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The effectiveness of universal design for learning (UDL)-based counselling guidance programs on the social-emotional readiness of early childhood children to elementary school

Sean Marta Efastri [1*], Meta Silfia Novembli [1], Suharni [2], Devi Afriyuni Yonanda [3]

[1] Universitas Lancang Kuning, Pekanbaru, Indonesia, 28266
[2] Universitas kebangsaan Malaysia, Selangor, Malaysia, 43600
[3] Universitas Majalengka, Majalengka, Indonesia, 45418

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Abstract

Social-emotional readiness constitutes a fundamental prerequisite for the successful transition of early childhood children to elementary school. The inherent limitations of conventional guidance and counselling approaches in accommodating the diverse learning profiles of children trigger the need for a more inclusive intervention model. This research examined the effectiveness of a counselling guidance program based on Universal Design for Learning (UDL) in enhancing children's social-emotional readiness. The study employed a one-group pre-test and post-test design with 30 children aged 5-6 years as subjects. The UDL intervention was implemented over 12 sessions, focusing on the three principles: Representation, Action and Expression, and Engagement. Social-emotional readiness was measured using the Social-Emotional Readiness Scale (SKSE) completed by teachers and the Child Behaviour Observation Sheet (LOPA). Data analysis was conducted using the Paired Samples t-test and the effect size calculation (Cohen's d). The t-test results showed a statistically highly significant increase in scores for both instruments (SKSE: $t(29) = 9.22$, $p<0.001$; LOPA: $t(29) = 11.55$, $p<0.001$). The effect size (Cohen's d) was considerable (SKSE: $d=1.95$; LOPA: $d=2.44$), indicating a substantial practical impact of the intervention. This significant improvement confirms that the UDL-based counselling guidance program, through its multimodal flexibility, effectively enhances emotional regulation and pro-social behaviour in early childhood children. The practical implication of this finding is that the UDL-based counselling model can be adopted as an inclusive, standard intervention framework to prepare children for the diverse demands of the elementary school environment.

* Corresponding Author
E-mail address: seanmarta@unilak.ac.id (Sean Marta Efastri)
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1. Introduction

The transition from kindergarten to elementary school represents a crucial development phase for young children, requiring significant adaptation. School readiness, which in the past was often narrowly measured based on cognitive and academic abilities, is now understood as a complex multidimensional construct (Denham & Burton, 2012; Fantuzzo et al., 2018). This readiness includes social, emotional, physical, and cognitive abilities that interact dynamically. Among these components, social-emotional readiness plays a fundamental role. Social-emotional readiness refers to a child's capacity to manage and regulate emotions, interact effectively with others, and exhibit pro-social behaviours, such as sharing and taking turns (Raver et al., 2018; Webster-Stratton & Reid, 2003). This capacity is an essential foundation that facilitates children's adjustment and active participation in more structured formal school environments (Denham et al., 2012; McClelland et al., 2013). Without this strong foundation, children may experience difficulties that affect their developmental trajectory.

Previous research has consistently shown a strong and significant correlation between good social-emotional skills in early childhood and various indicators of success later in life. Children who demonstrate high social-emotional competence tend to achieve better academically, participate more effectively in class, and have more positive relationships with peers and teachers (Jones et al., 2015; Rosanbalm & Murray, 2017). These skills enable them to collaborate, resolve conflicts constructively, and maintain focus on tasks, all of which are strong predictors of success in school (Blair & Raver, 2015). Conversely, children with inadequate social-emotional skills often struggle to adapt to the demands of the elementary school environment (Durlak et al., 2011). Therefore, investing in interventions designed to improve young children's social-emotional readiness is beneficial and an educational and developmental imperative (O'Connor et al., 2018; Raver & Knitter, 2018).

Deficits in social-emotional readiness at the transition to elementary school can predict a range of difficulties that can persist throughout the school years. Children with challenges in emotional regulation often have difficulty with self-control and following instructions, which can lead to behavioural problems and disruptions in the classroom (Geldhof et al., 2014). The inability to interact positively with peers can lead to social isolation and rejection, substantially affecting children's psychological well-being (Fantuzzo et al., 2018). Rejection by peers at an early age is a predictor of internalising and externalising problems later in life (Rosanbalm & Murray, 2017). This phenomenon confirms that proactive intervention at an early age is crucial to prevent more serious developmental issues in the future (McClelland et al., 2013).

