

# Teachers' Perspectives on Constructivist Teaching Strategies that Enhance Student Engagement in Preschool Settings

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**Abstract.** This paper explores student engagement which is considered to be one of the biggest challenges facing the research community and the contemporary teacher. Research on student engagement describes strengths and limitations of various constructivist strategies that foster student engagement. Frustration occurs, however, if teachers use a systematic approach to enhance current student engagement. Through one to one, semi-structured interviews, we investigate 80 Greek teachers' perspectives on engaging strategies applied during regular class instruction in preschool settings. The interviews are developed based on Creswell's (2008) interview model, with a mixture of open-ended and close-ended questions. Based on qualitative and quantitative data analysis, we present that Greek teachers, in an attempt to involve preschoolers in learning, use a range of constructivist general strategies (i.e. cooperative learning; guided instruction; problem-based learning etc.) and micro-strategies (i.e. using gestures, questioning and response micro-strategies). Expectedly the participants identify that constructivist strategies are of the utmost importance, but they use each one at a different frequency.

**Keywords:** constructivist general strategies and micro - strategies; qualitative and quantitative data analysis; frequency; semi-structured interviews; student engagement.

## 1 Introduction: Engagement in Learning

Student engagement is identified to be a prolific research field whose findings reflects and affects the contemporary classroom. Research shows a significant correlation between high levels of engagement and achievement (Alrashidi, Phan & Ngu, 2016; Klem & Connell, 2003). At the same time, children engagement –even in kindergarten- has been recognized as a reliable predictor of school completion (Ling & Barnett, 2013; Skinner & Pitzer, 2012; Ladd & Dinella, 2009) and an indicator to understanding and preventing high dropout rates (Fredericks, Blumenfeld, & Paris, 2004; Appleton et. al., 2008; Finn, 1993). Research data shows that students with low engagement levels cannot only demonstrate indifference to the learning process or disruptive behavior and poor performance, but also truancy or dropout (Ling & Barnett, 2013; Abbott-Chapman, 2011) Researchers and educators alike view engagement as the main theoretical model for intervening with to increase successful student achievement levels and encourage school completion (Alrashidi, et. al, 2016; Appleton et. al., 2008).

Despite its advantages in the learning process, the concept of student engagement remains vague (Appleton et. al, 2008). Researchers have investigated the construct extensively in the last seven decades, offering a plethora of engagement definitions, but the literature generally reflects substantial variations in coverage of the construct and its key-features (Skinner, 2016; Alrashidi, et. al, 2016; Findlay, 2013; Appleton et al., 2008; Fredricks et al., 2004).

Student engagement is a key construct in motivation theories. Motivational research in education (Martin, Ginns, & Papworth 2017; 2015; Skinner & Pitzer, 2012 etc) demonstrates that engagement is the action, the activation that involves purpose and emotions. This activation is observable during the interaction of a student with the academic work. Trowler highlights that:

“Engagement is more than involvement, -it requires feelings and sense-making as well as activity. Acting without feeling engaged is just involvement or even compliance; feeling engaged without acting is dissociation” (Trowler, 2010 p.5).

Much of the research examining children’s school-based engagement uses Fredricks and colleagues’ (2004) conceptualization, which defines engagement as a multidimensional construct that consists of children’s capacity to interact with different aspects of the school environment including teacher, peers, and activities. This definition considers the child’s connection to the classroom environment behaviorally, cognitively and emotionally (Skinner, 2016; Fredricks et al., 2004).

Additionally, in the current literature (Alrashidi, et. al, 2016) another major approach to engagement prevails: the work of Schaufeli, Salanova, Gonzalez-Rom, & Bakker, 2002) that conceptualises engagement as having three dimensions (vigor, dedication, and absorption). Study engagement is characterised by students’ feelings of vigor, their dedication to their studies, and their absorption in their academic-related tasks and activities (Schaufeli et al., 2002)

## **2 Teaching Strategies that Enhance Student Engagement**

Enhancing students’ engagement is a continual and a challenging process. Teachers have to take into consideration that engagement varies widely between schools, classrooms and across time (Way, et al, 2011), and accordingly utilise strategies that combat the decline in participation and low levels of engagement. However, which are the strategies that can foster student engagement?

