

Integrated Elements in the Grade 3 Mathematics Textbook in Vietnam

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ABSTRACT: This paper analyzes the integrated elements in the Grade 3 Mathematics textbook of the Knowledge Connecting with Life series from three perspectives: intra-disciplinary integration, interdisciplinary integration, and transdisciplinary integration. The findings indicate that the textbook establishes connections among mathematical content strands, incorporates knowledge from several other school subjects, and employs numerous real-life situations in learning activities. These features provide students with opportunities to apply knowledge, develop problem-solving competence, communication skills, collaboration skills, and the effective use of mathematical tools. However, some exercises remain hypothetical in nature and provide limited opportunities for students to engage in authentic real-world experiences. Based on these findings, the paper proposes several recommendations for implementing integrated teaching in Grade 3 mathematics.

KEYWORDS: integration, textbook, Grade 3 mathematics, integrated teaching, primary mathematics.

1. INTRODUCTION

Integrated teaching is one of the key orientations of the General Education Curriculum, aiming to help students mobilize knowledge, skills, and experience from multiple disciplines to solve problems encountered in learning and everyday life. At the primary level, mathematics provides favorable conditions for students to apply mathematical knowledge in observing, measuring, processing information, and organizing practical activities. The Grade 3 Mathematics textbook of the Knowledge Connecting with Life series reflects integrated teaching through the connections among mathematical content strands, the integration of mathematics with other school subjects, and the incorporation of real-life contexts into learning tasks. Based on an examination of the concepts of integration and integrated teaching, this paper focuses on analyzing three major forms of integration reflected in the textbook: intra-disciplinary integration, interdisciplinary integration, and transdisciplinary integration. On this basis, several recommendations are proposed to enhance the effectiveness of integrated teaching in Grade 3 mathematics.

2. AN OVERVIEW OF INTEGRATION AND INTEGRATED TEACHING

2.1. Concepts

According to the Vietnamese Dictionary, integration is defined as "assembling and connecting the components of a system to form a unified system" [4].

According to Đỗ Đức Thái and Đỗ Tiến Đạt, "integration is an aspect of the developmental process involving the synthesis of previously separate components and elements into a unified whole" [5].

In this study, we adopt the view that integration is the process of connecting separate components during development to form a unified whole [3].

Integrated teaching is defined as "an instructional orientation that enables students to develop the ability to mobilize and synthesize knowledge, skills, and experiences from different disciplines in order to solve problems effectively in both learning and everyday life. This process is implemented throughout the acquisition of knowledge and the development of skills" [1].

2.2. Forms of integration in primary mathematics

- Intra-disciplinary integration (integration within mathematics) refers to the connection among individual mathematical concepts to form a coherent sequence of knowledge within the same content strand or across different mathematical content strands.

- Interdisciplinary integration refers to the connection between mathematics and other school subjects, in which mathematics serves as the principal discipline for solving or carrying out mathematical tasks. The emphasis is placed on the relationships among disciplines rather than on each subject in isolation.

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- Transdisciplinary integration is an approach that begins not with individual school subjects or isolated mathematical concepts and procedures but with authentic real-life contexts and students' interests. Knowledge from different disciplines is integrated within familiar real-world situations, thereby contributing to the development of students' life skills.

3. ANALYSIS OF INTEGRATED ELEMENTS IN THE GRADE 3 MATHEMATICS TEXTBOOK

Beginning with the 2026–2027 academic year, Vietnam will implement a single national textbook series for use throughout the country. The mathematics textbook adopted nationwide is the Knowledge Connecting with Life series.

3.1. Intra-disciplinary integration in the Grade 3 Mathematics textbook

Intra-disciplinary integration in mathematics refers to the connection among mathematical knowledge, skills, and learning activities, enabling students to mobilize and synthesize what they have learned to accomplish mathematical tasks. An examination of the Grade 3 Mathematics textbook in the Knowledge Connecting with Life series reveals that intra-disciplinary integration is clearly reflected not only among different mathematical content strands but also between newly introduced knowledge and previously learned concepts, between mathematical content and mathematical thinking, and between theoretical learning and practical application.

First, intra-disciplinary integration is evident within the Numbers and Operations strand. This strand is organized through close connections among number concepts, place-value structure, ordering relationships, and arithmetic operations. When learning natural numbers up to 100,000, students are required not only to read and write numbers but also to compare, order, and round numbers to the nearest ten, hundred, thousand, and ten thousand.

