European Journal of Education Studies
ISSN: 2501 - 1111
ISSN-L: 2501 - 1111
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.3739339 Volume 7 | Issue 2 | 2020

PRIMARY SCHOOL TEACHERS' OPINIONS ABOUT EDUCATIONAL ENVIRONMENT IN TERMS OF CONSTRUCTIVIST APPROACH

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Abstract:
Constructivist approach includes active learning. In active learning environment, individuals can perform high-level learning by interacting with their environment. To achieve this, physical conditions and equipment need to be sufficient. This study was conducted out of the need to identify teachers' opinions about learning environment conditions. Qualitative research method was used in this study. Participants of the study consist of 18 teachers who work in 3 primary schools representing higher, middle and lower layers of sociocultural structure in Safranbolu district of Karabük province in Turkey. The data were collected via focus group interview based on the interview form developed by the researcher. Inter-encoder reliability co-efficient of the data, for which content analysis was applied, was found 82%. Findings of the study revealed that physical conditions and equipment of the classrooms in primary schools representing middle and higher layers of sociocultural structure were in better conditions thanks to parents' contributions while the physical conditions and equipment of the classrooms in primary schools representing lower layers of sociocultural structure were limited, the size of the classrooms was insufficient and not suitable for different seating arrangements. It is suggested that learning environments should be arranged by taking teachers' and students' opinions in order to create environments that enable active learning in classrooms.

Keywords: constructivist approach, learning environment, physical environment, classroom equipment

1. Introduction

An individual is in a constant interaction with their environment as a natural part of being a social entity. Today, the fact that this interaction affects all their behaviours is

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accepted as a scientific truth. In a planned education process, educational environment which the individual is in interaction with needs to be arranged in line with the requirements and aims of education. Target behaviour changes predicted within the aims of education can be put into practice only in the environment which is convenient for the practice of educational programs. This environment, where educational activities are created and the individual interacts and communicates, and which is constituted by components such as staff, equipment, establishment and organization, is defined as educational environment. (Alkan, 1992).

A number of studies highlight the interaction between physical, social and psychological environment in educational process. Studies also emphasize that physical environment where learning takes place and organizations and design within this environment play an important role on the individual's feelings, thoughts and behaviours (Alkan, 1992; Ramsden and Entwistle, 1981). Gürkaynak (1988) states that these organizations and designs may influence the individual's physical and mental health sometimes positively and sometimes negatively. Research reveals that educational environment needs to be organized well in order to enhance positive aspects and eliminate negative aspects (Akın and Sağır, 1998; Audın, Davy, & Barkham, 2003; Beyaztaş, Kaptı and Senemoğlu, 2013; Genn, 2001; Pımparyon, Roff, Mcaleer, Poonchaı, and Pemba, 2000). Standing Committee on Postgraduate Medical and Dental Education, UK (SCOPME, 1991) emphasizes the importance of educational environment in their statement as such: "*A study environment which is convenient for learning is highly significant for successful education*". In short, educational environment is becoming more important in order to make learners effective learners and to support their learning.

Kayhan and Eroğlu (2007) deal with educational environment in three main dimensions. These are: Physical Dimension (Physical Environment), Human Power Dimension (Staff Environment) and Educational Equipment Dimension (Equipment Environment). Each of these dimensions has important responsibilities and functions in teaching-learning processes. Sufficiency or lack of any of these dimensions affects other dimensions positively or negatively. Therefore, these dimensions could be regarded as the determiner of the quality of education. While physical environment is defined as the hygiene, air conditioning, heating, lighting, noise, colours, size and seating arrangement in the classroom, equipment of the classroom is defined as students' desks, board / smart board, computer and its equipment (projectors, speakers, internet), visual tools (maps, notice boards, teaching board, etc.) and classroom bookshelves (Kayhan and Eroğlu 2007).

Progressive education approach and constructivist approach following it, which were attempted to be applied in Turkish education system after the proclamation of the Republic, have been prioritized particularly in the primary education. Constructivist approach, which has been applied since 2005-2006 educational year, enables learners to structure, render and develop knowledge (Beyaztaş, Kaptı and Senemoğlu, 2013). Students develop skills such as critical thinking and problem solving about the subject of learning, and take decisions (Bulut, 2006; Can, 2004; Hawkins, 1994; Karakuş, 2003), they

reconstruct or produce knowledge by associating new information with already existing previous information (Spigner-Littles and Anderson, 1999). Constructivist approach, which is based on active participation in the learning process, requires establishing a strong bond between the learner and the learning environment (Niemeyer, 2003).

