

# **The Impact of Peer Support (Buddy System) Intervention on the Academic Achievement and Social Development of Elementary School Students in Inclusive Classrooms in UAE**

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# **The Impact of Peer Support (Buddy System) Intervention on the Academic Achievement and Social Development of Elementary School Students in Inclusive Classrooms in UAE**

## **Abstract**

This study examined the efficacy of a peer support intervention (buddy system) in inclusive classrooms at a government school in Fujairah, UAE. Specifically, it focused on how the intervention influenced the academic performance and social development of elementary school students. This study used a semi-experimental approach which allowed insight into a real-world example of the use of peer support intervention in an inclusive classroom. A mixed-methods approach to data collection was also employed, integrating quantitative evaluations of academic performance on standardised tests, survey data from questionnaires and qualitative data about social development from interviews with students. Descriptive statistics and t-tests were used for quantitative data analysis, while thematic analysis was used for qualitative data analysis. The findings showed a notable beneficial effect of the buddy system on academic performance and social development. The findings also revealed the development of strong peer relationships, better communication skills, and improved teamwork abilities in students participating in the buddy system. These findings highlight the efficacy of the buddy system, in promoting holistic growth among diverse student populations and the need for utilising cooperative and inclusive methods to enhance academic success and social development for students in Government schools.

**Keywords:** peer support, inclusive education classroom, social development, academic achievement, UAE

## **1. Introduction**

Peer-to-peer interactions is a key factor in children's social and emotional development. In the early stages of development, children establish strong emotional connections with their caregivers. Through the processes of observation, imitation, and response to their social group, children eventually develop an understanding of the world around them including peers from different backgrounds (Bretherton 2013). Psychologist John Bowlby emphasised the significance of the bond between children and caregivers during their formative years in shaping their social competence. Those bonds enable social interactions that contribute to social competence. Social competencies encompass several skills such as self-awareness, emotional regulation, interpersonal skills, empathy, and assertiveness (Bowlby & Ainsworth 2013).

Nevertheless, some children, especially those with disabilities and special needs, may experience neglect including parental abuse or lack of interactions with others which can detrimentally affect their social and emotional growth (Holmes 2014). Children's interaction with their peers facilitate the development of their social interaction, fostering a sense of community and belonging (Parker et al. 2015). Peer support systems including buddy system, counselling and circle of friends are experiences that support social and emotional development. O'Connor (2016) used the circle of friends' approach to enhance inclusivity and social cohesion and found that children who received the support showed proactivity for initiating social interactions. Houlston and Smith's (2009) research on peer counselling showed that students' self-esteem increased after receiving counselling from the peers. These results highlight how peer interactions' potential as a flexible and successful strategy for improving social and mental health.

## **1.1 Issue of Study**

The majority of studies about the influence of peer support systems on students' academic and social development has focused on Western cultural and educational settings and less so in non-western countries such as the UAE. These studies include Carter et al. (2015) who reported that peer support system has a positive impact on social contact, academic engagement, and emotional support for students, especially those with special educational needs. Tzani-Pepelasi et al. (2019) who examined the impact of the buddy system on creating a secure school atmosphere and deterring bullying and Danker's (2019), study which reported favourable effects of the buddy system in providing assistance to students diagnosed with autism spectrum disorder, have contributed to our understanding of the dynamics of peer support in educational settings. However, very few of such studies have been carried out in the UAE. The Fujairah Emirate in the UAE is a culturally diverse educational environment which envisions meaningful inclusion of all students within its large diverse student population. Aside from students with special & additional learning needs, the educational system also has students from different cultural backgrounds with unique educational needs. This unique context prompts questions about strategies that can enhance learning, including the use of, the suitability, and efficacy of peer support networks (buddy system). Although the Ministry of Education made efforts in establishing legislation supporting classrooms, many educators hold a negative outlook towards inclusive classrooms due to encounters

with challenges in managing different responsibilities that must be accomplished within limited timeframes (Alghazo & Gaad 2004). Teachers face the challenge of adopting their teaching strategies to support students with special needs, students from different cultural backgrounds, and gifted and talented students. In the process of supporting a certain group of students, other groups can be unintentionally neglected. Students with different abilities including learning difficulties, and from different cultural backgrounds or countries can experience such issues (Alsharari 2018). In order to be considered culturally competent, educators should support students in developing positive ethnic and cultural identities, as well as a critical consciousness that allows them to analyse societal injustices. A notable gap exists in the existing literature about the impact of the peer support system on the academic achievement and social development of elementary school students in inclusive classrooms in the UAE's government schools in Fujairah. The absence of targeted study in this domain underscores a crucial deficiency in our comprehension of the operational mechanisms of peer support systems within the distinct sociocultural and educational context of Fujairah's government schools. In a study Keis (2020) explored the implementation of positive education and a culture of well-being among learners with special educational needs and disabilities within a private school in Dubai. The results showed that the utilisation of a buddy system had a positive impact on students' social development both within and outside the classroom. No other studies addressing this specific topic in the UAE were found in the literature. Accordingly, the

present study will employ the buddy support system and explore its impact on students within an inclusive classroom setting.

