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An Evaluation of Teachers' Questions in Terms of Socratic Inquiry Technique

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ABSTRACT This study examines the verbal questions classroom teachers ask in life sciences, Turkish language, science and technology, mathematics and social studies lessons in terms of universal intellectual standards of Socratic inquiry. The study was designed as a descriptive survey model based on a content analysis of a qualitative research model. The participating teachers were observed for 482 hours during lessons, and the questions they asked during the lessons were recorded to unstructured observation forms. A total of 4731 out of 6389 questions recorded throughout the observations were found relevant to the content of the lessons taught. As a result, most of the verbal questions (97.17%) classroom teachers ask during lessons do not meet the universal intellectual standards of Socratic inquiry, and teachers ask very few questions (2.83%) that further prompt student responses according to universal intellectual standards of Socratic inquiry.

INTRODUCTION

Elementary school teachers use various strategies to involve their students in scientific investigations. Some elementary school teachers use questions to, in an unthreatening way, engage students in discussions, activate their reasoning processes, and ensure they discover alternative ways of thinking about scientific subjects (Low and Matthew 2000; Simon et al. 2008). Montague (1987) argues questioning is a method teachers use in order to

- evaluate students
- judge students' state of learning at the moment during lessons
- decide about achieving the lesson objectives at the end
- identify the learning strategies used by students
- enhance students' engagement with the lesson
- enable students to contemplate and discuss a certain subject

The literature differently categorizes the questions teachers use for such purposes. Teacher questions are generally categorized according to the taxonomy developed by Bloom (1956) and revised by Anderson and Krathwohl (2001), including questions of knowledge, comprehension, application, analysis, synthesis, and evaluation. Moreover, two other classifications are common: open-ended and close-ended questions (Land 1980; Gall and Gillett 1980; Montague 1987) and convergent and divergent questions (Montague 1987).

The verbal questions teachers ask are important for learners to develop inquiry and reasoning skills andto acquire higher-order thinking strategies, and only qualified questions can develop these competences (Oliveira 2010; Cleveland and Fox 2008; Özden 2005; Koray-Altuncekic and Yaman 2002; Blosser 2000; Goatly 2000; Keogh and Naylor 1999; Tsui 1999; Brualdi 1998; Elder and Paul 1998; Facione1998; Boostrom 1992; Shepardson and Pizini 1991; Montague 1987; Godbold 1970). Questions describe the tasks, express the problems, and define the subjects. On the other hand, they generally point to ending a presented thought. A question only sustains itself when a response brings about another question. Therefore, only students who have questions are actually thinking and learning. Moreover, the quality of the questions students ask determine the quality of thinking (Paul and Elder 1998). One of the most important techniques teachers use to develop the above-mentioned thinking skills is definitely Socratic inquiry (Elder and Paul 1998; Savage 1998; Schiever1991). Socratic inquiry is an effective and productive technique used to create favourable learning experiences and achieve curriculum objectives and implementation.This questioning