In the practice of constructivist approach, teachers need to apply a variety of methods and use teaching strategies such as problem solving, project-based learning, collaborative learning, case study, etc. more. While teachers are expected to use various teaching strategies in constructivist approach, students are expected to develop skills such as gaining experience, learning through experience, thinking, asking questions, researching, discovering and practising by interacting with the environment in the learning process (Beyaztaş, Kaptı and Senemoğlu, 2013; Demirel, 2002). In order to do so, it is necessary to create an environment convenient for learning activities that will encourage students to learn, promote curiosity and willingness to succeed, guide to discover information, and encourage students to collaborate with their peers (Bruner, 1962). However, relevant studies reveal that there are some deficiencies (regarding teachers' perceptions of the approach, students' attitudes etc.) in the practice of constructivist approach in primary schools (Atila and Sözbilir, 2016; Chung, 2004; Karadağ, Deniz, Korkmaz and Deniz, 2008).

Literature review shows that studies dealing with constructivist approach focus mostly on teacher incompetence (Atila and Sözbilir, 2016; Ayaz and Şekerci, 2015; Fidan and Duman, 2014). Nonetheless, it is commonly accepted that educational environment influences teachers' skills and that teachers need to be evaluated accordingly.

2. Literature Review

In their study regarding primary school teachers' opinions about constructivist learning approach; Karadağ et al., (2008) suggest that teachers get enough training for constructivist approach but that they do not think they are competent enough in practice. Moreover, educational environment–physical condition–is stated as insufficient in the practice of constructivist learning approach. Research findings regarding educational environment–physical conditions–are limited to whether teachers find educational environment sufficient or not.

A study conducted by Karaküçük (2008) sought to find out whether physical and spatial conditions of the selected preschool educational institutions comply with children's developmental characteristics and relevant literature. As a result, the study revealed that physical and spatial conditions of the selected institutions did not exactly comply with the criteria defined in relevant literature and also that it differed between schools. It was pointed out that particularly the conditions provided as observation room, health care room, number of bathrooms – toilets, garden, game tools and fire safety were "insufficient / quite insufficient". In their study, Önder, Gül and Ergüldürenler (2013) aimed to find out to what extent classrooms of a university complied with ergonomics, anthropometrics, human physiology, and to find out factors affecting success. As a result,

Önder, Gül and Ergüldürenler (2013) found that physical and ergonomic features of the classrooms were not sufficient. In their study conducted with the participation of preservice teachers, Yenen and Dursun (2018) aimed to determine ideal educational environment. It is suggested in the study that ideal environment needs to be created by taking into consideration physical conditions of the classroom and psychological dynamics, and that desks or chairs need to be suitable for comfortable and flexible seating arrangement in order to set physical conditions in such a way to facilitate students' learning. It is also emphasized that for an effective communication a number of factors need to be taken into consideration such as the need for different seating arrangements, heating, lighting, colour of classroom walls, sound system and isolation, hygiene, size of the classroom, number of students and technological equipment for education.

Literature review in the field reveals that studies regarding constructivist approach focus mainly on topics such as academic success, attitude, classroom management, comparison with traditional approach or whether teachers/preservice teachers regard themselves as competent. On the other hand, analysis of studies on the learning environment shows that main interests in this field are how ideal educational environment should be, preschool education, educational institutions in the field of health care, effect of learning environment in the application process of educational programs (Social Sciences, Science, English, Maths, etc.) on academic success (Shamaki, 2015).

No resources were found on primary school teachers' opinions about educational environment in terms of constructivist approach. Therefore, with the aim of reaching conclusions based on primary school teachers' opinions about physical conditions and equipment of the learning environment in terms of constructivist approach, answers were sought to the following questions: 1) How are the physical conditions of the classrooms? 2) How is the equipment in the classrooms? It is expected that the results and findings of the study could provide important clues about the sources of problems regarding physical conditions and equipment of the classrooms in the application process of constructivist learning approach in primary schools. Besides, the study is expected to work as a basis in improving and changing the quality of effective learning environment.

3. Material and Methods

3.1 Method

As one of the descriptive research designs, "case study" was preferred for this study, which aims to identify primary school teachers' opinions about physical conditions and equipment of learning environment during the practice of constructivist approach. Case study is the deep research of a very basic situation within current context or environment (Yin, 2009).

3.2 Study Group

Study group of the research consists of 18 primary school teachers working at state schools affiliated to the Ministry of National Education (MEB) in the district of Safranbolu in Karabük, Turkey in 2019-2020 school year.

