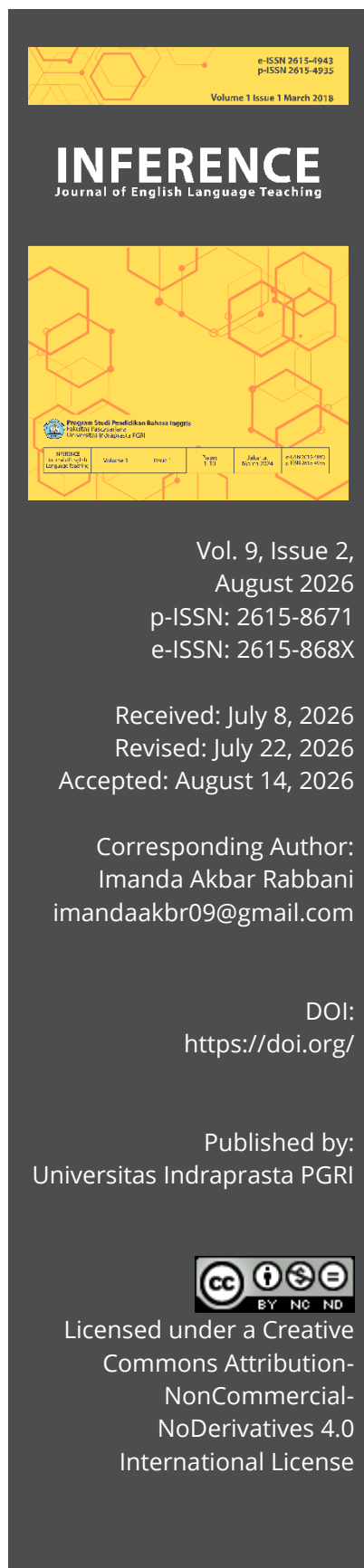




RESEARCH ARTICLE

THE DEVELOPMENT OF ENGLISH EARLY LITERACY AND NUMERACY WORKSHEETS FOR YOUNG LEARNERS AGED 5-6 YEARS

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Abstract: The limited availability of contextually appropriate English instructional materials integrating early literacy and numeracy has become a challenge in supporting English as a Foreign Language (EFL) learning for young children in Indonesia. Therefore, this Research and Development (R&D) study aimed to develop and evaluate the feasibility of an integrated English early literacy and numeracy worksheet for kindergarten children aged 5–6 years. The study employed the ADDIE model, consisting of Analysis, Design, Development, Implementation, and Evaluation stages. Data were collected through needs analysis interviews, expert validation questionnaires, and student response questionnaires completed by parents during field trials at RA Banu Ahyar 2. The findings indicated that the developed worksheet achieved high validity, obtaining scores of 90% from material experts, 80% from a language expert, and 97% from a media expert. In addition, the worksheet demonstrated high practicality, with scores of 91% in the small-group trial and 90% in the limited field trial. Overall, the worksheet obtained an average feasibility score of 89.6%, indicating that it is categorized as “Very Feasible” for use in early childhood education. These findings imply that the developed bilingual worksheet can serve as a contextual instructional resource to support early English literacy and numeracy development, while providing Indonesian EFL teachers with age-appropriate learning materials for young learners.

Keywords: Early literacy; numeracy; bilingual worksheet; young learners; research and development.

PENGEMBANGAN LEMBAR KERJA LITERASI DAN NUMERASI AWAL BAHASA INGGRIS UNTUK ANAK USIA 5-6 TAHUN

Abstrak: Penelitian dan Pengembangan (*Research and Development/R&D*) ini dilatarbelakangi oleh terbatasnya ketersediaan bahan ajar bahasa Inggris yang kontekstual dan mengintegrasikan literasi serta numerasi awal bagi anak usia 5–6 tahun di Indonesia. Penelitian ini bertujuan untuk mengembangkan dan mengevaluasi kelayakan lembar kerja dwibahasa yang mengintegrasikan literasi dan numerasi awal sebagai media pendukung pembelajaran bahasa Inggris bagi anak usia dini. Penelitian ini menggunakan model ADDIE yang meliputi tahap *Analysis, Design, Development, Implementation, dan Evaluation*. Data dikumpulkan melalui wawancara analisis kebutuhan,

