



The Impact of Interactive Activities on the Control and Development of Students' Behaviors in UAE ECE Classrooms

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ABSTRACT

This research investigates the impact of interactive activities on the control and development of students' behaviors in Early Childhood Education (ECE) classrooms in a primary school in the United Arab Emirates. This study included a literature review on the focus area of the research. Four different qualitative and quantitative data collection tools, checklists, anecdotal notes, interviews, and a survey were used to gather information related to students' behavior. Four teaching strategies (interactive activities) were implemented: student-teacher interactions, student-peer interactions, student-group interactions, and student-technology interactions. Five Emirati students were chosen to participate in this research after detecting behaviors that need to be addressed. The results collected suggest that there is a significant positive impact of interactive activities on the general behaviors of students.

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INTRODUCTION

In early childhood education, teachers and students are the major components of the teaching and learning process. Therefore, if the students show disruptive behaviors, the educational process could be affected negatively. Disruptive behaviors include hyperactivity, uttering disturbing noises, aggression, and verbal misbehaviors. Having even one of these misbehaviors in a class could interrupt the pace of the lesson and might affect the implementation of the curriculum. Moreover, teachers might struggle to deal with the mentioned behaviors if they do not have enough experience, resources, knowledge, or information. However, these kinds of situations could be dealt with by researching and finding the best solution for the specific misbehaviors that the teacher is having in the class. Moreover, as McKissick et al (2010) claimed, one of the biggest reasons for students to show disruptive behaviors is the lack of involvement in the lesson. Furthermore, the more involved and encouraged they are, the less misbehavior will occur. Therefore, this research aims to measure the impact of interactive activities on the control and development of behaviors in early childhood education in the United Arab Emirates.

Previous research has shown that one way to decrease those unwanted behaviors might be using a range of interactive activities in the classrooms. As Chi (2009) defined, interactive activities are the ones that require using 'dialogues' to communicate verbally or a kind of movement to interact physically. An

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interaction in a classroom setting could occur between a teacher and a student, a student and a single peer, or a student and a group of other students. Hence, there are many ways for the educator to design their lesson to be interaction-rich, which directly helps students to be encouraged, motivated, and involved in the lesson. In this research, there will be implementations of four different types of interactive activities: Gamification, group activities, peer activities, and usage of interactive technology. Students from grades 1 and 2 will be encouraged to interact with the teacher, a peer, a group of students, and technology through the mentioned activities. The main focus of this group-study research is 5 students in total, who will be observed and interviewed regarding the activities they will be required to do and their behaviors.

The research questions are:

- 1.What is the impact of the interactive activities on the control and development of behaviors of early childhood education students?
- 2.How does teachers' guidance in interactive activities enhance the control and development of ECE students' behaviors?

This research hypothesizes that the implementation of different types of interactive activities for early childhood education students will result in a decrease in negative behavior and an increase in positive behaviors. To test this hypothesis, observation methods, interviews, and a survey are conducted with the students and some English teachers.

Literature Review

Alhosani (2022) demonstrated early childhood education in the UAE is the early experiences and knowledge that a child in the UAE shapes to enhance their emotional, social, cognitive, linguistic, and physical domains. Misbehaviors in schools could be explained as a lack of effort, utilitarian sabotage, and failure of discipline (Ackroyd, 2012). It is simply when students show unwanted behaviors that affect negatively either the teaching-learning process, the teacher, or other students in the classroom. Misbehaviors could vary from simple acts such as playing with materials to serious ones like harming classmates. As Sun and Sheck (2012) elaborated, classroom misbehaviors could be disruptive speech, persistent avoidance of studying, clowning, disrupting class activities, bullying peers, verbal abuse, and being impolite to the instructor.

Kurganova et al (2022) claimed that the teaching process itself is a form of interaction between the teacher and the student. However, there are 3 types of methods of teaching. 1.Passive methods: where the lesson is teacher-centered and the students are listeners. 2.Active method: where there is an activation of student-teacher interactions.3. Interactive method: where there are multiple types of interaction such as student-to-teacher, student-to-peer, student-to-group.