Table 1: Demographic Information about Primary School Teachers

	Sociocultural Structure			
	Higher	**Middle**	**Lower**	**Total**
Female	4	4	3	11
Male	3	2	2	7
Total				**18**
1st Grade	2	2	2	6
2nd Grade	1	1	1	3
3rd Grade	1	1	1	3
4th Grade	2	2	2	6

7 participants are male, 11 participants are female teachers. Of the total 18 participating teachers, 2 teachers teach first graders, 1 teacher teaches second graders, 1 teacher teaches third graders, and 2 teachers teach fourth graders. Since sociocultural structure was taken into consideration in the selection of schools, it was thought that revealing the names of the schools would be unethical on behalf of students and their parents, so the names of the selected schools were coded as Higher, Middle, and Lower sociocultural structure.

3.3 Data Collection Tools

An interview form which consists of three parts was used in this study in order to identify teachers' opinions about physical conditions and equipment of the learning environment during the practice of constructivist approach. Draft of interview form, developed by the researcher, was presented to two program development experts and three primary school teachers who were consulted about the data collection tool. Experts and teachers suggested that statements in some of the questions could be changed. The final draft of the interview form includes 8 questions that examine physical conditions and equipment in the learning environment. The interview form also includes two pieces of personal information about participating teachers' gender and which grade they teach.

3.4 Data Collection Process and Data Analysis

Data of the study were collected via interviews with three target groups, conducted by the researcher. The reason for using target group interviews is that a participant's opinion can be developed by another participant, so a wider perspective and detailed information can be obtained through different points of view (Çokluk, Yılmaz and Oğuz, 2011). First of all, appointments were arranged with the participants for the interview. A convenient place outside the school was chosen in order to have a peaceful interview, and not to have problems about time. In three different periods of time, interviews were conducted with 6 teachers from each school (who were teaching in schools with higher, middle, lower sociocultural structure) by meeting at different times. Each interview lasted about 80

minutes. The reason why first and fourth graders were taught by two teachers each was that there is a difference between students' physical development in the first and fourth grade. While managing the target group interviews, the researcher was careful to give participants equal length of time and equal right to speak, not to be directive, and not to wander off the subject (Krueger and Casey, 2000; Yıldırım and Şimşek, 2008).

At the beginning of the interview, participants were informed about the aim of the study and constructivist approach, and the way to be followed in the target group interview was explained to them. In order to prevent participants' simultaneous talking, participants were told prior to the interview that they were expected to answer the questions asked by the researcher and ask for the floor if they wanted to express further opinions. Participants' demographic information was obtained via short questions. Data were recorded on a voice recorder and then transcribed.

For the analysis of the data, introductory code list was created, and three weeks later coding was repeated, and consistency of coding was examined in order to ensure reliability. By coding interview forms twice, the researcher tested her own consistency. The calculations revealed that reliability co-efficient between coders was determined as 82%. According to Miles and Huberman (1994), it is acceptable if the reliability between coders is higher than 80%. As a result of the comparisons, findings were categorized under three themes. These themes are: physical conditions and equipment of the learning environment, teachers' suggestions for the learning environment.

Direct quotations from the interview data were used in order to effectively reflect and support the opinions. Direct quotations were carefully selected as to represent related finding and theme, and also to be relatively interesting. Opinions of the teachers who were the sources of the data were quoted directly by using abbreviations such as Ö1, Ö2, …… Ö18.

4. Results

4.1 Findings regarding Primary School Teachers' Opinions about Educational Environment/ Physical Conditions of the Classroom

Findings regarding the first research question of the study (What are the physical features of the learning environment, particularly classroom?) were categorized under five themes namely hygiene and air conditioning of the learning environment, heating and lighting, noise, colours, size of the classroom and seating arrangement.

Almost all teachers working at schools of higher, middle, and lower sociocultural structure stated that the learning environment was regularly swept and cleaned every day but seats, desks and teacher's desks were not dusted, particularly the spots which are touched frequently such as door handles, electricity plugs were not cleaned. Ö3 expressed their opinion about this issue as such:

> *"Our classrooms are only swept, but the floors are not mopped and dusted, I can easily claim that hygiene is not so much cared in cleaning"*

All teachers stated that too much dust and dirt gathered during classroom activities such as drama, educational games, and projects, which include much action. According to the teachers, the amount of dust and dirt was disturbing.

> *"In many classes and subjects (e.g. multiplication table in Maths, homonymic words and antonyms in Turkish) I divide and order the class into two groups, and I want them to answer my questions swiftly. The student who answers my question correctly moves to the back of the line while the student who cannot answer my question sits at their desk. We do this activity fast. Students love it, they get excited, and so they start running while doing it. Since the number of my students is high, can you imagine how much dust gathers and moves in the air?" (Ö1)*

> *"The classroom gets so dirty in our project activities or in visual arts class. For example, in the visual arts class we do collage or water colour, so the whole classroom gets dirty. Water is spilled on the floor, pieces of paper spread everywhere; I tell my students to keep clean while working and to tidy the place where they work, but …" (Ö11)*