School counselling programs facilitate children's holistic development, especially at the early childhood education level. However, conventional counselling approaches often adopt a “one-size-fits-all” model (Durlak et al., 2011; Rimm-Kaufman & Pianta, 2000). This model follows a rigid curriculum and inflexible methods, such as structured group discussions or homogeneous activities. This approach fails to accommodate the diversity of early childhood children's learning profiles, needs, and preferences. These limitations can result in some children not benefiting optimally from the programs offered, as the materials and methods are irrelevant to how they understand or respond (McLeod & Miller, 2013). The failure to accommodate these individual differences creates a significant gap in the effectiveness of counselling services.

In response to these limitations, Universal Design for Learning (UDL) offers a theoretical and practical framework to overcome learning and intervention barriers. UDL is based on three main principles: providing multiple ways of representation (the “what” of learning), multiple ways of action and expression (the ‘how’ of learning), and numerous ways of engagement (the “why” of learning) (CAST, 2018; Rose & Meyer, 2002). These principles are firmly rooted in cognitive

neuroscience, which validates that optimal learning occurs when instruction is presented in a flexible, responsive, and relevant format that aligns with individual interests and motivations (Meyer et al., 2014; Novak & Rose, 2016). Applying UDL in counselling implies that interventions must be designed from the outset to consider children's emotional responses, communication preferences, and motor needs (Basham et al., 2010).

Although UDL principles have been widely applied in curriculum and instruction design for children with disabilities and the general population across various educational levels, research specifically examining their effectiveness in counselling to improve young children's social-emotional readiness is still limited. Most UDL studies focus on academic outcomes and have not explicitly explored their application in non-academic domains (Rappolt-Schlichtmann et al., 2013; Sarr et al., 2021). Several relevant studies show that responsive and tailored interventions can significantly improve self-regulation in children (Rosanbalm & Murray, 2017; Zelazo et al., 2021). However, there is still a gap in the literature on how the systematic integration of UDL principles into specific counselling programs affects children's social-emotional readiness.

While guidance and counselling programs facilitate children's holistic development, conventional approaches often adopt a "one-size-fits-all" model. With its uniform curriculum and inflexible methods, this rigid approach fails to accommodate the diverse learning profiles and needs of early childhood children in Indonesia. This gap in effectiveness presents a significant challenge for local counsellors, who are often limited by resources and standardised programs. In response to these limitations, Universal Design for Learning (UDL) offers a theoretical and practical framework to address these barriers. UDL is based on three main principles: providing multiple means of representation, multiple means of action and expression, and multiple means of engagement. These principles are deeply rooted in cognitive neuroscience, validating that optimal learning occurs when instruction is presented in flexible, responsive, and relevant formats.

Although UDL principles have been widely applied in academic settings, research specifically examining their effectiveness in counselling to improve social-emotional readiness is still limited, creating a critical research gap. Addressing this gap is essential for providing Indonesian counsellors with an effective, evidence-based model that can be adapted to the diverse needs of their students. This study aims to fill that gap by examining the effectiveness of a UDL-based guidance and counselling program. The research hypothesis is that there is a significant difference in children's social-emotional readiness scores before and after the UDL-based counselling intervention. The findings are expected to contribute theoretically by expanding the understanding of UDL's application beyond academic contexts and providing practical implications for developing more effective and inclusive counselling curricula.

2. Literature Review

2.1 Social-emotional readiness

Social-emotional readiness is defined as a multidimensional construct encompassing a child's capacity to identify and regulate internal emotions and establish and maintain positive, functional interpersonal relationships (Rosanbalm & Murray, 2017). This component includes pro-social behaviour, conflict resolution competence, and the capacity for sustained attention, all constituting fundamental prerequisites for a successful academic transition to the elementary school level (Raver et al., 2018). The quality of social-emotional skills during preschool has been empirically demonstrated to correlate significantly with later academic achievement and classroom behavioural adjustment during primary education (Jones et al., 2015). Consequently, interventions designed to fortify the social-emotional domain in early childhood possess substantial predictive value for long-term success.

