

## From The Perspective Of Preservice Teachers, The Accomplishment Levels Of Primary School Teachers' Effective Teacher Attitudes In Science Lessons

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### ABSTRACT

The aim of this study is to determine to what extent the Primary School Teachers can accomplish the effective teacher attitudes in science lessons. In this context, the observations of 83 primary school preservice teachers, who studied teaching practice course, have been used. In order to determine the accomplishment levels of primary school teachers' effective teacher attitudes in science lessons, the preservice teachers have been asked to observe the primary school teachers in the schools they attend for the practice lessons and the accomplishment levels of science education teacher's effective teacher attitudes has been determined via an observation form including 25 questions in total. Descriptive- survey research has been used in the study and the data have been analyzed through frequency and percentage. When the findings of the study have been evaluated in terms of the preservice teachers' observations, it has been concluded that the teachers prepare the setting for the active participation of all the students in the lesson and they are tolerant for the mistakes the students make during the learning process. However, it has also been concluded that the teachers do not state the objectives of the lesson clearly and definitely, they do not take the interest levels of the students into consideration and they do not spare enough time for the students to think about the answers after they ask the questions.

**Key Words:** Primary School Teachers, science lesson, effective teacher attitudes

### INTRODUCTION

The concept of effective teacher is defined in different ways by many researchers. Stronge (2002) defined "effective teachers as individuals who have professional preparation and qualifications, background, professional attitude, dedication and reflective practice, classroom management, planning, and teaching skills, and who monitor student progress, organize instruction" (p. 25). Tatar (2004) say that "An effective teacher is good at organization, uses time effectively, helps students to overcome their problems, gives more importance on reward, and his/her decisions are very appropriate." Similar to Tatar's (2004) definition, Murphy, Delli and Edwards's (2004) study revealed that "effective teachers are caring, patient, not boring, polite, and organized". Another definition Stronge (2004) made is that "effective teachers know their students and how to communicate with them, both individually and collectively" (As cited in Tilfarlioglu and Akil, 2012, p. 117).

We can conclude from definitions stated above that there is not a certain definition for "effective teacher" or "teacher's effectiveness". Scherer (2003) claims that "no one can produce a complete and definitive list of the characteristics of great classroom teaching" (As cited in Tilfarlioglu and Akil, 2012, p. 118). We can say that it is a combination of features like communication skills, classroom management, leadership, and so on... In this study, 4 dimensions of effective teacher attitudes have been handled and analyzed. These are communication, the efficiency of asking questions, the participation of students in the lesson and educational activities.

#### *Attitudes for the Communication Dimension*

Effective teachers, let their students feel themselves special and important. They respect their students as individuals and they are also concerned with their personal lives. Having positive relations with the teacher increases the students' bond with the teachers and it promotes their social and academic development. (Furer and Skinner, 2003).

Students want to trust their teachers. Thus, the effective teachers are defined as honest and trustworthy by their students. It is impossible to get a qualified education unless there is a communication which is based on the trust between the teacher and students. (Kucukahmet et al., 2002).

The emotional support students get from their teachers has a significant role on the development of their academic and social skills. Teachers provide emotional support by setting positive relations with their students. The positive relations which are formed at the early ages between the teacher and the students increase the students' success and minimize the unintended attitudes of students. Contrarily, the negative relations, which are formed at the early ages, between teacher and student block the academic success and give the students the ground for displaying unintended behaviors. (Silver et al, 2004). Then, we can say that the effective teachers are the ones who can develop positive relations with their students.

#### *The Attitudes for the Efficiency of Asking Questions Dimension*

The teachers ask questions in order to develop the students' understanding and to prepare them for the following learnings. Some researches show that it is one of the most effective strategies developing the student's success (William, 2007 cited in Shroeder et al, 2010). The questions motivate thinking and thinking is a part of the learning. According to Stronge and others (2008) when compared with the effective teachers, the less effective teachers ask less cognitive questions. The students' own questions also develop their thinking skills. The effective teachers educate their students to make them ask good questions so as to develop their thinking and learning skills. (Cuccio-Schippirave Steiner, 2000) However, the researches demonstrate that the teachers have a tendency to suppress the class discussions. (Criag, 2005).

