

Fostering Toddlers' Confidence Development in their Early Childhood Literacy

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ABSTRACT

The Reading Seed Programme (RSP) is an early childhood literacy initiative that has strong potential to support UNESCO's Sustainable Development Goal 4 (SDG 4) by fostering a culture of reading. This programme, which begins as early as pregnancy, has demonstrated its effectiveness in building toddlers' confidence in reading through parental involvement. This study employed purposive sampling to gather data from parents involved in the RSP, revealing that the programme has a beneficial effect on children's early literacy development. However, several areas require improvement to enhance its effectiveness. These include tailoring the programme to individual learning needs, integrating robust monitoring systems, strengthening training for facilitators, establishing a strategic roadmap for outcomes, and clarifying the programme's attitudinal goals. To achieve global recognition as a leading early childhood literacy initiative, the RSP must continuously refine its implementation strategies and expand its reach to more communities in Sarawak.

Keywords: confidence development, early childhood literacy, self-efficacy, reading seed program, UNESCO SDG 4

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INTRODUCTION

In achieving the national satisfactory level of literacy, effective reading development programmes (RDPs) need to be developed and conducted to help children learn to read effectively, as well as to identify the elements that hinder the children's learning abilities to read and to recognise the roles of the child's supporting systems, such as family, library, and society. According to Braunger and Lewis (1997), cultural differences, poverty, language acquisition, special needs, and implications for struggling readers are the influencing factors in literacy learning. Early childhood literacy programmes are the foundation of education, profoundly influencing educated and knowledgeable individuals and communities. Thus, early childhood literacy programmes are the essential pillars of education that transform lives and communities, as outlined in UNESCO's SDG 4 initiative on Education for Sustainable Development, particularly in terms of preventing child isolation and promoting family care (UNESCO, 2024).

In terms of urban-rural inequalities, the literacy rate in the rural areas of Sarawak has been substantially lower than in urban areas, and the state of Sarawak records an average of 35,626 births annually, as reported by the Sarawak Department of Health (Ministry of Education Malaysia, 2012). The Malaysian education system comprises five primary stages: preschool, primary, secondary, post-secondary, and tertiary education. After six years of mandatory primary school, the students must complete five years of secondary school. Students have various options for post-secondary programmes, which may lead to their choice of tertiary education at universities, polytechnics, or other higher learning institutions. The national school examination is conducted solely at the end of secondary school years (*Sijil Pelajaran Malaysia or SPM*). In 2020, Sarawak state also started the Dual Language Programme (DLP). The first UP-DLP (Ujian Penilaian DLP) test will be for sixth-year students in 2025. This assessment aims to objectively assess the students' performances in three subjects: science, mathematics, and English. This phenomenon raises a critical question: whether the reading development programmes implemented by public libraries have effectively fostered or hindered children's interest in reading. The National Library of Malaysia (PNM) has,

however, taken proactive steps to improve reading habits across the country through a variety of programmes, campaigns, and activities. These RDPs are tailored for various groups, such as families and communities, infants and preschoolers, students at all levels, government sectors, individuals with special needs, and the publishing industry. The RDP is regarded as a catalyst for early childhood literacy, essential for facilitating future achievement in the UP-DLP and SPM assessments in Malaysia. Thus, evaluating the success and impact of the RDPs is crucial for achieving Malaysia's literacy goals, either at the national or state levels.

BACKGROUND OF THE STUDY

Sarawak's state library (PUSTAKA Negeri Sarawak [PNS]) initiated an early childhood literacy programme known as the Reading Seed Programme (RSP). RSP is an ongoing early literacy programme that has evolved in response to the public's opinions and feedback. The RSP encompasses five specific areas: physical growth and nutritional status, developmental growth (gross motor skills, fine motor skills, language and hearing skills, and social and cognitive skills), literacy development, immunisation, and screen time. Tailored to Malaysian content, the RSP promotes early literacy where parents play imperative supporting roles and provide efforts to develop a reading culture within their family nest. RSP also aims to create sustainable, community-based early literacy programmes that offer opportunities for all children in Sarawak, particularly those living in lower socio-economic communities in the rural areas.