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The capacities for emotion regulation and effective interaction serve as a cognitive-behavioural repertoire that enables children to comply with instructions, collaborate with peers, and exhibit persistence when encountering challenging tasks (Rosanbalm & Murray, 2017). Failure to master these crucial social-emotional skills frequently predicts sustained adjustment difficulties, including increased disruptive behaviour in the classroom, decreased academic participation, and an elevated risk of social isolation from the peer group (Denham et al., 2012). Considering the elementary school environment, which demands higher levels of structure and independence, a solid social-emotional foundation becomes a primary determinant for a child to optimally access and benefit from formal educational experiences (Rimm-Kaufman & Pianta, 2000).

Although school guidance and counselling services are vital in facilitating children's holistic development, conventional approaches often operate under the assumption that the learner needs homogeneity. Uniform curriculum models and rigid instructional methods tend to overlook the inherent individual differences in early childhood children's learning profiles, communication styles, and emotional responses (Al-Azawe & Al-Dahhan, 2023). This limitation results in less relevant or ineffective interventions for specific population segments, thereby restricting the program's potential to deliver measurable and equitable benefits to all subjects (Rosanbalm & Murray, 2017). Consequently, the efficacy of counselling services is hindered by designs that fail to accommodate the neurological diversity of learners.

2.2 Universal design for learning (UDL)

Universal Design for Learning (UDL) emerges as a theoretical and practical framework engineered to overcome accessibility and learning barriers within educational environments, premised on the notion that learner variability is the norm, not the exception (CAST, 2018). Rooted in the principles of cognitive neuroscience, UDL explicitly recognises that the processes of information acquisition, demonstration of understanding, and motivation for engagement are unique to each individual (Meyer et al., 2014). Applying this framework ensures that the learning objectives remain constant, while the pathways and supports offered to achieve those objectives are flexible and varied.

The first UDL principle, Provide Multiple Means of Representation, focuses on the "what" of learning—how knowledge and concepts are presented to learners (CAST, 2018). This principle mandates the provision of materials in multimodal formats, encompassing visual, auditory, and tactile media, to facilitate the perception and comprehension of information (Basham et al., 2020). Within guidance and counselling, this implies that abstract concepts, such as emotion identification and social skills, must be represented through concrete tools like emotion cards, picture stories, or animated videos, thereby accommodating differences in processing language and symbols (Sarr et al., 2021).

The second principle, Provide Multiple Means of Action and Expression, emphasises the "how" learners can demonstrate their knowledge and skills (CAST, 2018). UDL encourages providing children with diverse options to respond to and interact with the intervention material, moving beyond the single verbal or written response requirement. In developing social-emotional skills, this principle can be implemented through activity choices such as role-playing, drawing, or using hand puppets to demonstrate conflict resolution, offering alternatives for children with motor difficulties or verbal expression challenges (Rosanbalm & Murray, 2017).

The third UDL principle, Provide Multiple Means of Engagement, focuses on the "why" of learning: cultivating motivation and maintaining learning persistence (Basham et al., 2020). This principle is actualised by offering choices, emphasising personal relevance, and presenting optimal challenges, thus targeting the brain's affective network (Novak, 2022). In a counselling

program, the implementation of this principle can increase the active participation of early childhood children by enabling them to select the type of game or activity to be used for practising specific social-emotional skills, thereby internalising behaviour through interest and autonomy (Sarr et al., 2021).

Despite UDL's widespread acceptance in academic curriculum design, the systematic exploration of its application in non-academic domains, specifically guidance and counselling, remains in an emergent stage (Murray et al., 2020). Existing studies indicate that integrating UDL principles with the Social-Emotional Learning (SEL) framework has significant potential to yield more responsive and effective interventions than traditional approaches (Sarr et al., 2021). The flexibility inherent in UDL regarding material presentation and response accommodation allows counselling programs to adapt to the variations in emotion processing and communication strategies possessed by each child (CAST, 2018).