Integration is also reflected in the relationships among arithmetic operations. Multiplication is introduced as repeated addition of equal addends, while division is presented as the inverse operation of multiplication. Similarly, addition and subtraction are developed as inverse operations. For example, when finding an unknown component of a calculation, students are expected to understand the relationships between an addend and the sum, the minuend and the difference, the factor and the product, and the dividend and the quotient. Such an instructional organization enables students to perceive arithmetic operations not as isolated topics but as components of an interconnected mathematical system.

The topic of evaluating numerical expressions further integrates arithmetic operations, the order of operations, and computational competence. Within a single exercise, students may need to perform multiplication or division before addition or subtraction while simultaneously checking the reasonableness of the final result.

Example.

"A military division consists of four regiments, and each regiment has 1,300 soldiers. The division is then reinforced with an additional 450 soldiers. How many soldiers does the division have altogether?" [2]



Figure 1. Illustration of a military division

To solve this problem, students apply their knowledge of reading natural numbers and performing multiplication and addition with natural numbers. The problem integrates knowledge of natural numbers and operations with natural numbers. It clearly illustrates intra-disciplinary integration within the Numbers and Operations strand.

Second, integration between Numbers and Operations and Geometry and Measurement is clearly reflected in the Grade 3 Mathematics textbook.

This integration is typically embedded in situations involving length, mass, capacity, temperature, time, and Vietnamese currency. Through these contexts, students not only strengthen their computational competence but also gain a deeper understanding of the practical significance of numbers and arithmetic operations.

For example, when solving problems involving length, students are required to identify the appropriate unit of measurement, read measurement values, perform calculations, and express the results using the correct unit. In shopping-related problems, students need to recognize denominations of Vietnamese currency, calculate the total amount of money, determine the remaining balance, or calculate the amount to be paid. In problems involving time, students are expected to read the time, determine

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time intervals, and apply addition and subtraction within appropriate contexts. Such tasks integrate at least three components: knowledge of numbers, computational skills, and an understanding of measurement.

Furthermore, the geometry content in the textbook is not presented independently of numbers and operations. When identifying, describing, or constructing geometric figures, students are often required to count vertices, sides, and angles; compare lengths; identify midpoints; and measure and calculate the lengths of line segments. Consequently, learning geometry simultaneously reinforces students' understanding of numbers, ordering relationships, and arithmetic operations.

This integration is particularly evident in the topics of perimeter and area. To calculate the perimeter of a triangle, quadrilateral, rectangle, or square, students must first identify the geometric figure correctly, determine its sides, read the given measurements, and select the appropriate addition or multiplication operation. When learning area, students observe how a surface is completely covered, count unit squares, compare area measurements, and apply multiplication where appropriate.

Example. "A farmer builds a fence around a rectangular vegetable garden that is 9 metres long and 5 metres wide. A 2-metre-wide entrance gate is left open. How many metres of fencing are needed?" [2].

To solve this problem, students first apply their geometric knowledge to recognize the shape as a rectangle and recall its properties. They then use measurement knowledge to interpret the given length and width. Next, students recognize that determining the length of the fence requires calculating the perimeter of the garden. They recall that the perimeter of a rectangle is calculated by adding its length and width (expressed in the same unit) and then multiplying the sum by two. Since a 2-metre entrance gate is left without fencing, students must subtract this length from the perimeter. Consequently, solving this problem requires students to integrate their understanding of geometric figures and their properties, the concept of perimeter, and addition and multiplication with natural numbers. The task therefore illustrates the flexible integration of Numbers and Operations, Geometry and Measurement, making it a representative example of intra-disciplinary integration across mathematical content strands.

Third, integration between Numbers and Operations and Statistics and Probability is also evident.

In statistical tasks, students collect, count, classify, record, and interpret data. Consequently, statistical content is built upon students' understanding of natural numbers, number comparison, and arithmetic operations. When interpreting data tables, students are often required to identify the category with the greatest or smallest quantity, calculate totals, determine differences between quantities, or answer questions based on the presented data.

Probability at the introductory level is likewise integrated with activities involving observation, classification, and counting. Through situations such as drawing an object from a box, spinning a spinner, or participating in games, students learn to distinguish between events that are possible, impossible, and certain. Although numerical probabilities are not yet introduced, these activities contribute to the development of predictive thinking and data-based reasoning.

