, such as a Smart TV, to help teach reading in a more engaging and interactive way. Instead of just using books or chalkboards, the teacher uses digital content, videos, and apps to support students' learning.

2. REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the related literature and studies to fully understand this research. There have been several studies conducted on the teachers' perceptions and self-efficacies of technology-integrated reading instruction, technology integration, and their effects to reading performance of learners. These studies have highlighted a number of challenges and opportunities related to this approach to instruction.

Related Literature

Learning how to read well, being able to read correctly, smoothly, and with understanding, is one of the most important skills children must develop in the early years of school. Many studies, both in the Philippines and around the world, stress the need for teaching methods that recognize that children learn in different ways and that some may need extra help. Differentiated instruction, introduced by Tomlinson and other experts, is one approach that allows teachers to adjust lessons, activities, and materials so they fit the unique needs of each learner. At the same time, modern technology has changed how lessons can be taught, with tools like Smart TVs making it easier to capture children's attention and provide interactive learning experiences. This review of literature looks at studies from 2019 to 2025 that focus on differentiated instruction, reading development, and the use of technology in teaching, which together provide a strong basis for the current study on improving Grade 2 reading outcomes through DI delivered via Smart TV.

Differentiated instruction is a teaching method that helps meet the different learning needs of students, especially in early education. Think of it like tailoring lessons to fit each child's learning style and level, rather than using a one-size-fits-all approach. According to Peters, Hebbecker, and Souvignier (2021), when teachers use tools to assess students' reading skills and then adjust their lessons based on those results, students-especially those in second grade-tend to read better and understand more. Their research showed that when reading lessons match a child's current ability, it helps them improve both their understanding and reading speed.

In a similar way, Baron and colleagues (2019) looked at a digital reading program called Lexia Core5. This program automatically adjusts to each student's reading level, giving them activities that are just right for their needs. The study found that this kind of technology is very helpful in classrooms where students have different reading abilities, because it supports each child in their own learning journey.

This study about helping Grade 2 students become better readers by using a teaching method that adjusts lessons to each child's reading level. Instead of teaching everyone the same way, using a Smart TV to deliver lessons that match what each student needs. Other researchers have already found that this kind of personalized teaching works well. For example, one study (Peters, Hebbecker, & Souvignier, 2021) showed that when teachers use tools to check how well students read and then adjust their lessons, students improve their reading and understanding. Another study (Baron et al., 2019) found that a reading app called Lexia Core5 helps because it changes the lessons based on each student's reading level. These findings support the idea that using technology to give personalized reading lessons can really help students learn better.

A study by Asriadi et al. (2023) examined the many different research papers and found that differentiated instruction, which means adjusting lessons to fit each student's needs, really helps students do better in school, no matter what subject they are learning or what grade they are in. This supports the idea that when teachers use personalized teaching methods, especially with the help of technology, students tend to learn more effectively.

However, Sears (2023) pointed out that even though differentiated instruction is helpful, teachers often struggle to use it in real classrooms. There are several reasons for this: they might not have enough time to plan different lessons for different students, they might not have received proper training on how to do it, or they might not have the tools and materials they need. These problems are especially common in public schools, where access

to technology can be limited or uneven. So, while differentiated instruction has a lot of potential, there are still real challenges that need to be addressed to make it work well in all schools.

The study by Asriadi et al. (2023) gives strong support to this research because it shows that differentiated instruction really helps students learn better.. This proves that personalized teaching is effective, and it gives this study a solid foundation since it is using the same approach to help Grade 2 students improve their reading skills.

But the study does not stop there as it adds something new by using Smart TV technology to deliver these personalized lessons. This is important because, as Sears (2023) explained, many teachers find it hard to use differentiated instruction in real classrooms. They often do not have enough time to prepare different lessons for each student, they may not have received proper training, or they might not have the materials and tools they need. These problems are especially common in public schools, where access to technology and resources can be limited.

This study is so relevant and timely. By using a Smart TV, this study is offering a practical and affordable solution to these challenges. Instead of expecting teachers to create multiple lesson plans, the Smart TV can show reading lessons that are already tailored to each student's level. This makes it easier for teachers to apply differentiated instruction, even in schools that do not have a lot of resources. In this way, the study helps bridge the gap between what research says is effective and what is actually possible in everyday classrooms.

The study by Karst, Forster, and Souvignier (2022) highlights how important it is for teachers to use actual student data, like test results or reading assessments, when planning their lessons. Instead of guessing what students need, teachers can look at real performance data to decide what kind of instruction will help each student the most. Their research showed that this kind of data-based decision-making leads to fairer and more balanced progress in reading comprehension. In other words, when instruction is guided by what students actually know and need, all learners, regardless of their starting point, have a better chance to improve.

Moreover, Davidsen (2018) supports this idea by showing that differentiated instruction is especially helpful for students who are struggling. His study found that when students with lower reading scores receive lessons that are tailored to their level, they are more likely to catch up with their classmates. This means that personalized teaching does not just help everyone, it can also close the learning gap between students who are behind and those who are ahead.

These directly connects to this study because of the use of Smart TV technology to deliver reading lessons that are customized based on each student's reading level. This means that the method is not only aligned with research that supports differentiated instruction, but it also uses technology to make it easier for teachers to apply this approach. By using Smart TVs, this study offers a practical way to deliver data-informed instruction, especially in classrooms where teachers may not have the time or resources to plan different lessons for every student. In this way, this helps ensure that even struggling readers get the support they need to succeed, just as the research by Karst et al. (2022) and Davidsen (2018) suggests.

Technology plays a big role in making differentiated instruction more effective and easier to use in the classroom. According to Bhat (2023), when teachers use technology in their lessons, students become more interested and involved in learning. Technology also helps teachers create individual learning paths, meaning each student can learn at their own pace and level. This is especially helpful in classrooms where students have different abilities. This idea fits perfectly with this study, which uses Smart TV technology to deliver reading lessons that are customized for each Grade 2 student based on their reading level.

Van Geel et al. (2019) explained that making decisions about how to teach different students in one classroom, what we call differentiated instruction, can be quite complicated for teachers. It is not just about knowing what each student needs, but also about having the right training and support to make those decisions effectively. Their study showed that for differentiated instruction to really work, teachers need more than just materials or tools. They also need ongoing professional development to help them learn how to use those tools and strategies properly. They also found that using digital tools, like educational software or technology, can be very helpful, especially when it comes to teaching basic reading skills. These tools can reinforce what students are learning and make it easier for teachers to give the right kind of support.

This directly addresses the challenges and solutions discussed by Van Geel et al. (2019). First, the study recognizes that teachers may not always have the time or training to create different reading lessons for each student. By using Smart TV technology, the approach helps simplify the process, the TV can deliver customized reading content based on each student's level, reducing the pressure on teachers to do it all manually.

Second, the study supports the idea that digital tools can strengthen foundational reading skills, especially when used as part of a differentiated instruction model. The Smart TV acts as a digital teaching assistant, helping reinforce reading lessons in a way that's engaging and tailored to each learner. This makes the study not only practical but also aligned with research that shows technology and teacher support must go hand in hand for differentiated instruction to succeed.

Furhter, differentiated instruction is a teaching method where lessons are adjusted to match each student's learning needs, interests, and abilities. Achmad et al. (2024) reviewed many studies on how DI is used in elementary reading classes and found that it works well when teachers adjust what is taught (content), how it is taught (process), what students produce (product), and the learning environment. These four areas help teachers make sure that every student, whether they are fast learners or need more support, gets the kind of instruction that works best for them. The review also showed that when teachers are properly trained and follow the DI model closely, students become more engaged in reading and often show improvement in their reading skills.

This study is a direct application of what Achmad et al. (2024) found. The use of Smart TV technology to deliver reading lessons that are customized to each student's level and learning style, which reflects the DI model's focus on adjusting content, process, and product. By doing this, this study helps ensure that students are not all taught the same way, but rather in a way that suits their individual needs.

Also, since Achmad et al. (2024) emphasized the importance of teacher training and faithful implementation, the use of Smart TV can help standardize and simplify the delivery of differentiated instruction. This can be especially helpful in classrooms where teachers may not have the time or resources to plan different lessons for each student. In this way, the study not only supports the research but also offers a practical solution for making DI more accessible and effective in real-world classrooms.

A recent meta-analysis by Dahl-Leonard (2024) looked at many studies and found strong evidence that using technology to teach reading has a positive impact on elementary students' reading skills. In simple terms, when students use digital tools, like apps, programs, or videos, to practice reading, they tend to improve more than those who do not. The study also found that the results are even better when the technology is adaptive or personalized, meaning it adjusts the lessons based on each student's reading level. This kind of technology helps make sure that students are getting practice that is just right for them, not too easy and not too hard.

This study is a perfect example of what Dahl-Leonard (2024) found. The use Smart TV technology to deliver customized reading lessons that match each student's current reading ability. This means that this approach is not only supported by research but also uses one of the most effective strategies, personalized digital instruction, to help students improve.

By aligning the method with what the meta-analysis recommends, this study shows that technology can be a powerful tool in helping young learners become better readers. It also highlights how Smart TVs, which are more accessible than some other digital tools, can be used in classrooms to provide engaging, level-appropriate reading practice for all students.

Modern literacy approaches focus on using technology to make reading more engaging and easier to understand. Digital tools are now combined with reading lessons to help students learn better. For example, studies show that programs using artificial intelligence can boost reading comprehension and help students manage their own learning (Shafiee Rad, 2025). Similarly, reading apps on smartphones give students more freedom and encourage them to keep reading (Egwim et al., 2025). Personalized digital programs also give instant feedback and adjust to each student's needs (William et al., 2025). These methods fit into the idea of *new literacies* which view reading and writing as activities that include digital platforms and interactive content (West, 2019).

On the other hand, traditional reading lessons have also changed by adding multimedia tools to keep students interested and improve results. Research shows that blended learning, mixing teacher-led lessons with digital resources, can greatly improve reading comprehension (Daizon et al., 2025). Tools like gamified quizzes, animations, and interactive stories have been linked to better academic performance compared to old-style classrooms (Adebayo et al., 2024). However, using multimedia effectively means planning carefully, such as including inquiry-based activities and selecting quality digital content to deepen understanding (Marangell & Randall, 2025). Overall, both new and traditional methods show that technology plays a big role in keeping students engaged and improving literacy skills in today's classrooms.