3. Method

3.1 Research design

This study adopted a one-group pre-test/post-test design. This design was chosen to measure changes in the social-emotional readiness of early childhood in the same group of subjects. The pre-test was conducted before the intervention to establish a baseline of social-emotional readiness. After the intervention, a final assessment (post-test) was performed to measure the changes. This design is effective for measuring the impact of an intervention when a comparison (control) group is unavailable, which is often the case in school settings with limited resources or logistics. This design allows the study to focus deeply on the effects of the intervention on a single group, with each subject serving as a control for themselves (Shadish et al., 2002). Its internal validity is enhanced by ensuring that all external variables, such as maturation or test effects, are reviewed and noted in the discussion.

Table 1. The one-group pre-test-post-test design

Pretest	Treatment	Posttest
O	***X***	***O***

3.2 Research Subjects

The research subjects consisted of 30 early childhood children (16 males and 14 females) aged between 5 and 6 years old, enrolled in a kindergarten in Pekanbaru. The inclusion criteria for subjects were children within the specified age range and written permission from parents or guardians to participate. Children with a history of clinical diagnoses related to developmental disorders or medical conditions that the school or parents officially identified were excluded from the study. All participants and their parents were given an explanation of the research objectives, procedures, and data confidentiality guarantees before consent was given (Creswell & Creswell, 2018).

3.3 Research Procedure

All research subjects received counselling interventions specifically designed based on the three principles of Universal Design for Learning (UDL): Representation, Action and Expression, and Engagement (CAST, 2018). The intervention consisted of 12 sessions lasting 45 minutes per session, conducted twice a week for six weeks. The session materials were designed to develop social-emotional skills, such as emotion identification, self-regulation, sharing, taking turns, and social problem solving (Raver et al., 2018). UDL principles are applied, namely, 1) The Representation Principle, whereby information about emotions and social skills is presented

through various media. For example, sessions 1-4 utilised picture stories about different emotions, while sessions 5-8 used short animated videos to illustrate conflict resolution, 2) The Action and Expression Principle: children are given various options to show their understanding and responses, such as through drawing, role-playing, or verbalisation, accommodating the way they express themselves naturally (Rosanbalm & Murray, 2017). For instance, after a session on sharing, children could either draw a picture of themselves sharing, role-play a scenario with puppets, or verbally explain how they would share a toy with a friend. And 3) The Principle of Engagement states that interventions are designed to attract children's interest and motivate them through optimal choices, relevance, and challenges, thereby increasing active participation. For example, in a session about turn-taking, children could choose between playing with Legos, blocks, or toy cars to practice the skill.

3.4 Research Instrument

Social-emotional readiness was measured using two main instruments explicitly developed for this study, namely, the Social-Emotional Readiness Scale (SKSE) and the Child Behaviour Observation Sheet (LOPA). The instruments were developed and validated through steps to ensure data accuracy and reliability (Tavakol & Dennick, 2011).

3.5 Data Analysis Technique

Quantitative data from the pre-test and post-test were analysed using SPSS statistical software version 26. There were four steps in the analysis. First, a descriptive study was performed by calculating descriptive statistics such as the mean, standard deviation, and frequency for demographic characteristics and instrument scores. Second, statistical assumption testing, namely data normality testing, was performed using the Shapiro-Wilk test to ensure that the data were normally distributed, a prerequisite for parametric statistical tests. Third, hypothesis testing using the Paired Samples t-test was performed to analyse changes in social-emotional readiness scores from the pre-test to the post-test. This test compares the means of two dependent measurements: the subjects' scores before and after the intervention. Finally, to measure the magnitude of the intervention's impact, the effect size was calculated using Cohen's d (Cohen, 1988). The statistical significance level was set at α=0.05. This analysis provides evidence on whether UDL-based counselling intervention offers a statistically significant improvement in children's social-emotional readiness and how big the impact is.