A teacher's guidance is the language that they use to organize, arrange, and structure their lessons and provide pupils with instructions and directions for achieving the activities and lesson outcomes (Zhao and Zhang, 2020). A teacher needs to prepare and plan some instructions to provide the students with to ensure success in learning and classroom management.

A small number of similar studies measured the impact of interaction activities on different types of behaviors. For instance, (Sjöman et al, 2021) searched the matter of peer interaction and teacher responses on the influence on the hyperactivity and engagement of preschoolers. They provided the preschool staff with a questionnaire 3 times in longitudinal research to collect data about 203 Swedish children (with and without special needs). They found that positive peer-to-child interaction in the class predicts a decrease in hyperactive behaviors and increases the engagement of the students. Moreover,

they stated that the high rate of teacher responsiveness in the class results in a great increase in young learners' engagement. However, it does not affect the hyperactivity that occurs in the class.

Another study conducted by Chen et al (2019) investigated the influence of parent-child interaction on Attention Deficit Hyperactivity Disorder (ADHD). They focused on Type D Personality (TDP) parents, who fear expressing their emotions and tend to think negatively in nearly all situations. 47,648 Chinese parents and children participated in this research. The researchers provided the parents with a questionnaire to scale the impact of parents' interactions with children, with their hyperactivity behaviors. They focused on specific interactions such as doing outdoor activities, singing, reading, and chatting with the children. After analyzing the data they got from the 47,648 families, they found out that the results are consistent with their hypothesis: Lower frequencies of parent-child interactive activities will be related to higher levels of children's hyperactive behaviors.

A study conducted by Luckner and Pianta (2011) addressed the impact of teacher-student interactions on peer behaviors and other negative behaviors in the classroom. The participants were 894 fifth-grade students from the NICHD Study of Early Child Care and Youth Development and their teachers. The quality of teacher-student interactions such as emotional support, classroom organization, and instructional support was assessed by classroom observations. Moreover, the teacher reports were used to address the behaviors closely. The results revealed that fifth-grade students in classes with better organizational interactions had more positive peer interactions and lower teacher assessments of relational and aggressive behavior. Additionally, interactions including emotional support were linked to greater social behavior ratings from teachers. However, one limitation of this study is that four out of the five variables were assessed through teacher reports. Therefore, it is important to keep in mind that some teacher characteristics could affect both the interactions in the class and/or the assessment reports.

Another similar study, conducted by Lin et al (2016), investigated peer interaction's influence on learning-related behaviors. 270 preschoolers from the Appalachian community participated in this research. In a timeframe of a full academic year, the teachers assessed the frequency of peer interactions, learning-related behaviors, problem behaviors, and language and literacy. The researchers decided to choose the observations as their main teacher assessments to measure and analyze the impact of peer interactions on several variables. The results show that pairs of children who interacted communicated and got engaged with one another the most tended to have better learning-related behaviors. However, since the assessment applied was only teacher observation, there was a lack of student involvement in the research.

A relevant study, conducted by Ilias and Nor (2012), investigated the influence of teacher-student interactions on classroom behavior and motivation. The research depended fully on 1 questionnaire for teachers of 92 students in Malaysia. The survey contained several questions about student-teacher interactions, and whether they impacted students' behaviors and motivation for learning. Results show that there is a significant positive influence of student-teacher interaction on their behaviors. However, the research only gathered quantitative data through a close-ended questionnaire.

All of the above research claimed that the different types of interactions in a classroom setting impact positively on students' behaviors. However, a study conducted by Cadima et al (2010) claimed the opposite. The study contained 106 first-grade Portuguese students. Data collectors assessed the students using observation methods regarding their behaviors and some other variables they were investigating such as vocabulary acquisition. After that, they provided the teachers with a questionnaire that contained questions about students' behaviors. Using it, the educators measured the behaviors using a 5-point rating

system. The results revealed that there is nearly no relationship between the different kinds of interactions in the classroom and young learners' behaviors.

Current Study

All of the studies were conducted outside of the MENA region, while this research is located in the United Arab Emirates (UAE). Moreover, some of the mentioned studies depended fully on the questionnaire to collect data related to behaviors, while in this research, there is a variety of data collection tools such as observations, interviews, and a survey. Furthermore, in contrast to the research that focuses on collecting one type of data, this study contains both qualitative and quantitative data ensuring the collection of detailed information.