## **1.2 Aims of the Study**

This research aimed to explore the benefits of using the buddy system in one elementary school and to examine its impact on the academic and social development of students with special needs and students from different cultural backgrounds in an inclusive classroom in Fujairah. The study specifically evaluated the academic achievement of children before and after the introduction of the peer support system, utilising standardised test results and classroom observations as quantitative data. Simultaneously, it explored the impact on social development, investigating elements such as interpersonal abilities, interactions with peers, and students' feeling of inclusion.

## **1.3 Research Questions**

1. What are students' perceptions of the social exchanges, interactions and feelings about the relationships in the buddy system?
2. What specific academic performance indicators are influenced by the buddy system among elementary school students with special needs and students with different cultural backgrounds in Fujairah?
3. What are students' perceptions and reflections of the buddy system and the improvement in their academic and social skills?

The buddy support system has the capacity to provide valuable information for a wide range of individuals involved, such as educators, policymakers, and parents. It has a pivotal function in facilitating children's social development by improving their communication abilities through interactions with their peers. Research has demonstrated that these connections have a beneficial influence on students' academic performance and social growth, leading to long-term improvements in their social and emotional welfare (Zimmerman 2003).

This work is important because it fills a research gap in our understanding of peer support systems in the UAE, specifically in Fujairah. An analysis of the efficacy of the buddy system in inclusive classrooms could yield significant information for educators and policymakers, informing the deployment of such systems. Furthermore, this study adds to the wider discussion on inclusive education, emphasising the significance of peer assistance in enhancing the educational experiences of all students.

## **2. Literature: Inclusive Education and Buddy System**

Inclusive education, as defined by UNESCO, is adapting the existing educational system to meet the needs of all children regardless of their social, emotional, and physical needs. This educational approach differs from the traditional teaching approaches where children with special needs were segregated and educated in different centres or schools (UNESCO, 2023). Inclusive education environments enable students with diverse abilities and from diverse backgrounds to interact and learn together. Unlike special

education schools, inclusive schools are predicated upon the need to include students as right, and this principle ensures that students with different abilities and background are admitted to the same classrooms (Gaad & Khan 2007; Kuyini & Desai 2007).

In inclusive classrooms, Kurtts (2016) illustrates that the universal design for learning extends its focus beyond disabilities to encompass a wider range of diversity factors, such as gender, race, and learning styles, in order to design enabling educational materials and settings. Kurtts advocates for the creation of inclusive and accessible learning environments that accommodate the needs of all students, regardless of their individual backgrounds or differences in abilities, by considering a broader range of student characteristics. This approach aligns with the principles of equity and social justice, emphasising the importance of adjusting teaching methods to meet the students' needs. In this sense it also aligns with the demand for accountability in education- both standard-driven and results-driven (Anderson, 2005; McLaughlin & Rhim 2007) as it fosters better educational outcomes for all students (Whittaker, 2020). In these environments, the peer support systems enable more peer-to-peer interactions, they constitute the central mechanism of the support and take different forms including circle of friends and buddy systems.

## **2.1 Peer Support System**

A peer support system is a well-organised framework where individuals offer aid, motivation, and empathy to their peers (Campos et al. 2014). Within an educational



setting, a peer support system generally entails students helping one another in academic, social, or emotional aspects. In an example from Brock and Huber (2017), students who receive assistance from their peers may encounter heightened academic performance and enhanced social abilities. Simultaneously, students who fulfil the role of peer supporters can cultivate leadership abilities, empathy, and a sense of accountability towards their peers.

Studies have consistently shown the positive impact of peer support in advancing inclusive education in elementary schools. Carter et al. (2015) indicates that the implementation of the peer support system has a positive impact on social contact, academic engagement, and emotional support for students, especially those with special educational needs. Additionally, peer support arrangements are proposed where classmates provide academic and social assistance to students with disabilities. This strategy has been beneficial for both groups of students, improving social relations and academic engagement.

## **2.2 Peer Support and Academic Achievement**

According to Juvonen et al. (2012), the level of acceptance that students experience from their peers and the nature of these interactions in terms of friendship and emotional connection can have an impact on their motivation and active participation in academic and school-related activities. Krnjajic (2002) conducted a large study with middle school children and discovered that those with stronger and peer interactions demonstrated

higher levels of academic engagement and drive. Krnjajic's research also focused on the quality of these connections, demonstrating that children who had supportive and academically oriented friends performed better in school. Gallardo et al. (2016) expanded on these findings in multi-year research that followed children from various backgrounds. Students who felt accepted and included by their classmates were more likely to participate in class, take academic risks, and persevere in difficult assignments. Gallardo and others implied that a supportive peer environment can be a big equaliser in educational settings.