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method may lead students to new discoveries, so the aim of the questions asked not only is to assess knowledge but also to help students function at higher levels of cognitive ability while building knowledge or solving problems (Fahim and Bagheri 2012).The purpose of Socratic inquiry is to enable students to learn not by passively receiving the knowledge as a response, but by thinking about a question and further generating questions. Socratic inquiry aims at having students think about presented content and handle the subject critically thanks to thought-provoking questions raised by teachers (Chaffe 1988). At the same time, the main purpose of this questioning is not to reach a final correct answer, but to urge students to examine their way of thinking (Davies and Sinclair 2013). Socratic inquiry can distract learners' attention to the subject and facilitate the content more comprehensively. For the inquiry to be performed correctly, teachers should prepare a questions list in advance and ask questions in response to every answer to ensure learners discuss the subject using their pre-existing knowledge (Godzella-Hartsoe and Herper 1989). Cognitive state and readiness is important in Socratic inquiry. Learners use their previous knowledge and explore the new information concerning questions asked by referring to sources when necessary. Socratic inquiry is intended to develop systematic thinking skills in students and to transfer classrooms into places where students think creatively and critically. Moreover, it motivates learners to think and improves their thinking skills based on the assumption that information is an answer to a question (Paul and Elder 1998; Montague 1987). Teachers who use the Socratic inquiry technique should (1) respond to all answers from learners with another question to supplement their thoughts and enable them to think more deeply; (2) try to understand the latest basic principles regarding what is said or believed and trace the latent meanings about these basic principles with-other questions; (3) consider all assertions like points to provoke different thoughts; (4) approach all thoughts considering their need for improvement; and (5) realize any thought exists only in a network of interwoven thoughts. Teachers should encourage their students to trace associations in the questions and notice that all questions presuppose that students know answers to previous questions and that all thoughts presuppose students are informed of previous thoughts. While developing the questions, teachers should also presuppose that questions are open to other questions. Because of this, teachers are expected to avoid providing direct answers and instead promote deeper examination of the topic (Lee-Kim and Kim 2014). According to the study conducted to determine achievement level of students via online mathemetics courses by Offenholley (2012), it is observed that as the number of the posts of the teacher increases, the number of the posts of students increases. When students get direct responses to their questions, the number of the posts or their participation decreases, which may result from the impression that teachers know all the answers. For these classes, the ideal way to proceed is thought to be a certain way of Socratic inquiry through which teachers encourage students to think further by evaluating their answers and giving feedback rather than providing the correct answer (Offenholley 2012). Clarity of expressing the questions is critical for effective inquiry (Gall and Gillett 1980; Land 1980). Socratic inquiry and critical thinking have a special relationship because they share a common outcome. While critical thinking offers individuals a comprehensive perspective about the functioning of the mind, Socratic inquiry completes the structure for the formation of this general perspective and the questions necessary for its quality (Paul and Elder 1998). Full-fledged critical thinking involves three parts: asking questions, answering those questions through reasoning, and believing the results of reasoning. First, it involves asking questions that need to be asked, asking good questions, those that get to the heart of the matter. Second, it involves trying to answer those questions by reasoning them out. Reasoning out answers is different from other ways of answering questions, such as giving an answer we have always taken for granted but never thought about, answering impressionistically ("That reminds me of. . ."), or simply answering according to the way we were raised or answering in accordance with our personalities. It is also different from answering by saying the first thing that comes into our minds and then using all our power of reasoning to defend that answer. Third, critical thinking involves believing the results of our reasoning. Critical thinking is different from engaging in a mental exercise. When we think through an issue critically, we internalize the results. We don't

merely give verbal agreement; we actually believe the results because we have done our best to reason out the issue and we know that reasoning out things is the best way to get reliable answers. Furthermore, when we critically think through a decision in a given situation, what follows is not just belief, but action.Unless something unforeseen occurs, we end up taking the action we concluded was most reasonable (Nosic 2001). If the questions teachers ask students during the learning process do not meet the intellectual standards of Socratic inquiry, they neither develop critical thinking skills of learners nor contribute to their reasoning and inquiry skills.According to the Foundation for Critical Thinking (F.F.C.T) (1999), there are nine intellectual standards of Socratic inquiry: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness (F.F.C.T. 1999). Universal intellectual standards must be applied to thinking whenever a person is interested in checking the quality of reasoning about a problem, issue, or situation. For the teachers to ask questions or make inquiries that meet these standards is critical in terms of developing students' intellectual capacity, thinking skills, and academic achievement. The literature review by the present researcher revealed no previous research on the classification of verbal or written questions asked by the teachers according to the universal intellectual standards of Socratic inquiry. Therefore, it is assumed that present study is one of the first examples of research on relevant issues and thus is an original contribution.

Research Purpose

The purpose of the study is investigate the verbal questions that classroom teachers ask in life sciences, Turkish language, science and technology, mathematics, and social studies lessons in terms of universal intellectual standards of Socratic inquiry. Thus, the following research questions were asked:

To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standards of Socratic inquiry including (1) "Clarity" (2)"Accuracy" (3)"Precision" (4) "Relevance" (5) "Depth" (6) "Breadth" (7) "Logic" (8)" Significance"?

Due to recent data regarding the last intellectual standard,"Fairness", cannot be obtained due to the design of the research it was excluded from the study.

METHODOLOGY

The study was designed as a descriptive survey model based on a content analysis of a qualitative research model, since it aimed to describe classroom teachers' verbal questions in terms of intellectual standards of the Socratic inquiry technique.