Sönmez (2003) states that the teachers should ask questions to the whole class and if the question is at the level of the students, s/he should count to five silently and if the number of students in the classroom is few (10 people) , each student should answer and if it is a lot, at least five different students should be allowed to answer the question. Besides, Sönmez emphasizes that teachers should bring the correctness of the answers up for discussion, should reinforce the ones who give the right answer, should keep the ones who give the wrong answers in their minds and that the right answer to the question should not be given by the teachers and the students must be allowed to find the answers through the clues. After asking the questions to the students, the teachers' waiting for some time is also related with the technique of asking questions. If the teacher waits for some time after asking the question and allows the students to think and answer the question and also gives functional feedback later on; then, effective results can be obtained. Allowing students to think after asking question not only increases the level of the answers, it also motivates them to ask questions, as well. (Walsh veSattes, 2005).

#### *The Attitudes for the Participation of Students in the Lesson Dimension*

Since the participation into the lesson is associated with academic success, it is important for the teachers to pave the way for learning so as to increase the participation of students. (Akey, 2006; Guthrie at al, 2004; Park, 2005). The activities in which students interact with their classmates increase students' participation. (Akey, 2006). The teacher's behaviors also affect the student's participation. Marzano (2007) indicates that the support of the teachers increases the student's interest, and as a result, it has an effect increasing the participation. Thus, the teachers, who want to increase the student's success, should do activities and practices which keep up the student's participation.

Associating learning with the real-life experiences is one of the most powerful teaching styles of teachers for providing the student's progress. (Wenglinsky, 2004). Such a teaching allows the students to relate their previous knowledge with what they have just learned. This relation helps them to make a connection between their real-life experiences and the concepts that might be confusing or abstract for them. It is also very helpful for the students to share their own experiences and to express themselves. (Marzano, 2007). This way, while the students are relating the lesson content with themselves, the teachers can be closely acquainted with their students.

#### *The Attitudes for the Educational Activities Dimension*

Teaching is a complicated task, so the teachers are to decide on how to teach the basic data and the skills that would be helpful for their students to gain new input and skills (Okut, 2009). Hubbard (2001) states that there are four important requirements to be fulfilled, the first of which is the qualified teaching. The second one is that the tools to be used during the teaching process must be at the level of the students. The third requirement is to motivate students to work on the tasks. And the last one is to give enough time to the students for learning the content of the presented program. The effective teachers plan, practice and evaluate teaching in a productive learning atmosphere (Kuran, 2007).

## **METHOD**

The aim of this study is to determine to what extent the science teachers can accomplish the effective teacher attitudes in Science Lessons. This study will draw attention to the effective teacher attitudes expected to be hold by the teachers.

The working group of this study is consist of 83 Primary School Teachers, the data collection group includes 83 preservice teachers studying at Pamukkale University Education Faculty.

The method of the study is the "descriptive-survey research". Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses the "what" question (what are the characteristics of the population or situation being studied?) (Shields, Patricia and Rangarjan, 2013).

The observation form developed by Korkmaz (2009) for the Primary School Teachers and adapted for the science teachers by Bayraktar and Cinar (2010) has been used in this study.. In the observation form, there are degrees of frequency such as 'Never', 'Hardly Ever', 'Sometimes', 'Usually' and 'Always' so that the attitudes of teachers during the lesson could be graded. The reliability index of the scale has been found as 0.89.

The scale has been prepared in five point likert scale consisting of 25 items in total including 23 positive and 2 negative items. The scales have been distributed to the senior year students of Primary School Teacher department. In the context of "School Practice" lesson, 83 preservice teachers evaluated 83 Primary School Teachers through the observations they made during science lessons. The data have been assessed with statistical packaged software by using descriptive statistics (frequency-percentage).

### FINDINGS

The observation findings of the senior year class preservice teachers on the Primary School Teachers have been assessed and have been presented by tabulation in terms of the extent of the questionnaire. In Table 1, the data regarding the communication dimension of the questionnaire are in terms of the frequency and percentage.

**Table 1.** Attitudes for the Communication Dimension

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
1. During their communication, the teachers call their students with their names	8 (9,6)	13 (15,7)	5 (6)	<b>13 (15,7)</b>	<b>44 (53)</b>
2. Teachers discourage their students (e.g. kidding, mocking, insulting)	<b>37 (44,6)</b>	<b>17 (20,5)</b>	3 (3,6)	9 (10,8)	17(20,5)
3. Teachers call their students with negative adjectives	<b>52 (62,7)</b>	<b>8 (9,6)</b>	10 (12)	5 (6)	8 (9,6)
5. Teachers listen to what their students say carefully	10 (12)	4 (4,9)	<b>53 (63,9)</b>	7 (8,4)	9 (10,8)
7. Teachers are tolerant for the mistakes students make during the learning process	8 (9,6)	7 (8,4)	26 (31,3)	<b>6 (7,2)</b>	<b>36 (43,4)</b>
9. Teachers prepare setting for students to gain leadership and communication skills	21 (25,3)	7 (8,4)	<b>32 (38,5)</b>	13 (15,7)	10 (12)
14. Teachers have high expectations from their students	15 (18,1)	2 (2,4)	27 (32,5)	<b>30 (36,1)</b>	<b>9 (10,8)</b>
15. Teachers have a tendency to see the positive sides of students in their studies and behaviors	<b>8 (9,6)</b>	<b>24 (28,9)</b>	21 (25,3)	15 (18,1)	15 (18,1)