### **2.3 Theoretical Framework**

Social Learning Theory (Bandura & Walters 1977), Lev Vygotsky's Socio-cultural Theory and Attachment Theory (Bowlby 1958) were used as frameworks to guide this study. Albert Bandura's Social Learning Theory explores how individuals acquire behaviors through observation, imitation, and reinforcement. According to Social Learning Theory, a child's daily interactions with teachers, caregivers, siblings, and other adults, as well as fictional characters and celebrities, can serve as role models. Children may emulate their role models gain knowledge, skills, attitudes, and beliefs by observing the actions of others and the resulting consequences (Bandura & Walters 1977). These interactions, support development of cooperation leading to collective agency, shape cognitive engagement and learning (Bandura, 2006).

The importance of social contact and the cultural context in influencing cognitive development is highlighted by Vygotsky's Socio-cultural Theory (Bodrova, 1997). Children's behaviour is greatly impacted by cultural factors, which according to Vygotsky's social- cultural theory are essential in grounding learning to context, and through the notion of Zone of Proximal Development (ZPD), interactions with peers extend opportunities for learning. In some contexts, cultural norms significantly influence patterns of interactions. For example, children in the United Arab Emirates are taught early on that they should limit their interactions with people of the other gender. They communicate mostly with their close relatives and relations (Crabtree 2007) and the nature of these interactions defines how learning is initiated and supported. In schools and classrooms, enabling diverse interactions can facilitate learning in line with the ZPD specifically, and more broadly the social cultural theory. To end, Zuckerman (2003) noted that a learning activity requires students take an active role in their own education, and through interaction with peer buddies who may be more knowledgeable, their learning can be enhanced. Attachment Theory on the other hand alludes to the bonds created by nurturing and caring for another person to meet their essential needs. While parents and family members are usually the main focus of attachment, it is also clear in the literature that teachers, friends and school peers can become attachment figures who can help fulfil social and learning needs of students.

Having peer buddies is a mechanism which enables better interaction and learning among students in a culturally relevant manner, leading to some forms of bonds that further propel learning and development. Therefore, peer buddy systems are linked to Attachment Theory (Bowlby 1958). In this regard, it highlights how stable connections in early childhood required for good socio-emotional development can be replicated in classrooms for students who are slow learners to receive support from others. In essence, a buddy system in inclusive classrooms, guided by social learning theory, socio-cultural theory and attachment theory can be useful in supporting slow learners.

### **3. Methodology**

The study employed a semi-experimental design to assess the influence of an intervention (the buddy system) on the academic achievement and social growth of third-grade students with special needs and from diverse cultural backgrounds. A mixed-methods research approach incorporating quantitative and qualitative methodologies was used to collect data. The research involved gathering data from standardised tests and surveys before introducing the intervention. The intervention's effectiveness was evaluated through post-tests, post-test, pre-survey, post-survey, and qualitative interviews.

#### **3.1 Participants and Sampling**

The study included 40 third-grade students from a government school in Fujairah, UAE. The participants had different ability levels, included students with special needs

(specifically students with ADHD, borderline intellectual functioning, communication disorder, visual impairment). The students were also of diverse nationalities with the majority being UAE nationals and a minor presence from Oman, Egypt, Palestine, and Morocco. The participants were chosen purposively based on special needs and cultural background to produce a representative sample from the grade 3 group. The participants represent a range of academic performance levels, including high, average, and low achievers. Five students with special education needs in the grade (with ADHD, borderline intellectual functioning, communication disorder, visual impairment) were automatically included following upon consent to allow a thorough study of the buddy system's influence across a range of academic skills and learning characteristics. The main inclusion and exclusion criteria were that students should be willing to participate with the parental consent, students who have special needs students and those come from a different cultural background. Any student who did not agree to participate in the study and did not have their guardian or parents' consent was excluded to maintain the ethical principles of the study.

### **3.2 Intervention (Buddy System)**

The participants were categorised into two groups based on their academic performance and level of social interaction. The determination of each group was based on an interview with the subject teachers of English, maths, and Arabic and their test results in these subjects prior to conducting the intervention. The first group was

designated as *Buddy Mentors*, comprising students with both high academic achievement and strong social interactions. The students were given an orientation session where they were provided with information about their roles and expectations. The students were allowed to ask questions and express their thoughts to ensure that they are aware of their roles and expectations.