This research is associated with the constructivism theory defined by Lev Vygotsky (1978) since it focuses on the social interactions among young learners in a learning classroom. The various types of interactions such as student-to-teacher, student-to-peer, and students-to-group, which are utilized in this research are implementation of Vygotsky's social interaction theory.

Theoretical Framework

This theory explains how children learn best in an interaction-rich environment. Vygotsky emphasized that an individual's personal cognitive development and education are a social process that leads them to improvements when well-practiced (Luong, 2022). Furthermore, young learners' behaviors are a major part of this research since they are the variables addressed. This leads to the famous behaviorism theory. Behaviorism: is an aspect of pedagogy, theory, and philosophy related to behaviors (Woollard, 2010). Furthermore, Baum (2017) states "Behaviorism is the science of behavior". As Evan Pavlov was examining the change of behavior of his dog after being exposed to some factors, this research will be examining and measuring the change of behavior in grade 1 and 2 students in UAE classrooms. One of the similar studies that was implemented by Lin and others (2016) found that the children who engaged with one another more frequently tended to show stronger and better learning-related behaviors.

METHODOLOGY

The main aim of this research is to investigate the impact of interactive activities on the control and development of behaviors in early childhood classrooms in UAE. As mentioned, this research seeks to answer two main questions: 1) What is the impact of interactive activities on the control and development of ECE students' behaviors? 2) How does the teacher's guidance affect the control and development of ECE students' behaviors?

To answer these questions, a cyclic research process was conducted (See Figure 1). It starts with planning, data collection, data analysis, research paper writing, then reflecting. This procedure is described as cyclic since the planning should be based on reflections of previous actions, which makes it a cycle of steps. Hence, the procedure started with planning. Four different types of interactions were planned to be implemented in grade 1 and 2 classes: student-teacher interactions, student-peer interactions, student-group interactions, and student-technology interactions. After that, to initiate the action plan, an ethical consideration permission letter was signed by the principal of a primary school in Ras Al Khaimah in the UAE. The letter contained information about the research, such as its aim and questions. Moreover, it ensures that all the participants would remain anonymous, no harm would reach them, and that they could withdraw from the research at any time. The population of this study was 140 students in grades one and two, whereas the sample was five students with noticeable and repetitive behaviors.



Figure 1. the cyclic research process

To measure the impact of the different types of interactions on students' behaviors, two observation methods, a survey, and interviews were conducted with both students and schoolteachers. As McIlpatrick (2008) defined, observation is the act of intently watching & studying something or someone and having the capacity to note important details. The first observation method was the anecdotal notes (See Figure 2). The pre-service teacher observed the students' behaviors closely while young learners were assigned to work interactively to achieve the outcome of the lesson. Notes and details of behaviors were written down and several anecdotal notes were collected after implementing a total of 15 lessons.

Figure 2: student anecdotal notes

Student: 2	Grade: 2-2	Date: 23. Oct. 2024
Comment: Student number 2 was fully focused on the activity with his peer and he didn't misbehave at all.		
Interactive activity	<input checked="" type="checkbox"/>	Type: peer activity
Engagement level 		

Figure 3. student anecdotal notes

The second observation method was a checklist (See Figure 3). It checks whether there was an implication of an interactive activity, its instructions, whether the negative behaviors were controlled, and whether there were any behavior improvements.