Example. "The following table presents the numbers of books sold during the first three months of the year at a bookstore." [2].

Table 1: Number of books sold in the first three months of the year

Month	1	2	3
Book type			
Science books	280 books	200 books	320 books
Comic books	400 books	540 books	612 books

Based on the table above, answer the following questions:

- In Month 2, how many books of each type did the store sell?
- How many comic books did the store sell each month?
- In Month 1, how many books did the store sell in total?

To solve this task, students draw upon their knowledge of reading and interpreting data presented in statistical tables. They identify the numerical values associated with each statistical category in order to answer questions such as "How many books of each type were sold in February?" or "How many comic books were sold altogether over the three months?" Students apply their knowledge of reading natural numbers to interpret the quantities of each type of book sold during each month. In addition, to answer the question "How many books were sold altogether in January?", students apply addition with natural numbers. Thus, the task integrates knowledge from Statistics and Probability with Numbers and Operations.

Furthermore, the practical and experiential learning activities included in the textbook provide opportunities for students to mobilize and integrate knowledge from multiple mathematical content strands. Activities such as measuring the dimensions of objects, telling time, using money, constructing geometric figures, collecting data, or participating in mathematical games require students to combine mathematical knowledge with hands-on experiences. The outcomes of these activities may include

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measurements, statistical tables, drawings, computational strategies, or solutions to specific problems. Students are encouraged to select appropriate tools, propose solution strategies, discuss their ideas with classmates, and verify their results. Such activities establish meaningful connections among different mathematical content strands while fostering students' initiative and their ability to apply mathematics in practice.

3.2. Analysis of interdisciplinary integration in the Grade 3 Mathematics textbook

In the Grade 3 Mathematics textbook of the Knowledge Connecting with Life series, interdisciplinary integration refers to the use of knowledge, contexts, methods, or learning activities drawn from other school subjects to support the development and application of mathematical knowledge. Within this approach, mathematics remains the central discipline, while content from other subjects provides the context, data, learning resources, or learning products. Interdisciplinary integration is most clearly reflected in connections with Nature and Society, Moral Education, Experiential Activities, Arts, Technology, and Physical Education.

For example, the textbook includes the following problem: "Two buses take students on a visit to the Hồ Chí Minh Mausoleum. Each bus carries 45 students. How many students are visiting the Hồ Chí Minh Mausoleum altogether?" [2].

The problem uses hypothetical numerical data within a surrounding environment context involving students visiting the Hồ Chí Minh Mausoleum. After students apply their mathematical knowledge of natural numbers and multiplication to solve the problem, the teacher can integrate additional learning by introducing information about the Hồ Chí Minh Mausoleum. This task illustrates interdisciplinary integration, specifically with the subject Nature and Society, while simultaneously incorporating authentic contextual knowledge.



Figure 2. Ho Chi Minh Mausoleum, Vietnam

The teacher may introduce the Hồ Chí Minh Mausoleum as follows:

"The Hồ Chí Minh Mausoleum, also known affectionately as Uncle Hồ's Mausoleum, is located at No. 2 Hùng Vương Street, Ba Đình Ward, Hanoi. The mausoleum stands on the site of the former ceremonial platform in Ba Đình Square, where President Hồ Chí Minh proclaimed the Declaration of Independence on September 2, 1945."

Another example of interdisciplinary integration appears in the lesson on circles and circumferences. After students learn how to use a compass to draw circles, the textbook presents an activity that guides them through a three-step procedure for constructing a figure by following a given model.

a) Observe the model and draw the figure accordingly.

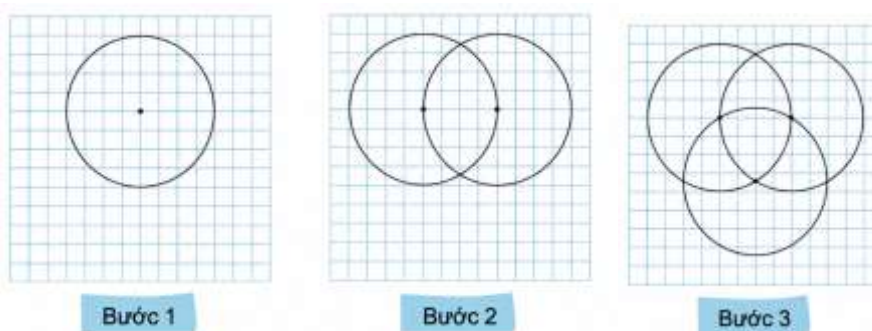


Figure 3: Illustration of drawing 3 circles with a compass.

b) Colour and decorate the figure you have drawn.