Research Group

The study examined 150 volunteer classroom teachers working at 22 primary schools selected for the study in the Kadikoy, Umraniye, Uskudar, Atasehir and Maltepe districts in the province of Istanbul, Turkey, during the 2013–2014 school year. Among these teachers, 37 taught first grade, 48 were taught second grade, 33 taught third grade, and 32 taught fourth grade. The participants were classroom teachers who worked at state primary schools where senior education faculty students of a state university in Istanbul attended to observe and practice as a part of a 'teaching practice' course.

Instruments and Data Collection

The data were collected using an unstructured composition observation form. The participating teachers were observed by the prospective teachers trained by the researcher for 482 hours during their life sciences, Turkish language, science and technology, mathematics, and social studies lessons, and 6389 verbal questions asked by the participating teachers during their lessons were recorded to unstructured composition observation forms. The recorded verbal questionswere analysed by the researcher, and questions were first categorized as "questions relevant to the lesson content" and "questions irrelevant to the lesson content". While 4731 of 6389 questions recorded throughout the observations were relevant to the content of the lessons taught, the remaining 1658 questions were asked in order to discipline the classroom, resolve problematic student behaviours, have the activities approved, or criticize the students. Verbal questions related to the content of the lessons were independently analysed by the researcher and two other experts, and were coded into the categories of universal intellectual standards of Socratic inquiry including "Clarity", "Accuracy", "Precision", "Relevance", "Depth",

"Breadth", "Logic", and "Significance".The data coded independently by two experts were compared with those of the researcher for their agreement.The intercoder reliability was estimated based on the comparison of agreement and disagreement using the formula developed by Miles and Huberman (1994).

$$\text{Reliability} = \frac{\text{Agreement}}{\text{(Agreement+ Disagreement)}} \text{ X } 100$$

According to this formula, the intercoder reliability of the data coded to categorize the verbal questions by classroom teachers' in relation to the lesson content according to the intellectual standards of Socratic inquiry was estimated to be130/(130+8)x100 =0.94.The data were analysed using the percentages and frequencies and displayed in tables.The data were also analysed using the Nvivo 8 software program.

RESULTS

A total of 150 volunteering classroom teachers working at 22 primary schools participated in the study. The observations lasted for 428 hours in total, with 111 hours in first grade, 144 hours in secondgrade, 99 hours in third grade, and 128 hours in fourth grade.

Table 1: Distribution of observed lesson hours (h) for each grade

Grades	*h*	*%*
1st grade	111	23.03
2nd grade	144	29.87
3rd grade	99	20.54
4th grade	128	26.56
Total	482	100

Table1shows the distribution of observed lesson hours for each subject and grade. According to Table 2, in first grade, life sciences, Turkish, and mathematics lessons were observed for 37 hours each (111 hours in total). In second grade, life sciences, Turkish, and mathematics lessons were observed for 48 hours each (144 hours in total). In third grade, life sciences, Turkish, and mathematics lessons were observed for 33 hours each (99 hours in total). Finally in fourth grade, Turkish, mathematics, science and technology, and social studies lessons were observed for 32 hours each (128 hours in total).

As indicated, during the lessons observed in the first grade, teachers asked 267 questions in life sciences, 356 in Turkish, and 317 in mathematics lessons (940 questions in total). In the second grade teachers asked 286 questions in life sciences, 338 in Turkish, and 322 in mathematics lessons (946 questions in total). In thirdgrade, teachers asked 309 questions in life sciences, 411 questions in Turkish, and 346 in mathematics lessons (1066 questions in total). Finally in fourth grade, teachers asked 422 questions in Turkish, 349 in mathematics, 493 in science and technology, and 515 in social studies lessons (1779 questions in total). According to Table 3, teachers in all grades asked a total of 862 questions in life sciences, 1527 in Turkish, 1334 in mathematics, 493 in science and technology, and 515 in social studies lessons (a total of 4731 questions) (Table 3).

Findings about First Research Problem

The first research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Clarity".

The questions to be asked according to "Clarity" standard should include the following:

- Could you elaborate further?
- Could you illustrate what you mean?
- Could you give me an example?

