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Stories, Numbers, and Values: Exploring Interdisciplinary Learning Experiences Among Grade 2 Learners in Rural Elementary Education

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ABSTRACT

Interdisciplinary learning in the early grades provides opportunities for children to connect foundational literacy, numeracy, values formation, and social understanding within meaningful classroom experiences. This qualitative study explored the interdisciplinary learning experiences of Grade 2 learners at Aglipay East Central School in Aglipay, Quirino, Philippines, with particular attention to how stories, mathematical ideas, values, and contextualized activities interacted across learning areas. The study employed a qualitative descriptive design with an interpretive orientation. Grade 2 learners were purposively selected based on their exposure to integrated classroom activities involving English, Filipino, Mathematics, Good Manners and Right Conduct (GMRC), and Makabansa. Data were gathered through child-friendly semi-structured conversations, classroom observations, learner outputs, and teacher-supported reflective activities. Data were analyzed using reflexive thematic analysis. Five themes provided the analytical structure of the findings: (1) Stories as Bridges Across Learning Areas, (2) Making Sense of Numbers Through Everyday Experiences, (3) Values Learned Through Stories, Actions, and Relationships, (4) Learning Becomes Meaningful When Subjects Connect, and (5) From Classroom Learning to Everyday Practice. The thematic analysis suggests that interdisciplinary learning supported learners in making connections across subject boundaries, relating academic concepts to familiar experiences, participating actively in classroom activities, and recognizing the practical and moral significance of their learning. The study highlights the importance of developmentally appropriate, contextualized, and integrated pedagogy in strengthening foundational learning among children in rural elementary education.

Keywords: interdisciplinary learning, Grade 2 learners, foundational literacy, numeracy, values education, contextualized pedagogy, rural elementary education

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1. Introduction

Foundational education provides the academic, cognitive, social, and personal competencies upon which later learning is built. During the early elementary years, children develop literacy and numeracy while simultaneously learning how to communicate, cooperate with others, solve everyday problems, make responsible choices, and understand their relationships with their families and communities (Department of Education [DepEd], 2023; Nero, 2026). These areas of development are often organized into separate school subjects, yet young learners do not necessarily experience knowledge through clearly separated disciplinary boundaries. A story can involve mathematical ideas, a mathematics problem can require reading comprehension, and a classroom situation can simultaneously provide opportunities for language development and values formation. Interdisciplinary learning therefore offers an important pedagogical approach for connecting knowledge and skills across learning areas (Deng, 2024; Kang, 2024).

The importance of foundational literacy and numeracy remains central to contemporary Philippine basic education. The Department of Education has identified strengthening literacy and numeracy, particularly in the early grades, as an important curricular priority and has emphasized the development of foundational competencies as part of continuing educational reforms (DepEd, 2023, 2024). These priorities highlight the need for pedagogical practices that enable children not simply to complete isolated subject activities but also to develop foundational skills that can be transferred and applied across different learning situations (Maryam & Heryani, 2025).

Interdisciplinary pedagogy provides opportunities for such integration by connecting concepts, skills, experiences, and values from different learning areas around meaningful activities and contexts. For young learners, integration may occur naturally through storytelling, games, collaborative activities, problem-solving tasks, role-playing, conversations, and contextualized classroom experiences (Deng, 2024; Kang, 2024). Rather than treating literacy, numeracy, and values as entirely independent competencies, interdisciplinary instruction allows learners to recognize meaningful relationships among them. Recent research in elementary education has similarly emphasized foundational literacy and numeracy as critical building blocks while highlighting the importance of contextualized strategies for promoting learner engagement and meaningful learning, particularly in rural educational settings (Mendoza, 2026; Nero, 2026).

Literacy serves an especially important function in interdisciplinary learning because language enables children to interpret instructions, communicate ideas, understand stories, solve word problems, describe experiences, and participate meaningfully in classroom discussions. Storytelling can therefore extend beyond the development of reading comprehension by providing meaningful contexts through which different forms of knowledge can be explored. Stories may introduce numerical relationships, social situations, moral dilemmas, environmental concerns, and everyday experiences that encourage children to establish connections across learning areas (Deng, 2024). When language-based activities are deliberately connected with other subjects, literacy can serve as a bridge through which young learners interpret and communicate their understanding of mathematical, social, and values-oriented concepts.