Students use a compass to draw three circles according to the given instructions, thereby creating a decorative figure before colouring it according to their own preferences. To complete the task, students are required to position the compass correctly, select appropriate radii, identify the intersections of the circles, and coordinate colours to produce an aesthetically pleasing design.

After completing the three-step construction process presented in the textbook, students colour and decorate the figure. They are free to choose colours according to their own preferences, creativity, and aesthetic sense. This task clearly illustrates interdisciplinary integration, with mathematics serving as the principal subject. The mathematical content is reflected in the use of a compass, the identification of the centre and radius, and the understanding of positional relationships among circles. The artistic

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component is represented through the creation of decorative designs, the selection of colours, the arrangement of visual elements, and the completion of the decorative pattern.

Thus, students use the compass as a technological tool to create a product, demonstrating integration with Informatics and Technology (specifically the Technology component), while the colouring and decoration activity illustrates integration with Arts (specifically the Visual Arts component).

In another context, the textbook presents the following problem: "During the Tree Planting Festival, Việt planted 5 trees. The Robot planted three times as many trees as Việt. How many trees did they plant altogether?" [2].

The problem describes Việt and the Robot participating in a tree-planting activity. Students are required to apply multiplication and addition to determine the total number of trees planted by the two participants. From the perspective of mathematics as the principal subject, the task reinforces the concept of multiplying a quantity by a given factor and solving a two-step word problem. At the same time, the context promotes values related to participation in community work, cooperation, and environmental responsibility. Consequently, the task can be integrated with Moral Education during classroom instruction. However, this integration is primarily at the level of educational enrichment. Students are not explicitly required to analyse behavioural norms; instead, positive values are fostered and reinforced naturally through the mathematical context.

Similarly, in problems involving helping family members, cooperating with classmates, saving money, working, protecting trees, preserving the environment, or using money responsibly, teachers may integrate content from Moral Education into mathematics lessons. In these cases, the contexts serve not only as the setting for mathematical problems but also as a means of fostering students' attitudes, values, and responsible behaviour.

The Grade 3 Mathematics textbook also employs a recurring group of characters—Robot, Mai, Nam, and Việt—who appear throughout the textbook. In one activity, these characters participate in a summer camp where they are allowed to choose two or three activities that do not overlap in time. The textbook then poses the following question: "Which activities would you choose to participate in? How would these activities take place?" [2].

The textbook introduces the situation as follows: "On the first day of the summer camp, we may choose to participate in two or three of the following activities, provided that their schedules do not overlap." [2].



Figure 4. Illustration of summer camp activities

To complete this activity, students are required to calculate and select appropriate activities and time slots so that they can participate in two or three activities without schedule conflicts. They then arrange the selected activities in chronological order. For example, students may choose one of the following combinations: wood painting – pottery making – making bánh giầy; Ring the Golden Bell – pottery making – making bánh giầy; making recycled toys – pottery making – making bánh giầy; and many other combinations that satisfy the scheduling requirements. Through this activity, students not only reinforce their understanding of time but also develop the ability to plan their schedules in a logical and systematic manner. The task illustrates the integration of mathematics with Experiential Activities while simultaneously fostering students' life skills.

Overall, interdisciplinary integration in the Grade 3 Mathematics textbook is reflected at three levels. First, integration is achieved through context, in which knowledge from other subjects provides the setting for mathematical tasks, such as tree planting, cooking, or participating in a summer camp. Second, integration occurs through knowledge and skills, where students draw upon their understanding of temperature, time, measuring instruments, or artistic design to complete mathematical tasks. Third, integration

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is reflected through learning activities and products, in which students conduct surveys, make measurements, construct tables, or develop plans.