Table 2: Distribution of observed lesson hours (h) according to lessons and grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*	*Total*
	h	*h*	*h*	*h*	*h*	*h*
1st grade	37	37	37	-	-	111
2nd grade	48	48	48	-	-	144
3rd grade	33	33	33	-	-	99
4th grade	-	32	32	32	32	128
Total	118	150	150	32	32	482

Table 3: Distribution of frequency (f) of teachers' verbal questions according to lessons and grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	267	356	317	-	-	940	19.87
2nd grade	286	338	322	-	-	946	19.99
3rd grade	309	411	346	-	-	1066	22.53
4th grade	-	422	349	493	515	1779	37.61
Total	862	1527	1334	493	515	4731	100.00

It was found that teachers asked 8 questions in life sciences lessons, 18 questions in Turkish lessons, 15 questions in mathematics lessons, 9 questions in science and technology lessons, and 6 questions in social studies lessons (a total of 56 questions), which met the standard of "Clarity". It was observed that teachers did not ask any questions at first grade that met the standard of "Clarity" (Table 4).

Examples of verbal questions that meet the Clarity standard are as follows:

- "Can you tell me in detail how you found the rule"(Mathematics)
- "Can you more clearly explain what you have said about recycling? What exactly doyou mean? (Life Sciences)
- "If what you have said is the balanced diet, what should we eat for breakfast, lunch and dinner? Could you give us an example?" (Science and Technology)
- "From which word have you inferred this meaning? Explain in detail."(Turkish)
- "Can you give an example of the traffic rules you have mentioned?"

Findings about Second Research Problem

The second research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of 'Accuracy'"?

The questions supposed to be asked according to "Accuracy" standard include the following:

- How could we check on that?
- How could we find out if that is true?
- How could we verify or test that?

It was found that teachers asked 1 question in life sciences lessons, 9 questions in Turkish lessons, 13 questions in mathematics lessons, 6 questions in science and technology lessons, and 1 question in social studies lessons (a total of 30 questions) that met the standard of "Accuracy" (Table 5).

Examples of verbal questions which meet the accuracy standard are as follows:

- "How can we infer here that the boy and misbehaves with his friends?" (Life Sciences)
- "You said that the man is lazy. How do you infer from the text that this is true? (Turkish)
- "How can we check whether the result of the problem is correct?" (Mathematics)
- "How can we check that this matter emits heat?" (Science and Technology)
- "How can we confirm this is not a demand but a need?" (Social Studies)

Table 4: The analysis of classroom teachers' verbal questions in terms of clarity standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	-	-	-	-	-
2nd grade	2	1	2	-	-	5	8.93
3rd grade	6	8	6	-	-	20	35.71
4th grade	-	9	7	9	6	31	55.36
Total	8	18	15	9	6	56	100.00

Table 5: The analysis of classroom teachers' verbal questions in terms of accuracy standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	1	-	-	1	3.33
2nd grade	-	1	4	-	-	5	16.67
3rd grade	1	3	2	-	-	6	20.00
4th grade	-	5	6	6	1	18	60.00
Total	1	9	13	6	1	30	100.00

Findings about Third Research Problem

The third research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Precision"?

The questions supposed to be asked according to "Precision" standard include the following:

- Could you be more specific?
- Could you give me more details?
- Could you be more exact?

It was found that teachers asked 1 question in life sciences lessons, 5 questions in Turkish lessons, 4 questions in mathematics lessons, 3 questions in science and technology lessons, and 2 questions in social studies lessons (a total of 30 questions) that met the standard of "Precision" (Table 6).

Examples of verbal questions which meet the precision standard are as follows:

- "What exactly can be said about the kidneys' role in circulation?" (Science and Technology)
- "Can you state the main idea of the text more clearly/precisely?" (Turkish)
- "What exactly can we say about the steps of solving the problem?(Mathematics)
- "Can you explain more clearly and precisely from what basic needs profession of policemanship emerged."(Social Studies)
- "In what other aspects areyou different from your friends? Can you give more examples?" (Life Sciences)

Findings about Fourth Research Problem

The fourth research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Relevance"?

The questions supposed to be asked according to "Relevance" standard include the following:

- How does that relate to the problem?
- How does that bear on the question?
- How does that help us with the issue?

It was found that no verbal question were asked by the participating classroom teachers which meet the intellectual standard of relevance.

Findings about Fifth Research Problem

The fifth research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching

Table 6: The analysis of classroom teachers' verbal questions in terms of precision standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	-	-	-	-	-
2nd grade	-	1	1	-	-	2	13.33
3rd grade	1	3	2	-	-	6	40.00
4th grade	-	1	1	3	2	7	46.67
Total	1	5	4	3	2	15	100.00

process meet the universal intellectual standard of "Depth"?