The second group were identified as *Buddy Mentees*, including students with different special needs and those from different cultural backgrounds. The Buddy Mentees were given information about the intervention and their peers, and they were provided the chance to share their thoughts and expectations to ensure their understanding of the intervention.

### ***3.2.1 Pairing students***

A randomised selection was conducted to match students from each group. However, the gender preferences were considered in order to establish a comfortable and inclusive setting as a small number of boys and girls expressed discomfort at being paired with students of the opposite gender. A key objective of the pairing process was to ascertain the voluntary participation of the participants. The students had one open communication session where mentor and mentees discussed topics like their favourite subject, least favourite subject, friendships, and school life. Throughout the 4-week intervention period, four support sessions at the end of each week were conducted to monitor the progress and address any issues. The mentors were given support to ensure they did not fall behind in

terms of their classwork while helping the mentees. During the buddy system intervention, the participants actively participated in paired activities, support sessions, and continuous interactions

### ***3.2.2 Pre- and post standardised test***

The students were given a standardised test for Grade 3 from the Emirates Schools Establishment in the English, Maths, and Arabic subjects. All students completed the test prior to the peer support intervention. The test worked as a diagnostic tool to track their academic level and establish a baseline. After implementing the peer support intervention, a post-test was conducted to assess the impact of the intervention on academic performance. The comparison of the pre- and post-test outcomes enabled a detailed assessment of the students' advancements. The skills and standards used were included to clarify the areas that were tested in the three subjects: English, maths, and Arabic.

The English standardised test was divided into four sections including functional language and grammar. The questions type was matching, fill in the gap, and multiple choice. In Table 1, the topics discussed in all the sections are presented. The maths test was categorised into three sections (see Table 2). The Arabic test included the following skills: auditory awareness and sounds, vocabulary, the comprehension of narrative and informational text, and writing.

**Table 1**

*English Test Topics*

<b>Functional Language</b>	<b>Grammar</b>
Asking for and giving personal information	Determiners (demonstratives)
Describing habits, routines, tasks, and jobs	Nouns (plurals – regular)
Describing objects	Adjectives (position)
Expressing likes and dislikes	Adverbs (frequency)
Describing places	Prepositions (place)
	Present tense (present continuous)
	Conjunctions

*Note.* Based on the test paper from the Emirates Schools Establishment.

**Table 2**

*Maths Test Skills*

<b>Basic Arithmetic</b>	<b>Number Representation and Manipulation</b>	<b>Geometry and Data Analysis</b>
Adding two-digit numbers	Using words, models, and expanded forms to represent numbers up to 999	Analysing data in graphical representations
Subtracting two-digit numbers	Reading and writing numbers up to 1,000	Distinguishing concepts of sides and angles for two-dimensional shapes
Counting by 2s, 5s, and 10s	Comparing three-digit numbers using $>$ , $<$ , and $=$	Dividing two-dimensional shapes into equal shares Describing three-dimensional shapes



### **3.3 Surveys and Interviews Tools**

The survey aimed to capture the students' perceptions and experiences with the buddy system intervention. It included two sections: general questions and support categories. The survey instrument was developed by Gordon-Hollingsworth et al. (2015). The general questions section comprised of questions that assessed the students' general satisfaction and ease with the buddy system. The participants provided their responses using a Likert scale, with response options ranging from "Yes, all the time", "Yes, sometimes", and "No, never". An Example of the provided statements was as follows: "I enjoy having one special friend to help me in the classroom." Secondly, the support categories section aimed at investigating specific aspects of the peer support system, including emotional support, instrumental support, informational support, appraisal support, and belongingness and inclusion. Sample statement was included from the pre-intervention survey, "I have a special friend." To measure the post-intervention impact, the survey format was adjusted but followed the same categories.

Interviews were carried out to collect the students' viewpoints on their interactions with the programme. The interview guide was divided into three categories: academic growth, social growth, and overall reflection. Each category was created to offer a thorough comprehension of its impacts. Probing questions were used to explore the students' perceptions and promote reflective thinking. The interview was a valuable

method for collecting qualitative data to supplement the quantitative assessments carried out in the study.

In the Academic Growth section, participants reflected on the buddy system's impact on academic achievement and student awareness of learning processes. The Social Growth, focused on emotional reactions, relationship dynamics, and broader social interactions within the classroom. The Overall Reflection section was about encouraging participants to discuss their impressions and experiences with the buddy system.

Questions such as "Tell me about something new that your friend helped you learn?" and "How did you feel about working with your buddy in the class?"

Prior to the full implementation, we tried to validity and reliability of instrument by asking a group of students who were not part of the study to read and give possible answers to the survey and interview questions to test the clarity of language for grade 3 students, as well as the relevance of the questions. The achievement test used in this study was a standardised test provided by the Emirates School Establishment and was subjected to any test.