Traditional reading instruction used to focus mainly on printed texts and teacher-led lessons. Today, it increasingly includes multimodal learning, which means using text along with visuals, audio, and interactive

media to make lessons more engaging and easier to understand. This change recognizes that students learn through different channels, and combining these methods can make reading more meaningful (West, 2019; Yamaç & Öztürk, 2019). Approaches like adding videos, Smart TV activities, and gamified quizzes have been shown to help students build vocabulary and improve comprehension by giving them multiple ways to understand the material (Daizon et al., 2025; Clement & Afeez, 2025).

For students who struggle with reading, multimodal learning is especially helpful. Studies show that visual and audio supports reduce mental effort and make it easier for learners to decode and understand text, which boosts fluency and confidence (Adebayo et al., 2024; Egwim et al., 2025). Tools like digital storybooks and phonics apps also give instant feedback, which is important for students who need extra practice and reinforcement (William et al., 2025). In addition, these strategies increase motivation and engagement, two key factors in helping struggling readers, by letting them interact with content in ways that match their strengths and interests (Marangell & Randall, 2025). Overall, adding multimedia to traditional reading lessons creates a supportive environment that meets different learning needs and helps struggling readers move closer to grade-level skills.

Contemporary research in education indicates that combining verbal explanations with visuals, referred to as Dual Coding, greatly improves learning outcomes. This approach activates both verbal and visual-spatial cognitive systems, enabling learners to build more comprehensive mental models and enhance memory retention (Main, 2021). Mayer's Cognitive Theory of Multimedia Learning further supports this by advocating for the integration of text or narration with relevant imagery to minimize cognitive overload and promote deeper understanding (Waxman & Goldie, 2023; TrueLearn Team, 2025).

Dual Coding enriches multimedia instruction through tools such as graphic organizers, diagrams, flowcharts, and animations. These visual aids offer alternative representations of the same concept, making abstract or complex ideas easier to grasp and remember (Main, 2021). Best practices highlight the need to synchronize narration with visuals, often through a *tell-then-show* approach, to prevent confusion and optimize cognitive processing (Johnson, 2025).

In digital learning contexts, Dual Coding is particularly beneficial for learners with diverse abilities. Presenting verbal and visual information together helps reduce working memory demands and supports comprehension (Main, 2021; TrueLearn Team, 2025). For older students and adults, pairing infographics or structured visuals with clear verbal explanations enhances retention and application more effectively than using text or images alone (Atkinson, 2024). Subtitled films illustrate this bilingual dual coding effect, improving vocabulary acquisition and language learning (Kanellopoulou et al., 2019).

Ultimately, instructional strategies that merge verbal and visual elements, such as narrated diagrams, annotated graphics, and synchronized audio-video presentations, capitalize on Dual Coding to foster durable memory and accessible learning for a wide range of students (Johnson, 2025; Waxman & Goldie, 2023).

Related Studies

Helping young children learn to read well has always been a big focus in Philippine education because strong reading skills are the foundation for success in school and in life. However, even with the many changes and programs in place, a lot of Grade 2 pupils still have difficulty with basic skills like sounding out words, reading smoothly, and understanding what they read. Because of this, teachers and schools are looking for new ways to better support learners with different needs. One method that has been gaining attention is differentiated instruction, which allows teachers to adjust lessons based on each child's abilities, interests, and learning style. At the same time, using technology like Smart TVs in classrooms has become a practical and engaging way to deliver lessons. Some studies in the Philippines have looked into the benefits of these approaches separately, but combining differentiated instruction with Smart TV use for early reading has not yet been fully explored. To address this, the review of related studies will share research findings from 2019 to 2025 that show how these strategies have been applied in Philippine schools and how they can guide the current study in improving Grade 2 reading outcomes.

Potot et al. (2023) studied how using differentiated instruction could help junior high school students in the Philippines improve their reading skills. They focused on a common issue: many Filipino students struggle with reading. To address this, they used DI strategies that adjust what is taught, how it's taught, and the learning environment to fit students with different abilities.

Their main question was: Does DI help students understand reading better than traditional teaching methods? To find out, they compared two groups of Grade 7 students-one group was taught using DI, and the other with

regular, one-size-fits-all lessons. They used a pretest and posttest setup with 50 students and measured reading comprehension using a tool called the Philippine Informal Reading Inventory (Phil-IRI). They also used statistical tests to compare the results.

The findings showed that the group taught with DI improved significantly more than the traditional group. Students in the DI group also said they felt more engaged and confident during lessons. The researchers concluded that DI is effective in helping students understand reading better and recommended that teachers use techniques like grouping students by skill level, giving tasks at different difficulty levels, and using reading materials matched to each student's ability (Potot et al., 2023).

However, the study had some limitations. First, it only involved 50 students from one school, so the results might not apply to other schools or grade levels. Second, while the reading test they used was appropriate, they did not fully check how reliable it was for their group. Third, they did not measure how closely teachers followed the DI methods, which could affect the results. Lastly, they only looked at short-term improvements and didn't track whether the gains lasted over time (Potot et al., 2023).

This study is useful for this study on improving Grade 2 reading outcomes using Smart TVs. It shows that DI can make a real difference in reading comprehension. For younger students, you can adapt the DI strategies, like using simpler texts, phonics activities, and guided reading. Since your method involves Smart TV delivery, it is important to include tools that help teachers follow the DI plan properly, like training, checklists, and tech support. Also, using validated reading tests for young learners and tracking progress over time will make your study stronger. Potot et al. (2023) gives a solid foundation and practical ideas for applying DI in a tech-enhanced classroom setting.

Ferrer & Naanep (2025) did a study to see how using different teaching methods affects student learning in some elementary schools in Tampakan, South Cotabato. They collected data from Grades 4 to 6 students and teachers in ten schools using surveys and statistics. They found that teachers often used strategies like hands-on activities, different kinds of learning materials, visual tools, charts, and step-by-step tasks. These methods were well-liked by students, who showed high interest and participation (average rating of 4.63). Students also performed better in their subjects, with an average score of 85.55. The study showed a moderate positive link between using these teaching methods and students doing well in school. However, the researchers also pointed out some problems, like not having enough time, limited materials, and challenges in managing the classroom. These issues show that schools need better support systems to make differentiated instruction work smoothly (Ferrer & Naanep, 2025).

In the study by Suson et al. (2020) it was found out that using different teaching methods, like asking students to notice details, put events in order, find the main idea, and guess what might happen next, can help Filipino students better understand what they read. It showed that teaching should match how students learn best, based on their unique strengths or intelligences. The researchers found that students who were taught in ways that matched their learning styles did better in reading. So, they recommend using these flexible teaching methods to help all kinds of learners improve their reading skills. This supports this study's idea that using Smart TVs to deliver reading lessons tailored to each student's learning style can really help them understand better.

Studies about *smart classrooms*, which use tools like Smart TVs, interactive screens, learning apps, and data tracking, show that these technologies can help students learn better. However, the results depend on how the technology is used. If teachers only use Smart TVs to show videos or slides (passive use), the improvement in learning is small. But when Smart TVs are used in more interactive ways, like adjusting lessons to fit each student's needs (differentiated instruction), students learn much more effectively (Chen, 2024). This study shows that Smart TVs can be powerful tools for teaching, especially when used to deliver lessons that match each student's learning style. Using Smart TVs not just to display content, but to actively support personalized reading instruction.

The study by Quisto (2021) examined how using different teaching methods, called differentiated instruction, helped Grade 10 students understand English literature better. Instead of using the same approach for everyone, the teacher used customized learning materials that matched each student's learning style and ability. These included fun and creative activities like role-playing, group work, writing journals, and using videos. The study showed that students performed better and liked the lessons more when the teaching was tailored to their needs.

This connects well with this study that focuses on helping Grade 2 students improve their reading skills using Smart TVs. Both studies use personalized teaching methods to support students with different learning needs.

While Quisto's study was for older students and focused on literature, the Grade 2 study uses Smart TVs to make reading lessons more engaging for younger kids. Smart TVs can show videos, games, and stories that match each child's reading level, just like the customized packets in Quisto's study. Both studies highlight how using technology and adapting lessons to fit students' needs can lead to better learning and more interest in school.

A study by Ater & Galibo (2024) examined how to help students who were having a hard time learning to read. They used videos made by teachers that included both pictures and spoken words. Before the program started, many of the students were at a level where reading was very difficult and frustrating for them. After using these videos, most of the students improved and reached levels where they could read with help or even on their own. This shows that using videos with both visuals and narration can really help struggling readers. The study also pointed out that it's important to look at how students move from one reading level to another, not just their test scores, when measuring progress.

In the study by De Vera (2024), a mobile app designed was tested to help young children, specifically kindergarten learners, improve their reading skills. The app focused on teaching phonics, especially CVC (consonant-vowel-consonant) word, through fun and interactive activities. After using the app, the children showed better awareness of sounds in words (called phoneme awareness) and were able to recognize words more easily. Even though the study was done with younger kids, it highlights how important phonics and regular practice are when teaching children to read. It also shows that using technology like apps can make learning more engaging and effective. The study also supports the idea that phonics instruction, step-by-step support (scaffolding), and focused practice are key ingredients for helping struggling readers. These are all elements that can include in the Smart TV lessons. In short, De Vera's findings give strong evidence that tech-based, phonics-rich instruction works well for young learners-and this study builds on that by applying it to Grade 2 students using a different but equally powerful tool.

Recent studies in the Philippines have shown that using television and Smart TV in classrooms is not only possible but also helpful in improving how students learn. At the same time, using different teaching methods to match students' needs remains very important. For example, Averion, Caleja, and Zapanta (2020) looked into how LED TVs were used in schools and found that both teachers and students thought they were very useful. The TVs helped make lessons clearer and more interesting, although there were some technical problems like internet connection and device compatibility that needed to be planned for. In another study, Santos (2024) explored how often and how well TV-based lessons were used in public elementary schools in Bulacan. He found that when TV lessons were used more regularly and effectively, students tended to perform better in school. These findings suggest that Smart TVs can be a good tool for teaching, especially when lessons are designed to fit what students need and how they learn best.