Numeracy similarly extends beyond the performance of mathematical operations because meaningful mathematical learning requires children to recognize relationships between numbers and situations encountered in everyday life. Counting objects, sharing materials, comparing quantities, measuring



familiar items, recognizing patterns, and solving contextualized problems can help learners understand mathematics as useful and applicable knowledge rather than as a collection of isolated numerical exercises. Interactive, play-based, and collaborative approaches have also been identified as valuable strategies for strengthening foundational numeracy when children are given opportunities to participate actively in meaningful mathematical experiences (Maryam & Heryani, 2025). Contextualized mathematical activities may consequently enable young learners to connect abstract numerical concepts with concrete experiences that are developmentally appropriate and familiar to them.

Values formation constitutes another important dimension of early elementary education. Children develop understandings of respect, responsibility, honesty, cooperation, kindness, discipline, and concern for others not only through explicit instruction but also through interactions with classmates, responses to stories, collaborative tasks, and everyday classroom experiences. Integrating values into academic learning can therefore help children recognize that learning has implications not only for academic performance but also for how they interact with other people and respond to situations in their homes, schools, and communities. Philippine research examining the integration of foundational literacy, numeracy, and values formation has likewise highlighted the importance of embedding character development within meaningful learning experiences rather than treating values as completely separate from academic learning (Nero, 2026).

Contextualization becomes particularly relevant in rural elementary schools because children's families, communities, languages, livelihoods, traditions, and immediate environments provide meaningful resources from which classroom learning can be developed. Mendoza (2026) found that contextualized teaching practices in a rural Philippine elementary setting were associated with learners' behavioral, emotional, and cognitive engagement, emphasizing the importance of connecting instruction with familiar experiences. Similarly, Nero (2026) highlighted the importance of contextualized learning and values integration in strengthening foundational literacy, numeracy, and character formation among learners in a rural Philippine school. These findings suggest that locally grounded instructional experiences can make academic concepts more recognizable and relevant while creating opportunities for learners to connect classroom knowledge with their everyday lives.

Against this background, the present study explored how Grade 2 learners at Aglipay East Central School experienced interdisciplinary learning involving stories, numbers, values, and contextualized classroom activities. Rather than measuring achievement across individual subjects, the study focused on children's experiences and the meanings they constructed when different learning areas were connected. By examining these experiences, the study sought to contribute to a deeper understanding of how developmentally appropriate, interdisciplinary, and context-responsive pedagogy can support foundational literacy, numeracy, values formation, and meaningful learning among young learners in rural elementary education.

2. Objectives of the Study

The study generally aimed to explore the interdisciplinary learning experiences of Grade 2 learners at Aglipay East Central School. Specifically, it sought to describe how learners experienced connections among literacy, numeracy, values formation, and social learning; examine how stories and language-based



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activities facilitated learning across subject areas; explore how learners connected mathematical concepts with familiar and everyday situations; understand how values were constructed through stories, classroom interactions, and collaborative activities; and determine how contextualized interdisciplinary experiences enabled learners to apply classroom learning to situations within their homes, school, and community.

3. Methodology

The study employed a qualitative descriptive design with an interpretive orientation to explore how Grade 2 learners experienced interdisciplinary learning across literacy, numeracy, values education, and social learning. The study was conducted at Aglipay East Central School in Aglipay, Quirino, Philippines, where Grade 2 learning experiences provided opportunities for connections among English, Filipino, Mathematics, GMRC, and Makabansa. Participants consisted of purposively selected Grade 2 learners who had regularly participated in integrated and contextualized classroom activities. Because the participants were young children, data-gathering procedures were designed to be developmentally appropriate and minimally intimidating. Data were gathered through short child-friendly semi-structured conversations, classroom observations, learner outputs, and teacher-supported reflective activities rather than relying exclusively on lengthy formal interviews. Questions encouraged children to describe activities they enjoyed, explain how stories helped them understand other lessons, identify situations where they used mathematics outside formal exercises, and describe values they learned through stories and classroom interactions. Classroom observations were used to examine learner participation, interaction, problem solving, and connections made across learning areas, while selected learner outputs provided supplementary evidence of interdisciplinary meaning-making. Data were analyzed through reflexive thematic analysis involving familiarization, initial coding, construction of patterns, development and refinement of themes, and interpretation of the themes in relation to interdisciplinary and contextualized learning. Trustworthiness was strengthened through triangulation of conversations, observations, and learner outputs, maintenance of an audit trail, careful attention to contrasting learner experiences, and researcher reflexivity. Parental or guardian consent and child assent were secured, and the study observed appropriate ethical safeguards for research involving minors.