The questions supposed to be asked according to "Depth" standard include the following:

- What factors make this a difficult problem?
- What are some of the complexities of this question?
- What are some of the difficulties we need to deal with?

It was found that no verbal questions were asked by the participating classroom teachers which meet the intellectual standard of relevance.

Findings about Sixth Research Problem

The sixth research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Breadth"?

The questions supposed to be asked according to "Breadth" standard include the following:

- Do we need to look at this from another perspective?
- Do we need to consider another point of view?
- Do we need to look at this in other ways?

Teachers asked 2 questions in life sciences lessons, 8 questions in Turkish lessons, 9 questions in mathematics lessons, 2 questions in science and technology lessons, and 1 question in social studies lessons (a total of 22 questions) which met the standard of "Breadth" (Table 7).

Examples of verbal questions which meet the Breadthstandard are as follows:

- "When we look at your friend's behaviour from another perspective, can it be judged differently?" (Life Sciences)
- "Do you think they might be another reason for leaving from Cankaya?" (Turkish)
- "If we take this question from another point of view, can we find another solution?" (Mathematics)
- "Can we attribute Ataturk's military successes to his being a good soldier alone? Can it also be his other characteristics that affect his success?(Social Studies)
- "Do trees have only these benefits? Just think about other benefits they have." (Science and Technology)

Findings about Seventh Research Problem

The seventh research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Logic"?

The questions supposed to be asked according to "Logic" standard include the following:

- Does all this make sense together?
- Does your first paragraph fit in with your last?
- Does what you say follow from the evidence?

Teachers asked 6 questions in Turkish lessons, 2 questions in mathematics lessons, 1 question in science and technology lessons, and 2 questions in social studies lessons (a total of 11 questions) which met the standard of "logic". It was observed that teachers did not ask any questions in life sciences lesson that met the standard of "logic" (Table 8).

Examples of verbal questions which meet the Clarity standard are as follows:

- "You had said the word *Lale* is the name of a person, and now you have just said it is a flower's name. Do you think what you said before and what you have just said are consistent?" (Turkish)

Table 7: The analysis of classroom teachers' verbal questions in terms of breadth standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	1	-	-	1	4.55
2nd grade	1	3	2	-	-	6	27.27
3rd grade	1	3	2	-	-	6	27.27
4th grade	-	2	4	2	1	9	40.91
Total	2	8	9	2	1	22	100.00

- "Do these data altogether contribute to the solution of the problem?" (Mathematics)
- "Do you have any evidence for the generation of electricity here? (Science and Technology)
- "Do you have any evidence to claim that this situation is the most common problem facing the consumers?" (Social Studies)

Findings about Eighth Research Problem

The eight research question was "To what extent do the verbal questions asked by the classroom teachers during the learning teaching process meet the universal intellectual standard of "Significance"?

The questions supposed to be asked according to "Significance" standard include the following:

- Is this the most important problem to consider?
- Is this the central idea to focus on?
- Which of these facts are most important?

It was found that no verbal questions were asked by the participating classroom teachers that meet the intellectual standard of significance.

Teachers asked 12 questions in life sciences lessons, 46 questions in Turkish lessons, 43 questions in mathematics lessons, 21 questions in science and technology lessons, and 12 questions in social studies lessons which met all intellectual standards of Socratic inquiry (Table 8). Accordingly, it was found that at all grades and in all lessons teachers asked a total of 134 questions that met all intellectual standards of Socratic inquiry.

DISCUSSION

At the end of the study, it was detected that most of the questions (97.17%) asked by the classroom teachers during lessons did not meet the universal intellectual standards of Socratic inquiry, and teachers asked few questions (2.83%) that further encouraged student responses according to universal intellectual standards of Socratic inquiry. It is reported by many researchers that verbal questions teachers ask during the teaching learning process are very important for learners to develop inquiry and reasoning skills and acquire higher-order thinking strategies, and only qualified questions can develop these competences (Oliveira 2010; Cleveland and Fox 2008; Ozden 2005; Koray-Altuncekic and Yaman 2002; Blosser 2000; Goatly 2000;

Table 8: The analysis of classroom teachers' verbal questions in terms of logic standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	-	-	-	-	-
2nd grade	-	1	-	-	-	1	9.10
3rd grade	-	4	1	-	-	5	45.45
4th grade	-	1	1	1	2	5	45.45
Total	0	6	2	1	2	11	100.00