### **3.4 Data Collection and Analysis**

The survey was carried out before the start of the intervention, and at the end of the intervention to measure the impact of the buddy system. The interviews were carried out mainly after the intervention to gather data on participant experiences of the buddy system.

This study employed the Jamovi Statistical Analysis Software (Version #2.3. 28) to analyse the quantitative data and a thematic analysis approach to analysis the interview data.

Specifically, the Jamovi tool was used to answer Research Questions 1 and 2, providing descriptive analysis of the survey data regarding students' perceptions of the buddy system, their social exchanges, interactions and feelings about the relationships. The Descriptive statistical procedures, including frequencies were performed for Research Question 1 and mean, median, standard deviation, and minimum and maximum values as part of t-tests for Research Question 2. The Paired Sample T-tests were used to explore pre and post intervention test scores in the three subjects (English, Maths and Arabic ) of the participants in order to answer Research Question 2 .

For the qualitative interview data, which was used to answer Research question 3 about students perceived improvement in academic and social skills, as well as their reflection of the buddy system, the analysis followed the guidelines established by Braun and Wilkinson (2003). The guidelines prioritise theoretical clarity, explicit decision-making, and adaptability in defining and representing themes, taking into account the specific research context in 6 steps:

1. Reading over transcripts and taking notes of the materials available.
2. Labelling and coding into meaningful sections.
3. Identifying potential themes.

4. Developing a description for each theme.
5. Connecting the themes with the research objective and aims.
6. Reporting findings and connecting them to the existing literature.

These six steps were followed in the data analysis allowing for identification of themes.

## **4. Results**

### **4.1 Data Analysis**

The quantitative analysis involving paired samples t-tests were utilised to investigate the differences in English, Mathematics, and Arabic scores between the pre-test and post-test periods, yielded meaningful results. The buddy system intervention resulted in a significant improvement in English test scores, evidenced by a discernible increase in the post-test scores in comparison to the pre-test scores.. The mean score increased from 22.9 in the pre-test to 26.8 in the post-test. With a t-value of -5.10 and a p-value of 0.001, the analysis showed that there was a significant influence on the participants' academic skills, which resulted in higher scores. Visible from the descriptive statistics of the English test scores, the mean and the median scores were affected by the intervention. Another indicator of the improvement in the test results was the increase of the lowest and highest scores (See Tables 3 & 4 below). The significance of the change was validated by the statistical analysis, which demonstrated that it had a beneficial impact on the quality of English proficiency among the students. The statistically significant result suggests that the intervention led to improvement student performance.

**Tables 3 and 4**

*Descriptives and Paired Samples T-Test for English*

**Descriptives**

Descriptives		
	English Pre-Test	English Post-Test
N	20	20
Missing	0	0
Mean	22.9	26.8
Median	19.5	25.0
Standard deviation	13.7	14.1
Minimum	8	11
Maximum	60	66

**Paired Samples T-Test**

Paired Samples T-Test			statistic	df	p
English Pre-Test	English Post-Test	Student's t	-5.10	19.0	< .001

Note.  $H_0: \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} = 0$

*Note:* Results generated using Jamovi.

The paired sampled t-test for Mathematics showed an increase in the post-test scores, however, the outcomes of the test were not statistically significant. The mean post-test score increased to 31.4, indicating a general enhancement in maths performance following the intervention. The median post-test score was 29, representing the central value of the post-intervention distribution. The standard deviation decreased to 11.3, indicating a slightly smaller range of scores around the mean compared to the pre-test. The paired samples t-test yielded a non-significant outcome, with a t-value of -1.54 and a p-value of 0.140., This result suggests that the observed discrepancy in maths test scores before and after the intervention might be due to random chance rather than the intervention itself (See Tables 5 and 6).

## Tables 5 and 6

### Descriptives and Paired Samples T-Test for Maths

#### Descriptives

Descriptives	Math Pre-Test	Math Post-Test
N	20	20
Missing	0	0
Mean	29.6	31.4
Median	28.0	28.5
Standard deviation	9.62	9.84
Minimum	19	18
Maximum	50	55

#### Paired Samples T-Test

Paired Samples T-Test		statistic	df	p	
Math Pre-Test	Math Post-Test	Student's t	-1.92	19.0	0.070

Note.  $H_0: \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} = 0$

*Note:* Results generated using Jamovi.

The Arabic post-test scores varied from ten to seventy. This suggests that there was an overall improvement in Arabic proficiency after the implementation of the buddy system intervention, as indicated by the fact that the average post-test score increased to 37.8. During the post-test, the median score rose to 36 on average. There was no change in the standard deviation, and it remained the same at 20.9. There was no variance change. The consistency that appears to be dispersed around the mean indicates stability. Statistically significant results were obtained from the paired sample t-test, which had a t-value of -2.30 and a p-value of 0.033. This is an important finding. The fact that this is the case is evidence that the buddy system intervention was a significant contributor to the increase in the test score (see Tables 7 and 8).