4. Results and Findings

The analysis generated five interconnected themes that captured how Grade 2 learners experienced interdisciplinary learning: Stories as Bridges Across Learning Areas; Making Sense of Numbers Through Everyday Experiences; Values Learned Through Stories, Actions, and Relationships; Learning Becomes Meaningful When Subjects Connect; and From Classroom Learning to Everyday Practice. Collectively, the themes demonstrated how language, mathematics, values, and social understanding could intersect within the everyday learning experiences of young children.

Theme 1: Stories as Bridges Across Learning Areas



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The first theme revealed the central role of stories in connecting different areas of learning. Learners did not experience stories exclusively as reading exercises. Story characters, events, problems, settings, and illustrations created opportunities for discussing numbers, values, relationships, environmental concerns, and familiar community situations. Through teacher questioning and follow-up activities, a story could become a starting point for vocabulary development, comprehension, mathematical reasoning, and reflection on appropriate behavior. Such integration illustrates how literacy can function as an organizing mechanism for interdisciplinary learning rather than remaining confined to language instruction.

An illustrative learner response was:

Learner 3: “I like the story because after reading, we counted the fruits that the children shared. We also talked about why they should share with each other.”

Another learner explained:

Learner 7: “When Teacher tells a story, I understand the lesson because I remember what the characters did. Sometimes we also answer numbers about the story.”

The responses suggest that stories served as cognitive bridges through which children could move between different learning domains without experiencing abrupt disciplinary separation. The narrative provided a meaningful context, while subsequent questions allowed literacy, mathematics, and values to emerge from the same experience. This interpretation is consistent with broader research emphasizing the importance of contextualized and integrated pedagogical practices in supporting learner engagement in elementary education. Stories therefore appeared to operate not merely as materials for developing reading skills but as interdisciplinary learning spaces where children could simultaneously interpret language, reason with quantities, recognize social relationships, and reflect on values.

Theme 2: Making Sense of Numbers Through Everyday Experiences

The second theme reflected how learners understood mathematical concepts more readily when numbers were situated within recognizable experiences. Learners described counting classroom objects, sharing food, comparing quantities, using money, identifying patterns, and solving simple problems involving familiar situations. Mathematics became more understandable when numerical ideas represented something children could visualize or connect with their everyday experiences.

One illustrative learner stated:

Learner 5: “I like solving when the problem is about buying because I go with my mother to the store. I know that when we buy more things, we need more money.”

Another explained:

Learner 10: “When we share things with our group, we count how many each person will get. It is like mathematics, but we are doing it.”

These accounts indicate that numeracy was experienced as more meaningful when children recognized its practical purpose. Rather than encountering numbers exclusively as symbols written on worksheets, learners encountered quantities through objects, actions, relationships, and familiar situations. Research on primary-school numeracy similarly emphasizes applying mathematical concepts within everyday life and using engaging pedagogical experiences to strengthen learners' understanding. The finding suggests an interpretive progression of number concept → familiar situation → active application → practical



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understanding. Contextualized mathematics therefore enabled children to see numeracy as something they could use rather than merely something they needed to answer correctly.

Theme 3: Values Learned Through Stories, Actions, and Relationships

The third theme demonstrated that values formation was experienced not only through direct instruction about appropriate behavior but through stories, classroom situations, peer interactions, and collaborative activities. Learners identified kindness, honesty, respect, responsibility, cooperation, and sharing through the behavior of story characters and through situations they encountered while working with classmates. An illustrative learner shared:

Learner 4: “The character helped his friend, so Teacher asked us what we should do when our classmate needs help. I said we should help if we can.”

Another stated:

Learner 12: “When we work in a group, we should not fight about who will use the materials. We need to share and listen.”

These responses suggest that values became more meaningful when children encountered them within concrete social situations rather than solely as abstract rules. Stories provided symbolic situations through which learners could examine choices and consequences, while collaborative activities gave them opportunities to practice values through actual interaction. Recent Philippine research integrating foundational learning and values formation likewise found that values integration can contribute to responsibility and positive learner behavior when embedded within broader educational experiences. Values education therefore appeared to operate across the curriculum, connecting what children understood academically with how they behaved socially.

Theme 4: Learning Becomes Meaningful When Subjects Connect

The fourth theme captured learners' experiences when concepts from different subjects were connected within a single activity. Children appeared to perceive integrated activities as more coherent because reading, counting, discussing, drawing, writing, and reflecting occurred around a common context. Instead of approaching every learning area as completely unrelated, interdisciplinary experiences enabled learners to use skills acquired in one area to accomplish tasks in another.

One illustrative learner explained:

Learner 2: “Sometimes we read first and then answer a problem about what we read. I need to understand the story before I can answer the numbers.”