Alongside the growing use of technology in teaching, Filipino educators have also been exploring how to adjust lessons to fit students' different learning needs. Doronio and Renegado (2023) examined how teachers used this approach during the "new normal" and found that they often used leveled reading materials, grouped students flexibly, and gave tasks with step-by-step support to help all learners. However, teachers also faced challenges like not having enough materials, limited help from parents, and not enough time to prepare lessons. These issues show that if we want to use Smart TVs for teaching in this way, we need to give teachers proper support and resources. A separate study at Medellin National High School in 2024 showed that using Smart TVs in lessons made students more interested and involved in learning. But the success of this method depended a lot on how ready the teachers were, how well the lessons were planned, and whether the technology worked smoothly. These findings suggest that if we want to use Smart TVs to deliver differentiated instruction, we need to make sure teachers are trained, lessons are well-prepared, and there's a clear plan for how everything will be carried out.

Using Smart TVs together with differentiated instruction is showing great promise, especially for teaching reading in the early grades. By mixing videos and visuals with reading materials that match each student's level, teachers can make lessons more engaging while also meeting the different needs of their learners. Studies have also pointed out the importance of using tools like the Philippine Informal Reading Inventory (Phil-IRI) to track how students move from one reading level to another and not just looking at their test scores (Averion et al., 2020; Santos, 2024). In addition, research has shown that for this kind of tech-based teaching to work well, teachers need proper training and support to follow the program correctly (Doronio & Renegado, 2023). Without these supports, even helpful tools like Smart TVs might not be used effectively. Overall, Philippine studies give

strong support for trying out differentiated instruction through Smart TV in Grade 2 reading classes, since it combines a familiar technology with a proven teaching method to help improve reading among Filipino students.

3. PRESENTATION, DATA ANALYSIS, AND INTERPRETATION

This chapter showcases the researcher's various data sets, along with detailed analyses and interpretations of the results. To enhance clarity and appreciation of the content for readers and future researchers, the information is organized in tables. Each table is accompanied by explanations to help readers better grasp the study's findings and insights.

PROFILE OF THE RESPONDENTS

Teachers' Profile

Age

This is a key element in analyzing the respondents' answers, particularly in identifying the age group with the largest number of teachers actively involved in doing differentiated instructions using Smart TV within the respondent schools of DepEd Cebu City Division.

Table 2 Age

Age Range	Frequency	Percentage	Standard Deviation
51 and beyond	4	28.57	2.18
41 – 50	4	28.57	
31 – 40	6	42.86	
20 – 30	0	0	
Total	14	100	

Table 2 shows the ages of respondents. Most of them (about 43%) are between 31 and 40 years old, which means they are likely in the middle of their careers. Two other groups, ages 41–50 and 51 and above, each make up about 29%, so there are quite a few experienced professionals. Interestingly, no one is in the 20–30 age range, so younger workers are not represented here. Overall, the group is mostly mid-career and senior professionals, suggesting the program or organization attracts more experienced people, while younger professionals seem less involved.

Teachers of different ages often need different kinds of training to help them improve their teaching. For example, younger teachers might need more help learning how to teach effectively, while older teachers may need support in using new technology like Smart TVs in the classroom (Nogueras, 2024). Also, the way teachers prefer to teach can change with age. More experienced teachers might stick to traditional methods, while younger ones are usually more open to using technology in their lessons (Magableh & Abdullah, 2021). Because of these differences, it is important to design training programs that fit the specific needs of teachers based on their age and experience.

Gender

The table of the gender of the teacher-respondents shows the most dominant gender that has been taking active part in doing differentiated instructions using Smart TV within the respondent schools of DepEd Cebu City Division.

Table 3 Gender

Gender	Frequency	Percentage	Standard Deviation
Male	0	0	7.00
Female	14	100	
Total	14	100	

Data in Table 3 shows the gender distribution of the 14 respondents. All participants are female, representing 100% of the sample, while there are no male respondents. This indicates that the group is entirely composed of women, suggesting either the program or activity is predominantly attended by females or that the sample was drawn from a population where women are the primary participants. The absence of male representation may point to gender-specific roles, interests, or organizational structures influencing participation.

Gender can affect how teachers use different teaching methods, especially when using technology like Smart TVs in early reading programs. Research shows that female teachers often use more strategies to meet the needs of different learners, especially in classrooms with students of varying abilities, because they tend to be more empathetic and responsive (Onyishi & Sefotho, 2020). Also, some teachers may unknowingly give more

attention to girls during reading activities because of common beliefs that girls are better at reading (Muntoni & Retelsdorf, 2020). These kinds of biases can make teaching less effective if not addressed through proper training. On the positive side, planning lessons with gender in mind has been shown to help students focus better and perform well, although it can still be tricky to keep things balanced between boys and girls in class (Taylor, 2014). That is why it is important to consider a teacher's gender when designing training programs that use Smart TVs for teaching, as it can influence how they teach and how students learn.

Civil Status

This refers to the marital status of the teachers who participated in the study. In this context, *single* includes those who have never been married or those who were married but are now divorced. According to the Philippine Family Code, someone is considered *married* if they are legally married to their spouse, which can include both formal and common-law marriages. A *widow* or *widower* is someone whose spouse has passed away and who has not remarried.

Table 4 Civil Status of Teachers

Civil Status	GPP Teachers		Standard Deviation
	Frequency	Percentage	
Single	0	0	6.60
Married	14	100	
Widow/Widower	0	0	
Total	14	100	

Table 4 shows the marital status of the 14 GPP teachers surveyed. All of them are married, 100% of the group. There are no single or widowed teachers. This means the group is made up entirely of married people, which could suggest that most teachers in this program have family responsibilities. The lack of single or widowed participants might also indicate that the profession or program tends to attract people who are settled and committed for the long term.

A teacher's civil status, whether they are single, married, or widowed, can affect how they approach teaching, especially when using tools like Smart TVs in early reading classes. For instance, married teachers often say they are more organized and consistent, which can help them apply different teaching methods more effectively (Van Petten, 2024). Meanwhile, single teachers might be more open to trying out new teaching technologies since they may have fewer family responsibilities and more time for training (Williams, 2023). While being single or married doesn't directly determine how good a teacher is, it can influence things like how much time and energy they have for learning new methods or handling classroom challenges. This becomes important when using Smart TVs for teaching, as it requires both flexibility in teaching and comfort with technology. So, knowing a teacher's civil status can help better understand how they use different teaching strategies and how that might affect students' reading progress.

Highest Educational Attainment

Table 5 shows the Highest Educational Attainment of the teacher-respondents of the schools in Deped Cebu City in this study.

Table 5 Highest Educational Attainment

Educational Attainment	Frequency	Percentage	Standard Deviation
Doctoral Degree Holder	0	0	2.93
With units in Doctoral Degree	1	7.14	
Master's Degree Holder	4	28.58	
With units in Master's Degree	8	57.14	
College Graduate	1	7.14	
Total	14	100	

As shown in Table 5, most of them (about 57%) are still working on their master's degree, while 29% have already finished it. A small number (7%) have started a doctoral program, and another 7% only have a college degree. None of the respondents have completed a doctorate. This means most teachers have gone beyond college and are pursuing graduate studies, but very few have reached the highest academic level. This could reflect their current stage of professional growth or the requirements of their job.

A teacher's highest level of education can affect how well they use different teaching methods, especially when using technology like Smart TVs in early reading lessons. Teachers with master's or doctoral degrees often have a deeper understanding of teaching strategies and are better at planning lessons that meet the needs of different students (Williams, 2023). However, studies also show that even with higher education, not all teachers fully understand how to use differentiated instruction, so training is still very important (Calabazon-Ocampo, 2023). Interestingly, some research found that a teacher's level of education doesn't always make a big difference in how well they apply these strategies. Instead, their teaching experience and the training they receive over time might matter more (Smale-Jacobse et al., 2019). This means that all teachers, no matter their educational background, need proper support and training to effectively use Smart TVs and other tools for teaching students in different ways.

Years of Service

To better understand the background of the teachers, it is important to look at how many years of teaching experience they have. Table 6 presents the breakdown of the respondents based on their years of experience.

Table 6 Years of Service

Years of Experience	Frequency	Percentage	Standard Deviation
11 years and above	14	100	3.03
6 – 10 years	0	0	
2 – 5 years	0	0	
1 and below	0	0	
Total	14	100	

Table 6 shows the teaching experience of the 14 respondents. All of them have been teaching for more than 11 years, 100% of the group. None have less experience. Since everyone falls in the same category, there's very little difference in their responses. This means the group is made up entirely of highly experienced teachers, which suggests a stable and seasoned workforce. The lack of newer teachers might mean there has not been much recent hiring or that the program prefers long-tenured educators, which could affect teaching styles and openness to new methods.

How long a teacher has been teaching can affect how they use different teaching methods, especially when using tools like Smart TVs to help young students learn to read. Teachers who have been in the classroom for many years usually have a better feel for how students behave and learn differently, which helps them adjust their teaching to fit each student's needs (Hill & Shields, 2022). On the other hand, newer teachers might be more willing to try out new tech and teaching styles, like using Smart TVs, because they have recently learned about these in their training (Ginja & Chen, 2020). Also, how long someone has taught can affect how confident they feel about trying new ways of teaching. Teachers in the middle of their careers often have both experience and flexibility (Nayman & Altun, 2022). So, it is important to think about how long teachers have been teaching when looking at how well tech-based, personalized teaching methods work.

Frequency of Use of Technology-based Tools in Classroom Instructions

Table 7 below shows how often these teachers make use of the technology based tools available at their disposal or in the schools in teaching the schoolchildren reading.

Table 7 Frequency of Use of Technology-Based Tools in Classroom Instructions

Frequency of Use	Frequency	Percentage	Standard Deviation
Seldom use of technology	0	0	3.84
1-3 times a week	2	14.29	
4-5 times a week	2	14.29	
Everyday in teaching reading	10	71.42	
Total	14	100	

Table 7 shows how often 14 teachers use technology in teaching reading. Most of them (about 71%) use it every day, which means digital tools are a big part of their daily lessons. Around 14% use technology 1–3 times a week, and another 14% use it 4–5 times a week. None of the teachers said they rarely use technology, so everyone uses it to some degree. This shows a high level of technology use in reading instruction, likely because of school policies, available resources, or teachers' positive attitude toward tech.

How often teachers use tech tools in their lessons can really affect how well they can adjust their teaching to fit different students' needs, especially when using Smart TVs. The National Center for Education Statistics found that almost half of public school teachers are eager to use technology in their teaching, but only 18% feel they have had enough training to do it well (Gray & Lewis, 2021). Teachers who use tech regularly say it helps students stay interested, learn on their own, and work together, key parts of personalized teaching (Kilbane & Milman, 2023). But how often teachers use tech depends on things like having the right equipment, training, and support at school. Newer teachers tend to use tech more often, which shows they might be more comfortable with digital tools (Zakrzewski & Newton, 2022). These insights show that using tech often and confidently is important for improving reading skills through personalized lessons on Smart TVs.