The RSP aims to foster literacy (reading and writing) among parents and babies, from the mother's prenatal phase until the child is three years old. Since 2015, Malaysia has distributed approximately 12,000 RSP kits to the public. Ideally, reading passion and other cognitive developments could be nurtured from the time that the child is in the mother's womb so that reading becomes part of the child's norms when growing up, and the reading habits will continue to develop until adulthood. It is believed that early reading skills in toddlers better prepare them for formal education when they enter kindergarten at age four. Moreover, as children read more, they gain more knowledge and develop greater confidence in their ability to understand and comprehend it. The primary objectives of RSP are to promote a reading culture by helping children learn to read at a young age and to empower them to become independent readers for life. Secondly, RSP targets parents to read to their newborns, as frequent activities between parents and their infants can also increase intimacy between them. Hence, reading will become an enjoyable and beneficial activity for both parents and children. Thirdly, RSP was developed to help strengthen a child's vocabulary and foster their confidence.

LITERATURE REVIEW

Theoretically, psychologist Albert Bandura (Bandura, 1977) defines self-efficacy as a person's belief in their ability to complete a task or accomplish a goal. Particularly, efficacy, elucidated by Bandura (2003), implies a dynamic process that is impacted by environmental, behavioural, and personal factors that broaden the scope of self-efficacy, as stated in social cognitive theory. Efficacy in general is constantly influenced by one's thoughts and the variations of the socio-cultural surroundings (Rozaimie, 2018) and reinforced through the mastery experiences, verbal persuasions, vicarious experiences, and physiological and emotional states, according to Bandura (1977; p. 195). Hence, experience, social persuasion, and physiological responses are all beneficial for establishing self-efficacy, which leads to specific behaviours and performances. Efficacy reflects a person's belief in his or her ability to control and manage environmental factors.

Based on Bandura's self-efficacy theory, cultivating reading ability is dependent on environmental forces, with the reading programme and parent's role being critical to creating knowledge and experience, particularly among toddlers in the early stages of literacy development. Schwanenflugel and Knapp (2015) assert that specifically designed tasks, social persuasion, reflection, and emotional regulation significantly influence self-efficacy (p. 39). Scholars (Lee & Zentall, 2017; Schwanenflugel & Knapp, 2015, p. 34; Smith et al., 2012) describe self-efficacy in reading as the cognitive perspective and general-level beliefs about one's reading abilities, as measured by confidence and perceived skills in reading activities. Toddlers' belief and confidence in their ability to understand, interpret, and engage in reading activities influences their reading behaviour and, ultimately, their reading achievements (Amin & Oudah, 2024; Boakye, 2015; Henk & Melnick, 1995; Ramiah & Maniam, 2024). Logical reasoning techniques, disjunctive inference processes, and visual appearances help toddlers foster their reading confidence (Cesana-Arlotti & Halberda, 2024; Denee, 2024; Leckey et al., 2025). The process of acquiring reading ability encapsulates how toddlers' self-efficacy contributes to their reading abilities, as well as their learning and engagement in reading activities and anticipated outcomes.

Effective early childhood literacy programmes are enormous interventions and initiatives that reinforce toddlers' beliefs and trust in their thoughts and conscious actions. Toddlers' cognitive, emotional, and behavioural development is significantly influenced by their home environment, particularly their interactions with their parents, siblings, and other adults, as well as their childcare environment (Rozaimie, 2024). Consequently, toddlers' efficacy and reading habits are considerably influenced by their home, childcare, reading environments, and effective reading intervention programmes (Rozaimie et al., 2025). First and foremost, parents should ensure that their children are reading-ready before encouraging them to develop reading habits. When they are ready to read, it will

help instil reading habits in children, especially those who enjoy electronics and technology. Teh (2013) and Zhang (2024) defined reading readiness as the process of preparing a child for reading, encouraging the child to read, and engaging the child in reading. Reading readiness, according to Akubuilu et al. (2015) and Joseph (2002; 2008), is the maturation of all cerebral, physical, and socio-emotional aspects of the reading process.