angket validasi ahli, serta angket respons pengguna yang diisi oleh orang tua pada uji kelompok kecil dan uji lapangan terbatas di RA Banu Ahyan 2. Hasil penelitian menunjukkan bahwa lembar kerja yang dikembangkan memperoleh skor validasi sebesar 90% dari ahli materi, 80% dari ahli bahasa, dan 97% dari ahli media. Selain itu, hasil uji kepraktisan menunjukkan skor 91% pada uji kelompok kecil dan 90% pada uji lapangan terbatas. Secara keseluruhan, lembar kerja memperoleh skor rata-rata kelayakan sebesar 89,6% dan termasuk dalam kategori **“Sangat Layak”** untuk digunakan pada pendidikan anak usia dini. Temuan penelitian ini mengimplikasikan bahwa lembar kerja dwibahasa yang dikembangkan dapat menjadi alternatif bahan ajar yang kontekstual untuk mendukung pengembangan literasi, numerasi awal, dan pembelajaran bahasa Inggris sebagai bahasa asing (*English as a Foreign Language/EFL*) pada pendidikan anak usia dini di Indonesia.

Kata kunci: Literasi awal; numerasi; lembar kerja dwibahasa; anak usia dini; penelitian dan pengembangan.

INTRODUCTION

Early childhood, particularly the age of 5–6 years, represents a critical transitional stage between play-based preschool education and the more structured learning environment of primary school. During this period, children develop fundamental cognitive abilities that support their future academic achievement, especially in early literacy and numeracy (Linse, 2005). According to Clements and Sarama (2019), literacy and numeracy are interconnected competencies that enable children to interpret symbols, communicate ideas, and understand their surrounding environment. At the pre-operational stage, children learn most effectively through meaningful, concrete, and integrated learning experiences that correspond to their cognitive development. Therefore, instructional materials designed for young learners should promote the simultaneous development of language, literacy, and numeracy rather than treating them as separate learning domains.

In Indonesia, the increasing emphasis on English as a Foreign Language (EFL) has highlighted the importance of preparing children with basic English exposure before entering elementary school. The Ministry of Education, Culture, Research, and Technology has introduced a policy that strengthens English learning in elementary education (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2024). This policy encourages early preparation to facilitate children’s transition into formal English learning. However, this expectation presents greater challenges for many kindergartens. As highlighted by Copland, Garton, and Burns (2014), schools located in rural areas frequently struggle with limited access to contextual English learning materials, appropriate instructional media, and qualified English teachers. Such conditions often make it difficult for teachers to implement meaningful English learning experiences that are appropriate for young learners. As a result, children frequently enter elementary school with minimal exposure to English, creating additional challenges when they begin formal English instruction.

Based on a preliminary observation and a semi-structured interview conducted in February 2026 at RA Banu Ahyan 2, Sukabumi Regency, several practical and pedagogical issues were identified. The needs analysis revealed that English learning materials available in the classroom were still limited and primarily focused on introducing isolated vocabulary without integrating early literacy and numeracy activities. Classroom instruction was predominantly conducted in the children’s first language, resulting in minimal exposure to English before entering elementary school. Furthermore, the existing worksheets tended to separate literacy and numeracy activities and were generally printed in relatively small formats, limiting children’s hand movements during tracing and writing tasks that are essential for fine motor development. These findings indicate the need for integrated bilingual instructional materials that

simultaneously support children's language, literacy, numeracy, and motor skill development. According to Pinter (2017), young learners learn more effectively when language is presented through meaningful, contextualized, and theme-based activities.