Number of Trainings / Seminars Related to Technology Integration in Classroom Reading Instructions

Table 8 below shows the relevant trainings/seminars/ workshops attended by the teachers relating to differentiated learning and use of technology-integrated instructions in teaching reading to their learners.

Table 8 Appropriate Trainings and Seminars/ Workshop Attended Related to Technology Integration in Classroom Reading Instructions

Appropriate Trainings / Seminars / Workshops Related to Technology Integration in Classroom Reading Instructions	Frequency	Percentage	Standard Deviation
0-1	0	0	6.06
2	0	0	
3	0	0	
4 and more	14	100	
Total	14	100	

Table 8 shows how many trainings, seminars, or workshops the 14 teachers attended about using technology in reading lessons. All of them joined four or more trainings, 100% of the group. None attended fewer than four. Since everyone falls in the same category, there is very little difference in responses. This means the teachers have had plenty of training on technology, which likely helps them feel skilled and confident in using tech tools for reading instruction. The consistent high participation also shows strong support from the school and a commitment to giving teachers the skills they need for effective technology integration.

Joining the right trainings, seminars, and workshops can really help teachers learn how to use technology in their reading lessons, especially when using Smart TVs to teach in ways that fit each student's needs. Training programs that focus on using tech in education have been shown to boost teachers' confidence and skills in using digital tools to support reading (Pappas, 2024).

Hands-on workshops are especially helpful because they let teachers try out tech tools in ways that match their subject and grade level (Evans, 2024). Programs like "Tech It Up" have also been successful in helping teachers and coaches create fun, tech-based lessons that get students more involved in learning (Thompson, 2024). In the Philippines, a study by Abentiw et al. (2025) pointed out that training should match what teachers specialize in, so they can teach better and manage their classrooms more effectively, especially when it comes to reading. All of this shows how important it is to give teachers the right kind of training to make the most of tech-based, personalized teaching.

Learners' Profile

Age

This information is essential in identifying the age groups present in Grade 2 classes, which is crucial for understanding how differentiated instruction is implemented using available technology tools.

Table 9 Age of Learners

Age Range	Frequency	Percentage
10 years old and above	1	1
9 years old	2	2
8 years old	23	23
7 years old	74	74
Total	100	100

As seen in Table 9, most of the students are 7 years old, making up about three-fourths (74%) of the group. This means the class is mainly made up of early primary learners. The next biggest group is 8-year-olds (23%). Only

a few are 9 years old (2%) or 10 and above (1%). In short, almost all students (97%) are between 7 and 8 years old. Because of this, lessons, materials, and activities should fit the needs of children in this age range. There are a few older students, so small adjustments may be needed to include them, but the main focus should stay on the younger group.

The age of students is very important when it comes to using technology in teaching reading. Younger children, like those in Grade 2, are still developing their thinking, language, and social skills. Because of this, they may find it harder to focus or understand how to use digital tools compared to older students.

Christakis and Hale (2025) explain that digital media can have a big effect on how young children learn and develop language. If used properly, fun and age-appropriate digital tools can help kids learn new words, understand sounds in words, and improve reading. But if the tools are too advanced or not used correctly, they might confuse the child or make it harder for them to concentrate.

Also, teaching methods that are adjusted to fit each child's needs work best when they match the child's age and learning level. Helping children with reading early, especially in Grades 1 and 2, leads to better results than waiting until they are older. This means that using the right kind of technology early on can really help children learn to read better.

Giles (2020) also pointed out that teachers who use different digital tools, like learning apps, videos, or reading games, can keep young students more interested and help them learn better. These tools work best when they match the short attention spans and learning styles of young kids.

In short, a child's age affects how well they can learn with technology. To get the best results, teachers need to choose tools that are fun, easy to use, and suitable for young learners. This helps make reading lessons more effective and enjoyable.

Gender

Table 10 shows which the gender of the Grade 2 learners shows the most dominant gender in these schools.

Table 10 Gender

Gender	Frequency	Percentage	Standard Deviation
Male	49	49	1.00
Female	51	51	
Total	100	100	

Per Table 10, the number of boys and girls in the group is almost the same. Out of 100 learners, 49 are boys and 51 are girls, so there are just a few more girls than boys. Since the difference is very small, classroom activities and teaching strategies do not need big changes based on gender because both groups are nearly equal.

Gender can affect how students use technology in school, especially when it comes to reading. Studies show that boys and girls may use tech tools differently and have different attitudes toward them, which can influence how well they learn. For example, Qazi et al. (2022) found that while both boys and girls benefit from using ICT (information and communication technology), boys tend to be a bit more confident and use it more often, though the difference is not very big. Still, this can affect how they interact with digital reading tools, especially in early grades.

Also, boys and girls often prefer different types of reading content. Lepper, Stang-Rabrig, and McElvany (2022) discovered that boys enjoy stories with male characters and action, while girls are more influenced by how hard the text is. These preferences can affect how students respond to digital reading apps, especially those that adjust to their interests or use games to teach.

However, it's important not to assume that girls are not interested in technology. Sultan (2025) warns that things like limited exposure, low expectations, and cultural beliefs can affect how girls engage with tech. So, teachers should make sure that reading tools and apps are fair and welcoming to everyone, offering different types of content and learning styles. They should also make sure all students have equal access to technology and feel confident using it. Understanding these gender differences helps teachers and schools create better, more inclusive reading programs using technology. This way, all students, regardless of gender, can benefit and improve their reading skills.

EXTENT OF TEACHERS' TECHNOLOGY INTEGRATION IN CLASS IN TERMS OF AVAILABILITY, SELF-EFFICACY, IMPORTANCE, USEFULNESS, CONVENIENCE, AND OBSTACLES

In this part of the chapter presents the technology tools that are used in the classrooms and respondents' perception of the extent of their their technology integration in class in terms of availability, self-efficacy, importance, usefulness, convenience, and obstacles.

Technology Tools That are Used in the classroom

Table 11 the available technology tools in the classrooms or schools of the respondents that can be readily used by the teachers in teaching and learning process.

Table 11 Technological Tools Used in the Classroom

Gender	Frequency
Desktop	0
Laptop	13
Tablet/iPad	4
LCD Projector	2
Interactive whiteboard (e.g. Smartboard)	0
TV / LED Screen	0
Document Camer / visualizer	0
Printer	14
Audio System (e.g. speakers, microphones)	10
Internet Connection	11
Educational software (e.g., reading apps, learning management systems)	7
E-book readers	1
Mobile phones (for educational purposes)	13
Total	75

As seen in Table 11, teachers mostly use simple and portable tech tools in class. The most common are printers (14 mentions) and laptops (13 mentions), which are key for preparing and teaching lessons. Mobile phones (13 mentions) and internet access (11 mentions) are also widely used, showing how important connectivity is. Audio systems (10 mentions) and educational software (7 mentions) are used sometimes, meaning multimedia is part of teaching but not as much as basic devices. Advanced tools like interactive whiteboards, document cameras, and TV screens are not used at all, and e-book readers are rarely used (only 1 mention). This shows teachers prefer easy-to-access tools, but there is a big gap in using more advanced technology, likely because of cost, availability, or lack of training. Overall, classrooms rely heavily on basic devices and internet, with room to improve by adding more modern technologies.

Having access to technology in classrooms makes a big difference in how well students learn to read, especially in the early grades. Tools like computers, tablets, projectors, smartboards, and educational apps give teachers more ways to make reading lessons fun and suited to each student's needs. For example, tablets and iPads can run reading apps that adjust to a child's level, helping them learn new words and understand stories better. Projectors and smartboards also help visual learners by showing reading materials in a more engaging way.

Audio tools and internet access are also helpful. They allow students to hear words read aloud and get help with pronunciation, which is great for kids who struggle with reading or are learning English (Tutt, 2025). With internet access, students can explore more reading materials and even get instant feedback through online platforms.

Teachers can also use document cameras to show reading strategies to the whole class, like how to follow along with text or find important words. This helps everyone learn together (Tutt, 2025). But just having technology is not enough, it needs to be used properly. Teachers should be trained to use these tools well, and schools should make sure all students can access them. If not, some kids might fall behind (Reed, 2025).

In short, having the right technology in classrooms, and knowing how to use it, can make reading lessons more effective and enjoyable for students.

Extent of Technology Integration in Class in Terms of Availability

Table 12 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of availability.

Table 12 Extent of Technology Integration in Class in Terms of Availability

Statements	WM	Interpretation	Standard Deviation
1. To what extent do you use technology-based tools (any types of websites, apps, software, etc.) to teach reading in classroom?	3.64	Strongly Agree	0.38
2. To what extent do your students use digital reading tools (e.g., e-books, e-readers, Smart TV, digital reading programs) to practice reading in classroom?	3.79	Strongly Agree	
3. To what extent do your students use digital devices one-to-one to practice reading in classroom?	3.36	Strongly Agree	
4. To what extent do your students use digital devices in turn to practice reading in classroom?	3.43	Strongly Agree	
5. To what extent do you use game-based platforms (e.g., Central, Kahoot, Gametize, etc.) in your reading classes?	2.79	Agree	
6. To what extent do you use collaborative/interactive platforms (e.g., Flipgrid, Padlet, Seesaw, etc.) in your reading classes?	3.00	Agree	
Cumulative Mean	3.33	Strongly Agree	

Legend:

3.26 – 4.00 Strongly Agree

2.51 – 3.25 Agree

1.75 – 2.50 Disagree

1.00 – 1.75 Strongly Disagree

The data in Table 12 shows that technology is widely used in reading classes. The overall score (3.33, Strongly Agree) means teachers and students often use tech tools. The most common are digital reading tools like e-books and Smart TVs (3.79), showing strong integration. Teachers also strongly agree (3.64) that they use websites, apps, and software for teaching reading. Students regularly use devices either individually (3.36) or by taking turns (3.43). However, game-based platforms (2.79) and interactive tools (3.00) are used less often. Overall, technology use in reading is high, especially for digital reading tools, but there is room to improve in using interactive and game-based platforms.