According to DeBaryshe (1993), the age at which home reading routines begin is a significant predictor of language skills, and a reading-deficient home environment has a negative impact on early childhood school readiness and brain development (Hutton, 2015). Rajaratnam (2013) emphasised that learning to read should begin well before a child enters school, and there is a strong correlation between a child's development and the level of academic and professional success they will achieve later in life. It is also noted that infants who have the pre-reading skill of distinguishing speech building blocks at six months of age perform better at other more complex language skills at two and three years of age, as well as learning to read at four and five years old.

Confidence is the belief that one's actions will mostly lead to success (NASSET, 2021). They further describe that a child can feel confident about himself or herself because he or she was able to obtain a specific answer to part of an assignment, persevered in his or her work, or gave it his or her best effort. Thus, a sense of accomplishment provides closure, which is a necessary factor in believing in one's ability and capacity to be successful. Several studies have shown that high-quality early childhood education and care (ECEC) can have a positive effect on the educational, cognitive, behavioural, and social outcomes of children in both the short and long terms, including those who are most deprived of household income (Melhuish et al., 2017; Sylva et al., 2010). ECEC interventions perceived by Melhuish et al. (2017, p. 27) enhanced the children's confidence levels and social skills, which provided a better foundation for success at school (and subsequently in the workplace).

When students struggle with reading, it can quickly lead to a lack of confidence and low self-esteem (Hisken, 2011). Hence, children should be exposed as early as possible so that they can acquire substantive reading skills at an earlier stage and achieve success in school. Allowing children to choose what they want to read will turn reading from being a chore into a pleasure, where finding a series of books that a child enjoys reading can provide the motivation to continue reading about the characters and stories that the child has become invested in. When children enjoy reading, they can enrich their vocabulary and enhance the language skills that are required to be successful students, which in turn will increase their confidence levels.

A study by Tomopoulos et al. (2006) investigated the relationship between books, toys, parent-child interaction, and literacy development in young Latino children. The study found that reading aloud by parents four days a week was

associated with decreased early intervention (EI) eligibility. Particularly, parent support and their engagement are crucial in developing their child's reading confidence. Guthrie et al. (2004) emphasised that an effective instructional framework (which comprises reading comprehension, reading motivation, and reading strategies) requires a combination of motivation support and strategic instruction to influence reading outcomes among toddlers, specifically from an engagement perspective of reading development. Given the preceding scenario, this paper aims to validate a measurement scale and assess the feasibility of the PNS's RSP in developing toddlers' confidence in reading.

RESEARCH METHOD

This study uses a cross-sectional quantitative survey method, with a purposive sampling technique for identifying targeted respondents to administer the online survey questionnaire. Respondents were selected among individuals who have enrolled (registered) in the RSP. Data from the RSP team at PNS reveals that 1,027 participants have registered for the RSP programme, which primarily serves the Kuching Division in Sarawak, Malaysia. Thus, this area, which is home to PNS, provides convenient access to the programme's organisers.

However, it was discovered that only 590 of those who registered had completed the RSP training and received their RSP kits (learning tools and materials) from PNS. Therefore, the minimum satisfactory and usable responses of the sample size for the present study are 234 participants (with a 95% confidence level) for an *N* population of 600 (Krejcie & Morgan, 1970). 417 respondents were approached, and 385 had returned the completed responses, which yields a 92.33% response rate. The survey questionnaire items were 'adopted and adapted' from four key sources of RSP and reading-related programmes, including PUSTAKA's Reading Seed feedback form, RSP's Module for Parents, RSP's kit, and Children's Early Literacy Practices at Home and in Early Year Settings: Second Annual Survey of Parents and Practitioners (Formby, 2014).

The survey questionnaire used in this paper contains a demographic section: age, gender, the source to obtain the RSP kit, date/year of receiving the RSP kit, ethnicity, highest qualification, employment, household income, and details of the respondent's child who participates in the RSP (age, place of birth, and gender). The questionnaire assesses the impact of the RSP on toddlers' confidence development by evaluating their acquired psychomotor abilities. The survey helps measure participants' understanding and perceived usefulness of the RSP. Both confidence development and perceptions of the RSP are evaluated using a 10-point Likert scale, ranging from 0 (not applicable/strongly disagree) to 10 (totally applicable/strongly agree). Additionally, the questionnaire is designed in both English and Malay, and its validity has been established through inter-rater analysis prior to its use.