While all teachers from three schools stated that air conditioning is done through the windows, the teachers working at the school of higher sociocultural structure stated that the windows could be half-opened because of security concerns, so they did not have enough air circulation. Regarding air conditioning in the classroom and not dusting in general, Ö15 remarked as such:

> *"When we do activities such as role-play or drama, a lot of dust gathers and moves in the air with so many students moving in large groups around the classroom, I cannot get enough fresh air. There are students who have allergic reaction, so reflexive behaviours such as coughing and sneezing increase suddenly, which worsens the air in the classroom."*

Teachers working at the school of lower sociocultural structure stated that the school building was a historical building, so the ceiling was so high and the windows of the classrooms on the ground floor were quite high and small, and the windows of the classrooms on upper floors were covered in paint in such a way to keep the inside of the classroom unseen from the street. Teachers stated that it was not possible to open the windows to get fresh air because the windows were too high from the floor. Besides, teachers remarked that windows were broken frequently as a result of students' misbehaviours.

While teachers from all three schools stated that they had central heating system and double-glazed windows, teachers from the school of middle sociocultural structure maintained that they had problems with heating in some classrooms because of lack of isolation in the building. Teachers from schools of middle and higher sociocultural structure stated that they did not have any problems with lighting, the classrooms were lighted with fluorescent bulbs, and the current lighting was sufficient when it is needed.

Teachers from the school of lower sociocultural background said they had problems with lighting as such:

> *"We have serious problems with lighting in classrooms and school corridors. It is a pity that our students tend to show violent behaviours at school under the influence of their social environment. The lights and plugs are usually broken by students, and the situation is much worse on the ground floor and the corridors. Thank God a few lights are still working in the classroom … students are turning off the lights during the break time as a joke, then it becomes really dark" (Ö13).*

Teachers from the school of middle and higher sociocultural structure stated that doing physical education classes outside in the garden was distracting and disturbing. Ö6 explains it as such:

> *"While I am teaching a very important subject, students cannot help being distracted by the noise coming from outside. They keep thinking about the noise outside. Sometimes they even say 'Teacher, can we go out and play, too?"*

Another teacher also highlighted that the noise coming from outside affected education negatively as such: "*The noise coming from the football pitch near our school is very disturbing, so we cannot open the windows because of that noise*" (Ö9). Teachers working at the school of lower sociocultural structure stated that the students talked very loudly, so teachers also had to speak loudly to communicate, and that even if teachers created a quiet atmosphere in their classrooms, too much noise came from other classrooms. Furthermore, the teachers stated that because the school building was on the main street, the noise coming from the traffic on the street affected the learning environment badly.

> *"Noise is the most important problem in our school. All of the students speak loudly at the same time, so teachers get confused with what to do once the students leave school. We just keep quiet for some time in the teacher's room and think 'What was I going to do? Was I thinking of going home?'. It takes some time to get over. This situation exhausts us" (Ö15).*

Teachers from the school of middle and higher sociocultural structure pointed out that the colour of the classroom walls was chosen by school management, but the colour of the curtains and table clothes was chosen by teachers and parents together. On the other hand, teachers working in the school of lower sociocultural structure remarked that the colour of school walls was white, and also that their classrooms did not have curtains and table clothes.

Teachers from the school of higher sociocultural structure stated that their classrooms were not big enough as such:

"The classrooms are very small compared to the number of students; it is almost impossible to make a good arrangement with 35 students. The space between the desks are really narrow, nor is there enough space for activities …" (Ö2)

"There is no space in the classroom for chess desk. We are trying to use portable chess set, but the space is so little that students who move can hit the sets and interrupt the games while playing chess in groups of two" (Ö5)

All teachers except one (Ö13) who work in the school of middle and lower sociocultural structure indicated that the size of the classrooms was good. However, the number of students in the school of lower sociocultural structure is 10-11 while this number in the school of middle sociocultural structure is between 20 and 24. One teacher (Ö13) remarked that some of the classrooms in their school were big enough while others were small; one of the small classrooms was being used by this teacher (Ö13).

Teachers from the school of higher sociocultural structure explained that they wanted to make different arrangements of seating, but they had problems with the size of the classroom and different learning environment as such:

"Depending on the subject I teach, I want to make different arrangements in seating such as single seats, groups, U-shape seats, but it is impossible to do this in my classroom. The cabinets in the classroom occupy too much space" (Ö18).

"If I had a chance, I would arrange corners of Visual arts, Music and Handcraft in a big classroom. I would like to collaborate with students at these different corners by doing activities suitable for their skills and taste" (Ö8).