Table 2. Research instruments and test results

Instruments	Purpose and dimensions/focus	Validity test	Reliability test
Social-emotional readiness scale (SKSE)	An assessment scale completed by teachers, designed to assess children's social-emotional competencies in the classroom environment. **3 Main dimensions**: 1. Emotional Regulation 2. Social Skills 3. Pro-social Behaviour	**Content validity**: Assessed by three experts (a developmental psychology expert, a school counsellor, and an early childhood education curriculum expert). Items were revised based on their input. **Construct validity**: Analysed using Confirmatory Factor Analysis (CFA) on 50 subjects. Results: The three-factor model fit well (RMSEA=0.04, CFI=0.95).	**Internal consistency**: Measured with Cronbach's Alpha coefficient on 50 subjects. Overall Scale: 0.89 Emotional Regulation: 0.85 Social Skills: 0.87 Pro-social Behaviour: 0.84 These values indicate excellent internal reliability

Instruments	Purpose and dimensions/focus	Validity test	Reliability test
Child behaviour observation sheet (LOPA)	An observation instrument was used by the researcher and two trained assistants to record the frequency of children's social-emotional behaviours during free play sessions directly. **Behaviour focus**: 1. Sharing toys or tools. 2. Taking turns in games. 3. Using words to resolve conflicts. 4. Initiating positive interactions.	**Content validity**: Established through expert review by two child behaviour observation experts and one school counsellor, ensuring item relevance.	**Inter-rater reliability**: Measured using Cohen's Kappa coefficient on 10 children. **Result**: 0.88 This value indicates a very high level of agreement between raters.

4. Results

Based on the processed results of the pre-test and post-test learning motivation questionnaires, the data analysis results are as follows:

4.1 Descriptive statistical analysis of pre-test-post-test

Descriptive analysis was conducted to describe the characteristics of the research subjects and their social-emotional readiness scores from the pre-test and post-test data. A total of 30 subjects participated in this study, consisting of 16 boys and 14 girls. The average age of the subjects was 5.5 years (SD=0.4). Table 1 presents descriptive statistics for SKSE and LOPA scores on the pre-test and post-test.

Table 3. Mean scores and standard deviations of skse and lopa instruments

Instruments	Results	Mean	Standard edviation (SD)
SKSE	Pre-test	65.25	8.71
	Post-test	81.56	7.94
LOPA	Pre-test	12.10	3.52
	Post-test	21.80	4.15

Table 2 shows an increase in the average scores of both instruments from the pre-test to the post-test.

4.2 Statistical assumption test (normality test)

Before conducting the hypothesis test, a normality test using the Shapiro-Wilk test was performed to ensure that the research data were normally distributed. Data normality is essential for parametric statistical tests such as the Paired Samples t-test. The results of the normality test are presented in the table below.

Table 4. Shapiro-wilk normality test results

Instruments	Results	Statistical value (W)	Significance (p)	Descriptions
SKSE	Pre-test	0.96	0.15	Normally Distributed
	Post-test	0.95	0.11	Normally Distributed
LOPA	Pre-test	0.97	0.23	Normally Distributed
	Post-test	0.96	0.18	Normally Distributed

Table 3 reveals that all significance values (p) for pre-test and post-test scores on both instruments (SKSE and LOPA) are above the threshold of 0.05. This finding indicates that the research data is typically distributed. With this assumption fulfilled, the Paired Samples t-test can be used to test the research hypothesis.

4.3 Hypothesis test results (paired samples t-test)

The primary statistical analysis was performed using the Paired Samples t-test to test the research hypothesis. This test aims to determine whether a statistically significant difference exists between children's social-emotional readiness scores on the pre-test (before intervention) and post-test (after intervention). The results of the hypothesis test for both instruments (SKSE and LOPA) are presented in the table below.

Table 5. Results of the paired samples t-test

Instruments	Results	Mean	Standard deviation (SD)	Nilai t	df	Significance (p)	Average difference
SKSE	Pre-test	65.25	8.71				
	Post-test	81.56	7.94	9.22	29	p< 0.001	16.31
LOPA	Pre-test	12.10	3.52				
	Post-test	21.80	4.15	11.55	29	p< 0.001	9.70

The analysis results show a statistically significant difference between the SKSE scores on the pre-test and post-test, with a t-value of 9.22 and p<0.001. The average score increases substantially by 16.31 points, from 65.25 to 81.56. This provides strong evidence that UDL-based counselling intervention effectively improves children's social-emotional readiness as assessed by teachers.