The questionnaire's psychometric properties did not cause the respondents' emotional, cognitive, or behavioural consequences. The research protocols for this study complied with the Declaration of Helsinki (WMA, 2024) on the ethical principles for medical research involving human subjects. The confidentiality statement in the questionnaire primarily states informed consent, and all participants and survey data were anonymised due to the retrospective study design. Thus, ethical approval was received from the PNS's Research Ethics Committee on May 18, 2022.

RESULTS

Scale validity

First, a face validity protocol is conducted to verify the extent to which a measurement (questionnaire) appears 'on its face value' to measure the construct of interest. Ten RSP users and teams of enumerators were invited to review and verify the survey questionnaire. They are required to express their responses to the questionnaire regarding their understanding of the contents, intensity (coverage), language, length (total survey items), section, dimension, and item (statement) arrangement, measurement scale, overall questionnaire design, and other related issues (if any). Minimal changes were made to the questionnaire based on the comments and suggestions received.

Second, a content validity test is required to ensure that the survey covers the construction of interest. Three experts who have been involved in the invention of RSP have verified the content of the survey questionnaire. In response to feedback on face and content validity, the questionnaire was thoroughly revised and refined to ensure that all questions and scales accurately captured the intended conceptual constructs.

Third, criterion validity is a protocol that ensures the targeted respondents' scores on a measure correlate with other variables (known as criteria) that are expected to be related to the convergent element of criterion validity, thereby demonstrating the feasibility of the survey instrument. When the average loading value of a variable is greater than the cut-off value of 0.70, convergent validity is established. Furthermore, the discriminant components of criterion validity are assumed, indicating that the variable scores are uncorrelated, as they are conceptually distinct. Specifically, the variance extracted from the survey questionnaire was found to be greater than the squared correlation, supporting this assumption. In particular, the Kaiser-Meyer-Olkin (KMO) values of the independent variable (confidence development) counted for 0.92, while the dependent variable (RSP) is 0.92, which is greater than 0.8. Additionally, the Bartlett's Test of Sphericity marked a value significantly lower than 0.05, which statistically indicated that there is no certain redundancy between the variables.

The inspection of the communality extraction has shown that all items accounted for more than the cut-off point of 0.50. 'Communality value' is estimated based on the variance of each item accounted for by the components. Further criterion validity is assessed by inspecting the pattern matrix table of all the items' variance loading values, where it is discovered that the average loading value for all variables exceeds the cut-off point of 0.70. Thus, this criterion (convergent and discriminant) analysis verifies the questionnaire's validity.

Fourth, the scale's reliability is an assessment of the internal consistency of the items (statements), which reflects the conceptual construct of the study. This assessment is crucial for evaluating the correlations among multiple items within a construct that aims to measure the same concept. The scale's reliability coefficient (Cronbach's alpha value) exceeded the cut-off point of 0.70 (RSP $\alpha = 0.97$ -12 items, with confidence development $\alpha = 0.95$ -12 items). The established Cronbach's alpha value demonstrated the instrument's high reliability for subsequent statistical analyses (Cronbach, 1951; Tavakol & Dennick, 2011).

As shown in Table 1, the majority of the respondents, 66.2% (255 out of 385), were between 31 and 40 years old, 84.7% were females, 50.9% were Malays, 47.5% were university graduates, 43.9% had household income between RM1001 and RM3999, 48.3% were working in the public sector, joined the RSP and received their RSP kit between 2020 and 2022, and 88.6% received their RSP kits directly from PNS. Apart from that, 64.2% of respondents claimed that their children who have been exposed to the RSP kits are between 0 (newborn) and 3 years old; 79.8% were born in government hospitals; and 52.2% of the children were males.