**Tables 7 and 8**

*Descriptives and Paired Samples T-Test for Arabic*

**Descriptives**

Descriptives		
	Arabic Pre-Test	Arabic Post-Test
N	20	20
Missing	0	0
Mean	35.0	37.8
Median	34.0	36.0
Standard deviation	20.9	20.9
Minimum	2	10
Maximum	67	70

**Paired Samples T-Test**

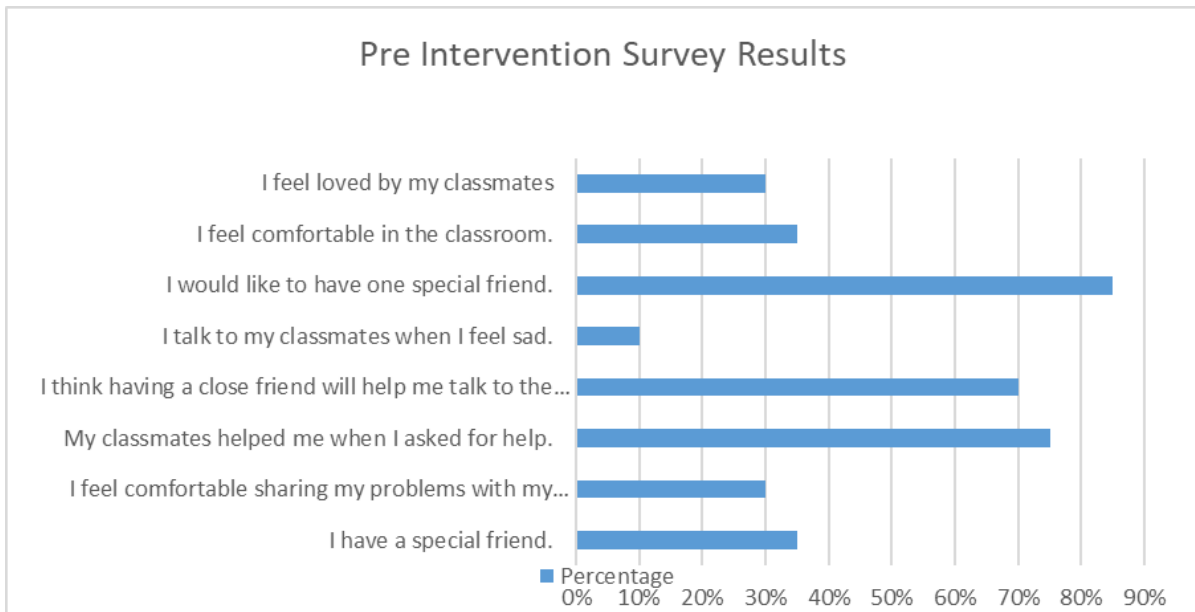
Paired Samples T-Test			statistic	df	p
Arabic Pre-Test	Arabic Post-Test	Student's t	-2.30	19.0	0.033

Note.  $H_0: \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} = 0$

Note: Results generated using Jamovi.