"… I would prefer a seating arrangement in which students face each other instead of sitting in a row and seeing only others' necks. Such as arrangement could encourage effective communication and fun, but this is not possible in current classrooms. There is no space in my classroom for activities such as drama" (Ö3)

Teachers from the school of middle and lower sociocultural structure stated problems with seating arrangement and physical conditions in classrooms as such:

"I would like to arrange the seats in U shape and in multiple ways in order for the groups not to disturb each other, so the interaction between student-student and student-teacher would be different. There is not enough space for activities" (Ö11).

"I think each student should have their own desk and chair, but each desk in our school is for two students" (Ö12).

4.2 Findings regarding Teachers' Opinions about Equipment in the Classroom

Findings regarding the second research question of the study (How is the equipment in the classroom?) were categorized under 5 themes namely seats and desks, board / smart board, computer and its equipment (projector, speakers, internet), visual tools (maps, notice board, teaching board, etc.) and classroom bookshelves.

Some participants stated that seats and desks in classrooms were too high (Ö7) while some others stated that the seats and desks were too low (Ö14). The teacher who said that the seats and desks were too high was teaching first graders, and other teacher who remarked that the seats and desks were too low was teaching fourth graders. Ö16 explained the problems with the seats and desks as such: "*standardized desks use being used, we change classrooms every year, students' demands are rarely considered. As the students grow up the seats and desks become too small for them*". Regarding the problems with ergonomic features of the seats and desks, Ö1 states:

> *"I teach fourth graders this year. Boys are particularly taller than girls and they do not fit in the desks. Since boys' legs do not fit into the desks, they remain outside the desks, so the boys complain about having back pain. Sitting in such a position also makes it difficult to move between the desks."*

Teachers from the school of lower sociocultural structure stated that there were seats in their classrooms and students sat in pairs. Teachers who told about different problems with seats and desks (size and user friendliness) stated as such:

> *"The desks and seats are not big enough. For example, students do not fit into the desks when they are drawing. Individual working space is too small" (Ö13).*

> *"My students never fit into the desks. The area they can use is quite limited and they always drop something while trying to keep their notebooks and books on the desk. Pencil cases are everywhere on the floor, and while trying to pick them, students drop other things, which distracts them during the class" (Ö6).*

> *"There is not enough space to leave school bags. Some students put their bags behind their back, but in this case they have little space to sit. Other students hang their bags on the tools which we installed on the side of the desks, but this leaves little space between the desks" (7).*

Teachers from the school of middle and higher sociocultural structure stated that they did not have smart boards in their classrooms and students sitting at the back of crowded classrooms had the most difficulty in seeing the board. On the other hand, teachers from the school of lower sociocultural structure remarked that the boards in some of the classrooms were broken.

"My classroom is very crowded, so the students sitting at the back of the classroom often have to stand up to see the board. Besides, the place of the board is not right considering the location of the classroom because the light coming through the window makes it difficult to read whatever is written on the board. I need to draw the curtains all the time. If we change to place of the board, then there will not be enough space for the desks" (Ö8).

"I wish we had a smart board in our classroom so that I could teach by using the internet" (Ö2).

Teachers from the school of middle and higher sociocultural structure indicated that they had equipment such as computers, projectors and speakers in their classrooms, and that they got these thanks to parents' contributions. The teachers stated that depending on the need, they got the necessary equipment together with parents of the first-grade students and they used them until the fourth grade. Teachers also emphasized that the equipment they got together with the parents were registered as fixtures in their school (Ö1). They stated that there was internet connection in their schools, but they often had problems with the internet (Ö8). On the other hand, teachers from the school of lower sociocultural structure indicated that there was a projector only in one classroom and they brought their own computers and speakers from home when needed.

All teachers from the schools of middle and higher sociocultural structure stated that they did not have enough notice boards, maps, globes, miscoscopes etc. in their classrooms, and that the current equipment was worn out. On the other hand, teachers from the school of lower sociocultural structure told that they did not have notice boards, maps, globes, charts, microscopes etc. in their classrooms and in the school. The opinions of teachers from the schools of middle and higher sociocultural structure about this issue are as follows:

"Our students have group work. For example, they did a very nice work about the subject of 'Regions' on large cartons in Social Sciences class. I wanted to hang the works of each group on the walls, but there are not notice boards big enough for this. If I could hang students' works on the walls, I am sure they would love it. We are not allowed by school management to hang such works on the walls on the grounds that hanging such things on the wall could destroy the paint of the walls (Ö17).

"The number of materials in our school is limited, so we have to share them with our fellow colleagues in turns. Materials such as maps, globes are worn out since they are carried from one classroom to the other all the time. The cabinets in our classrooms are not big enough to keep teaching materials in" (Ö9).

"There is no place or tool to hang the map in my classroom, so I need to put it somewhere on the edge of the board. In that case, there is not much space to write on the board because of the map" (Ö2).