The answer can be given via constructivism that holds the promise of providing the learning context that classroom engagement can be a feasible objective. In constructivism, learning is the result of negotiations, as students and teacher jointly decide on the learning experiences. Teacher defines general principles and learning goals, but students with their suggestions, their interests, and their abilities determine learning activities and outcomes, as well. According to Eggen & Kauchak, (2004) when teachers use a range of learner-centred teaching strategies, can engage in learning and guide students so as to discover relationships between the information given and finally construct new information over prior knowledge (Sakellariou, et al, 2016; Sakellariou, 2012; Woolfolk, 2007). The constructivist teaching strategies are categorized as follows (Haski & Barnett, 2010; Jacobsen et. al, 2009):

**A. General teaching strategies.** These learner-centered strategies are implemented through specific steps that offer structure in learning. When students know that the completion of a learning action presupposes executing all inherent steps, they have more opportunities to be

engaged (Sakellariou, et al, 2016). Examples of general strategies are the *Exploratory Strategies* (problem solving, guided discovery, inquiry) that have been identified to increase student engagement in learning, since they facilitate self-action and discovery learning (Jacobsen et al, 2009; Akey, 2006;). Problem solving as a general teaching strategy allows students to experience open-research situations, and consequently learn by doing (Jacobsen et.al, 2009). Guided discovery enables students to get involved in uncertain and controversial situations and using the information given and inductive and deductive thinking, to analyze them and come to a conclusion (Woolfolk, 2004). Therefore, student engagement is strongly promoted, as they are involved in an active process (Jacobsen et al, 2009).

Furthermore, other general constructivist strategies that create engagement opportunities for both self-regulated students and students at-risk are the cooperative learning strategies (i.e jigsaw teamwork, an active learning exercise in which a general topic is divided into smaller, interrelated pieces). Ling & Barnett (2013) indicate that when students are involved in teamwork, classroom functions as a "group of groups", and thus engagement level increase. According to Jacobsen et al, (2009), through collaborative learning, students have more opportunities to be engaged, since they can express their personal opinion and explore different ideas, experiences, and thinking strategies. Participating in school groups each member realizes that is equal and influences the group's cohesion, thus he/she is motivated to participate (Sakellariou, 2012; Leflot, et al, 2010). Through collaborative actions, even the weak students or those who have significant learning problems can be activated since it seems that they can perform better in diverse teams (Woolfolk, 2004).

B. *Micro-strategies or alternative strategies.* These strategies are not implemented in consequent steps, as the general ones, but they can be integrated into general strategies to enrich teacher's instructional repertoire. In engagement literature micro-strategies have been identified as effective in enhancing students' engagement, (Lunenburg & Irby, 2011; Haski & Barnett, 2010; Jacobsen et. al, 2009; Worthington, 2008).

Among a wide range of available micro-strategies that teachers can use to motivate and engage the greatest possible number of students in the learning process are questioning and response micro-strategies (Henniger, 2004; Mcmillan, 2004; Brualdi, 1998 as cited in Jacobsen, 2009 p 285) as indications and wait time (Lunenburg & Irby, 2011; Jacobsen et al, 2009; Worthington, 2008; Woolfolk, 2007). By using questioning strategies a student-centered and cooperative learning environment can be promoted (Jacobsen et.al, 2009).

Furthermore, other micro-strategies that teachers can use in order to engage students, who usually exhibit short-term attention, are those which involve stimulus variation (gestures, focusing, and movement). These micro-strategies are the multiple modes of representation (i.e manipulatives), involvement of senses, use of gestures (hand- head- body) or teacher's movement in the classroom, which requires students' visual and auditory attention, variation in tone of voice etc (Lunenburg & Irby, 2011;). Research findings demonstrate the effectiveness of using multimodality in activating students and shaping learning opportunities. When students engage in critical and creative analysis of the information, they are interested in and have increased opportunities to achieve high engagement level (Kalantzis & Cope, 2012; Lunenburg & Irby, 2011; Haski & Barnett, 2010; Worthington, 2008).