To overcome these issues, this study proposes the development of an integrated bilingual English worksheet specifically designed for kindergarten children aged 5–6 years. The worksheet integrates early literacy and numeracy activities into a single thematic unit entitled *Parts of the Body*. It also employs bilingual instructions to facilitate children's comprehension while enabling teachers and parents with varying levels of English proficiency to provide effective learning support. This bilingual approach is theoretically supported by the concept of translanguaging, which emphasizes the strategic use of learners' first language to scaffold second-language learning and reduce cognitive load (García & Wei, 2014). Recent evidence from Indonesian EFL contexts also indicates that translanguaging helps learners understand instructional content more effectively, increases classroom participation, and creates more inclusive learning environments by allowing teachers and learners to utilize both English and their first language strategically. These findings demonstrate that translanguaging is not merely a translation technique but a pedagogical strategy that supports language learning while maintaining learners' cognitive and linguistic resources (Rasmin et al., 2024). Furthermore, the worksheet adopts an A4 format to provide sufficient writing space for tracing, matching, counting, and other learning activities that support children's fine motor development.

Previous studies highlighted the importance of developing English learning materials for young learners. Hertiki (2018) designed instructional media emphasizing English number recognition and counting vocabulary. Although studies like this have contributed to English language instruction, they mainly focused on individual aspects of learning and did not integrate early literacy, early numeracy, bilingual instruction, and fine motor skill development within a single instructional resource. Therefore, there remains a need for contextual instructional materials that holistically combine these components into one bilingual worksheet specifically designed for children aged 5–6 years. This study addresses this gap by developing an integrated bilingual English worksheet that aligns with children's cognitive characteristics, language development, and motor skills while supporting English as a Foreign Language learning in early childhood education.

The significance of this study lies in both its theoretical and practical contributions to the field of Teaching English to Young Learners (TEYL). Theoretically, this study contributes to the integration of English early literacy and early numeracy through a bilingual thematic learning approach that is developmentally appropriate for preschool children. Practically, the developed worksheet provides teachers and parents with an alternative instructional resource that facilitates English learning while simultaneously promoting literacy, numeracy, and fine motor development. The worksheet is expected to support more engaging, meaningful, and contextual learning experiences for children in early childhood education settings.

To maintain a focused investigation, this study is limited to the development of a physical A4-sized bilingual worksheet centered on the *Parts of the Body* theme for kindergarten children aged 5–6 years. The study employed the ADDIE instructional design model and focused on evaluating the feasibility and practicality of the developed product through expert validation and field trials rather than measuring its instructional effectiveness through an experimental design. Therefore, this study aimed to describe the development process and determine the feasibility of an integrated bilingual English early literacy and numeracy worksheet for kindergarten children aged 5–6 years.

RESEARCH METHOD

This study employed the Research and Development (R&D) method to design, develop, and evaluate an integrated bilingual English early literacy and numeracy worksheet for kindergarten children aged

5–6 years. Research and Development was selected because the primary objective of this study was not merely to investigate an educational phenomenon but to produce an instructional product that addresses practical learning needs in early childhood education. The development process followed the ADDIE instructional design model, which consists of five systematic stages: Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). The ADDIE model was selected because it provides a structured, flexible, and iterative framework that enables educational products to be developed systematically through continuous revision based on expert validation and user feedback.

The research was conducted at RA Banu Ahyar 2, Sukabumi Regency, West Java, Indonesia, involving kindergarten children aged 5–6 years. The participants included one classroom teacher who participated in the needs analysis interview, three expert validators, and kindergarten students who participated in the product trials. The expert validators consisted of material experts, a language expert, and a media expert, each responsible for evaluating different aspects of the developed worksheet. Material experts assessed the appropriateness of the learning content and its alignment with early childhood educational objectives. The language expert evaluated the clarity, readability, and appropriateness of the bilingual instructions, whereas the media expert examined the worksheet's visual design, layout, illustrations, and overall usability for young learners.