3.3. Analysis of transdisciplinary integration in the Grade 3 Mathematics textbook

In the Grade 3 Mathematics textbook of the Knowledge Connecting with Life series, transdisciplinary integration is reflected through the use of real-life issues that connect mathematical knowledge with the knowledge, skills, and dispositions developed across multiple school subjects. Unlike interdisciplinary integration, which occurs within a particular lesson, transdisciplinary integration focuses on broader competencies and themes that can be developed throughout the curriculum, such as language use, problem solving, environmental protection, the use of tools, and time management. Among these, authentic real-world situations play a particularly important role because the objects, data, tools, and activities incorporated into the textbook all originate from everyday life.

First, transdisciplinary integration through authentic objects and data.

One notable feature is the textbook's use of real geographical locations, engineering structures, animals, everyday objects, and measurements associated with authentic real-world entities. For example, the textbook presents the following problem:

"The Robot has travelled across four bridges with the following lengths:" [2].



Figure 5. Illustration of the lengths of several bridges

- Which bridge is the longest and which is the shortest?
- Arrange the names of the bridges in descending order of length. [2]

Students read data on the lengths of several bridges in Vietnam and then identify the longest and the shortest bridge before arranging the bridges in descending order of length. This task is not merely an exercise in comparing four-digit numbers; it also connects mathematics with geography, transportation, and everyday life. The bridges are real engineering structures, and both their names and lengths are authentic information that can be verified from real-world sources. The transdisciplinary nature of the task lies in the fact that students are required to integrate reading comprehension skills developed in Vietnamese Language, knowledge of local geography and transportation infrastructure acquired through Nature and Society, and mathematical skills of reading, comparing, and ordering numbers. In this way, mathematical knowledge is applied to interpret authentic real-world information based on real data.

Another manifestation of transdisciplinary integration is found in authentic measurement activities. Students perform or simulate activities closely related to everyday life, such as measuring the dimensions of objects, weighing a quantity of rice, determining the amount of water in a container, or measuring air temperature. These activities establish meaningful connections among Mathematics, Technology, Nature and Society, and Experiential Activities.

A notable feature of these measurement activities is that the numerical data are not necessarily provided in advance but may be generated directly by the students themselves. Students are required to select appropriate measuring instruments, perform the measurements correctly, read the scales accurately, record the measurements, and compare the results. For example, when measuring the length of a real object, the measurement obtained depends on both the object selected and the way the student positions the ruler. Consequently, this represents a high level of authentic real-world integration: students perform genuine actions on real objects using real measuring tools and obtain authentic data. Mathematics not only guides the practical activity but also enables students to represent the results using numerical values and appropriate units of measurement.

For example, students may participate in a simulated real-life activity in which they select appropriate weights to measure exactly one kilogram of rice.

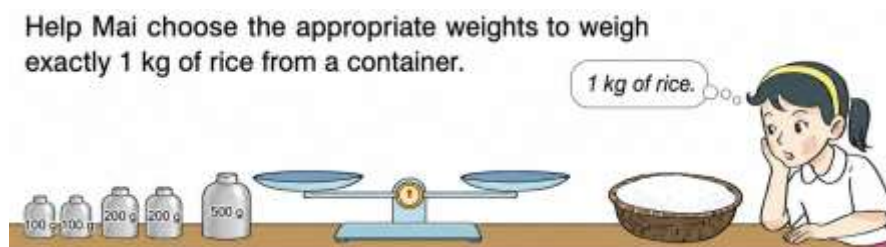


Figure 5. Illustration of students selecting appropriate weights

Students also engage in a practical activity in which they "use a thermometer to measure the air temperature on several days during the week and record the results in a table" [2].

Day	Monday	Tuesday	Wednesday
Temperature	°C	°C	°C

Through this activity, students observe natural phenomena, use measuring instruments, read numerical values, compare data, and communicate their observations using appropriate language. Consequently, the task not only integrates Mathematics with Nature and Society but also contributes to the development of scientific literacy, competence in using tools, and communication competence. The authenticity of the real-world context is ensured because students can use an actual thermometer to measure air or body temperature, record the measurements, and compare them with the situations presented in the textbook.

Furthermore, transdisciplinary integration is reflected through activities involving Vietnamese currency and consumer decision-making. The textbook introduces students to familiar shopping situations, including recognizing currency denominations, calculating the total amount of money, selecting appropriate banknotes, determining the amount paid, and calculating the remaining balance or change. Vietnamese currency is an authentic means of payment, while prices, quantities of goods, and buying-and-selling activities are all part of everyday life. Consequently, these tasks establish meaningful connections among Mathematics, financial education, Moral Education, Nature and Society, and Experiential Activities.

