

## PETE Students' Opinions Towards the Sport Education Model

### Beden Eğitimi Öğretmen Adaylarının Spor Eğitimi Modeline İlişkin Görüşleri

\*Mehmet YANIK<sup>1</sup>, Tark BALCI<sup>2</sup>

<sup>1</sup> Balıkesir University, Sport Science Faculty, Balıkesir, TÜRKİYE / mehmetyanik@gmail.com / 0000-0003-3235-3874

<sup>2</sup> Balıkesir University, Sport Science Faculty, Balıkesir, TÜRKİYE / baun.tarikbalci@gmail.com / 0000-0002-9372-9487

\* Corresponding author

**Abstract:** The main purpose of this study was to determine the opinions of PETE students who experienced the sport education model (SEM) during a course period. The study, in which phenomenology design was adopted, involved eight PETE student (four female and four male) who attended a fifteen-week sports education season, including at least one participant from each role taken on during the season. Focus group interviews were utilized for data gathering within the scope of the study, and content analysis was used to analyze the data. The findings obtained from the study were organized under three themes: (i) the differences of the SEM from traditional teaching, (ii) the effect of SEM the acquisition of knowledge and skills, and (iii) the effect of SEM on motivation. Based on the opinions of PETE students, it was determined that the roles taken on throughout the season enhanced attendance in the lesson, imposed responsibility, promoted socialization, and contributed to more effective and holistic learning of the sports branch. In addition, it was concluded that the responsibilities undertaken in the season, competition between teams, seasonal feature of the model and awards were effective in terms of motivation. In accordance with the results obtained from the study, it was revealed that PETE students' opinions regarding the model were favorable.

**Keywords:** Physical education, PETE students, sport education model.

**Özet:** Bu çalışmanın amacı, bir ders dönemi boyunca spor eğitimi modelini (SEM) deneyimleyen beden eğitimi öğretmen adaylarının modele yönelik görüşlerinin belirlenmesidir. Fenomenoloji deseninin kullanıldığı çalışmaya, 15 haftalık spor eğitimi sezonuna katılan ve sezon içerisinde üstlenilen her bir rolden en az bir katılımcı olmak kaydıyla sekiz öğretmen adayı (dört kadın-dört erkek) dahil edilmiştir. Çalışma kapsamında veri toplama amacıyla odak grup görüşmesinden yararlanılmış, verilerin analizinde ise içerik analizi kullanılmıştır. Çalışmadan elde edilen bulgular; (i) SEM'in geleneksel öğretimden farkları, (ii) SEM'in bilgi ve beceri kazandırmadaki etkisi ve (iii) SEM'in motivasyona etkisi olmak üzere üç tema altında düzenlenmiştir. Öğretmen adaylarının görüşlerine göre, sezon içerisinde üstlenilen rollerin derse katılımı arttırdığı, sorumluluk yüklediği, modelin sosyalleşmeyi arttırdığı, spor branşının daha etkili ve bütünsel öğrenilmesine katkı sağladığı belirlenmiştir. Ayrıca, sezon içerisinde üstlenilen sorumluluklar, takımlar arası rekabet, modelin sezon özelliği ve ödüllerin, motivasyon açısından etkili olduğu bulunmuştur. Çalışmadan elde edilen sonuçlar doğrultusunda, beden eğitimi öğretmen adaylarının modele yönelik görüşlerinin olumlu olduğu görülmüştür.

**Anahtar Kelimeler:** Beden eğitimi, beden eğitimi öğretmen adayları, spor eğitimi modeli.

Received: 17.04.2024 / Accepted: 26.09.2024 / Published: 30.10.2024

<https://doi.org/10.22282/tojras.1469972>

**Citation:** Yanık, M., & Balcı, T. (2024). PETE Students' Opinions Towards the Sport Education Model, The Online Journal of Recreation and Sports (TOJRAS), 13(4), 400-409.

## INTRODUCTION

Together with the changes in lifestyles in recent years, the significance of sports for a healthy life has been emphasized in many areas. However, even though the importance of sports is stressed, it is seen that physical education (PE) teaching in schools, which has an effective role in the acquisition of sports habits, is difficult (1). Overcoming these challenges is possible primarily through introducing sports and making students enthusiastic about practicing sports. In this regard, the educational objectives that have been altered with the recently renewed curricula have been implemented in the PE lesson, and increasing student participation has been emphasized in achieving the new objectives. In addition to the significance of students taking an active role in the lessons, it is targeted to educate them as individuals who have a critical perspective, who can solve the problems they confront, who can exhibit a tactical approach, and who can demonstrate behaviors in accordance with universal values while doing all these. Notwithstanding the fact that these goals are included in the curricula, the primary role in fulfilling all these objectives is the responsibility of the teachers who will implement the curricula. For this reason, the qualifications of the teacher are very crucial in ensuring the effectiveness of the teaching process (2,3). For this reason, the quality of the teacher is very important for ensuring the effectiveness of the teaching process and student success.