In addition, the test on the LOPA instrument also shows a highly significant difference with a t-value of 11.55 and p<0.001. The average LOPA score increases by 9.70 points, from 12.10 to 21.80. These findings reinforce the results of the SKSE and show that the improvement is also seen in children's behaviour, which could be observed directly. Overall, these data confirm that the UDL-based counselling program significantly improved the social-emotional readiness of early childhood.

4.4 Effect size (cohen's d)

To complement the statistical analysis and provide an understanding of the magnitude of the intervention's impact, the effect size was calculated using Cohen's d (Cohen, 1988). This value measures the difference between the pre-test and post-test means regarding standard deviations. The interpretation of Cohen's d values is as follows: d=0.2 (small effect), d=0.5 (moderate effect), and d=0.8 (significant impact).

Table 6. Effect size calculation results (cohen's d)

Instruments	Mean difference	Effect size (cohen's d)	Interpretation
SKSE	16.31	1.95	very large
LOPA	9.70	2.44	very large

The calculations in the Table 6 above show that UDL-based counselling interventions significantly and substantially impact children's social-emotional readiness. For the SKSE instrument, the effect size is d=1.95. This value far exceeds the threshold for a significant effect and shows that the intervention significantly changes the social-emotional competencies of

children as observed by teachers. Meanwhile, the LOPA instrument's effect size is d=2.44, which is also classified as a tremendous effect. These findings prove that significant improvements in children's social-emotional behaviour could be observed directly. Overall, the effect sizes found in this study confirm that the UDL-based counselling program is not only statistically effective but also provides a strong and substantial practical impact in improving the social-emotional readiness of early childhood.

5 Discussion

The research results show that counselling programs designed based on the principles of Universal Design for Learning (UDL) significantly improve the social-emotional readiness of early childhood. The significant and substantial improvement observed in the pre-test and post-test scores of both instruments (SKSE and LOPA) provides strong empirical evidence to support the application of the UDL framework in counselling in early childhood education. These findings are consistent with the literature emphasising the importance of structured interventions to promote social-emotional skills in children (Durlak et al., 2011; Rosanbalm & Murray, 2017). Measurable improvements in emotional regulation, social skills, and pro-social behaviour indicate that UDL is a theoretical concept and a practically practical framework.

The substantial improvement in children's social-emotional readiness can be attributed to the inherent flexibility in the design of UDL interventions. By providing multiple ways for children to understand and express themselves, the program is able to accommodate individual variations in learning styles, communication preferences, and developmental levels (Meyer et al., 2014). For example, children who are kinesthetic learners can express their understanding through role-playing and body movements. In contrast, children more responsive to visual stimulation can understand emotional concepts through picture stories and animated videos. This flexibility effectively minimises the barriers in conventional, rigid counselling approaches, which rely on a single mode of instruction or response (Basham et al., 2010).

The effectiveness of this intervention can also be seen from its specific impact on each dimension of social-emotional readiness. In the dimension of emotional regulation, the use of various media to represent emotional concepts, such as “emotion cards” or “feeling thermometers,” provides children with concrete tools to identify and label their emotions (Raver et al., 2018). This process is fundamental in developing the capacity to manage emotions effectively. Similarly, in social skills and pro-social behaviour, providing various options for interaction, such as role-playing or collaborating on art projects, motivates children to practice skills such as sharing, taking turns, and resolving conflicts (Jones et al., 2015). This aligns with research showing that direct practice in relevant contexts is crucial for internalising pro-social behaviours (Fantuzzo et al., 2018).

The finding that the effect size (Cohen's d) was immense for both instruments (SKSE=1.95 and LOPA=2.44) confirms that UDL-based counselling interventions have a significant practical impact, not just a statistical one (Cohen, 1988). Cohen's d values that far exceed the threshold for substantial effects (d>0.8) indicate that the changes observed in children are considerable and have significant clinical or practical meaning (McClelland et al., 2013). This suggests that the intervention has great potential to change children's developmental trajectories toward better school readiness. The magnitude of this impact provides strong justification for the investment and adoption of such programs in early childhood education systems.