The impact of interactive activities on the control and development of behaviors					Class: 2/2
Lesson no.	Interactive activity application	If yes, are instructions provided?	Control of negative behaviors	Development of any behavior	Notes
1	✗	✗	✓	✓	I think the main reason was because I'm a new teacher.
2	✗	✗	✗	✗	Too much noises. Not following the rules. Not engaged.
3	✓	✓	✓	✓	Engaged and motivated for mostly the interactive activity.
4	✗	✗	✗	✗	Too much noises. Not focusing.
5	✗	✗	✗	✗	Too much noises. Not focusing. Couldn't finish the lesson.
6	✓	✓	✓	✓	A huge no. of students engaged, motivated, and encouraged to learn.
7	✓	✓	✓	✓	First time doing peer activity, so it was a bit slow. But overall successful and smooth at the end.
8	✓	✓	✗	✓	Engaged but fighting a little over the task. Next time, I will give instructions about this task more specifically.
9	✓	✗	✗	✓	I forgot to tell the instructions clearly. Some students leave, and it happened again.
10	✓	✓	✓	✓	Much improved behaviors. There was no fighting. The students understood the lesson fully.
11	✓	✓	✓	✓	A successful lesson without any behavioral cuts of positive behaviors were made.
12	✓	✓	✓	✓	Totally focused and engaged for the first time in a while!
13	✓	✓	✓	✓	The students ready to play better. They could even finish the instructions. Fully engaged.
14	✓	✓	✓	✓	Enthusiastic in peer activity to finish early and be more engaged.
15	✓	✓	✓	✓	Creative group activity made them motivated. They worked together.
16					
17					
18					
19					
20					

Figure 4. the checklist tool

Moreover, an interview was conducted with the Mentor School Teacher (MST) and a peer who observed the students regarding the interactive activities and their influence on young learners' behavior. The interview was initiated by asking what kind of behaviors they noticed in one specific class section, as it was chosen to be the research sample. They pointed out a few behaviors, such as chatting and playing during the lesson. Then, a few more questions were asked about those behaviors, such as the potential reasons behind their experience with them. After that, the focus of the interview was shifted to the impact of the implemented interactive activities on the mentioned behaviors. The MST answered by "Students started to focus and participate more in the lesson, which reduced the negative behaviors a lot". In addition, both the MST and the peer claimed that the positive behaviors started to appear more often, especially in the students who were frequently showing negative behaviors. According to Fontana and Frey's (2005) simple definition, an interview is asking questions and receiving answers from the participants. The interview questions aimed to ask them about their perspective on the control or development of behaviors that occurred after applying the interactive activities, if any.

Furthermore, a survey was sent to all schoolteachers in both Arabic and English languages asking them about their experiences with interactive activities and their relationship with young learners' behaviors. It contained questions like the types of behaviors they were facing in their classrooms and their experiences with them. After that the survey focused on the interactive activities, the teachers' experiences with them, and if they noticed any behavioral changes throughout the implementation process. The results of the survey showed that 91.7% of the teachers claim that the interactive activities have a positive impact on their students. According to Scheuren (2004), a survey is a technique for collecting data from a sample of people. The survey can provide the researcher with qualitative, quantitative, or both types of data. Furthermore, As Jones and others (2013) mentioned, a survey has many advantages, one of which is to have a large amount of participation and, therefore, powerful statistical data. Moreover, it can be easily visualized through charts to get the findings of the questions easily and see the rate of answers at a glance. A total of 12 responses were collected from primary school teachers and pre-service teachers who taught in kindergartens and primary schools. The observation tools and interview questions were designed the previous academic semester (Spring 2024).

The survey was created the following semester (Fall 2024) as an improvement since collecting quantitative data was needed to strengthen the data. All of the collected data (from observation notes, interview notes, and survey responses) built up strong answers to my research questions. For future research, this study will be conducted in the same cyclic process by reflecting on the research as a whole and planning based on it.

Implementation of the Action Plan

In the planning phase of this study, four different types of interactions were planned to be implemented in grade 1 and 2 classes: student-teacher interactions, student-peer interactions, student-group interactions, and student-technology interactions. They were all implemented successfully. Starting with the student- teacher interactions, several activities that require communication between the teacher and the students were applied, such as competitions, oral question games, and daily routine questions and movements. All of them needed a dialogue creation between the educator and the pupil to be done successfully.

The second type of interaction is the student-peer interaction, which takes place when pair work is applied, such as pair worksheets and other peer assessments. These activities required an effective talk between two students to achieve the task.

The third type of interaction is student-group interaction, which occurs when executing group work activities such as group worksheets, group games, and group activities. These kinds of activities were chosen since they activate the collaboration and communication skills in the group and strengthen the spirit of teamwork.