Teachers are now using more tech tools, like websites, apps, and software, to help students improve their reading skills. Bergstrand Othman (2025) pointed out that tech programs work best when teachers are actively involved, rather than just letting students use digital tools on their own. Students also benefit from using things like e-books, Smart TVs, and reading apps, which help make lessons more engaging and allow teachers to adjust their teaching to fit different learning needs (Biancarosa & Griffiths, 2020). Giving each student their own device can help them learn independently, but Limniou (2021) warned that too much screen time or multitasking can hurt their performance. On the other hand, taking turns with devices can encourage teamwork and reduce screen fatigue, especially when the activity is well-organized (Diallo, 2023).

Game-based platforms like Kahoot and Gametize have been shown to make reading classes more fun and motivating, especially for students learning English (Adipat et al., 2021). Tools like Padlet and Flipgrid also help students think more deeply about what they read and share their ideas, which improves understanding and participation (Puspitasari et al., 2025). All these studies show that using a mix of digital tools can really help teachers personalize reading lessons and make learning more effective for young students.

Extent of Technology Integration in Class in Terms of Self-Efficacy

Table 13 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of self-efficacy.

Table 13 Extent of Technology Integration in Class in Terms of Self-Efficacy

Statements	WM	Interpretation	Standard Deviation
1. I believe I have adequate knowledge to integrate technology into classroom reading instruction.	3.57	Strongly Agree	0.082
2. I can effectively guide students to practice reading skills with technology-based tools.	3.64	Strongly Agree	
3. I can easily integrate technology-based tools in reading instruction.	3.64	Strongly Agree	
4. I feel prepared to teach students the reading skills with technology-based tools.	3.57	Strongly Agree	
5. I would prefer to increase the integration of technology into my reading instruction.	3.50	Strongly Agree	
6. I would prefer to increase the time/frequency that students use technology-based tools in my classroom to practice reading skills.	3.43	Strongly Agree	
Cumulative Mean	3.56	Strongly Agree	

Legend:

3.26 – 4.00 Strongly Agree

2.51 – 3.25 Agree

1.75 – 2.50 Disagree

1.00 – 1.75 Strongly Disagree

According to the data obtained and presented in Table 13, teachers feel very confident about using technology in reading lessons. The overall score (3.56, Strongly Agree) shows they believe they can handle tech tools well. The highest ratings (3.64) are for guiding students and easily adding technology to lessons, meaning they're sure about applying it in practice. They also strongly agree they have enough knowledge (3.57) and feel prepared (3.57) to teach reading with tech. Teachers want to use more technology (3.50) and encourage students to use it often (3.43), showing a positive attitude toward increasing tech use. Overall, teachers are ready and capable, which is important for successfully using more advanced digital strategies.

Teachers need to feel confident and well-prepared when using technology in reading lessons, especially when using tools like Smart TVs to teach in ways that fit each student's needs. Research shows that when teachers believe they have enough knowledge and training, they're more likely to use tech effectively and help students improve their reading skills with digital tools (Williams et al., 2023). Those who feel ready and confident also find it easier to include technology in their lessons and are more likely to use it more often (Hartman et al., 2019).

Many teachers say they want to use tech tools more and give students more time to practice reading with them because they see how these tools can make learning more fun and effective (Si, 2024). But it's not just about how teachers feel, successful use of technology also depends on having the right support, like access to resources and training programs that focus on using tech for reading instruction (Akram et al., 2022).

These studies show that helping teachers feel capable and giving them ongoing support is key to making sure technology is used well and consistently in reading classes. When teachers are confident and have the tools they need, they are more likely to create engaging, personalized lessons that help students learn better.

Extent of Technology Integration in Class in Terms of Importance

Table 14 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of importance.

Table 14 Extent of Technology Integration in Class in Terms of Importance

Statements	WM	Interpretation	Standard Deviation
1. I believe that technology-based tools in general can make important contributions to reading instruction.	3.57	Strongly Agree	0.067
2. I believe that technology-based tools in general are important for students to practice reading skills.	3.50	Strongly Agree	
3. I believe that technology-based tools can improve students' reading motivation.	3.64	Strongly Agree	

4. I believe that technology-based tools are central to reading instruction.	3.50	Strongly Agree	
Cumulative Mean	3.55	Strongly Agree	

Legend:

3.26 – 4.00	Strongly Agree
2.51 – 3.25	Agree
1.75 – 2.50	Disagree
1.00 – 1.75	Strongly Disagree

According to the data obtained and presented in Table 14, teachers strongly believe technology is important for teaching reading. The overall score (3.55, Strongly Agree) shows most agree on its value. The highest rating (3.64) is for the idea that technology boosts students' motivation to read, meaning teachers see it as a great way to engage learners. They also agree that technology plays a big role in reading instruction (3.57), is central to teaching (3.50), and helps students practice reading skills (3.50). Overall, teachers not only use technology but consider it essential for improving reading lessons and motivating students.

Technology tools are becoming more and more useful in helping young children learn to read. Studies show that using things like e-books, reading apps, and Smart TVs in the classroom can make reading more fun and interactive, which helps kids learn better (Biancarosa & Griffiths, 2020). These tools are great because they can be adjusted to fit different learning styles and needs, making reading practice more effective.

For example, using technology in teaching has helped students, especially those who struggle, get better at using reading strategies and understanding what they read (Habók, Magyar, & Molnár, 2025). Also, digital platforms that include games and videos make reading more enjoyable and personalized, which encourages kids to read more (Neuhaus Education Center, 2024). This motivation is important because when students are more interested, they tend to learn more.

Technology is not just something extra anymore, it's becoming a key part of how reading is taught today. It helps teachers understand how students are doing and adjust lessons to fit their needs, supporting inclusive learning for everyone (Biancarosa & Griffiths, 2020). Overall, these studies show that tech tools are essential for improving reading skills, keeping students motivated, and making teaching more effective in today's digital world.

Extent of Technology Integration in Class in Terms of Usefulness

Table 15 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of usefulness.

Table 15 Extent of Technology Integration in Class in Terms of Usefulness

Statements	WM	Interpretation	Standard Deviation
1. I believe that my students would benefit from technology-based tools on reading skills practice.	3.71	Strongly Agree	0.06
2. Integrating technology-based tools into my classroom fits well with the way I teach reading.	3.64	Strongly Agree	
3. Integrating technology-based tools into my classroom will improve my reading instruction efficiency.	3.57	Strongly Agree	
4. Integrating technology-based tools into my classroom will increase students' engagement.	3.57	Strongly Agree	
5. Integrating technology-based tools into my classroom will improve students' reading comprehension of contents (science, social studies, etc.).	3.71	Strongly Agree	
Cumulative Mean	3.64	Strongly Agree	

Legend:

3.26 – 4.00	Strongly Agree
2.51 – 3.25	Agree
1.75 – 2.50	Disagree
1.00 – 1.75	Strongly Disagree

As seen in Table 15, teachers strongly agree that technology is very useful for teaching reading. All statements scored above 3.26 (Strongly Agree), meaning they believe tech helps students practice reading, matches their teaching style, makes lessons more efficient, keeps students engaged, and improves understanding. The overall score (3.64) confirms that teachers see technology as highly valuable for better reading outcomes.

Using technology in teaching reading has shown many benefits. Digital tools help students practice reading in ways that match their individual needs, making it easier for them to understand and use reading strategies, especially those who find reading difficult (Habók, Magyar, & Molnár, 2025). Teachers also find that these tools fit well with their teaching methods, helping them adjust lessons for different learners and track progress more easily (Akram et al., 2022).

Features like built-in dictionaries, audio support, and instant feedback make teaching more efficient by quickly spotting and fixing learning gaps (Lewin et al., 2019). Plus, technology makes reading more exciting for students by adding games and interactive elements, which keeps them motivated and involved. This increased interest helps students better understand subjects like science and social studies, since digital tools present information in different formats and help explain complex ideas (Capodiecici et al., 2020).

Overall, using Smart TVs and other digital tools in Grade 2 reading lessons not only helps kids build reading skills but also keeps them curious and eager to learn.

Extent of Technology Integration in Class in Terms of Convenience

Table 16 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of convenience.

Table 16 Extent of Technology Integration in Class in Terms of Convenience

Statements	WM	Interpretation	Standard Deviation
1. Integrating technology-based tools into my classroom make it easier to arrange teaching contents/materials on reading.	3.43	Strongly Agree	0.13
2. Integrating technology-based tools into my classroom makes the reading content easier for students to understand.	3.50	Strongly Agree	
3. Technology-based tools make my reading instruction more efficient.	3.50	Strongly Agree	
4. Technology-based tools make my students' reading practice more efficient.	3.64	Strongly Agree	
5. Technology-based tools are supportive to my work (e.g., classroom management, homework grading).	3.79	Strongly Agree	
Cumulative Mean	3.57	Strongly Agree	

Legend:

3.26 – 4.00 Strongly Agree

2.51 – 3.25 Agree

1.75 – 2.50 Disagree

1.00 – 1.75 Strongly Disagree

As can be clearly seen in Table 16, teachers strongly agree that technology makes teaching and learning easier. The overall score (3.57, Strongly Agree) shows they find tech convenient and efficient for reading lessons. The highest rating (3.79) is for tools that help with tasks like classroom management and grading, meaning these tools save time and reduce workload. Teachers also agree that technology makes reading practice more efficient (3.64), improves lesson delivery (3.50), helps organize materials (3.43), and makes reading content easier to understand (3.50). Overall, teachers see technology as a practical and helpful part of teaching.

Technology in the classroom makes it much easier for teachers to organize and deliver reading lessons. Tools like Smart TVs and interactive apps help teachers gather, store, and show learning materials in a simple and efficient way (Biancarosa & Griffiths, 2020). These tools also make reading easier for students by adding animations, audio, and interactive glossaries, which help different types of learners understand better (Neuhaus Education Center, 2024).

Technology also helps teachers work more efficiently by giving instant feedback, automatic quizzes, and personalized learning paths that let them track student progress and adjust lessons as needed (Tutt, 2025).

Students benefit too, reading practice becomes more fun and effective through games and strategy-based activities that build skills and keep them engaged (Habók, Magyar, & Molnár, 2025).

On top of that, tech tools like ClassDojo and Google Classroom help teachers manage the classroom and grading more easily by improving communication, tracking behavior, and checking assignments (Staake, 2025). All these improvements show that technology really helps both teaching and learning when it comes to reading.

Extent of Technology Integration in Class in Terms of Obstacles

Table 17 shows how the teachers perceive their extent of technology integration in class in teaching reading in terms of obstacles.