## Facilitating Student Engagement

The effectiveness of the educational process largely depends on the shape of classes that the teacher has chosen. Teacher's choices in classroom strategies affect student engagement and motivation (Findlay, 2013). Thus, if teachers intend to achieve high engagement levels, have to consistently design instructional steps, using a range of teaching strategies. Teachers have to make decisions according to their personal teaching style, take into consideration students learning needs and accordingly set learning goals; teachers have to choose among the use of one single strategy or the combinations among many (Sakellariou, et a, 2016). Since there is neither the best way of teaching nor a supreme strategy, when teachers have a wide repertoire of strategies, they can effectively approach students with different styles, attract their attention and interest and finally engage them in learning (Jacobsen et. al, 2009).

Recent research indicates that teachers have at their disposal a wide repertoire of student-centered strategies that have been found to affect decisively student engagement and learning. As Haski & Barnett (2010) note, the more teachers use strategies, the more students are engaged in learning activities. Not only do students at- risks need teachers instructional support, but also the self-regulated ones that they already enjoy learning outcomes and success.

Worthington (2008) identifies that teachers have relevant experience in strategies use. Through her observations in kindergarten classes, she revealed that teachers use a variety of strategies in different frequencies and even make combinations of strategies, in order to increase their students' levels of engagement. Jablon & Wilkinson (2006) agree that teachers do apply various strategies to motivate students and involve them in the educational process. However, they argue that most of the teachers do not realize when they use strategies to enhance student engagement. They do not consistently use certain strategies to facilitate student engagement, but they only use them randomly (Sakellariou, et. al, 2016). According to Sakellariou (2012), these teaching practices correspond to successful pedagogical "recipes", which are the result of experimentation, lack of objectives and often do not have a general application. As Sakellariou highlights:

'These pedagogical "recipes" are developed without scientific proof and instructional-theoretical base. They might be used as a teaching aid, in order to help teachers cope with some difficult situations in preschool classes, but they can't offer pedagogically effective solutions to each problem that arises' (Sakellariou, 2012, p.19).

Furthermore, Haski & Barnett (2010) argue that teachers demonstrate lack of ownership or interest in the instructional strategies. Through their intervention in 3 preschool classes, they observed that teachers were more likely to implement new strategies when they felt adequately supported. Based on their finding they demonstrate the need to provide instructional support and training for teachers in order to increase knowledge and implementation of effective strategies that, in turn, will enhance instructional variables such as student engagement and opportunities to practice academic skills.

According to Niemi (2007), teachers have difficulty in applying the appropriate strategies that engage all students and challenge students' thought; they have the dominant role in class controlling the learning process and instruction time.

Aydoğan et al (2015) confirm that students generally experience teacher-directed instruction in both early childhood and elementary classrooms.

The reports of observational studies in elementary and preschool classrooms indicate that students are far more likely to be involved in academically oriented learning experiences focusing on the development of basic skills than analysis-inference skills (Varol, 2012; Curby, Rimm-Kaufman, and Ponitz, 2009; Downer, Rimm-Kaufman, and Pianta 2007; Pianta et al. 2002; NICHD ECCRN 2002; 2005 Morrison and Connor, 2002; as cited in Aydođan et al. (2015, 605). Even, in preschool environments where instruction is supposed to be more play-oriented and involve more freedom and child choice consists of teacher-directed learning experiences (Aydođan et al, 2015). Besides Coodlad (2004) points out that students do not have many opportunities to engage in discussions, to raise their preferences and make their suggestion, to analyze critically and creatively and -according to Bruner (1973)- go beyond the information given.

Besides, the teachers' voice is rarely heard in the literature on student engagement (Parson and Taylor, 2011). There is a notable lack of qualitative and quantitative investigation into teachers' perceptions with regards to strategies and micro-strategies applied during regular class instruction in preschool settings.