According to most of the preservice teachers (%68.7); the teachers usually or always call their students with their names and most of the teachers hardly ever (% 20,5) or never (% 44,6) discourage their students. Besides, the observations of preservice teachers show that teachers hardly ever (% 9,6) or never (% 62,7) call their students with negative adjectives. Most of the preservice teachers (% 63,9) state that teachers sometimes listen to what their students say carefully

% 50,6 of preservice teachers have observed that teachers usually or always tolerate the mistakes students make. Most of the preservice teachers' observations (% 46.9) indicate that teachers usually or always have high

expectations from their students. However, % 38,5 of preservice teachers' observations show that teachers sometimes prepare setting for students to gain leadership and communication skills. The observations of preservice teachers also indicate that the teachers hardly ever (% 28,9) have a tendency to see the positive sides of students in their studies and behaviors or they never (% 9,6) have a tendency to do so.

In Table 2, the data regarding the dimension of ensuring the participation of the students are in terms of the frequency and percentage.

**Table 2..** The Attitudes for the Participation of Students in the Lesson

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
4. Teachers prepare the setting for the active participation of all the students in the classroom	12 (14,5)	5 (6)	18 (21,7)	<b>11 (13,3)</b>	<b>37 (44,6)</b>
6. Teachers enable their students to evaluate themselves on comprehending the lesson	25 (30,1)	8 (9,6)	<b>37 (44,6)</b>	6 (7,2)	7 (8,4)
8. Teachers make heterogeneous groups for the activities requiring collaboration in the classroom.	17 (20,5)	14 (16,9)	<b>41 (49,4)</b>	7 (8,4)	4 (4,9)
10. While motivating their students, teachers bring the prize into forefront	<b>19 (22,9)</b>	<b>24 (29)</b>	10 (12)	14 (16,9)	16 (19,3)
11. Teachers allow the groups to evaluate themselves in the group tasks	<b>19 (22,9)</b>	<b>23 (27,7)</b>	13 (15,7)	19 (22,9)	9 (10,8)
12. Teachers do not spare enough time for the students who have difficulty in understanding the lesson	<b>21 (25,3)</b>	<b>18 (21,7)</b>	19 (22,9)	12 (14,5)	13 (15,7)
13. Teachers give proper support for the students who have difficulty in understanding the lesson	7 (8,4)	14 (16,9)	17 (20,5)	25 (30,1)	<b>20 (24,1)</b>

Most of the preservice teachers (% 57.9) remark that teachers usually or always provide the setting for the active participation of all the students in the class. Some of the preservice teachers (% 44,6) say that teachers sometimes enable their students to evaluate themselves. % 39,7 of preservice teachers state that teachers either hardly ever or never give this opportunity. Similarly, there is not a satisfactory frequency for the self - assessment of the group.

According to the most of the preservice teachers (% 45.6), teachers hardly ever or never give a chance to the group for a self-assessment. The observations of most of the preservice teachers (% 49.4) show that teachers sometimes make heterogeneous groups for the occasions that require collaboration. According to most of the preservice teachers (% 51.9) teachers hardly ever bring the prize into forefront while motivating their students or they never apply it in their classes. The observations of most of the preservice teachers (% 47) indicate that teachers never or hardly ever spare enough time for the students who have difficulty in understanding the lesson. In the same way, most of the preservice teachers (%54.2) state that teachers usually or always give the necessary support for the students who have difficulty in understanding the lesson

In Table 3, the data regarding the dimension of educational activity are in terms of frequency and percentage.