Data collection was conducted throughout the ADDIE development process using several complementary research instruments. During the Analysis stage, a semi-structured interview was conducted with the classroom teacher to identify existing learning conditions, instructional challenges, and the need for integrated English learning materials. The information obtained from this interview served as the basis for designing the worksheet and determining its instructional content.

During the Design stage, the worksheet framework was developed by integrating early English literacy and numeracy activities within the thematic topic Parts of the Body. Learning objectives, activity sequences, worksheet layouts, illustrations, bilingual instructions, and assessment components were carefully designed to correspond with the cognitive, linguistic, and motor characteristics of children aged 5–6 years.

The Development stage involved producing the initial prototype of the worksheet followed by expert validation. Three expert validators independently evaluated the product using structured validation questionnaires. Their suggestions and recommendations were subsequently incorporated into the product revision before implementation.

The Implementation stage consisted of two successive field trials. The initial trial was conducted with a small group of 12 kindergarten students to obtain preliminary user responses and identify possible improvements. After revising the product, a limited field trial involving 24 kindergarten students was conducted to evaluate the worksheet under broader classroom conditions. Considering that the participants were preschool children whose reading and writing abilities were still developing, the response questionnaires were completed by their parents. Parents evaluated the worksheet based on their observations while accompanying their children during the learning activities.

The Evaluation stage was carried out continuously throughout the development process. Feedback obtained from expert validation and field trials was analyzed to determine the strengths and weaknesses of the worksheet and to make necessary revisions before producing the final version of the instructional product.

The research employed three main instruments: interview guidelines, expert validation questionnaires, and parent response questionnaires. The interview guidelines were used to collect qualitative information regarding classroom needs during the analysis stage. The validation questionnaires measured the product's feasibility in terms of material quality, language use, and media design. Meanwhile, the parent response questionnaires assessed the practicality of the worksheet during the implementation stage. All questionnaires used a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The quantitative data obtained from the validation and response questionnaires were analyzed using descriptive percentage analysis. The percentage score for each assessment aspect was calculated by comparing the total obtained score with the maximum possible score and then multiplying the result by one hundred percent. The obtained percentages were subsequently interpreted according to the product feasibility criteria adapted from Sugiyono (2019), as presented in Table 1.

Table 1.
Product Feasibility Criteria

Percentage (%)	Category
81% - 100%	Very Feasible
61% - 80%	Feasible
41% - 60%	Feasible Enough
21% - 40%	Not Feasible
0% - 20%	Very Not Feasible

Source: Adapted from Sugiyono (2019)

RESULTS AND DISCUSSION

The development of the bilingual English early literacy and numeracy worksheet followed the systematic stages of the ADDIE instructional design model, namely Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). The model was employed to ensure that the developed instructional product addressed the actual learning needs of kindergarten children aged 5–6 years while fulfilling pedagogical, linguistic, and media quality standards. Each development stage was carried out sequentially, allowing continuous revisions based on expert feedback before the product was implemented in the classroom.

During the Analysis stage, a needs analysis was conducted through classroom observation and a semi-structured interview with the classroom teacher at RA Banu Ahyar 2, Sukabumi Regency. The findings revealed several instructional challenges related to English learning for young learners. First, the school did not have a specific English worksheet designed for kindergarten children. Existing instructional materials mainly introduced isolated English vocabulary without integrating early literacy and numeracy activities into meaningful learning experiences. Consequently, English learning tended to emphasize vocabulary memorization rather than encouraging children to develop language skills through contextualized activities.

The needs analysis also indicated that classroom instruction relied predominantly on the children's first language, resulting in limited opportunities for English exposure before entering elementary school. Furthermore, the available worksheets separated literacy and numeracy activities into different exercises and were generally printed in relatively small formats, restricting children's hand movements during tracing and writing activities. Since children aged 5–6 years are still developing fine motor coordination, these worksheet characteristics were considered less supportive of their developmental needs. Therefore, the preliminary findings confirmed the necessity of developing instructional materials that integrate English learning with early literacy and numeracy while simultaneously supporting children's cognitive and motor development.