Taken into account the aforementioned, the present research project attempts to cover this specific research gap, investigating the Greek kindergarten teachers' perspectives with regard to:

1. Teaching strategies and micro-strategies they apply in order to achieve student engagement during regular class instruction
2. The significance they attribute to specific constructivist strategies and micro-strategies with regards to their effectiveness on student engagement in a kindergarten class and
3. The frequency they apply specific constructivist strategies and micro-strategies during regular class instruction in preschool settings.

### **3 Data Collection Methods**

Semi-structured interviews were selected as the type best suited to this project. The interviews were developed based on Creswell's interview model (2008) with a mixture of open-ended and close-ended questions allowing the researcher more flexibility to fully explore the interviewee's perspective. The interviews incorporated six types of questions; background, knowledge, experience, opinion, feelings, sensory to gain a rounded perspective (Patton, 1990).

As the mode of inquiry, we used one-on-one interviews that were been conducted from September 2017 to May 2018. Each interview was lasting about 50'-60'.

The participants in this research were 80 teachers that work in preschool education units in Greece (prefecture of Ioannina and Larissa). Most of the participants work as general education teachers (85%), 27, 5% of whose serve as head teachers of the school unit. Besides, 84,75% of them have long teaching experience (more than 10 years). The great majority of the kindergarten teachers haven't advanced educational studies/ qualifications, except for their basic studies since 28,75% and 7,5% of whose owns a Master or a doctoral degree.

### **4 Data Analysis Process**

In the present research, we were conducting qualitative and quantitative data analysis processes.

Creswell (2008) describes quantitative research as “seeking to measure”, while qualitative research is best suited for research problems in which the variables are unknown and need exploring. According to Findlay (2013), a qualitative approach encompasses and values multiple perspectives and has suitable facets to access the knowledge embedded in the data.

Although there is no single approach to analyzing qualitative data, there are several guidelines for the analysis process. The most important and agreed upon guideline is that the process is inductive and iterative (Creswell, 2008; Findlay, 2013). The iterative nature is paramount to authenticity.

The data analysis was being made in situ, during each interview, where field notes were being taken. When an interview was over, another step in the analysis process was taken, that of post analysis. Post analysis was occurring during transcribing and memoing. We were converting audio recordings into text data, a process which was a time consuming, but crucial to memoing and coding. After transcribing, we were reading data over at least several times in order to begin developing a coding scheme, a process known as memoing. During this time, initial impressions (memos) were written in the margins of transcriptions, while also searching for recurring themes (Creswell, 2008). These two analysis processes, in turn, were leading to coding; the final step of data analysis. Coding was being made up of the following three steps; open coding, (developing the initial categories), axial coding (reconstructing the data in order to develop main categories and sub-categories) and selective coding (demonstrating links and connections in the categories)

## **5 Results**

In an attempt to demonstrate teachers’ perspectives regarding constructivist teaching strategies that enhance student engagement in preschool environments, in this paper, we present relating open-ended and close-ended questions that have been used in 80 interviews and the corresponding teachers’ responses that have been qualitatively and quantitatively analyzed (with the SPSS).

### **5.1 Teachers’ Perspectives with Regards to the Constructivist Teaching Strategies Use that Enhance Student Engagement in Preschool Environments**

In the open-ended question 134 (*Which teaching strategies do you use to enhance student engagement in your class?*), teachers’ answers are categorized and presented in figure 1:

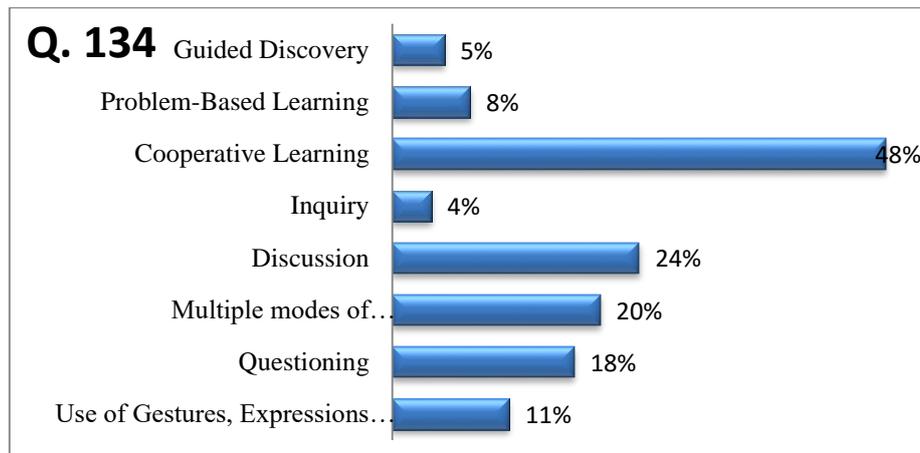


Figure 1: Teachers' perspectives with regards to the Constructivist Teaching Strategies That Enhance Student Engagement

*Guided Discovery.* 5% of the interviewees report that in an attempt to motivate as many students as possible, they make use of guided discovery. Teachers define a learning goal, ie a general concept, which students have to discover based on information gradually provided (References in the interviews: 39, 59, 68, 72/ N= 4). The extracts from the following interviews are indicative:

*'I also use guided discovery. I use to tell my students that we are playing 'the game of hidden treasure' revealing one element at a time. Children are motivated by their curiosity to discover the 'hidden treasure'!' (Interview No59*

*Problem-Based Learning.* A few interviewees (8%) admit to involving their students in a systematic process of a problem, so as to achieve high engagement level. In this learning context, that takes place in consequent steps, partners or small groups have to make effective use of the information given to address a real-life problem. (References in the interviews: 18, 19, 33, 37, 75, 77 / N = 6)

*I usually involve my students in authentic learning situations saying 'We have a problem that needs a solution! What can we do to solve it?' (Interview No19)*

*Cooperative Learning.* Almost one-half of the interviewees (48 %) report that they involve their students in teamwork, in which they try to achieve a jointly shared learning objective. (References in the interviews: 2, 3, 4, 5, 6, 7, 9, 14, 15, 17, 21, 22, 26, 29, 33, 31, 43, 46, 47, 53, 55, 57, 59, 60, 61, 64, 67, 68, 69, 70, 71, 73, 74, 76, 77, 78, 79, 80/N=38

*In teamwork, students take on roles. Not only do they learn to cooperate, but also become responsible. When team is coherent, has a supportive impact on its members which is reflected on their engagement (Interview No59).*

*I try to find efficient ways of engaging those students who are not involved. At first, I ask them to work in pairs or join small groups and then take part in teams with more members (Interview No14).*

*Inquiry.* A few teachers (4%) argue that they involve their students in a hands-on investigation to achieve higher student engagement level. Teachers encourage and support their students to make assumptions, collect data, and use them so as to support the validity of their hypothesis. Though these scientific steps students actively draw their own conclusions and consequently construct knowledge. (References in the interviews: 3, 4, 33/N=3

- *I offer my students the opportunity to work ‘as little scientists’ making assumptions about a topic of interest, designing the experiment and gathering the materials in order to carry out investigations and come to their own conclusions (Interview No 33).*

*Discussion.* Some interviewees (24%) admit to involving students in a discussion pertaining to a topic of interest. A discussion gives students the opportunity to express their point of view, their concerns, or their arguments and actively draw their own conclusions. (References in the interviews: 19, 21, 28, 39, 48, 50, 52, 54, 55, 58, 59, 68, 70, 71, 72, 74, 75, 76, 79 / N=19

*Multiple modes of representations.* 20% of participants report that they provide multiple ways and means of representing information (eg animations, symbols, labels, artworks) so that students engage in critical and creative analysis of the information given (References in the interviews: 2, 3, 4, 5, 7, 13, 21, 30, 36, 39, 40, 41, 47, 52, 54, 55/ N= 16

*According to a topic of interest, we represent the information in many ways. For example, I present a picture or an artwork asking students to represent it with their body (Interview No21).*

*Questioning.* A percentage of teachers (18%) refer that, in order to engage students who do not answer or respond incorrectly, they use indications or provide wait time. (References in the interviews: 2, 10, 28, 36, 37, 39, 41, 46, 48, 50, 54, 72, 74, 75 /N =14