Teachers from the school of higher sociocultural structure indicated that there were enough clothes hangers in their classrooms, and that in previous years they had the clothes hangers installed thanks to the contribution of parents. Some teachers from the school of middle sociocultural structure (Ö8, Ö9) stated that the clothes hangers were installed with the contribution of parents while others (Ö10, Ö12) the number of clothes hangers was not enough and also there were no individual student cabinets. Teachers from the school of lower sociocultural structure told that there were not any clothes hangers or individual student cabinets in their classrooms.

Some of the teachers from the school of higher sociocultural structure (Ö5) stated that they had bookshelves in their classrooms while some others (Ö15) indicated that they did not have enough bookshelves but they had Z library and they met their needs from that library. Teachers from the school of middle sociocultural structure pointed out that they did not have enough bookshelves and books in their classrooms. Teachers from both schools stated that they got the books in their classrooms with the contribution of parents.

> *"We get new books thanks to parents' support. All students read all these books in turns" (Ö4).*

Teachers from the school of lower sociocultural structure emphasized that they did not have bookshelves or books in their classrooms and there was not a library in their school.

4.3 Findings regarding Teachers' Suggestions for Learning Environment and Equipment

All participating teachers suggested that learning environment needed to be thoroughly cleaned regularly (weekly and monthly). All these teachers also suggest that there needed to be isolation for sound and heating in school buildings. Teachers from the school of lower sociocultural structure suggested that sensor-lighting in the corridors could be a good solution.

Teachers from the schools of middle and higher sociocultural structure stated that they had multi-purpose halls in their schools, but they could not use it effectively together with other classrooms for Physical Education classes since the number of classrooms in their school was high. The teachers suggested that with a change in course schedules it would be possible for each classroom to use the multi-purpose hall without a clash. They also suggested that school management had to take this seriously because they had problems in practice.

Teachers suggested that placement of students had to be done by considering the size of the classrooms and the number of students. Moreover, all teachers demanded seats and desks which would enable teachers to make different seating arrangements for different classroom activities (group work, U shape, V shape, meeting position, etc.) Teachers stated that they had also demanded facilities to create enough space for visual arts, music, handcrafts, chess, reading activities, and they hoped that such needs could

be met. Teachers also emphasized the need to create different learning environment such as laboratories, practice gardens, multi-purpose halls outside the classrooms.

Regarding classroom equipment, teachers suggested that each student needed to have an individual cabinet where they could put their possessions and keep supplementary materials which could help them with their learning, and so they would be able to reach the necessary materials in their cabinet whenever they needed. Another suggestion by the teachers was that glass cabinets and notice boards could be installed on the corridors so that students' works could be exhibited.

5. Discussion and Conclusion

Results of the study reveal that primary school teachers have some problems about physical conditions of the learning environment and equipment of the classrooms in the practices of constructivist approach. It can be observed that these problems occurred in the classrooms of selected schools with higher, middle, and lower sociocultural structure; some of these problems in the classrooms of schools with middle and higher sociocultural structure were solved or attempted to be solved with parents' contributions, but in the classrooms of schools with lower sociocultural structure, serious problems about physical conditions and equipment still remained unsolved. In literature of the field, there are studies which found that lacks in educational environment affect the quality of learning negatively (Beyaztaş, Kaptı and Senemoğlu, 2013; Duruji, Azuh, and Oviasogie, 2014; Karadağ, et al., 2008; Shamaki, 2015). Cheng (1996) emphasizes that in the countries where constructivist approach has just been applied, educational and physical environment tend to be insufficient. Many researchers (Demirel, 2002; Karaküçük, 2008; Önder, Gül and Ergüldürenler, 2013; Shreemathı and Roff, 2004) point out that learning environment and classroom equipment are prerequisite for effective practices of constructivist approach. Taking these and other relevant studies into consideration, it can be put forth that this prerequisite needs to be met in order for the constructivist approach to reach the targeted success and to provide equal educational opportunities all over the country. It is seen that differences in socioeconomic levels of the schools directly affect physical conditions and equipment of the classrooms in a positive or negative way. It can be suggested that physical conditions and equipment in the classrooms of the schools with higher and middle sociocultural structure are in a better condition thanks to parents' support while those of schools with lower sociocultural structure are relatively much more limited.