These findings support the view of Pinter (2017), who argues that young learners acquire language more effectively through meaningful, contextualized, and theme-based learning experiences rather than through isolated vocabulary instruction. Likewise, Clements and Sarama (2019) emphasize that literacy and numeracy should be developed simultaneously because both competencies contribute to children's overall cognitive development. Accordingly, the needs analysis became the primary foundation for designing an integrated instructional product that combines English vocabulary, literacy, and numeracy within a single thematic learning experience.

Based on the identified instructional needs, the Design stage focused on developing a bilingual English worksheet centered on the theme "Parts of the Body." This theme was selected because it represents one of the most familiar and concrete concepts for preschool children, enabling them to connect newly introduced English vocabulary with their everyday experiences. The worksheet was designed in an A4 format to provide sufficient writing space for tracing, matching, counting, coloring, and picture-identification activities that simultaneously support children's language acquisition and fine motor development.

In addition to its physical design, the worksheet incorporated bilingual instructions in both Indonesian and English. This bilingual format was intentionally adopted to facilitate communication between children, parents, and teachers during learning activities. Rather than functioning merely as direct translations, the bilingual instructions served as instructional scaffolding that enables children to understand learning tasks while gradually becoming familiar with English vocabulary. This design is consistent with García and Wei's (2014) concept of translanguaging, which recognizes learners' first language as a valuable cognitive resource for facilitating second-language acquisition and reducing cognitive load during the learning process.

The worksheet prototype was subsequently developed using the Canva digital design platform. Particular attention was given to visual balance, typography, illustration quality, color selection, and the organization of learning activities to ensure that the worksheet remained developmentally appropriate and visually engaging for kindergarten learners. The completed prototype integrated vocabulary recognition, letter tracing, counting activities, matching exercises, coloring tasks, and simple writing practices into a coherent thematic learning sequence.



Figure 1.
The Design of the Bilingual Worksheet

Figure 1 illustrates the prototype of the developed bilingual worksheet. The worksheet combines colorful illustrations, age-appropriate typography, and a well-organized layout to attract children's attention and maintain their engagement throughout the learning activities. Each activity was

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systematically designed to integrate English vocabulary, early literacy, early numeracy, and fine motor skill development within the thematic topic Parts of the Body. Furthermore, the bilingual instructions enable teachers and parents to guide children more effectively while introducing English in a supportive and meaningful learning environment.

Following the completion of the initial prototype, the worksheet entered the Development stage, during which it underwent expert validation to evaluate its pedagogical quality, language appropriateness, and media design. Expert validation is an essential stage in Research and Development studies because it ensures that the developed product satisfies educational standards before being implemented in authentic classroom settings.

The results of the expert validation are presented in Table 2.

Table 2.
Expert Validation Results

Expert	Score (%)	Category
Material Expert	90%	Very Feasible
Language Expert	80%	Feasible
Media Expert	97%	Very Feasible
Average Score	89%	Very Feasible

The expert validation results demonstrate that the developed worksheet achieved a high level of overall feasibility, obtaining an average validation score of 89%, which falls within the “Very Feasible” category. The material experts awarded a score of 90%, indicating that the worksheet successfully integrates English vocabulary, early literacy, and numeracy activities in accordance with the developmental characteristics of kindergarten children. The thematic learning activities were considered relevant to the instructional objectives and appropriate for supporting children's cognitive development.

Overall, the high validation scores obtained from the three experts indicate that the worksheet successfully fulfilled multiple dimensions of instructional quality, including content relevance, language appropriateness, and visual presentation. This finding suggests that the integration of English vocabulary, early literacy, and numeracy within a single thematic worksheet is pedagogically appropriate for kindergarten children aged 5–6 years. The consistency of the validation results across different expert perspectives also demonstrates that the developed product satisfies the essential characteristics of an effective instructional medium for early childhood education. Such consistency is particularly important because instructional materials intended for young learners should simultaneously address developmental suitability, language accessibility, and visual attractiveness to maximize children's learning engagement.