Table 1: Respondents' Demographic Profiles

Demographic Characteristics	<i>n</i>	<i>%</i>	Demographic Characteristics	<i>n</i>	<i>%</i>
(Respondents)					
Age			Household Income		
20-30	82	21.3	Less than RM1000	40	10.4
31-40	255	66.2	RM1001-RM3999	169	43.9
41-50	32	8.3	RM4000-RM8500	136	35.3
Not specified	16	4.2	Above RM8500	40	10.4
<i>Total</i>	<i>385</i>	<i>100.0</i>	<i>Total</i>	<i>385</i>	<i>100.0</i>
Gender			Employment		
Female	326	84.7	Public Sector	186	48.3
Male	59	15.3	Private Sector	87	22.6
<i>Total</i>	<i>385</i>	<i>100.0</i>	Self-employed/small business	28	7.3
Ethnicity			Unemployed/housewife	82	21.3
Bidayuh	36	9.4	Not specified	2	0.5
Chinese	116	30.1	<i>Total</i>	<i>385</i>	<i>100.0</i>
Iban	15	3.9	Year received the RSP kit		
Orang Ulu	4	1.0	2017-2019	69	17.9

Malay	196	50.9	2020-2022	313	81.3
Melanau	16	4.2	Not Specified	3	0.8
Not Specified	2	5.0	<i>Total</i>	<i>385</i>	<i>100.0</i>
<i>Total</i>	<i>385</i>	<i>100.0</i>			
Highest Qualification			The RSP kit was obtained from:		
University Degree	183	47.5	Health Clinic/polyclinic	26	6.8
Diploma	85	22.1	PNS	341	88.6
Certificate	31	8.1	Others: <i>Can't remember, event booth, KEMAS, local council, PERKIM, Pusat Internet 1Malaysia.</i>	18	4.6
Secondary School	81	21.0	<i>Total</i>	<i>385</i>	<i>00.0</i>
Primary School	5	1.3			
<i>Total</i>	<i>385</i>	<i>100.0</i>			
(Child)			Child's Place of Birth		
Age			Government Hospital	307	79.8
0-3 (born 2019-2022)	247	64.2	Private Hospital	76	19.7
4-6 (born 2016-2018)	122	31.7	Others	2	0.5
≥7 (born in ≤2015)	10	2.6	<i>Total</i>	<i>385</i>	<i>100.0</i>
Not Specified	6	1.6			
<i>Total</i>	<i>385</i>	<i>100.0</i>			
Child's Gender					
Female	184	47.8			
Male	201	52.2			
<i>Total</i>	<i>385</i>	<i>100.0</i>			

Feasibility of the RSP

Table 2 indicates that the RSP is statistically significant in predicting a child's confidence development [$t(1,383) = 8.21, p < 0.001$ ($p < 0.05$)]. This result reveals a positive effect of the RSP on a child's confidence development. Moreover, the $R^2 = 0.15$ indicates that the model (RSP) explains 15% of the variance in a child's confidence development. The RSP also found that it significantly predicts a child's confidence development with a medium effect size [$f^2 = 0.18, \beta = 0.38$]. Additional regression analyses are performed to examine the effect of demographic factors on the RSP and the child's confidence development. The statistical analyses showed that the child's age, gender, and the year the respondents obtained their RSP kits had significantly affected the prediction of RSP on the child's confidence development.

First, it was found that the children who were more than 7 years old and had used the RSP kits are statistically significant [$t(1,8) = 2.43, p = 0.04$ ($p < 0.05$), $\beta = 0.65, f^2 = 0.74, R^2 = 0.42$] and predict the child's confidence development. The β coefficient indicates that these children were statistically significant [$t(1,245) = 7.52, p = 0.001$ ($p < 0.05$), $\beta = 0.43, f^2 = 0.23, R^2 = 0.19$], and the children aged between 4 and 6 years old [$t(1,120) = 4.90, p = 0.001$ ($p < 0.05$), $\beta = 0.41, f^2 = 0.20, R^2 = 0.17$] were statistically significant in predicting the child's confidence

development by the RSP. Apparently, those who have not specified their child's age were found not to be statistically significant [$t(1,4) = 0.53, p = 0.62 (p > 0.05), \beta = 0.26, f^2 = 0.07, R^2 = 0.07$] in predicting their child's confidence development by the RSP.