Findings of the study reveal that all teachers were meticulous about hygiene and air conditioning of the learning environment, but this, alone, was not adequate and they had problems with hygiene and air conditioning during classroom activities (drama, educational games, visual art practices etc.). Relevant studies reveal that the classrooms where constructivist approach is applied are clean and the students have a common perception regarding the hygiene of the classroom (Şentürk and Baş, 2010), and also that hygiene affects students' success positively (Korkmaz, 2006). The study also reveals that

students' inappropriate behaviours in schools with lower sociocultural structure lead to problems about hygiene and air conditioning, and even the equipment of the learning environment. It is thought that students cannot embrace their school / classroom and they do not protect it. This may result from their family background in which they grow up, indifference of the parents, their economic situation, and the sociocultural structure they live in. Among the principles of constructivist approach are creating varied and stimulating learning environment where students will voluntarily and eagerly participate in the learning process (Taylor, 1993). Önder, Gül and Ergüldürenler (2013) emphasize that keeping the floors, windows, seats, desks and even walls clean will make the classrooms more attractive, create a mentally and physically relaxing atmosphere, and will also be a sign of importance given to education and teaching.

Findings of the study reveal that central heating system and double-glazed windows are used in all primary schools, but in some classrooms of the school with middle sociocultural structure, the heating was reported to be insufficient. Furthermore, the study reveals that regarding lighting of the classrooms, teachers from the schools of middle and higher sociocultural structure do not have problems since these schools have enough lighting, but in the learning environment of the school with lower sociocultural structure, teachers reported that lighting was not sufficient. There are studies which support this finding (Karaküçük, 2008; Shamaki, 2015). According to the findings of the study, students damage the lights and plugs in the classrooms. It is thought that such behaviours may result from social environment in which they grow up and also from the influence students have on each other. Bayındır (2015) points out in a study that students may have negative behaviours (setting a bad example, violating the rules of the school, bullying etc.) and this situation may lead to security problems. Quality learning is not possible in an educational environment which is not secure. However, in the core of the socializing process, which is one of the main purposes of constructivist approach, is the understanding that education is important and also that individual development can be gained through social development. Students develop themselves by interacting with their environment and in this process both the individual and the environment change. Schools are suitable places to enable individuals to gain cultural values of the society throughout the process of learning to read, to write, and Maths (Abdal- Haqq, 1998).

Another finding of the study is that noise coming from the environment has a negative effect on the learning environment/activities. It can be maintained that the source of the noise is physical education lessons in the school garden, football pitch near the school, students' talking very loudly, and traffic. Besides, the study shows that teachers from the school with lower sociocultural structure had problems such as exhaustion and distraction because of the noise. It is a scientific fact that noise affects people psychologically, causes behavioural disorders such as anger, bad temper, and even indecisiveness (Hayta, 2007), damages the organ of hearing and it is also a distractor (Shreemathı ve Roff, 2004). Noise disrupts learning process. It is almost impossible to draw students' attention to the learning material in a noisy environment. Noise, which exhausts mind and interrupts communication, may lead to unwillingness to learn,

distraction, and decrease in motivation. Unless noise is prevented, other students will be negatively affected and this disturbance will increase (Tutkun, 2003). In order to prevent noise inside or outside the learning environment, doors, windows and walls need to be isolated in the construction process of the building (Önder, Gül and Ergüldürenler, 2013). The best way to eliminate noise made by students could be setting classroom rules together with students and making sure that they believe in the necessity of these rules and obey them. Şentürk and Baş (2010) point out that in the practices of constructivist approach, students' participation in the decision processes in the classroom and their collaboration with the teacher will help them to internalize the rules they set.

Findings of the study reveal that the colours of the walls in all three schools were selected by school management. In schools of higher and middle sociocultural structure, the colours of curtains, table clothes were selected by teachers and parents together and they were all obtained by collaboration between teachers and parents. On the other hand, it is stated that schools with lower sociocultural structure did not have table clothes or curtains. It is commonly known that the colours selected for the learning environment affect students' feelings, mood, motivation and learning skills in a positive or negative way (Akbaba and Turhan, 2016; Çabuk, 2006; Suleman and Hussain, 2014). Therefore, colours used in physical conditions and equipment of the learning environment should be in harmony (Akbaba and Turhan, 2016), stimulating and appropriate for students' age. Findings of the study reveal that in schools with higher sociocultural structure, the classrooms are not big enough while in schools with middle and lower sociocultural structure the classrooms are big enough. The reason for the size of classrooms being insufficient in schools with higher sociocultural structure is the large number of students, still another reason could be placement of the students by school management without considering the number of students per each classroom. In schools with middle and lower sociocultural structure, the reason for the size of the classrooms being regarded as sufficient could be that the number of students in these schools is not high. In fact, the study reveals that although teachers working in schools with middle and lower sociocultural structure stated the classrooms were big enough, they all had problems in making different arrangements of seating (U shape, circle, group etc.). It can be maintained that the size of the classrooms selected for this study is not appropriate for different seating arrangements. It is emphasized that in constructivist approach, creating different learning environment is important in supporting students' learning (Abdal-Haqq, 1998; Brooks and Brooks, 1999; Özden, 2003; Wilson, 1996; Yılmaz, 2006). According to the findings of the study, although teachers wanted to make different seating arrangements, they were not able to do so. However, it is commonly known that in constructivist approach it is necessary to arrange appropriate and flexible seating order (U shape, group, V shape, circle, etc.) because it is important for students to be in interaction and communication with other students and teachers, to be able to ask questions to their friends, to work in collaboration and discuss the subjects (Brooks and Brooks, 1999; Hull, 1990; Johnson, 1990; Karaküçük, 2008).