The language expert assigned a score of 80%, categorizing the worksheet as “Feasible.” Although the bilingual instructions were generally considered clear and understandable, several recommendations were provided to improve language consistency, sentence clarity, and the readability of instructional prompts. These suggestions were incorporated during the revision process to ensure that parents and teachers with different levels of English proficiency could easily understand and implement the learning activities.

The recommendations provided by the language expert primarily focused on improving the consistency and readability of the bilingual instructional texts rather than modifying the learning content itself. This finding indicates that the overall language quality of the worksheet had already met the basic requirements for early childhood instructional materials, while only minor linguistic refinements were

necessary to enhance clarity. The revision of sentence structures, vocabulary choices, and instructional prompts further strengthened the worksheet's accessibility, enabling parents and teachers with varying levels of English proficiency to facilitate children's learning more confidently and effectively.

The highest validation score was obtained from the media expert (97%), indicating that the worksheet fulfilled important visual design principles for early childhood learning. The expert highlighted the appropriate use of colorful illustrations, balanced layouts, sufficient writing space, attractive typography, and clear activity organization. These visual characteristics are particularly important because children aged 5–6 years learn more effectively through concrete visual representations and interactive learning materials that encourage active participation.

The exceptionally high score awarded by the media expert reflects the effectiveness of the worksheet's visual and instructional design in supporting early childhood learning. Attractive illustrations, balanced page layouts, appropriate typography, and sufficient writing space contribute to creating an engaging learning environment that corresponds to the developmental characteristics of children aged 5–6 years. These visual elements not only increase children's motivation to participate in learning activities but also facilitate their understanding by presenting information in a concrete and organized manner. Therefore, the media validation results indicate that the worksheet successfully combines aesthetic quality with educational functionality, making it suitable for practical implementation in kindergarten classrooms and home learning environments.

Based on the recommendations provided by the validators, several revisions were implemented before the worksheet proceeded to the implementation stage. One of the most significant improvements was the addition of interactive ice-breaking activities between learning sections to facilitate smoother transitions from one topic to another while maintaining children's attention and motivation. Minor revisions were also made to improve the clarity of bilingual instructions and the overall organization of several learning activities. These revisions enhanced both the instructional quality and practical usability of the worksheet, resulting in a final prototype that was considered appropriate for field implementation.

The revision process played an important role in refining the quality of the developed worksheet before it was implemented in the field. Rather than changing the fundamental design of the product, the revisions focused on improving its instructional effectiveness, language clarity, and user friendliness based on expert feedback. This iterative process ensured that the worksheet not only met academic standards but also addressed the practical needs of teachers, parents, and young learners. Incorporating expert recommendations prior to implementation increased the product's readiness for classroom application and strengthened its overall feasibility as an instructional resource for early childhood English learning.

After the worksheet had been revised according to the recommendations provided by the expert validators, the product proceeded to the Implementation stage. This stage aimed to evaluate the practicality and usability of the developed bilingual worksheet in authentic learning situations involving kindergarten children aged 5–6 years. Because the participants were preschool children whose literacy skills were still emerging, parents were asked to accompany their children during the learning activities and subsequently complete the response questionnaires based on their observations and experiences throughout the implementation process.

The implementation was conducted in two successive stages. The first stage consisted of a small-group trial involving 12 kindergarten students, while the second stage consisted of a limited field trial involving 24 kindergarten students. Conducting the implementation in two stages enabled the researcher to evaluate the practicality of the worksheet on a smaller scale before confirming its usability with a larger group of participants. This procedure is consistent with the principles of Research and Development, in which educational products are gradually refined through iterative testing before wider application.

The overall results of both implementation stages are summarized in Table 3.

