EXTENDED SUMMARY

The society wants the individuals to be searchers, interrogators, and many disciplines, especially instruction, intend to do so. At the same time, it is expected from the individuals to be self-confident, open minded, prone to cooperation, rational and to keep the lifelong learning in the society. In this vein, the individuals in physical sciences firstly should be constructive to their disciplines and they should be responsive to knowledge, ability, technology, environment and society by carefully following the changes in physical sciences. The individuals in physical sciences should integrate their knowledge with the social environment, and they should be sensitive to the social problems by feeling responsible for the solutions. They should focus on the solutions, and they should approach the problems in a creative and analytical way. In the process of solution, they should not ignore the importance of co-working and the alternative offerings.

Physical sciences aim to search the society, the environment and the universe scientifically. It is expected from the individuals that they make a cause and effect relation and aim to learn by comprehending instead of memorising while extracting the information. The individuals ideally learn by doing. The lesson in which “learning by doing” is the most important term is science and technology. “Learning by doing” performs the perpetual learning, and it also promotes cooperative learning by giving the opportunity of co-working.

We can describe the station technique which has given a new impulse to education and which has step into the programme with the constructivism – as developing the unfinished business. At the heart of this idea, there is the thought of Piaget that the knowledge is built by the individual like a construction foreman. This idea was initially started to spread by Montessori in 1950s. Then it was integrated with the constructivism of Piaget and Vygotsky. Once again, by being shaped with Dewey’s philosophy of education, it became a common model. By extension, this understanding has been adapted to education in classrooms by “the theory of multiple intelligences” of Gardner which has recently shone by the constructivism and it has been integrated to the instructional method. A well-conceived station technique can be used successfully in the science and technology lessons.

This investigation was carried on in two 7. graded classes in Melahat Akkutlu Secondary School in Kadıköy in Istanbul during the first term of 2013-2014 school year. One of these classes is the experimental group and the other was chosen by chance as the control group. And both of the groups had been subjected to a pre-test via station technique. The application was applied four hours in a week throughout three weeks. The experimentation group was kept inform about station technique throughout 2 hour class. Before the application, one of the students in class was chosen as a chief of the station. The other students were distributed to six stations which were combined with four students. Then, the missions in the stations were performed for ten minutes in accordance with the structure of the topic. All the groups concluded their operations with the first command of the chief, and all the groups changed their stations clockwise with the other command of the chief. By the end of the lesson, the application was kept on, and in each activity the researcher observed the students, and the researcher quoted his/her observations to the observation form. After the missions were completed, all of the activities of the stations were gathered and gone shares with the whole class. When the application was over, in order to understand the efficiency of the application, the post-test was applied. By being taken the students’ opinions about the activity, the application was completed. In the research, as the tool of the gathering the data, the questions in type of triple Likerd scale by which the students’ opinions about the station technique and the recommendation questions were prepared. While the teacher was applying station technique, in order to evaluate the performance of the students foursome Likerd observation form was prepared. Moreover, during the application, the researcher wrote down his/her observations to the form of observation, and after the process of application, the form of the students’ opinions was applied in order to take the opinions of the students about the technique.
In consequence of the investigation, the students said that they had enjoyed taking lessons by the means of station technique, and they were mostly interested in the puzzle and the poetry stations by adding the efficiency of the group working. Again 87.5 per cent of the students said that the group members had contributed to the station-centred working; 50 per cent of them said that working in the stations had raised concern towards science and technology lesson; 56.2 per cent of them said that they would prefer the station centres while science and technology lesson was applied; 37.5 per cent of them said that they thought that it would be beneficial to tackle with the other topics of science and technology lesson; 75 per cent of them said that working in the stations is easy while 56.2 per cent of them said that learning in the stations increases quality in education. According to the analysis of interview tests, the students exhibited positive attitude towards station technique. This positive attitude was written down to interview tests and the operations were statistically affirmed.

The results of this research have accorded with the literature, and they supported the idea that station technique constructs the knowledge while raising the success in science and technology lesson.