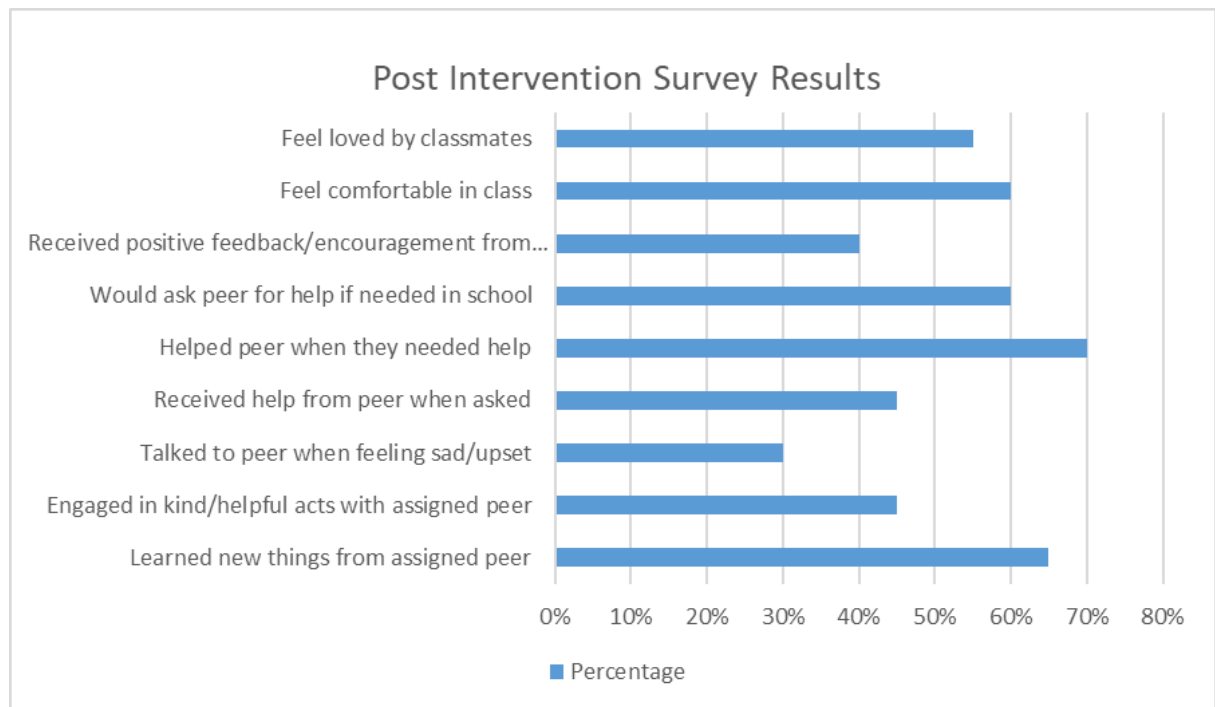
**Figure 1**

*Pre-Intervention Survey Results*



**Figure 2**

*Post-Intervention Survey Results*



In the pre survey, 70% of the respondents reported having a special friend, indicating the existence of a network of close relationships among the students. The percentage remained unchanged in the post-survey. Additionally, 75% of the students feel comfortable discussing their problems with their peers. The percentage decreased to 70% in the post-survey, suggesting a slight decline in the overall comfort level in sharing personal issues with peers after the intervention.

The initial survey showed that 60% of the participants reported receiving help from peers when requested. The percentage remained constant in the post-survey. The pre-survey



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was utilised to explore the perceived benefits of close friendships. 45% of the students expressed that having a close friend would facilitate their communication with classmates. The percentage decreased to 40% in the follow-up survey, suggesting a slight decline in the perceived advantages of close friendships in enhancing social interactions.

90% percent of the respondents in the preliminary survey reported seeking emotional support from their classmates when feeling down. The percentage decreased to 75% in the post-survey, showing a decline in seeking emotional support from peers after the intervention.

Following the intervention, there was a noticeable rise in the inclination towards forming close friendships. During the pre-survey, 45% of the students expressed a desire to have one special friend. After the post-survey, the percentage rose to fifty-five percent, suggesting a growing interest in deeper connections among classmates (See Figure 1).

The data gathered from the post-survey indicated an increase in the students' overall comfort level in the classroom environment. The percentage rose to sixty percent in the post-survey, signifying positive changes in the classroom atmosphere due to the intervention. During the pre-survey, 45% of the respondents mentioned occasionally feeling comfortable in the classroom.

Overall, the peers' perception of affection remained consistent in both surveys, with 40% of the students reporting occasional experiences of love from their classmates. Although the intervention did not significantly impact the prevalence of special friendships

or behaviours involving peer assistance, it did enhance the overall comfort level of the students in the classroom environment. Conversely, there was a small reduction in seeking emotional support from peers and a decrease in the perceived advantages of close friendships for enhancing social interactions (See Figure 2).

## **4.2 Interview Results**

Using interviews, additional insights into the participants' experiences with the buddy system intervention were gained. Students were asked to indicate specific improvements they noted in their own learning, academic and social skills or other reflections. The key Themes are presented in Table 9 below.

Positive academic outcomes were reported by the participants, including the acquisition of new information and the development of self-confidence in their current abilities. The intervention also helped to foster social connections and engagement among peers, which contributed to an improvement in the overall atmosphere of the school. It was determined that there are problems and areas that require improvement, which highlights the significance of continuously adapting and refining the intervention in order to maintain alignment with the ever-changing requirements of children.

**Table 9**

<b>Domain</b>	<b>Theme</b>
<i>Academic growth</i>	Learning something new

<i>Social growth</i>	Understanding a difficult concept Increased confidence Emotional expression of feeling happy, excited, or supported Making new friends
<i>Overall reflection</i>	A level of discomfort and nervousness Positive view of the Intervention Suggested improvement Willingness to continue the intervention Planning future goals

## **5. Discussion**

This study aimed to determine the influence of a buddy support intervention system on students' academic performance and social development in an elementary school in Fujairah, UAE. The research was guided by Bandura' Social Learning Theory and Vygotsky's Socio-cultural theory and focused on several specific questions designed to explore different aspects of the intervention's impact. The first question centred on students' perceptions and experiences with the buddy program, including strategies and challenges involved in creating supportive learning environments. The second focused on how the buddy system enhanced students' overall academic performance and social growth.