The fourth and last type of interaction is the student-technology interaction, which happens when implementing online games, active videos, digital active stories, and digital activities. These specific activities were selected as they engage the students and encourage them to move, talk, and apply 21st-century skills such as critical thinking while answering the oral questions. All of the mentioned activities motivated the students to speak with each other, which is the perfect accomplishment of Lev Vygotsky's social interaction theory. Furthermore, the data collection methods were conducted whilst applying all these activities. The questions in all three methods were designed to answer both research questions. They focus on how the activities impact the behaviors and what is the role of the teacher's instructions in the process.

RESULTS

After implementing four different types of interactive activities: student-teacher, student-peer, student-group, and student-technology, a remarkable difference was noticed in the behaviors between the lessons that contained interactive activities and those that didn't. In the process of data analysis, the data were split into two sections: qualitative and quantitative data. The qualitative data includes the observation notes, interview answers, and the open-ended questions in the survey. The quantitative data is collected through the closed-ended questions in the survey in the form of statistics. The following is the data analysis in detail.

Grade 1 and 2 students were observed closely using anecdotal notes and a checklist. The results show that the 5 participants started to not only participate more but also stick to the rules more. The students who showed hyperactive behaviors were concentrating, especially in online and movement games. They were asked to repeat the activities in other lessons. However, the other students who struggled with anger calmed down a bit and focused more on the lesson (See Figure 4).

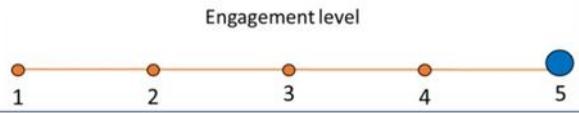
Student: 1	Grade: 2-1	Date: 10. Oct. 2024
Comment:		
Student 1's behavior has improved very much! He was helping his friends while doing the activity <u>instead of fighting</u> without reason.		
Interactive activity	<input checked="" type="checkbox"/>	Type: Group activity
<div style="border: 1px solid #ccc; padding: 5px; text-align: center;"> Engagement level  </div>		

Figure 5. evidence from anecdotal notes

The teacher and a peer were interviewed about the behaviors they noticed among the students and if there was any change in behaviors and the role of the instructions in the interactive activities. Both of them answered the questions claiming that there was a positive significant change in behavior since they were showing less misbehavior and repeating the desired behaviors (See Figure 4). They also mentioned the effectiveness of the instruction, describing them as strong and behavior- managing. As per their answers, the students were following the rules more when the teacher mentioned them clearly through the instructions of the activity. Furthermore, the students were interviewed about if they felt that they focused more when doing the interactive activities. All of them answered yes with different justifications such as being able to do the activity because they enjoy it.

A survey was conducted using both Arabic and English language to allow both local and non-local early childhood teachers to participate in my research. A total of 12 responses were collected to the survey. The questions vary from their opinions to their observations and experiences regarding the interactive activities and their relationship with behaviors. Moreover, some questions asked the participants about the role of teacher instructions and guidance during those activities. Results have shown that the teachers experienced better lesson implementations when applying different types of interactive activities since the number of misbehaviors decreased because of them. However, the overall data collected from the teachers shows that three factors affect this matter: student engagement, teacher's instructions, and positive reinforcement (See Figure 5).

First, young learners' levels of engagement affect the success of implementing any activity, and not just the interactive ones, since it increases students' motivation to learn and helps them stay on track with the lesson. Second, the guidance of the teacher eases the requirements for the students and helps them to understand what they are expected to do in terms of the tasks and behaviors. Third, positive reinforcement increases the chances of behavior repentance and sticking to rules since the students get rewarded and feel happy about what they did.