**Table 3.** The Attitudes for the Dimension of the Educational Activities

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
16. Teachers state the objectives of the lesson clearly and definitely,	<b>42 (50,6)</b>	<b>7 (8,4)</b>	12 (14,5)	12 (14,5)	10 (12)
17. Teachers ask warm-up questions at the beginning of the lesson	8 (9,6)	5 (6)	22 (26,5)	<b>31 (37,3)</b>	<b>17 (20,5)</b>
18. During the lesson, teachers take the levels of students' interest into consideration	<b>35 (42,2)</b>	<b>17 (20,5)</b>	6 (7,2)	18 (21,7)	7 (8,4)
19. Teachers attract the students' attention by using different strategies.	10 (12)	16 (19,3)	<b>31 (37,3)</b>	17 (20,5)	9 (10,8)

20. Teachers associate warm-up activities with the content of the lesson.	13 (15,7)	12 (14,5)	14 (16,9)	<b>27 (32,5)</b>	<b>17 (20,5)</b>
25. Teachers consider the individual differences in the class.	15 (18,1)	8 (9,6)	17 (20,5)	<b>19 (22,9)</b>	<b>24 (28,9)</b>

As it is also possible to see in Table 3, the observations of most of the preservice teachers (% 59) indicate that teachers hardly ever or never state the objectives of the lesson clearly and definitely. According to most of the preservice teachers' (% 57.8) observations, teachers usually or always ask warm-up questions at the beginning of the lesson. However, most of the preservice teachers say that (% 62,7) teachers hardly ever or never take the levels of students' interest into consideration. According to (% 37.3) of preservice teachers, teachers hardly ever use different strategies. The number of preservice teachers who state that teachers usually or always consider the individual differences is very high (% 51,8). Also most of the preservice teachers (% 53) conclude that warm-up activities are usually or always associated with the content of the lesson.

In Table 4, the data regarding the dimension of efficiency of asking questions are in terms of frequency and percentage.

**Table 4.** The Attitudes for the Dimension of the Efficiency of Asking Questions

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
21. Teachers ask students open-ended questions	<b>7 (8,4)</b>	<b>32 (38,6)</b>	10 (12)	24 (28,9)	10 (12)
22. After asking the questions to the students, teachers spare enough time for students to think about the question	<b>19 (22,9)</b>	<b>25 (30)</b>	11 (13,3)	13 (15,7)	15 (18,1)
23. Teachers motivate students to give different answers to the questions they ask	<b>21 (25,3)</b>	<b>15 (18,1)</b>	21 (25,3)	10 (12)	16 (19,3)
24. Teachers clarify the answers they get from the students and re-explain them accurately and completely	5 (6)	24 (28,9)	3 (3,6)	<b>39 (47)</b>	<b>12 (14,5)</b>

It is clear in Table 4 that according to most of the preservice teachers' (% 47) observations, teachers never or hardly ever ask students open-ended questions. According to most of them (% 52,9), after asking the questions to the students, teachers hardly ever spare enough time for students to think about the question or they never do so. Most of the preservice teachers (% 33.4) state that teachers hardly ever or never motivate students to think about the different answers for the questions. Most of the preservice teachers have also observed that teachers usually or always clarify and explain the answers.

## CONCLUSION

According to the findings of this study, the Primary School Teachers have been found to accomplish some of the efficient teacher attitudes, however, some attitudes' frequency is rather low. The data of this research represent the preservice teachers' observations and it is limited to the 83 preservice primary school teachers who took part in the study and the teachers they observed. When the findings of the study are evaluated in terms of the most of the preservice teachers' observation findings, it has been ascertained that teachers prepare the setting for the participation of students, they do not discourage the students and do not call their students with negative adjectives, they behave tolerantly to the mistakes the students make during the learning process and they provide the proper support for the students who have difficulty in comprehending the lesson. Besides, it has been concluded that the teachers ask warm-up questions at the beginning of the lesson, associate the warm-up activities with the content of the lesson and clarify the answers they get from the students and re-explain them accurately and completely. However, the study also shows that teachers do not state the objectives of the lesson clearly and definitely, do not care about the levels of students' interest, do not give chance to the group for self-assessment and do not spare enough time for the students who have difficulty in understanding the lesson. Another conclusion is that teachers do not ask open-ended questions, and do not give enough time or encourage the students to think and give different answers.

When the literature is reviewed, one can find the studies about the accomplishment levels of teachers' effective teacher attitudes. Arslan (2014) has concluded that from the preservice teachers' point of view, Turkish teachers are not efficient in enabling the students to evaluate themselves about comprehending the lesson, making

heterogeneous groups for the tasks that require collaboration of students in the classroom, bringing the prize into forefront while motivating the students, providing the proper support for the students who have difficulty in comprehending the lesson. In Bayraktarand, Cınar's (2010) study, Science Teachers have not been found efficient in self-assessment, making group work, using prize for motivating students and providing the proper support for the students having difficulty in learning.

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