The key findings were that the intervention had an impact on the students' academic performance and social development, and essentialise the positive role of models and cultural context in learning as per the Bandura's and Vygotsky's theories. More broadly, it was found that students within the cultural context of Fujairah, UAE preferred to collaborate with peers of equivalent gender. Secondly, the utilisation of cooperative activities such as competitions, inspired the students to engage in conversation with their classmates and demonstrate an interest in the development of their academic skills. Additionally, although the buddy system showed great improvement in the standardised test results, there were some students who needed a longer period to complete it. In specific terms, the impact of the intervention on academic performance, showed significant improvements in the English and Arabic language subjects. In addition, the results of the standardised tests that were analysed are in agreement with the second question of the research, which specifically investigated the impact that the buddy system has on academic performance indicators and the statistical significance improvements validates the effectiveness of the intervention. Previous research, such as that conducted by Juvonen et al. (2012) and Krnjajic (2002), has shown that peer-assisted learning programmes have a positive influence on academic outcomes among a variety of student populations. These results are in line with those findings.

In relation to the second research question, which aimed to assess the influence of the buddy system on the development of social skills by exploring students' experiences with

the buddy system, the qualitative insights provided a clear understanding of how the buddy system contributes to positive peer relationships and the overall social development. Thus, the qualitative findings complement the quantitative analysis discussed above. Specifically, students reported the emergence of increased confidence, the formation of new friendships, and collaborative behaviour, which is reminiscent of the findings of earlier research conducted by Richard et al. (2022) and O'Connor (2016). These studies have highlighted the role that peer interactions play in the development of social-emotional skills among students who have a variety of needs.

Finally, the findings in relation to the research questions about specific mechanisms through which the buddy system enhances peer relationships and social growth, participants' perspectives include learning from their peers, expressing positive emotions during buddy interactions, and engaging in helpful acts for one another. These indicate the diverse modalities and valuable insights into the interpersonal dynamics that were fostered by the intervention. Collectively, these findings consolidate the role of Social Learning Theory (Bandura & Walters 1977) and Vygotsky's Social Cultural Theory in enabling learning. The two theories posit that role models and healthy interactions in specific cultural contexts support learning. This happens because as students emulate their role models and acquire new patterns of behavior through direct experience or by observing the behavior of others." (Bandura (1977). They also grow, become competitive through the development of cooperation leading to collective agency, which shape

cognitive engagement, facilitate ZPD and learning (Bandura, 2006). The friendships that were established through the buddy system intervention will also likely create lasting attachments to peers who will continue to nurture collaborative and creative and interactions with their peers in line with attachment theory (Bolby 1958).

In line with Zuckerman's (2003) idea that a learning activity requires students take an active role in their own education, and through interaction with peer buddies, it can be concluded that having peer buddies could be a beneficial mechanism in the study school/classrooms which will continue to enable better interaction and learning among students in a culturally relevant manner.

## **6. Implications and Limitations**

The implications of this study are that it is possible to establish and run viable buddy systems in inclusive classrooms, which will likely contribute to enhanced academic and social development of all students. It is therefore recommended that schools in Fujairah and UAE consider resourcing teachers to develop related inclusive education practices to improve the effectiveness of interventions comparable to the buddy support system. The results highlight relevance of comprehensive teacher training programmes that emphasise the development of healthy peer connections and the creation of inclusive classroom environments that are conducive to cooperation and mutual support. For this reason, it is necessary to make investments in ongoing professional development

opportunities for teachers in order to guarantee the successful incorporation of buddy support interventions into the structures that are already in place in classrooms.

The main limitations are the study's reliance on self-reported data from the survey and interviews with potential social desirability effects and response bias. Therefore it was important to acknowledge and consider the inherent constraints of self-reported data when analysing the findings, despite attempts to mitigate these prejudices. The absence of control or comparison groups in the study complicates the attribution of any observed improvements solely to the buddy system intervention. More research utilising experimental or quasi-experimental methodologies is necessary to address this issue. Future research could also investigate how factors such as cultural differences, language proficiency, and learning styles affect the effectiveness of the buddy system.

## **7. Conclusion**

This study's findings highlight the substantial influence of the buddy support system on the academic performance and social development of elementary school students in Fujairah attending an inclusive classroom. Ultimately, the buddy support system demonstrates potential for cultivating an environment of acceptance and support in schools, while also encouraging inclusive educational methods. By utilising the knowledge acquired from this study and prioritising research and professional growth, we can strive to establish educational opportunities that are both inclusive and equitable for students with diverse backgrounds and unique educational needs.

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