*I use open-ended questions addressed to everyone and wait for their responses (Interview No 18)*

*Use of Gestures, Expressions and Body Movements.* Some teachers refer that they use gestures, facial expressions, variation in voice tone and body movement so as to keep students’ eye contact, attract their attention and engage them in learning. (References in the interviews: 4, 6, 8, 9, 13, 17, 37, 38, 56/ N=9

*I make my teaching attractive, using my body; wearing a piece of clothe, I can disguise myself and play a role. (Interview No13).*

## **5.2 Teachers’ Perspectives with Regards to the Use and the Significance of Constructivist Teaching Strategies that Enhance Student Engagement**

The aforementioned data (open-ended question 134) is confirmed by the data of the close-ended questions 135-143, which have been quantitatively analyzed with the SPSS.

These questions referred to constructivist teaching strategies/micro-strategies that had been chosen by the researcher according to previous research findings. The answers to these interview questions were double and formulated as follows:

A. In the closed-ended questions (135A-143A), teachers were asked to report how frequently they use each constructivist teaching strategies that foster student engagement. A four-point Likert scale was used with the values corresponding to “4=always” “3= usually,” “2= rarely” “1= Never”.

B. In the closed-ended questions (135B-145B) teachers were asked to report the significance they attribute to specific constructivist teaching strategies in relation to student engagement. A five-point Likert scale was used with the values corresponding to “5=Very Significant, 4=Significant”, “3= Neither Significant, Nor Insignificant” “2= Insignificant”, “1= Very insignificant”.

In the following figure (Figure 2), teacher’s perspectives with regards to the frequency of use and the significance of teaching strategies are both presented.