Table 9: The analysis of classroom teachers' verbal questions in terms of all standards according to grades

Grades	*Life Sciences*	*Turkish*	*Mathematics*	*Science and Technology*	*Social Studies*		
	f	*f*	*f*	*f*	*f*	*n*	*%*
1st grade	-	-	2	-	-	2	1.49
2nd grade	3	7	9	-	-	19	14.18
3rd grade	9	21	13	-	-	43	32.09
4th grade	-	18	19	21	12	70	52.24
Total	12	46	43	21	12	134	100.00

Keogh and Naylor 1999; Tsui 1999; Bruald 1998; Elder and Paul 1998; Facione 1998; Boostrom 1992; Shepardson and Pizini 1991; Montague 1987; Godbold 1970). This finding can be evidence for teachers' failure to develop the abovementioned skills in students with their questions. Elder and Paul (1998) also reported that most of the questions teachers asked provoked thinking, overwhelmed learners' thinking processes under a huge amount of information, and pushed them to the margins of lesson content in the rush for completing the content of the course book. They also reported that teachers cannot ask questions which develop active, creative and critical thinking skills.Whereas, teachers should ask questions which can enhance higher-order thinking skills among learners and require the learners to back up their answers with evidence (Potts 1994; Boostrom 1992; Carol 1989). Only this kind of questioning can meet the standards of Socratic inquiry. The finding of the present-study concurs with the findings of Aslan (2011), Kucuktepe (2010), Jones (1992) and Carleen (1990). These researchers found that teachers ask verbal questions which are mostly close-ended, have a single answer, are based on route-learning, require lower-order thinking skills, and cannot help develop questioning and thinking skills among students. Furthermore, it is indicated in another study that there is a strong relationship between student achievement and higher-order thinking skills, so, rather than asking short-answer or close-ended questions, teachers are expected to develop question statements that are open-ended and complex, require inquiry or a research process during which students are active in ensuring permanent learning (Smith and Szymanski 2013). Brualdi (1998) also argues that questions should free learners from stereotyped information and enable learners to question their own thinking. The writer puts forward that if the questions are not qualified, they can cause the learners to accept information without questioning, which gradually becomes a habit in their lives, claiming that this situation would lead to serious adverse effects to learners' cognitive development. Based on the findings of the present research,it can be concluded that the failure of most questions asked by the classroom teachers to meet the universal intellectual standards of Socratic inquiry adversely affect learners' cognitive development. Moreover, it was found that classroom teachers do not inquire student responses to verbal questions with questions according to intellectual standards of relevance, depth, and significance, and teachers mostly asked questions enabling them to make inquiry according to the standard of clarity. It was observed that across all grades that classroom teachers generally asked questions that met the intellectual standards of Socratic inquiry in life sciences and social studies lessons the least, and Turkish and mathematics lessons the most. Furthermore, in terms of grade levels, participating classroom teachers were found to ask questions meeting the intellectual standards of Socratic inquiry at first grade the least and at fourth-grade the most. Based on this finding, it can be said that teachers ask more questions that meet the intellectual standards of Socratic inquiry as the grade level increases.

CONCLUSION

In this study, verbal questions asked by the teachers were examined in the "Clarity", "Accuracy", "Precision", "Relevance", "Depth", "Breadth", "Logic", and "Significance" categories of universal intellectual standards of Socratic inquiry. As a result of the research, it was found that most of the verbal questions classroom teachers ask during lessons do not meet the universal intellectual standards of Socratic inquiry, and teachers ask few questions that further encourage student responses. Furthermore, the lesson observations suggested classroom teachers not inquire student responses to verbal questions with questions according to intellectual standards of relevance, depth, and significance, and teachers mostly asked questions enabling studentsto inquire according to the standard of clarity.

RECOMMENDATIONS

It is possible to make the following suggestions based on the results of this study and findings in the relevant literature:

This study was about classroom teachers. Similar studies can also be done with preschool, primary school, middle school, and high school teachers and lecturers. In addition to subjects in this study, different levels (5^{th}, 6^{th}, 7^{th}, 8^{th} grade, etc.) and lessons (chemistry, biology, history, physics, computer sciences, etc.) can be examined.

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