The study reveals that another problem with the seating arrangements in classrooms stemmed from the size of the desks and seats. Related problems stated by teachers are as such: seats and desks are too small or too big for students because the desks and seats were arranged without taking students' developmental stages into consideration; especially first-grade students often have to stand up to see the board; fourth-grade students extend their legs towards the corridor because the desks are too small; students may develop somatic disorders (e.g. poor eyesight, back pain) because of this inconvenience; these problems may lead to disturbance in the classroom. The findings also indicate that inconvenience of seats and desks led to other problems such as having little space to sit because of leaving school bags behind the seats, not having enough space when notebooks, books, colour pencils are used at the same time. Studies in various countries show that 9-year-old and 10-year-old children are of different height. It is emphasized that seats and desks used in schools need to be designed by considering different body sizes of the children in a particular country (Kayış and Özok, 1991; 55), and also each desk and seat should be for one student because it would be more comfortable and functional (being easy to move, having opportunity for group work, being able to set the distance between desks, being able to clean the classroom easily, etc.) (Erbuğ and Demirkan, 1998).

It was found in the study that all schools with higher, middle and lower sociocultural structure had boards in their classrooms but none of them had smart boards. Besides, in some classrooms of the school with lower sociocultural structure the boards were broken. Whatever the education program or approach is, board is still one of the most effective tools of education in classrooms. The finding that some of the boards in schools with lower sociocultural structure were broken makes one think that there are important problems/defects in education programs. Findings of the study show that schools with higher and middle sociocultural structure had equipment such as computers, speakers and projectors which were obtained with parents' support, they also had internet connection, but they occasionally had problems with the connection. The finding that notice boards, maps, globes, charts, microscopes in the schools with higher and middle sociocultural structure were worn out and in limited number makes one think that students are not provided with enriched learning environment. Another finding reveals that the school with lower sociocultural structure did not have such equipment. In the process of constructivist approach, it is expected that students interact and communicate with others more, practise the things they have learned, and construct information in a classroom which is rich in technological equipment, resources and materials, user friendly with its wide and comfortable structure (Yurdakul, 2004), and which has students' works on the walls and activity corners for students (Şentürk and Baş, 2010).

According to the findings of the study, clothes hangers in classrooms of the school with higher sociocultural structure were obtained with parents' support. Similarly, clothes hangers in some classrooms of the school with middle sociocultural structure were obtained thanks to contributions of the parents, but there were not clothes hangers

in some classrooms of this school. On the other hand, it was stated that in classrooms of the school with lower sociocultural structure there were not any clothes hangers for security reasons. Moreover, findings reveal that classroom bookshelves in schools of middle and higher structure were filled with books with the support of parents while classrooms of the school with lower sociocultural structure did not have any bookshelves or books.

As a result, it is understood from the study that physical conditions and equipment in the classrooms that work as the basis of constructivist approach are partially sufficient in schools of middle and higher sociocultural structure, but they are insufficient in the school with lower sociocultural structure. It can be maintained that in the practising process of constructivist approach, teachers make individual effort in order to make learning environment more interesting for their students, and to provide their students with an environment that is cognitively, affectively and visually richer, but these efforts seem to be insufficient.

5.1 Recommendations

The following suggestions can be listed in line with the results and findings of the study: An environment which enables active learning needs to be created in classrooms. Teachers and students can be consulted for their opinions about this.

Necessary cabinets and tools need to be obtained in order to keep teaching materials that are used in the learning environment under suitable conditions in classrooms.

It can be suggested that physical conditions be created where social activities (sport, theatre, folk dance, etc.) can be done in order to positively improve behaviours of the students from lower sociocultural structure.

In order to improve ergonomic conditions of classrooms in the school with lower sociocultural structure, support should be provided by the Ministry of National Education and other public and private institutions through different ways such as financial contribution or project opportunities. Physical conditions and equipment need to be made equal for all educational environment.

Further research can be conducted with wider sample groups and different research methods in order to improve learning environment.

About the Author(s)

Academic Interests / Studies

Education programs and teaching, Teacher training, Learning strategies, Teaching methods.

6.2 Academic publications

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