Table 2: Regression analysis on the RSP towards the child's confidence development

	R^2	f^2	df	β	t	Sig
RSP ► Child's confidence development	0.15	0.18	1,383	0.39	8.21	0.00
RSP ► Child's confidence development	0.31	0.45	17,367	0.39	8.64	0.00
► Child's age				0.21	4.50	0.00
0-3 years old	0.19	0.23	1,245	0.43	7.52	0.00
4-6 years old	0.17	0.20	1,120	0.41	4.90	0.00
≥7 years old	0.42	0.74	1,8	0.65	2.43	0.04
Not specified	0.07	0.07	1,4	0.26	0.53	0.62
► Respondents' gender				0.04	0.92	0.36
► Child's gender				0.12	2.81	0.01
Male	0.00	0.00	1,57	0.02	0.12	0.91
Female	0.19	0.24	1,324	0.44	8.77	0.00
► Ethnicity				0.01	0.17	0.86
► Household income				0.05	0.89	0.38
► Current Location				-0.01	-0.11	0.92
► Child's Place of Birth				0.02	0.45	0.65
► Employment				-0.06	-1.11	0.27
► Highest Qualification				-0.05	-0.82	0.41
► Year received kits				-0.21	-4.19	0.00
2017-2019	0.42	0.74	1,67	0.65	7.03	0.00
2020-2022	0.15	0.17	1,311	0.38	7.31	0.00
Not specified	0.35	0.54	1,1	-0.59	-0.73	0.60

Second, the regression analysis based on the child's gender has shown that the male children are statistically significant [$t(1,199) = 6.52, p = 0.001 (p < 0.05), \beta = 0.42, f^2 = 0.21, R^2 = 0.18$] in predicting the child's confidence development. The β coefficient indicates that the female children were found to be statistically significant [$t(1,182) = 5.49, p = 0.001 (p < 0.05), \beta = 0.38, f^2 = 0.17, R^2 = 0.14$] in predicting a child's confidence development by the RSP. Third, the regression results show that those who obtained their RSP kits according to the year the participants obtained their RSP kit between 2017 and 2019 are statistically significant [$t(1,67) = 7.03, p = 0.001 (p < 0.05), \beta = 0.65, f^2 = 0.74, R^2 = 0.42$] and predict the child's confidence development. The β coefficient indicates that those who obtained their RSP kits according to the year the participants obtained their RSP kit (between 2020 and 2022) are statistically significant [$t(1,311) = 7.31, p = 0.001 (p < 0.05), \beta = 0.38, f^2 = 0.17, R^2 = 0.15$] in predicting a child's confidence development by the RSP. Apparently, those who have not specified the year they

obtained the RSP kits are not statistically significant [$t(1,1) = -0.73, p = 0.60 (p > 0.05), \beta = -0.59, f^2 = 0.54, R^2 = 0.35$] in predicting a child's confidence development by the RSP. The following section discusses the implications of the findings.

DISCUSSION

This paper focuses on quantifying the impact of the Reading Start Program (RSP) on toddlers' confidence in reading. Specifically, the development of a child's confidence involves growth in gross motor skills, fine motor skills, and social and cognitive abilities. The RSP, along with its kits and modules, significantly nurtures these confidence development elements in toddlers. Originally designed for early childhood literacy, RSP aims to instil reading skills in children from birth until age three. By familiarising children with reading materials and promoting their overall developmental growth, parents can effectively use RSP modules, which are designed to be implemented from pregnancy until the child is three years old.

Specifically, the development of higher levels of confidence in babies and toddlers occurs when they become independent and confidently engage in positive interactions. This occurs as they complete RSP activities and integrate other reading-related tasks into their daily routines. In the process of developing their reading confidence through this RSP, the child is expected to be able to flip book pages correctly, hold books independently, and hold a pencil steadily. The child is also expected to be able to point out intriguing pictures, draw spontaneous scribbling, and draw circular scribbling. Additionally, the RSP is designed to assist parents in identifying potential colour-blindness issues by enabling them to observe whether the child can correctly identify colours, recognise colours within shapes, and arrange colour blocks. Moreover, to enhance their reading confidence, the child is expected to be able to share the RSP kits with other children, use the mini shadow theatre to tell stories, and conduct simple house chores like taking his or her plate to the sink.