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Table 3.
Field Trial Results

Trial Stage	Number of		Category
	Students	Score (%)	
Small Group Trial	12	91%	Very Feasible
Limited Field Trial	24	90%	Very Feasible
Average Score		90.5%	Very Feasible

The results presented in Table 3 indicate that the developed worksheet achieved a high level of practicality during both implementation stages. The small-group trial obtained an overall practicality score of 91%, while the limited field trial achieved 90%. According to the product feasibility criteria, both scores fall within the “Very Feasible” category, indicating that the worksheet was considered practical and appropriate for supporting English early literacy and numeracy learning among kindergarten children.

Overall, the consistently high practicality scores obtained from both implementation stages demonstrate that the developed worksheet was well accepted by its intended users. The small difference between the small-group trial (91%) and the limited field trial (90%) indicates that the worksheet maintained its practicality and usability when implemented with a larger number of participants. This consistency suggests that the instructional design, bilingual content, and learning activities were sufficiently adaptable to different classroom conditions while continuing to meet the learning needs of kindergarten children aged 5–6 years.

During the small-group trial, parents generally reported that the worksheet was easy to understand and simple to implement during home-assisted learning activities. The bilingual instructions enabled parents to guide their children confidently despite having different levels of English proficiency. In addition, the colorful illustrations and well-organized learning activities successfully maintained children’s attention and motivation throughout the learning process. These positive responses suggest that the worksheet effectively supported interactive learning experiences between parents and children.

The detailed questionnaire analysis further demonstrates consistently positive evaluations across all assessment aspects. The appearance aspect obtained percentages ranging from 90% to 92%, indicating that parents considered the worksheet visually attractive and appropriate for young learners. The use of colorful illustrations, balanced page layouts, and adequate writing space contributed to creating a learning environment that was both engaging and developmentally appropriate. These findings suggest that visual presentation plays an important role in maintaining children’s learning interest during early childhood instructional activities.

The favorable evaluation of the appearance aspect indicates that the visual design successfully supported children’s engagement throughout the learning activities. At the pre-operational stage, children rely heavily on concrete visual representations to understand new concepts. Therefore, the use of attractive illustrations, appropriate colors, and sufficient writing space not only enhanced the aesthetic quality of the worksheet but also facilitated children’s cognitive engagement and sustained attention during learning tasks.

Similarly, the presentation aspect received scores ranging from 88% to 95%, reflecting parents’ positive perceptions regarding the sequence and organization of learning activities. The worksheet presents English vocabulary through a logical progression beginning with vocabulary recognition and

continuing with tracing, matching, counting, and simple writing activities. Such sequencing enables children to gradually construct new knowledge without experiencing excessive cognitive demands.

The language aspect also received favorable evaluations, obtaining percentages between 87% and 93%. These findings indicate that the bilingual instructions were sufficiently clear to support parents while accompanying their children during learning activities. Although English served as the target language, the inclusion of Indonesian instructions reduced potential misunderstandings and enabled learning activities to be completed more effectively. Consequently, the bilingual approach functioned not only as a language-support strategy but also as practical instructional guidance for parents acting as learning facilitators.

The positive evaluation of the language aspect further supports the effectiveness of bilingual instruction in early childhood learning. The combination of English vocabulary with Indonesian explanations enabled parents to provide appropriate assistance while gradually introducing children to English in meaningful contexts. This finding aligns with García and Wei (2014), who argue that learners' first language can function as a cognitive resource that facilitates second-language learning through translanguaging. In the present study, bilingual instructions not only improved comprehension but also encouraged active interaction between parents and children during learning activities.

Likewise, the usefulness aspect achieved consistently high percentages ranging from 90% to 93%. Parents perceived that the worksheet effectively supported multiple aspects of children's development simultaneously, including English vocabulary acquisition, early literacy, early numeracy, and fine motor skills. Rather than functioning merely as an English worksheet, the product provided integrated learning experiences that encouraged children to perform several foundational learning activities within a single thematic context.