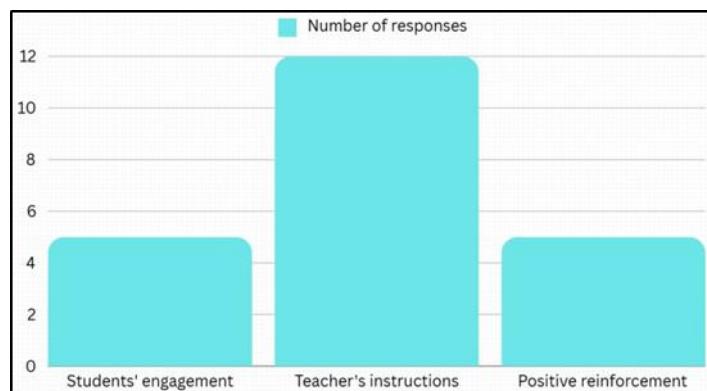


Figure 6. the number of teachers mentioning factors

This study found that implementing interactive activities had a significant positive impact on student behavior in UAE early childhood classrooms. Students became more engaged, followed rules more consistently, and displayed fewer disruptive behaviors. These results align with and extend findings from previous research.

For example, Sjöman et al. (2021) and Lin et al. (2016) both highlighted the role of peer interaction in reducing hyperactivity and promoting engagement. Our findings support this and show that both peer and group activities led to better cooperation and focus, especially among students previously identified with behavioral challenges.

Similarly, teacher-student interaction proved critical. Luckner and Pianta (2011) noted that emotionally supportive classroom environments correlate with fewer aggressive behaviors, a finding mirrored in our study, where clear teacher guidance improved classroom discipline. Chen et al. (2019) found that frequent interaction, even in home settings, reduces hyperactivity, suggesting that interaction, in any context, promotes better behavior.

Furthermore, Cadima et al. (2010) reported weak links between classroom interactions and behavior. Our mixed-methods approach, however, allowed for more direct observation and triangulation of data, leading potentially to stronger conclusions.

Overall, our findings reinforce Vygotsky's social constructivist theory and behaviorist principles, demonstrating that well-structured interactive activities and clear instructions can meaningfully support behavioral development in early childhood classrooms.

DISCUSSION

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Limitations

This study contains some limitations, such as:

1. It is a small, focused group that was conducted in one primary school in the UAE. The participants of the research were five students from both grades 1 and 2, which is a small number.
2. The participants did not contain Special Educational Needs (SEN) students, who might need to be considered since they tend to show lots of potentially negative behaviors.

Future Opportunities

Since this research project has some limitations, such as being a small case study in one primary school, there are plans to improve and develop the research. Firstly, we would like to expand the size of the study's implementation to more than one school in Ras Al Khaimah, or even to the other Emirates. Secondly, we would like to include special educational needs students to integrate them with their classmates as per the UAE's SEN students' integration policy. In our experience, SEN students tend to show several misbehaviors that disrupt the teaching and learning process. As Murik et al. (2005) claimed, SEN students show many misbehaviors, and sometimes, they could be extreme, affecting the teachers and their classmates. Their inclusion is therefore highly important. Finally, we would like to consider including more uses of interactive technologies rather than only using the smart board in ECE classrooms.

Potential Project Impact

Persistent disruptive behaviors continue to pose significant challenges in early childhood education (ECE) classrooms, often undermining effective teaching and learning. Despite the application of various classroom management strategies, such behaviors can remain resistant to change and demand substantial teacher time and effort. This study suggests that the integration of interactive activities into daily instructional practices offers a promising approach to addressing these challenges. By promoting engagement, collaboration, and clearer behavioral expectations, interactive strategies have the potential to reduce misbehavior and support the development of positive classroom conduct. Consequently, the findings of this research may contribute meaningfully to improving behavior management practices in ECE settings within the UAE and in comparable educational contexts globally.

Conclusion

This research investigated the impact of interactive activities on the control and development of early childhood education students in UAE classrooms. It aimed to answer two main questions: 1) What is the impact of interactive activities on the control and development of behaviors of early childhood education students? 2) How does teachers' guidance in interactive activities enhance the control and development of ECE students' behaviors? This study ran 3 data collection methods: observation, interviews, and survey. The results show that interactive activities have a significant positive impact on students' behaviors, leading to a decrease in the negative ones and an increase in the positive ones. However, there are three factors affecting this matter: student engagement, teacher instructions, and positive reinforcement.

There are a few limitations of this study, which are addressed in the future plan for this research. We look forward to carrying out further research into this critical area of enhancing the ECE classroom management through applying interactive activities.

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