Another stated:

Learner 9: “We drew our community and wrote the names of places. We also counted some things in the picture and talked about keeping the place clean.”

The accounts illustrate how interdisciplinary activities can promote connected learning, where literacy supports mathematical problem solving, language facilitates social understanding, and values provide meaning to classroom tasks. Research on interdisciplinary teaching suggests that integrating content across domains can support comprehensive competencies and practical problem solving, although



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meaningful integration requires clear learning goals and appropriate instructional design. For Grade 2 learners, such integration may be particularly valuable because children can encounter academic skills as mutually supportive tools for understanding a meaningful situation rather than as isolated school requirements.

Theme 5: From Classroom Learning to Everyday Practice

The fifth theme represented the broader outcome of interdisciplinary learning: children's ability to recognize and use classroom learning within everyday situations. Learners described applying counting when buying or sharing, using reading skills to understand signs and labels, practicing respectful communication at home, helping others, keeping surroundings clean, and recognizing classroom lessons within their community.

One illustrative learner explained:

Learner 6: “At home, I help count things when my mother is preparing food. I also read some words on the packages.”

Another shared:

Learner 14: “We learned to respect older people and help at home. I try to do it because it is not only for school.”

These accounts indicate that interdisciplinary learning potentially facilitated transfer from classroom knowledge to lived experience. Literacy, numeracy, and values became interconnected competencies that children could recognize beyond individual subjects. This finding resonates with contextualized-learning research in rural Philippine settings, where connecting instruction with learners' immediate experiences has been associated with cognitive, behavioral, and emotional engagement. It is also consistent with the broader emphasis on strengthening foundational competencies so that learners can use literacy and numeracy meaningfully rather than simply demonstrate them in isolated assessments. The theme therefore reflects an important progression from classroom experience → interdisciplinary connection → meaningful understanding → everyday application.

Across the five themes, the findings can be synthesized through the following interpretive progression: Stories and Experiences → Connections Across Learning Areas → Active Meaning-Making → Integrated Skills and Values → Everyday Application. This structure suggests that interdisciplinary pedagogy in early elementary education may be particularly effective when integration occurs through meaningful experiences rather than through the artificial combination of subject content. Stories provided contexts for language, mathematics, and values; familiar situations gave numbers practical meaning; social interactions transformed values into lived behaviors; and connected activities enabled learners to recognize relationships among different forms of knowledge. The resulting learning experience was therefore not merely multidisciplinary but potentially **integrative**, because children used knowledge and skills from different domains to understand and respond to common situations.

5. Conclusion

The study highlights the potential importance of interdisciplinary learning in strengthening the



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educational experiences of Grade 2 learners in a rural elementary school. The five themes showed that stories, numerical ideas, values, and contextualized experiences can function as interconnected components of foundational learning rather than as isolated curricular elements. Stories served as bridges across learning areas, familiar situations made numerical concepts more understandable, values became meaningful through social interaction, connected activities helped learners recognize relationships among subjects, and classroom learning acquired greater significance when children could apply it in everyday life. The findings suggest that developmentally appropriate interdisciplinary pedagogy can provide young learners with coherent and meaningful opportunities to develop literacy, numeracy, social understanding, and values simultaneously. In the context of Aglipay East Central School, interdisciplinary teaching may therefore contribute to foundational learning by connecting academic knowledge with children's immediate experiences, relationships, and community realities.

6. Implications

The findings have important implications for early elementary pedagogy, curriculum implementation, and teacher development. Grade 2 teachers may strengthen interdisciplinary learning by designing activities around meaningful stories, familiar problems, community experiences, play, collaborative tasks, and situations that naturally require literacy, numeracy, and values. Integration should not simply involve placing several subjects within the same lesson; rather, teachers should identify authentic conceptual connections that allow one learning area to reinforce another. Story-based mathematical problems, for example, can simultaneously develop comprehension and numeracy, while collaborative tasks can integrate communication, problem solving, and values formation. Contextualization should also draw on children's rural environments, family experiences, local practices, and community situations to make learning more recognizable and transferable. At the school level, collaborative planning among teachers can support the development of interdisciplinary materials and assessments aligned with foundational competencies. These implications are consistent with current Philippine priorities emphasizing literacy, numeracy, contextualized learning, and holistic learner development in the early grades. Ultimately, interdisciplinary learning should enable children not simply to succeed separately in English, Filipino, Mathematics, GMRC, or Makabansa, but to use the knowledge, skills, and values developed across these areas to understand and participate meaningfully in their everyday world.

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