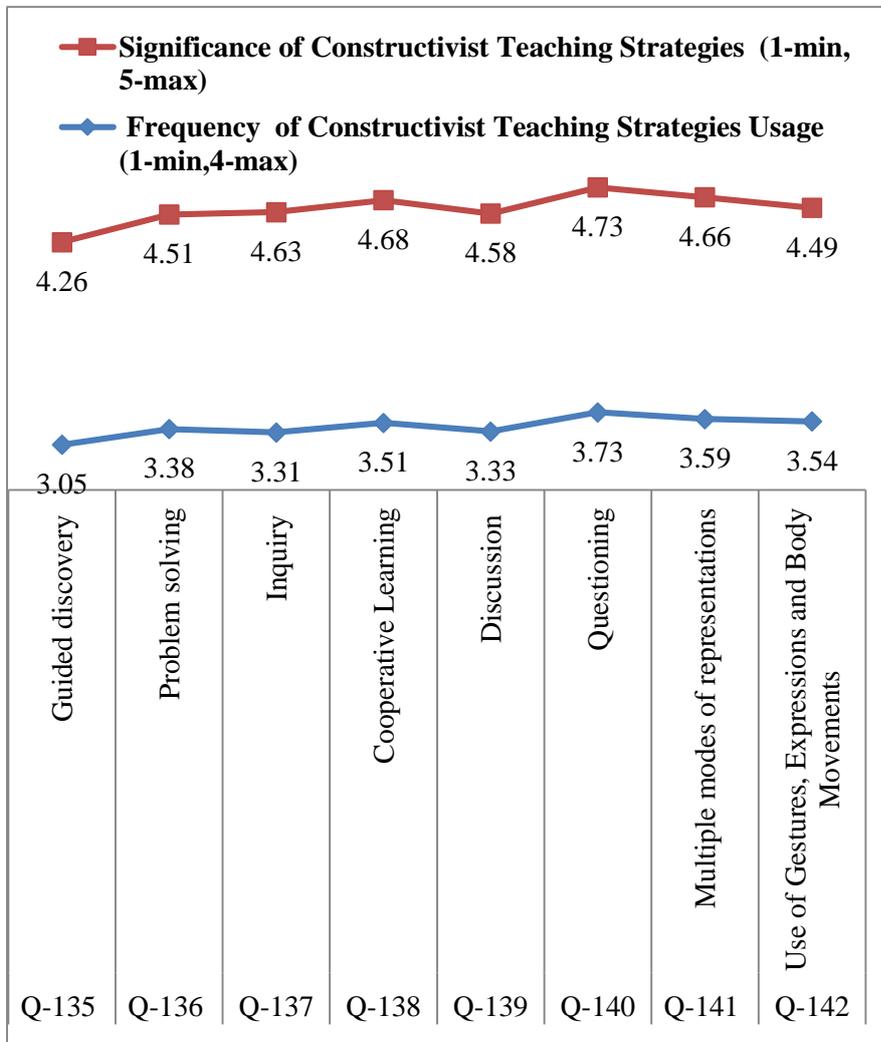


Figure 2: Teachers’ perspectives in relation to the use and the significance of Constructivist Teaching Strategies/ micro-strategies that foster student engagement.

According to the data, a relationship is recorded between the frequency of use and the degree of significance attributed by the interviewees to each general teaching strategies and micro-strategies. The mean value of use (blue range) varies from 3,05 (Q-135A) to 3,73 (Q-140A) which is the highest value. The mean value of significance (red range) varies from 4,26 (Q-135B) to 4,73 (Q- 140B) which is the highest value.

Teachers use very frequently and attribute high significance to each constructivist strategy and micro-strategy. Collaborative learning is identified to be the most significant and most frequently used constructivist teaching strategy that fosters student engagement. With regard to micro-strategies, teachers report using each one very frequently and considering it very significant in fostering student engagement, with questioning being the most significant and frequently used micro-strategy.

In addition, whenever teachers consider a specific teaching strategy significant in facilitating student engagement, they report using it at high frequency as well.

## 6 Conclusions

According to the findings presented above, Greek kindergarten teachers attribute high significance to each constructivist teaching strategy and micro-strategy. Expectedly, the significance that teachers attribute to each constructivist strategy and micro-strategy determines whether a strategy is applied or not during regular class instruction in preschool settings fostering student engagement. Kindergarten teachers' perspectives presented in the current research demonstrate that teachers in preschool education use a wide repertoire of student-centered strategies based on the constructivist premises. They consider applying frequently constructivist teaching strategies and micro-strategies (teamwork, discussion, exploratory strategies, stimulus variation, multiple modes of representation etc) and consequently enhance their students' engagement providing opportunities to actively co-construct knowledge. Our findings also demonstrate that cooperative learning is the most frequently used teaching strategy. In addition, teachers use discussions applying questioning strategies, offering students the opportunity to interact, present their views, reflect, and exchange experiences. In preschool environments, student's voice is heard presenting their learning needs, frustrations, concerns, and aspirations. Seemingly, teaching flexibility in preschool environments allows kindergarten teachers to adopt pedagogical approaches that enable students to become active learners.

The above data agrees with Jablon & Wilkinson, (2006) and Worthington, (2008) who argue that teachers are "experts" in consistent use of a range of teaching strategies; however comes in contrast to a number of previous research findings (Aydoğan, Farran & Sagsoz, 2015; Coodlad, 2004) that indicate that teachers generally implement teacher-centered instruction.

Taking into account the aforementioned, classroom research is important to demonstrate if teachers' perspectives come in line with practice, and if instruction time is allocated in teacher-centered or/ and learner-centered instructional strategies. Simultaneously, future research should focus on exploring learner-centered strategies that evolve with each new generation of students so as to facilitate teachers and school psychologists to foster student engagement in either typical and special needs populations, or those at risk.

In conclusion quality teaching is an important consideration in any classroom. However, one of the essential goals of teaching should be considered the promotion of active learning

that helps teachers improve students' learning and transform their schools into democratic learning communities.

### 7 Limitations

Interviews can provide a detailed descriptive account of how teachers construct meaning about classroom engagement. However, interviews are not without problems. The knowledge, skills, and biases of the interviewer can all affect quality, depth, and type of responses. There are also questions about the reliability and validity of interview findings.

Additionally, we consider it important to mention that the results of this research as a whole should be interpreted with caution given the small sample and be considered as a first step at the research level that aims to highlight important issues with regard to enhancing of student engagement.

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