The statistical evidence in this study aligns with previous research, demonstrating that RSPs are effective programmes for enhancing young children's reading confidence. Prior studies (cf. McGowan et al., 2020; Borman & Yang, 2025) have proven that the Reading Seeds initiatives and an online reading programme designed for children aged 3 to 8 years old have led to significant improvements in children's reading skills and confidence. Furthermore, research has shown that children who participate in the Reading Seeds Program report greater confidence in their reading abilities, along with heightened engagement and enjoyment in reading activities. This indication demonstrates that the RSP serves as an effective tool for fostering both confidence and motivation in young readers.

Inculcating reading confidence at an early age is a valuable effort that can help children enter their formal education in kindergarten at age four. According to a study by Borman and Yang (2025, p. 2), utilising reading seed instruments led

to significant improvements in both the reading skills and motivation of children aged 4–6 years. These improvements were particularly noticeable among children who hadn't yet started school, suggesting that the programme is especially beneficial for preparing young children for formal education. Furthermore, another study by McGowan et al. (2020) found that children who were involved in the reading seed programmes would gain more confidence in their reading abilities and show increased engagement and enjoyment in reading.

In line with prior studies (cf. Tomopoulos et al., 2006, p. 74; Guthrie et al., 2004, p. 405; Topal & Çaka, 2025), it is important to highlight the key recommendations for increasing a child's reading confidence, as well as measurements of reading comprehension, motivation, and techniques. Malik (2025) emphasised that parental knowledge of parenting skills, such as reading aloud and providing toys, is associated with better children's cognitive and language development due to parent-child interaction. Additionally, the development of toddlers' reading confidence through parent-child engagement was facilitated by an effective instructional framework, and this framework included motivational support and strategy training.

The findings of this study suggest that the RSP provides tools for fostering the children's confidence and motivation in reading, which may be particularly important for children who are just starting to learn to read. This result implies that encouragement and parental support are the key motivational elements that engrain early childhood literacy, especially in developing reading confidence among toddlers. However, this study highlighted some shortcomings of the RSP, particularly its ability to achieve a 100% impact on assessing children's confidence development. This study suggests that the program organiser (i.e., the PNS) should strategically revamp physical training for participants in the RSP. The findings of this study show that the physical training (conducted in the period of 2017 to 2019) was superior to the online training (conducted in the period of 2020 to 2022 during the pandemic COVID-19 lockdown). In addition, the RSP also needs an instructional revision to ensure that the participants (parents) understand the roadmap and the expected outcomes from the RSP. According to Feldman and Case (1997), self-directed learning (self-instructional audio-visual of child-care materials), logical reasoning strategy, disjunctive inference processes, and visual appearances, which, in accordance with Cesana-Arlotti and Halberda (2024), Denee (2024), and Leckey et al. (2025), have proven to help develop self-efficacy of confidence and teach children basic care, health, and safety skills, especially among parents who have problems with intellectual disabilities (ID). This RSP is regarded as an exemplary accelerator for self-regulated learning (SRL), which is crucial for academic achievement, as metacognitive methods are essential in facilitating SRL across several disciplines, as posited by Ali (2026). Besides, attractive audiovisual instructional material could help improve the programme's effectiveness in addition to the conventional training provided to RSP participants.

Additionally, to ensure the full impact of RSP on the child's confidence development, the participants' feedback and monitoring mechanisms could be added to ensure the program's effectiveness. Post-training evaluations enable the programme organiser, i.e., the PNS, to ensure that participants fully understand the objectives of the RSP. These could foster early reading skills and promote the development of a child's confidence. Furthermore, an attractive reward system could encourage the participants to fully utilise RSP for their children. The findings presented in this paper could be enhanced in future studies by incorporating additional qualitative information from respondents, conducting a more thorough investigation toward addressing potential alternative explanations, and offering more contextual implications for the RSP in relation to other early childhood literacy programmes.