To solve these problems, students are required to apply addition, subtraction, multiplication, and their understanding of the relationships among different currency denominations. At the same time, they must consider purchasing affordability and select appropriate payment methods. The transdisciplinary value of these activities lies not only in performing correct calculations but also in developing responsible financial habits, including checking the amount to be paid and verifying the change received.

However, in the textbook, problems involving Vietnamese currency are still presented as hypothetical situations rather than authentic real-world experiences. For example, the following problem is provided:

At a school fair, Nam and Mai made lemonade to sell and raise money for charity. The table below shows the cost of the ingredients they bought to make the lemonade.

Item	Cost
Water	20 000 VND
Granulated sugar	14 000 VND
Limes	10 000 VND



- How much money do Nam and Mai need to buy the ingredients listed above?
- Nam and Mai earned 80 000 VND from selling lemonade. After subtracting the cost of the ingredients, how much money do they have left?

Figure 6. Illustration of a hands-on activity involving buying and selling with Vietnamese currency

Students are placed in a real-life context through a hypothetical situation. However, teachers may transform this hypothetical scenario into an authentic classroom activity in which students gain first-hand experience in buying and selling using Vietnamese currency.

In addition, transdisciplinary integration is reflected through activities involving the collection and analysis of authentic data. Students conduct surveys, record the number of respondents selecting each option, and interpret the results presented in a table. They directly ask their classmates for responses, so the data collected are authentic and represent the opinions of a specific group of individuals.

For example, the textbook presents the following task: "First, the whole class will choose a destination for a camping trip. The Robot suggests that we choose one of the following three locations: a national park, a farm, or a public park."

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Survey your classmates, record the data, and complete the following table:

Camping destination	National park	Farm	Public park
Number of students			

- a) How many students would like to camp in the national park? On the farm? In the public park?
b) The destination with the greatest number of votes will be selected. Where will your class go camping?" [2]

Although the problem is presented within a hypothetical context, students carry out authentic activities based on that situation. They are required to formulate clear survey questions, listen carefully to responses, record information accurately, classify the collected data, count the responses, and draw conclusions. Consequently, the task simultaneously develops communication and collaboration skills, fosters respect for different opinions, and encourages evidence-based decision-making. This represents one of the clearest examples of authentic real-world integration in the textbook, since the data are not entirely predetermined by the textbook authors but can instead be generated directly from the students' own learning environment.

Furthermore, transdisciplinary integration is also reflected through community-oriented activities such as tree planting, caring for school gardens, collecting learning materials, maintaining environmental cleanliness, and protecting animals. For example, the textbook presents the following problem: "To carry out our class's community service project, the students in Class 3A donated various school supplies. The quantities collected are recorded as follows:" [2].



- a) What types of school supplies did the students in Class 3A donate?
b) How many items of each type did they donate?
c) Which item was donated in the greatest quantity? Which item was donated in the smallest quantity?

Figure 7. Illustration of a task demonstrating transdisciplinary integration

This task clearly demonstrates transdisciplinary integration by situating statistical knowledge within the context of Class 3A's community service project. The core mathematical content involves reading and interpreting data represented by tally marks, identifying different types of school supplies, counting the quantity of each item (18 notebooks, 29 pencils, and 6 fountain pens), and comparing the quantities to determine which item is the most and the least frequently donated. Thus, students do not merely perform counting; they are also required to convert symbolic representations into natural numbers, classify objects, and draw conclusions from the data.

The transdisciplinary aspect is first reflected in the development of language competence. Students are required to comprehend the contextual description, recognize the meaning of the notation indicating that each tally mark represents one item, and express their answers verbally. This process integrates reading comprehension, information processing, and mathematical language, thereby helping students develop the ability to communicate their findings accurately, concisely, and with appropriate justification.

The context of the community service project also provides opportunities to integrate moral education, social responsibility, and collaborative skills. Working together to donate school supplies encourages students to develop a spirit of sharing, mutual support, responsibility toward the community, and appreciation for learning materials. Consequently, the task promotes qualities such as compassion, responsibility, and thrift, rather than merely assessing mathematical knowledge.