Table 17 Extent of Technology Integration in Class in Terms of Obstacles

Statements	WM	Interpretation	Standard Deviation
1. I would benefit by obtaining more knowledge about how to integrate technology into my reading instruction.	3.57	Strongly Agree	0.76
2. Integrating technology-based tools into reading instruction takes more effort than using print-based materials.	3.14	Agree	
3. I would benefit from more support from my school/administrators to integrate technology-based tools into my classroom on reading.	3.36	Strongly Agree	
4. I don't think technology is efficient in reading instruction.	1.93	Disagree	
5. I don't think my students will benefit from technology-based tools on reading practice.	1.71	Strongly Disagree	
6. I would benefit from more reliable technology-based resources to support my reading instruction.	3.21	Agree	
7. I don't think technology fits my students' learning needs on reading skills.	1.64	Strongly Disagree	
8. My students are not skilled at using technology-based tools.	2.07	Disagree	
Cumulative Mean	2.58	Agree	

Legend:

3.26 – 4.00 Strongly Agree

2.51 – 3.25 Agree

1.75 – 2.50 Disagree

1.00 – 1.75 Strongly Disagree

Teachers admit there are some challenges in using technology, but they still see its benefits. The overall score (2.58, Agree) means obstacles exist but are not too serious. The biggest need (3.57) is for more training on how to use technology, showing that professional development is important. Teachers also want more support from school leaders (3.36) and better access to reliable tech tools (3.21). They agree that using technology takes more effort than printed materials (3.14). However, most teachers disagree with statements saying technology is not effective (1.93), does not help students (1.71), or does not fit students' needs (1.64). They also disagree that students lack tech skills (2.07). Overall, teachers believe technology works and benefits students, but they need more training, support, and resources to overcome challenges.

When teachers use Smart TVs and other tech tools to teach Grade 2 reading in different ways for different students, they find both helpful opportunities and some challenges. Many teachers say they need more training to use these digital tools properly, because knowing how to use them well is key to making them work (Osorio Vanegas et al., 2025). Unlike regular printed materials, digital tools can take more time and effort to learn and set up (Belhida et al., 2025).

Support from school leaders also matters a lot-when principals and administrators offer help and guidance, teachers feel more confident using technology in their lessons (Amemason et al., 2025). Still, some teachers are unsure if tech really helps with reading, worrying that students might not understand or stay focused when reading on screens (Quintero & Brennan-Gac, 2024). There are also concerns that students may not benefit from digital tools if they don't know how to use them properly (Diallo, 2023).

Teachers want digital resources that are reliable and backed by research, because poor-quality tools can make teaching harder (Reed, 2023). Also, if the design of the technology doesn't match what young learners need-like hands-on activities and clear structure-it might not work well for them (Wolf, as cited in Quintero & Brennan-Gac, 2024). These issues show that teachers need good training, dependable tools, and student-friendly designs to make the most of technology in reading lessons.

Summary of the Extent of Teachers' Technology Integration in Class in Terms of Availability, Self-Efficacy, Importance, Usefulness, Convenience, and Obstacles

In Table 18, the summary of the teachers' perceived extent of their technology integration in class in terms of the abovementioned aspects is shown.

Table 18 Summary of the Extent of Technology Integration in Class in Terms of Availability, Self-Efficacy, Importance, Usefulness, Convenience, and Obstacles

Aspects	WM	Interpretation	Standard Deviation
Availability	3.33	Strongly Agree	0.37
Self-Efficacy	3.56	Strongly Agree	
Importance	3.55	Strongly Agree	
Usefulness	3.64	Strongly Agree	
Convenience	3.57	Strongly Agree	
Obstacles	2.58	Agree	
Comulative Mean	3.37	Strongly Agree	

Legend:

3.26 – 4:00 Strongly Agree

2.51 – 3.25 Agree

1.75 – 2.50 Disagree

1.00 – 1.75 Strongly Disagree

Teachers have a very positive view of using technology in reading classes. The overall score (3.37, Strongly Agree) shows strong support for tech integration. The highest rating was for Usefulness (3.64), meaning teachers believe technology greatly improves teaching and learning. Convenience (3.57), Self-Efficacy (3.56), and Importance (3.55) also scored high, showing teachers feel confident using technology, see its value, and appreciate how it makes lessons easier. Availability was slightly lower (3.33) but still Strongly Agree, meaning resources are generally accessible, though there's room for improvement. The only area rated Agree was Obstacles (2.58), which means challenges like lack of training, support, and reliable tools exist but aren't major barriers. Overall, teachers are ready and positive about technology, with minor issues that can be solved through training and school support.

LEVEL OF READING PERFORMANCE OF GRADE TWO LEARNERS IN TERMS OF WORD RECOGNITION, READING FLUENCY, AND READING COMPREHENSION

This part of the chapter exhibits the reading level performance of the Grade 2 learners in the schools in terms of word recognition, reading fluency, and reading comprehension before and after the utilization of the differentiated instruction delivered via Smart TV.

Reading Level of Grade 2 Learners in Word Recognition

This part discusses the reading level performance of the Grade 2 learners in the four schools in terms of word recognition.

Table 19 Reading Level of Grade 2 Learners in Word Recognition

Aspect	Reading Level	Frequency in Schools			
		Cebu City Don Carlos A. Gothong Memorial Elementary School	San Nicolas Elementary School	Sawang Calero Elementary School	Tagba-o Elementary School
Word Recognition	Low Emerging	0	0	0	0
	High Emerging	0	1	1	0
	Developing	3	2	0	1
	Transitioning	10	8	9	2
	Reading at grade level	17	19	20	7
Total		30	30	30	10

Most Grade 2 learners in the four schools are at or close to the expected level in recognizing words. The largest group is those reading at grade level: 17 in Cebu City Don Carlos A. Gothong Memorial Elementary School, 19 in San Nicolas, 20 in Sawang Calero, and 7 in Tagba-o. The next biggest group is Transitioning, meaning they're almost at grade level, with several learners in each school. A few are still Developing, and none are in the lowest category (Low Emerging), which is a good sign. Only two learners are in the early stage (High Emerging). Overall, most students have strong word recognition skills, with many already at grade level and others getting close, and very few struggling.

Recognizing words quickly and correctly is a basic skill that plays a big role in how well students read and understand what they are reading. According to Fabella and Abaoag (2023), many students in intermediate grades are still struggling with reading, and one major reason is that they have trouble recognizing words. This was seen in results from the Philippine Informal Reading Inventory (Phil-IRI). It matches national findings too, like the SEA-PLM 2019 report, which showed that Filipino students often find it hard to read and understand even simple words.

By using Smart TVs and adjusting lessons to fit each student's needs, teachers can focus on phonics and sight word activities that improve word recognition (Baron et al., 2019). These tech tools use visuals, sounds, and interactive exercises to help students see and hear common words over and over, which helps them recognize words faster (Mangrobang, Labrador, & Gime, 2025).

Also, teaching phonics clearly and step-by-step using Smart TVs can help students learn how to sound out words, which is closely linked to better reading comprehension (Chamba & Ramirez-Avila, 2021). By combining personalized teaching with technology, this study supports DepEd's goal to improve literacy and help every child become a confident reader.

Reading Level of Grade 2 Learners in Reading Fluency

This part discusses the reading level performance of the Grade 2 learners in the four schools in terms of reading fluency.

Table 20 Reading Level of Grade 2 Learners in Reading Fluency

Aspect	Reading Level	Frequency in Schools			
		Cebu City Don Carlos A. Gothong Memorial Elementary School	San Nicolas Elementary School	Sawang Calero Elementary School	Tagba-o Elementary School
Reading Fluency	Low Emerging	0	0	0	0
	High Emerging	0	0	1	1
	Developing	6	5	6	1
	Transitioning	7	13	13	2
	Reading at grade level	17	12	10	6
Total		30	30	30	10

As can be clearly gleaned in Table 20, most Grade 2 learners can read fluently at or near their grade level, but fluency varies more than word recognition. The largest group is those reading at grade level: 17 in Cebu City Don Carlos A. Gothong Memorial Elementary School, 12 in San Nicolas, 10 in Sawang Calero, and 6 in Tagba-o. Many learners are still Transitioning, especially in San Nicolas and Sawang Calero (13 each), Cebu City (7), and Tagba-o (2), meaning they need more support to become fluent. Some are in the Developing stage, with several in Cebu City, San Nicolas, and Sawang Calero, and only one in Tagba-o. Very few are at High Emerging, and none are in the lowest category (Low Emerging), which is a good sign. Overall, while most learners read fluently, the number of students still transitioning or developing shows the need for targeted help to strengthen fluency skills.

Reading fluency is a key part of learning to read well. It connects knowing words to understanding what they mean. DepEd has pointed out that many young students still struggle with fluency. This is backed by results from the Philippine Informal Reading Inventory (Phil-IRI) and the 2024 Functional Literacy, Education, and Mass Media Survey (FLEMMS). Even though 93.1% of Filipinos can read and write, only 70.8% can read with understanding and fluency, showing a clear gap.

Utilizing differentiated instruction delivered via Smart TV offers a smart solution. Teaching that is adjusted to each student's needs, especially when done through technology, has been shown to help struggling readers

improve their fluency. Besonia et al. (2025) found that students who used digital tools like interactive videos and game-like lessons scored better and more consistently than those who had traditional lessons.

This method lets students learn at their own pace, practice reading repeatedly, and engage with different types of content, which are all important for building fluency. Using Smart TVs also helps visual and auditory learners by letting teachers show fluent reading and give quick feedback. As Callens (2025) explains, when lessons match students' skill levels and learning styles, it helps everyone access grade-level content and improve faster. By combining personalized teaching with technology, this study supports DepEd's goals and offers a practical way to boost reading fluency in early grades.

Reading Level of Grade 2 Learners in Reading Comprehension

This part discusses the reading level performance of the Grade 2 learners in the four schools in terms of reading comprehension.