The high usefulness ratings indicate that the worksheet functioned as more than a conventional English learning material. By integrating vocabulary learning, early literacy, numeracy, and fine motor activities within a single thematic unit, the worksheet supported multiple aspects of children's development simultaneously. This integrated approach is consistent with Clements and Sarama (2019), who emphasize that literacy and numeracy should be developed together during early childhood because both competencies contribute to children's cognitive growth. Moreover, the active involvement of parents during worksheet implementation reflects Vygotsky's concept of scaffolding, whereby adult guidance supports children in completing learning tasks that they may not yet accomplish independently.

Following the revisions made after the small-group implementation, the worksheet was subsequently evaluated through a limited field trial involving 24 kindergarten students. The practicality score obtained during this stage (90%) remained highly consistent with the previous implementation. The slight difference of only one percentage point demonstrates that the worksheet maintained its usability and instructional quality even when implemented with a larger number of participants. This consistency indicates that the developed product possesses stable practical value and can be applied effectively under broader learning conditions.

Overall, the implementation results demonstrate that the developed bilingual worksheet is not only feasible according to expert validation but also highly practical from the users' perspective. The consistently positive responses obtained from parents indicate that the worksheet successfully facilitates English early literacy and numeracy learning while encouraging meaningful interaction between children and their learning companions. Therefore, the product can be considered an appropriate instructional medium for supporting English learning among kindergarten children aged 5–6 years.

The findings of this study are generally consistent with previous studies highlighting the importance of contextual instructional materials for Teaching English to Young Learners (TEYL). Sari and Jufri (2019) demonstrated that English worksheets could effectively improve children's vocabulary acquisition through contextual learning activities, while Hertiki (2018) reported that thematic English materials successfully introduced English concepts to preschool learners. Similarly, Rasmin et al. emphasized that developmentally appropriate learning materials increase children's engagement and facilitate meaningful learning experiences. However, unlike these previous studies, the worksheet

developed in the present research integrates English vocabulary, early literacy, early numeracy, bilingual instruction, and fine motor activities within a single thematic learning resource. This integration represents the main contribution of the study because it supports multiple developmental domains simultaneously while remaining practical for implementation in kindergarten classrooms and home-assisted learning environments.

CONCLUSIONS

This study successfully developed an integrated bilingual English early literacy and numeracy worksheet for kindergarten children aged 5–6 years by applying the ADDIE instructional design model. The findings demonstrate that the developed worksheet achieved a “Very Feasible” level based on expert validation and field implementation, indicating that it meets the pedagogical, linguistic, and visual requirements for early childhood learning materials. The integration of English vocabulary, early literacy, and numeracy activities within the familiar theme Parts of the Body, supported by bilingual instructions and an age-appropriate visual design, enabled the worksheet to effectively accommodate the developmental characteristics of young learners while facilitating parental and teacher assistance during the learning process.

Theoretically, this study contributes to the field of Teaching English to Young Learners (TEYL) by demonstrating that bilingual thematic worksheets can serve as an effective medium for integrating early English learning with literacy and numeracy development in early childhood education. The findings also support the application of translanguaging as a pedagogical strategy that enables children to access new language concepts through their first language while gradually developing English proficiency. Practically, the developed worksheet provides teachers and parents with an alternative instructional resource that promotes meaningful, contextual, and engaging learning experiences in both classroom and home environments.

Despite these positive findings, this study was limited to evaluating the feasibility and practicality of the developed product in a single kindergarten setting and did not examine its instructional effectiveness through an experimental design. Therefore, future research is recommended to investigate the effectiveness of the worksheet in improving children’s English vocabulary, early literacy, and numeracy achievement through experimental or quasi-experimental studies involving larger and more diverse participant groups. Furthermore, future studies may expand the worksheet by incorporating additional thematic units or interactive digital features to enrich children’s learning experiences and support the development of English listening and speaking skills.

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