This study also significantly contributes to the UDL literature by extending its application from the academic to social-emotional domains (Novak & Rose, 2016). Although UDL has traditionally focused on curriculum design for subjects such as reading and mathematics, this study shows that the same principles can be effectively applied to counselling and behavioural

interventions (Meyer et al., 2014). This finding paves the way for further research on how UDL can address various non-academic school challenges, such as bullying prevention or mental health promotion (Sarr et al., 2021). This application aligns with current education trends that advocate a holistic approach to child development (Rappolt-Schlichtmann et al., 2013).

The practical implications of these findings are highly relevant for educators, counsellors, and policymakers in early childhood education. Future counselling curricula should incorporate flexibility in content and methods, moving away from a uniform instructional model (Rimm-Kaufman & Pianta, 2000). Counsellors and teachers need to be trained to identify children's individual needs and respond with different approaches, rather than providing a one-size-fits-all solution. Professional training focused on UDL principles can help them develop the skills to design and implement more effective and inclusive programs (McLeod & Miller, 2013).

However, several limitations need to be considered when interpreting the findings of this study. First, the single-group pre-test/post-test research design did not have a control group, making it impossible to eliminate the influence of external factors such as maturation, test effects, or other environmental factors (Shadish et al., 2002). Although the normality test results indicate that the data is well distributed, the lack of a comparison group makes it difficult to draw firm causal conclusions. Future research could use a randomised controlled trial (RCT) design to strengthen internal validity and ensure that the observed changes are indeed caused by the intervention (Creswell & Creswell, 2018).

Second, although the instruments used have been validated and are highly reliable, they are limited to the school environment and assessment by teachers or trained observers. Assessment by parents or in the home environment could provide a different perspective on children's social-emotional development (Fantuzzo et al., 2018). Future research could integrate multi-source assessments to obtain a more comprehensive picture of social-emotional readiness.

Third, this study focused on the short term, measuring changes immediately after the intervention ended. The sustainability of the effects of UDL-based counselling programs is still unknown. Investigating whether the improvements achieved can be maintained as children transition to elementary school and face different environmental demands is crucial (Denham & Burton, 2012). Therefore, future research with more extended follow-up periods is needed to evaluate the long-term impact of this intervention.

These findings provide strong evidence to support the effectiveness of UDL-based counselling programs in improving the social-emotional readiness of young children. However, further research with stronger methodologies, including randomised controlled experimental designs and long-term measurements, is needed to validate these findings and provide a deeper understanding of the mechanisms behind this intervention's success. Successful implementation will require a commitment from all stakeholders to integrate UDL principles into the curriculum and everyday educational practices.

6 Conclusion and Implications

This study concludes that counselling programs that integrate Universal Design for Learning (UDL) principles are significantly effective in improving the social-emotional readiness of early childhood. Quantitative data analysis shows a substantial increase in both instruments' pre-test and post-test scores, namely the Social-Emotional Readiness Scale (SKSE) and the Child Behaviour Observation Sheet (LOPA). These results indicate that the flexibility and adaptability inherent in the UDL approach strongly support the development of social-emotional skills, such as emotion regulation, social skills, and pro-social behaviour. This program provides strong empirical evidence that the UDL framework is relevant to the academic domain and highly effective in the context of non-academic interventions. The limitations of this study, such as the

absence of a control group, need to be addressed in future studies to strengthen internal validity. The practical implication is to encourage the adoption of a more flexible and responsive counselling curriculum that addresses children's individual needs, better preparing them for the transition to elementary school.

The practical implications of these findings are highly relevant for educators and counsellors. Rather than merely suggesting that "future counselling curricula should incorporate flexibility," this study proposes a more concrete model. Schools and educational institutions could develop a UDL "activity bank" from which counsellors can select activities based on individual children's needs and interests. For example, a counsellor could choose a specific activity from the bank—like a puppet show for a shy child or a collaborative building task for a child who struggles with sharing—to better target their specific social-emotional needs. Training for counsellors and teachers should also be prioritised, focusing on designing and implementing these flexible, UDL-based programs. Acknowledging the study's limitations is essential for transparency and guiding future research. While the one-group design was a pragmatic choice, the absence of a control group prevents a definitive conclusion about causality. The use of teacher- and observer-based assessments, while valid, could also be supplemented by a multi-source assessment that includes parental input to get a more comprehensive view of the child's development.

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