Table 21 Reading Level of Grade 2 Learners in Reading Comprehension

Aspect	Reading Level	Frequency in Schools			
		Cebu City Don Carlos A. Gothong Memorial Elementary School	San Nicolas Elementary School	Sawang Calero Elementary School	Tagba-o Elementary School
Reading Comprehension	Low Emerging	0	0	1	0
	High Emerging	1	2	0	2
	Developing	8	12	12	2
	Transitioning	8	9	12	2
	Reading at grade level	13	7	5	4
Total		30	30	30	10

Grade 2 learners show mixed levels of reading comprehension across the four schools. The largest group is those reading at grade level: 13 in Cebu City Don Carlos A. Gothong Memorial Elementary School, 7 in San Nicolas, 5 in Sawang Calero, and 4 in Tagba-o. However, many learners are still Developing or Transitioning. For example, Developing includes 8 in Cebu City, 12 each in San Nicolas and Sawang Calero, and 2 in Tagba-o, while Transitioning includes 8 in Cebu City, 9 in San Nicolas, 12 in Sawang Calero, and 2 in Tagba-o. A few learners are at High Emerging, and only one is at Low Emerging, which means severe difficulties are rare. Overall, while some learners have reached grade-level comprehension, many are still building their skills, showing the need for focused support to strengthen comprehension.

Understanding what students read is still a big challenge in the Philippine education system, even though many people can read and write. While 93.1% of Filipinos have basic literacy, a recent survey showed that only 70.8% of people aged 10 to 64 can actually understand and use what they read in real life (DepEd, 2025). This shows that more focused efforts are needed, especially in the early grades where kids are just starting to build their reading skills.

Utilizing differentiated instruction delivered via Smart TV shows that when teachers adjust lessons based on students' needs and use technology, reading comprehension improves a lot (Potot et al., 2024). Smart TVs help by showing videos, sounds, and interactive content that make learning more engaging, especially for kids who learn better by seeing or hearing.

Teaching strategies like giving tasks at different levels, working in small groups, and guiding students step-by-step have been proven to help learners understand better, especially when measured using tools like the Philippine Informal Reading Inventory (Diron & Baldonado, 2025). Programs like Achieve 3000 also show that combining digital tools with personalized teaching can raise students' reading levels (Haymon & Wilson, 2020).

By meeting students' different learning needs and using fun, interactive content, this approach supports DepEd's goals and helps close the gap in reading comprehension among young learners.

TEST OF SIGNIFICANT RELATIONSHIP

Table 22 shows the test of significant relationship between teachers' demographic profile variables and their perceptions of technology-integrated reading instruction.

Table 22 Test of Significant Relationships Between the Teachers' Perceptions of Technology-Integrated Reading Instruction and Reading Performance of Grade Two Learners in Word Recognition, Reading Fluency, and Reading Comprehension

Variables	Critical Value	Computed T-Test	Decision	Interpretation
A. Perceptions of Technology-integrated Reading Instruction B. Reading Performance of Grade 2 Learners in Word Recognition, Reading Fluency, and Reading Comprehension	2.306	3.153	Reject Ho	Significant Relationship

Table 22 shows that teachers who think using technology in reading lessons is helpful tend to have students who read better. This includes skills like recognizing words, reading smoothly, and understanding what they read. The numbers from the test (t-value of 3.153 compared to the critical value of 2.306) prove that this connection is not just by chance. In simple terms, when teachers believe technology is useful and easy to use, their students usually perform better in reading.

The strength of the relationship is quite high (correlation of 0.744), meaning that the more teachers value technology in teaching, the better the reading results of their students. This supports the idea that tools like digital books, apps, and interactive platforms can make teaching more effective and keep students engaged.

For schools, this means it is worth investing in technology for reading lessons. Giving teachers the right tools, training, and support can help improve students' reading skills and overall learning.

CHALLENGES AND BARRIERS ENCOUNTERED IN THE IMPLEMENTATION OF DIFFERENTIATED INSTRUCTION USING AVAILABLE TECHNOLOGIES

Table 23 indicates the challenges that the teachers encountered in implementing in implementing the differentiated instruction using available technologies in the subject schools.

Table 23 Challenges and Barriers Encountered in Implementing the Differentiated Instruction Using Available Technologies

Challenges Encountered	Rank
Preparing different materials for different learners takes time, and teachers often have heavy workloads.	1 st
Managing a wide range of reading abilities in one class is overwhelming, especially without proper tools or support.	2 nd
Not all students respond well to tech-based instruction and some may get distracted or lose interest.	3 rd
Teachers have limited training in using technology for differentiated instruction, leading to underutilization or ineffective use.	4 th
Poor to no internet access in the school limits the use of online resources and interactive content	5 th
Teachers are hesitant to shift from traditional methods to tech-based instruction due to unfamiliarity or comfort with old practices.	6 th
School does not have a structured plan or policy for integrating differentiated instruction with available technologies	7 th
Financial constraints prevent the school from buying or maintaining the said technologies	8 th
Teachers struggle with troubleshooting tech issues without on-site IT support.	9 th
Not all classrooms have enough Smart TVs, tablets, or computers for every student, thereby making it hard to personalize instruction.	10 th

Table 23 shows the ranking that the school for the biggest challenges they face when using technology for teaching reading. The top issue is that preparing different materials for students with varying needs takes a lot of time, especially since teachers already have heavy workloads. The second concern is handling a wide range of reading abilities in one class, which is hard without proper tools or support. The third concern is that not all students stay engaged with tech-based lessons, some get distracted or lose interest, so teachers need to use technology carefully and effectively.

Other concerns include teachers not having enough training to use technology well, which often leads to poor or limited use. Many schools also have slow or no internet, and some teachers prefer traditional methods because

they're more familiar with them. There's also no clear school policy for using technology in reading lessons, and lack of funds makes it hard to buy or maintain devices. Teachers also struggle with fixing tech problems because there is no IT support, and some classrooms do not have enough gadgets like Smart TVs or tablets for every student, making personalized learning difficult.

In short, teachers see the benefits of technology in reading instruction, but they face big challenges like lack of time, training, resources, and support. To solve these problems, schools need to provide training, improve internet and device access, create clear policies, and offer technical and financial support.

Using technology to support differentiated instruction (DI) is not easy, especially in schools that do not have a clear plan or policy for how to use tech. In these cases, teachers often have to figure things out on their own, which leads to uneven results and makes it hard to apply DI widely (Ab Hajis & Othman, 2024).

Money is also a big issue. Many schools do not have enough funds to buy or maintain devices like Smart TVs, tablets, or computers (Aguilos, 2025; Burns, 2023). Because of this, not every classroom has the tools needed to support personalized learning, making it tough for teachers to adjust lessons for each student (Spyropoulou et al., 2025).

Another problem is the lack of tech support in schools. Teachers often have to fix tech issues themselves, which interrupts class and makes them less likely to use technology (McLean, 2022). On top of that, many schools have slow or unreliable internet, which limits access to online materials and platforms that are important for DI (Burns, 2023; Ntorukiri et al., 2022).

Even when tech is available, it does not always work well for every student. Some students get bored or distracted if the digital tools are not engaging or used properly (Yuen et al., 2023).

Handling different reading levels in one class is also tough, especially if teachers do not have access to tools that adjust reading materials to each student's level. This can make reading lessons harder to manage and less effective (Masse, 2025).

Many teachers also have not had enough training on how to use tech for DI. Without proper training, they might not use the tools well-or at all-which limits the benefits of using technology in teaching (Estaityeh & DeCoito, 2024; Pozas et al., 2020). Some teachers also prefer traditional methods and are hesitant to switch to tech-based teaching because they're more comfortable with what they already know (Aranha, 2024).

Lastly, teachers are often overwhelmed with work and do not have enough time to prepare different materials for different students. This makes it hard to do DI properly (Onyishi & Sefotho, 2020; Saikia & Ranjan, 2025).

All these challenges show that schools need better planning, more funding, proper training, and stronger infrastructure to make tech-supported DI work well.

4. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter contained the study's summary, findings, and conclusions which served as the framework for the study's recommendations.

Summary of Findings

There were 14 teachers who took part in this study. Most of them were 31–40 years old (42.86%), while the rest were split evenly between 41–50 years (28.57%) and 51 years and above (28.57%), showing that they are mostly mature and experienced. All teachers were female (100%) and married (100%), so there was no difference in gender or civil status.

When it comes to education, most had Master's Degree units (57.14%), some were full Master's Degree holders (28.58%), a few had Doctoral units (7.14%), and only 7.14% were college graduates, meaning they are highly qualified. Every teacher had 11 or more years of teaching experience (100%), which shows they are very seasoned.

For technology use in teaching reading, most teachers (71.42%) used technology every day, while 14.29% used it 1–3 times a week and another 14.29% used it 4–5 times a week, so technology is well integrated in their teaching. All teachers (100%) attended four or more trainings or seminars about using technology in reading instruction, proving they are committed to improving their skills.

As for the learners, there were 100 students. Most were 7 years old (74%), followed by 8 years old (23%), with only 2% aged 9 and 1% aged 10 or older, which is typical for Grade 2. Gender was almost equal: 51% female and 49% male, so there is a good balance of boys and girls.

Moreover, teachers generally agreed that using technology in reading lessons is very important. The overall score was 3.37, which means most teachers strongly support technology integration. Among the different aspects, usefulness scored the highest at 3.64, followed by convenience (3.57) and self-efficacy (3.56). Availability and importance were also rated high at 3.33 and 3.55, while obstacles scored lower at 2.58, showing that challenges exist but are not major concerns.

For the learners, most Grade 2 pupils were performing well. In word recognition, 63% (66 out of 100) were already reading at grade level, and 29% were transitioning. In reading fluency, 45% were at grade level, and 35% were transitioning, while in reading comprehension, 29% were at grade level, with 33% transitioning and 34% developing. This means many students are on track, but comprehension still needs improvement.

Finally, the test of relationship showed a strong link between teachers' views on technology and students' reading performance. The computed value was 3.153, which is higher than the critical value of 2.306, so the result is significant. In simple terms, when teachers believe technology is helpful and use it more, students tend to read better.

Conclusion

The study shows that using technology in teaching reading greatly helps improve students' performance. Teachers strongly agreed that technology is important, useful, and convenient, with an overall score of 3.37, meaning they are highly open and ready to use digital tools despite some minor challenges.

Student results revealed that most were at or near grade-level in word recognition (63%), reading fluency (45%), and reading comprehension (29%), although comprehension still needs more attention.

The statistical test confirmed a strong positive link between teachers' views on technology and students' reading results, with a t-value of 3.153, which is higher than the critical value of 2.306 at the 0.05 significance level. This means that when teachers effectively use technology in reading lessons, students tend to perform better in recognizing words, reading fluently, and understanding texts.

In short, integrating technology is both practical and effective in improving Grade Two learners' reading skills. Schools should keep investing in digital tools, provide continuous teacher training, and create supportive environments to make the most of technology in reading instruction.