However, the level of transdisciplinary integration in this task is still largely limited to the contextual setting. The questions focus primarily on reading and comparing data and do not require students to evaluate the significance of the activity or propose ways to distribute the donated supplies. Teachers may extend the activity by asking questions such as: "How should Class 3A distribute these donated supplies?", "What could you do to participate in the community service project?", or by organizing authentic classroom activities in which students conduct surveys and create their own tally charts. Such extensions would strengthen the integration of mathematics with education for community responsibility while simultaneously promoting communication, collaboration, problem-solving, and creativity.

Overall, transdisciplinary integration in "the Grade 3 Mathematics textbook of the Knowledge Connecting with Life" series is reflected through meaningful connections between mathematics and broader issues encountered in learning and everyday life, including observing natural phenomena, using tools, managing time, making consumer decisions, protecting the environment, and processing information. Nevertheless, many tasks in the textbook still employ familiar objects while relying on hypothetical data and actions. Activities involving authentic measurement, surveys, timetable planning, tool use, and product creation more clearly represent authentic real-world integration because students directly engage in the activities, generate their own data, and verify the

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results. Therefore, to fully realize the potential of transdisciplinary integration, teachers should transform some textbook situations into authentic investigations, measurement activities, or problem-solving tasks carried out within students' homes, classrooms, and local communities.

4. RECOMMENDATIONS FOR INTEGRATED MATHEMATICS TEACHING IN GRADE 3

The analysis indicates that the integrated elements embedded in “the Grade 3 Mathematics textbook of the Knowledge Connecting with Life” series have contributed to connecting mathematical knowledge with the natural world, society, and students' everyday experiences. Nevertheless, several issues deserve further attention during textbook implementation and classroom instruction.

First, most integrated content remains at the level of contextualization or contextual embedding. Knowledge from Nature and Society, Vietnamese Language, Moral Education, Arts (Visual Arts), and Experiential Activities is primarily used as contextual material for mathematical tasks. Therefore, not every word problem situated in a real-life context should automatically be regarded as an interdisciplinary task. During instruction, teachers should explicitly clarify that mathematics remains the principal subject while identifying which knowledge from other disciplines is mobilized to solve the problem.

Second, although many tasks employ authentic contexts, the numerical data and events remain hypothetical. Situations involving shopping, food consumption, cooking, tree planting, or environmental protection are familiar to students, yet learners generally work only with the information provided rather than interacting directly with real objects or situations. Consequently, teachers should transform some textbook exercises into authentic investigations, observations, measurement activities, practical tasks, or data collection projects conducted in classrooms, homes, and local communities.

Third, several important areas of integration remain underdeveloped, particularly financial education, environmental education, digital competence, and digital citizenship. Teachers should therefore design supplementary learning tasks to strengthen these aspects of integrated learning.

Fourth, many real-life contexts serve primarily as illustrations for mathematical operations rather than presenting genuine problems that require students to make decisions or select appropriate solution strategies. The given information is usually complete, the expected answer is explicit, and the solution procedure is relatively straightforward. Teachers should therefore design additional open-ended questions that allow multiple solution strategies or require students to justify the reasonableness of their answers.

Fifth, opportunities for collaboration and communication within integrated tasks remain limited. Most textbook exercises can be completed individually, whereas authentic real-world problems often require students to divide responsibilities, exchange ideas, reach consensus, and present collective findings. Consequently, when organizing classroom activities, teachers should create more opportunities for students to communicate, collaborate, and learn from one another.

5. CONCLUSION

The analysis indicates that integrated elements in “the Grade 3 Mathematics textbook of the Knowledge Connecting with Life” series are represented in a relatively comprehensive manner through three dimensions: intradisciplinary, interdisciplinary, and transdisciplinary integration. Intradisciplinary integration is reflected in the connections among the strands of Numbers and Operations, Geometry and Measurement, and Statistics and Probability. Interdisciplinary integration is achieved through links between mathematics and Nature and Society, Moral Education, Visual Arts, Technology, and Experiential Activities. Transdisciplinary integration is manifested through activities involving measurement, data collection, the use of money, time management, environmental protection, and participation in community activities.

Nevertheless, many integrated tasks remain at the level of contextual association or rely on hypothetical situations, providing limited opportunities for students to conduct authentic investigations, generate their own data, or select appropriate solution strategies. Therefore, teachers should actively transform textbook situations into practical learning activities, incorporate more open-ended questions, and organize collaborative learning experiences. Such efforts will enhance both the authenticity and the effectiveness of integrated mathematics teaching in Grade 3.

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