CONCLUSIONS

In conclusion, this paper presents an innovative early childhood literacy intervention, the Reading Seed Programme (RSP), which fosters toddlers' reading efficacy from prenatal stages through early brain development. Based on Bandura's self-efficacy theory, RSP leverages parental and educational support to create transformative learning experiences that instil reading habits in toddlers. Effective literacy programmes, such as the RSP, should incorporate four key components: mastery experiences, verbal persuasion, vicarious experiences, and physiological and emotional states. The RSP demonstrates that enhancing toddlers' self-efficacy leads to increased confidence and participation in reading activities, ultimately contributing to their reading accomplishments. This study highlights the RSP's potential as a novel initiative for cultivating a genuine interest in reading, particularly in contexts with limited access to educational resources. While the RSP has positively impacted children's reading confidence and cultured reading habits, it also reveals significant limitations. The programme assumes uniform cognitive and learning capacities among participants, which can impact its effectiveness in developing reading habits. Addressing these limitations is crucial for the RSP to mainstream early childhood literacy tools and support global literacy agendas. Overall, this research highlights the importance of refining early childhood literacy programmes to ensure they are inclusive and effective in fostering a reading culture worldwide.

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APPENDICES

Questionnaire

State the scale for the statement that is most applicable to you on the scale from 0 (not applicable/strongly disagree) to 10 (strongly agree). *Nyatakan skala untuk pernyataan yang paling berkaitan dengan anda berdasarkan skala 0 (tidak berkenaan/sangat tidak bersetuju) sehingga 10 (sangat bersetuju).*

We would like to hear from you about your child's literacy development. *Kami ingin mendapat pandangan anda tentang perkembangan literasi anak anda.*

Child's Confidence Development

My child: [anak saya:]

- _____ Can flip book pages correctly [*Boleh menyelak muka surat buku mengikut turutan yang betul*]
- _____ Can hold books independently [*Boleh memegang buku dengan sendiri*]
- _____ Can point to interesting pictures [*Boleh tunjuk gambar yang menarik*]
- _____ Can hold a pencil steadily [*Boleh memegang pensel dengan tegap*]
- _____ Can draw spontaneous scribbling [*Boleh melukis contengan secara spontan*]
- _____ Can draw circular scribbling [*Boleh melukis contengan secara membulat*]
- _____ Can identify colours [*Boleh mengenal warna*]
- _____ Can colour within a shape [*Boleh mewarna dalam lingkungan bentuk*]
- _____ Can arrange colour blocks [*Boleh menyusun blok warna*]
- _____ Can share with other children [*Boleh berkongsi dengan kanak-kanak lain*]
- _____ Can use the mini shadow theatre to tell stories [*Boleh menggunakan teater bayangan mini untuk bercerita*]
- _____ Can do small chores like taking his/her plate to the sink [*melakukan kerja-kerja mudah seperti membawa pinggan ke sinki*]

Reading Development Program (RSP)

Reading Seed Kit:

- _____ I know how to use all the materials in the kit [*Saya tahu penggunaan setiap bahan di dalam kit RSP*]
- _____ I know how to use the RSP module for Parents Reading Friends [*Saya tahu cara menggunakan Modul RSP Ibu Bapa Rakan Membaca*]
- _____ I know how to use the growth development checklist [*Saya tahu menggunakan Senarai Semak Perkembangan anak*]
- _____ The growth chart helps to monitor my child's development [*Carta pertumbuhan membantu saya memantau perkembangan anak saya*]
- _____ Language used in all the materials are clear [*Bahasa digunakan bagi setiap bahan dalam kit RSP ini adalah jelas*]
- _____ Reading materials attract my child's interest [*Bahan bacaan menarik minat anak saya*]

_____ RSP materials help me to communicate with my child [*Bahan-bahan RSP membantu saya berkomunikasi dengan anak saya*]

I believe that the Reading Seed Program: [Saya percaya bahawa RSP:]

_____ Provides access to quality early literacy materials [*Menyediakan akses kepada bahan literasi awal yang berkualiti*]

_____ Gives me the skill to read to my newborn [*Memberi kemahiran membaca kepada bayi yang baru lahir*]

_____ Makes reading enjoyable for me and my child [*Menjadikan aktiviti membaca seronok bagi saya dan anak saya*]

_____ Exposes my child to greater number of words through books [*Mendedahkan lebih banyak perhatian kepada anak saya melalui buku*]

_____ Grooms my child for more precise oral communication [*melatih anak saya untuk memperluaskan menggunakan komunikasi lisan yang lebih tepat*]

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