Recommendation

Based on the findings and conclusion, it is recommended that schools develop a comprehensive technology integration program to strengthen reading instruction. This program should explain how teachers can use tools like e-books, interactive apps, and educational games in their daily classes. Teachers need regular training, not just on how to use the tech, but on how it can help students read better, including recognizing words, reading smoothly, and understanding what they read.

To make this work, schools must provide enough devices, reliable internet, and updated software. They should also set up support systems, like tech help and teacher mentoring, so teachers can solve problems and share good ideas. The program should include ways to check if it's working and improve it based on results. Finally, parents and the community should be involved through meetings and teamwork to keep the program strong and useful.

OUTPUT OF THE STUDY

The SMART DI Framework is a teaching model designed to help Grade 2 teachers use Smart TV technology to support differentiated instruction in reading. The acronym SMART stands for Structure, Materials, Assessment, Response, and Technology Integration, each representing a key element in effective lesson planning and delivery.

Structure refers to how the reading lesson is arranged. Teachers begin by identifying specific learning targets, such as improving decoding skills or reading comprehension. Students are grouped flexibly based on their reading abilities or preferences, and the lesson is scheduled to include a mix of whole-class teaching, small-group work, and independent tasks to ensure all learners are actively involved.

Materials include both digital and physical resources. Smart TVs are used to present engaging content like phonics videos, interactive stories, and vocabulary games. These are complemented by printed materials such as leveled books and worksheets, along with visual tools like word walls and story maps that can be displayed on screen to reinforce learning.

Assessment involves tracking student progress before, during, and after instruction. Teachers use initial assessments to determine reading levels, and ongoing checks like quizzes or oral responses to monitor understanding. Feedback is given promptly, often using visual or audio cues, to help students improve and stay motivated.

Response focuses on how instruction is adapted to meet individual needs. Teachers vary the content, teaching methods, and student outputs based on each learner's strengths and challenges. For example, they might select different reading materials for each group, demonstrate strategies using the Smart TV, and allow students to show what they've learned through drawing, storytelling, or role-playing.

Technology Integration highlights the role of Smart TV in enhancing instruction. Teachers use apps like Epic!, Starfall, YouTube Kids, and Bookful to provide interactive and personalized reading experiences. These tools make lessons more engaging and help cater to diverse learning styles, especially for young readers.

Objectives:

With the aforementioned emphasis, this instructional model will specifically serve to:

1. To organize reading instruction using flexible grouping strategies that reflect students' reading levels and learning styles.
2. To establish clear and measurable reading goals for whole-class, small-group, and individual learning sessions.
3. To integrate visual aids and multimedia content via Smart TV to support vocabulary development, phonics, and comprehension.
4. To conduct pre-assessments that identify students' reading abilities and inform instructional planning.
5. To apply differentiated instruction strategies by modifying content, processes, and student outputs based on individual needs.
6. To effectively use Smart TV applications and features to deliver interactive and personalized reading instruction.

Scheme of Implementation

The SMART DI Framework is carried out in three main stages: before, during, and after the actual teaching.

In the Pre-Implementation Phase, the goal is to get everything ready. Teachers and school staff attend orientation sessions to understand how the SMART DI Framework works and help plan how it will be used in the classroom. The school checks what resources are available-like Smart TVs, internet access, and educational apps such as Epic!, Starfall, and YouTube Kids. These apps are installed and tested to make sure they work properly. Teachers also receive training on how to use Smart TVs and how to adjust their teaching to meet the different reading needs of their students. At this stage, students are given reading assessments to find out their current skill levels, which helps teachers group them and plan lessons that suit their needs.

In the Implementation Phase, teachers start using the SMART DI Framework in their reading lessons. Lessons are organized to include activities for the whole class, small groups, and individual students. Smart TVs are used to show videos, model reading strategies, and make lessons more interactive. Teachers give students different reading materials and tasks based on their skill levels and learning styles. They also switch up groupings and activities to make sure every student gets the support they need. Throughout the lessons, teachers check how students are doing using digital tools and give quick feedback using visuals and sounds. Fun activities like storytelling, games, and multimedia content help keep students engaged.

Finally, in the Post-Implementation Phase, the focus shifts to reviewing and improving the program. Teachers give follow-up assessments to see how much students have improved in reading and compare the results with the earlier assessments. They also meet to talk about what worked well, what was challenging, and how things can be improved. All the results and feedback are recorded and shared with school leaders. To keep the program going, schools plan for things like tech support, refresher training for teachers, and ways to include SMART DI strategies in everyday teaching and school planning.

Areas of concern	Objectives	Strategies	Persons Involved	Budget	Source of Budget	Time Frame	Expected Output	Actual Accomplishment	Remarks
Class Structure & Routines	Establish consistent Grade 2 reading routines and leveled groupings for decoding, fluency, and comprehension	<ul style="list-style-type: none"> Set weekly reading targets per level (Emergent, Developing, On-Level) Implement fixed schedule: Whole group (15 min), Small group DI (20 min), Independent/TV activity (15 min) Post seating and rotation charts on Smart TV 	School Head, Master Teachers, Grade 2 Teachers	₱0.00	N/A	Weeks 1 and 2	Posted routines & grouping charts; weekly goals visible		
Learning Materials	Provide access to leveled readers and curated Smart TV content aligned with competencies	<ul style="list-style-type: none"> Curate playlists (phonics, read-aloud videos) Procure leveled readers and worksheets Display word walls, story maps, anchor charts 	LR Coordinator, Grade 2 Teachers, ICT Coordinator	₱15,000	School MOOE / Local Funds	Month 1 procurement; monthly updates	Library of leveled readers; active Smart TV playlists; printed DI packs		
Assessment	Identify reading levels and monitor weekly progress	<ul style="list-style-type: none"> Conduct oral reading pre-assessments and app-based quizzes Use Smart TV for formative checks Provide immediate feedback; weekly mini-conferences 	Grade 2 Teachers, Master Teachers	₱0.00	N/A	Week 1 baseline; weekly formative; monthly progress checks	Baseline roster with levels; weekly tracking sheets; monthly summary		
Differentiated Instruction	Customize tasks and outputs based on learner profiles to enhance engagement and mastery	<ul style="list-style-type: none"> Content: leveled texts per interest Process: model strategies via Smart TV; small-group practice Product: choice boards (draw, retell, act) 	Grade 2 Teachers, Master Teachers	₱3,000	School MOOE; Local Funds	Continuous	DI lesson plans; learner products portfolio		
Technology Integration	Use Smart TV apps to support decoding, vocabulary, comprehension, and fluency	<ul style="list-style-type: none"> Weekly flow Use Read Along by Google for guided reading Create Kahoot! quizzes; integrate Starfall, Bookful, Epic! apps 	ICT Coordinator, Grade 2 Teachers	₱5,000	School MOOE / Local Funds	Continuous; review quarterly	Functional playlists; quiz bank; app usage log		
Teacher capacity building	Equip teachers to consistently apply SMART DI strategies	<ul style="list-style-type: none"> Conduct LAC sessions (2 hrs) Demo teaching with feedback Peer coaching and lesson study cycles 	School Head, Master Teachers, Grade 2 Teachers	₱2,000		Month 1; monthly LAC	1 LAC conducted; demo lessons; coaching notes		
Parent & learner engagement	Engage families to reinforce reading at	<ul style="list-style-type: none"> Parent orientation on playlists and home reading logs Implement check-out 	Grade 2 Teachers, Guidance, PTA	₱2,500 (printing & event)	PTA; MOOE	Monthly home log; quarterly	90% parent participation; home		

	home	system for leveled readers • Organize quarterly reading showcases	Officers			showcase	logs submitted		
M&E	Track implementation fidelity, learner progress, and app effectiveness	• Weekly walkthrough checklists • Monthly data review (WCPM, sight word mastery, comprehension scores) • Adjust playlists and groupings based on data	School Head, Master Teachers			Weekly/Monthly ; Quarterly review	Dashboard with trend lines; agreed action items		

INSTRUCTIONAL MODEL: SMART DI FRAMEWORK FOR GRADE 2 READING

Instructional Model: SMART DI Framework for Grade 2 Reading via Smart TV

S.M.A.R.T. stands for:

- Structure
- Materials
- Assessment
- Response
- Technology Integration

1. Structure

- Set clear reading goals (e.g., decoding, fluency, comprehension).
- Group students by reading level or learning style.
- Use a consistent schedule for whole-group, small-group, and independent activities.

2. Materials

- **Digital Content:** Use Smart TV to display interactive stories, phonics videos, and vocabulary games.
- **Printed Resources:** Supplement with leveled readers and worksheets.
- **Visual Aids:** Show story maps, word walls, and anchor charts on screen.

3. Assessment

- **Pre-Assessment:** Use oral reading or app-based quizzes to gauge levels.
- **Formative Assessment:** Monitor progress through interactive Smart TV activities.
- **Feedback:** Provide visual and audio feedback during lessons.

4. Response (Differentiation Strategies)

- **Content:** Choose reading materials based on student levels and interests.
- **Process:** Use Smart TV to model reading strategies and allow group practice.
- **Product:** Let students respond through drawing, retelling, or acting out stories.

5. Technology Integration

Smart TV Apps for Reading Instruction:

App Name	Description	DI Use
YouTube Kids	Offers curated educational videos including phonics songs, read-alouds, and storytelling.	Use playlists for different reading levels.
Epic!	Digital library with thousands of leveled books, audiobooks, and videos.	Assign books based on student reading level.
Starfall	Interactive phonics and reading games for early learners.	Use for phonics practice and vocabulary building.
Kahoot!	Game-based quizzes that can be displayed on Smart TV.	Create reading comprehension quizzes for group play.
Bookful	Augmented reality reading app that brings books to life.	Engage visual learners with interactive storytelling.
ABCmouse	Full curriculum including reading activities and games.	Use for individualized or small-group reading practice.
Read Along by Google	Voice-assisted reading app that helps kids read aloud.	Use with Smart TV mirroring for guided reading sessions.

Weekly Flow

Day	Whole Group	Small Group (DI)	Smart TV Activity
Monday	Storytelling	Phonics by level	YouTube Kids read-aloud
Tuesday	Vocabulary	Sight word games	Starfall word building
Wednesday	Comprehension	Guided reading	Kahoot! quiz
Thursday	Fluency	Echo reading	Bookful animated story
Friday	Review	Mixed-level tasks	Epic! book discussion

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