Teacher education is an important issue that needs to be addressed in recent years. Especially with the rapid developments and changes in all areas, it is an important issue of education to educate teachers who can keep up with the changes in the field of education, solve the problems

they encounter logically and use all the knowledge they have obtained in their professional life. In addition to that, it is crucial to train teachers who can educate the students they are responsible for educating in the same manner. Ensuring this can be achieved, especially by evaluating the existing conditions of teacher education programs, making the necessary revisions in the needed aspects, and increasing the qualifications of the trainers working in these institutions.

The goals of education are to develop individuals holistically in cognitive, physical, emotional, social, and psychomotor domains and to educate them as individuals with creative thinking skills, problem-solving, multi-faceted thinking, and high communication skills. PE and sports courses make an outstanding role in schools in achieving these goals. Although PE and sports lessons are often characterized as a lesson in which only physical activities are practiced, it has a distinguished place from other subjects in terms of its contribution to all developmental domains in the lives of individuals.

In line with the objectives in the PE and sports course curriculum, there are learning domains and lesson learning outcomes for each grade level. In the curriculum, teachers are required to use the most suitable teaching model and teaching style to accomplish these learning outcomes (4). Many different models, methods and techniques are employed in PE and sports teaching in order to meet the determined objectives. PE and sports teachers can utilize teaching styles for a one lesson learning outcome and teaching models for a unit learning outcome (5). Model-based instructional practices offer learner-centered

approaches and deeper learning opportunities, which results in greater teaching effectiveness (6). In addition, the effectiveness of using models to support students' learning in different domains is supported by strong evidence in the literature.(7) In this respect, PE and sports teachers should have a good comprehension of the teaching models (8) and teaching styles (9) that they should utilize in order to enhance lesson effectiveness.

According to the literature on PE and sports teaching, there are various teaching models. Metzler (8) defines these models as frameworks that enable teachers to meet the objectives. Some of these models are adapted from general education and utilized in PE teaching, whereas the sport education model (SEM), tactical game model, and personal and social responsibility models are models designed specifically for PE teaching (10). The common point of these models is to support all developmental domains in students and to develop students who have the habit of lifelong involvement in physical activities, who have developed social relations and who can exhibit desired positive behaviors. For this purpose, a model-based approach in PE and sports lessons is crucial in achieving the desired learning outcomes. For this purpose, first, model-based practices should be carried out instead of sports and competition-based course practices by taking precautions to ensure more student participation in the lessons. An effective model for enhancing student involvement in PE and sports lessons is the SEM (11).

The origin of SEM is the realization of some problems, such as students' high motivation to engage in extracurricular physical activities, but inadequate involvement in school lessons, students with higher skill levels being more actively involved in lessons while students with lower skill levels are reluctant to participate in lessons, and insufficient teaching of other aspects of sports other than teaching a few fundamental skills (11). SEM promotes learners' social, cognitive, and skill development by encompassing positive learning and other pedagogical approaches (12–15). Due to its nature, SEM promotes a wholistic development with its positive impact on all developmental domains of learners and provides a suitable learning environment for meeting the learning outcomes in PE and sports curricula.

SEM is a model in which students' sports knowledge is increased by experiencing roles such as referee, coach, journalist, etc. in the sports setting, student involvement is ensured by increasing interest in the lessons, and improvement in motor skills is supported. The key objective of SEM is to develop learners as individuals who are more knowledgeable about sport, more competent and more enthusiastic to engage in sports. For this objective, the aims of the SEM (11) are stated as follows:

- To develop sport-related skills and fitness,
- To be able to practice strategies related to sports,
- To enable learners to participate in sports according to their own development,
- To enable learners to acquire the skill of planning and managing sporting activities,
- To uncover and improve learners' leadership skills,
- To acquire the ability to collaborate in accordance with a common goal,

- To make them understand the rituals of sports,
- To acquire the competence to make the correct decision on matters related to sports,
- To provide knowledge and skills related to the roles in sports,
- To acquire the willingness to engage in extracurricular sports activities.

SEM targets in depth learning of the selected sport discipline. Considerations in the implementation of the model are the duration of the season, team membership for each learner, official competitions, record keeping, culminating event and the festival. In the model, learners experience the required skills with their peers as well as performing the roles assigned to them in the season scheduled over 10-14 weeks (16). Students are members of the same team throughout the entire season and take on roles such as team manager, coach, referee, journalist, scorekeeper, etc. Throughout the season, records are taken of practices and official competitions. The season ends in a festival atmosphere with the awarding of prizes to the students at the culminating event.

A review of the SEM literature reveals that there are various studies conducted with students (17,18,27,19–26), and with teachers (12,28–32) As the present study was carried out with PETE students, it is considered that it would contribute to the existing body of literature.

In Türkiye, it is pointed out that the instructional models are not well-known sufficiently in PE teacher education (PETE) programs and among PE teachers (5). It is important to promote the usage of instructional models in teacher education programs not only with theory but also with practical courses in terms of spreading their usage in schools within the National Education in the following periods (33). In terms of the subject domain of PE, it is an essential matter to implement several instructional models and methods to PETE students during teacher education program and to carry out studies that include the opinions, acquisitions, and recommendations of PETE students about these instructional models and methods. Thus, necessary information can be provided to instructors, curriculum developers and subject area teachers (34).

For PE and sports curriculum to meet the objectives, it is crucial to enhance the motivation of learner engagement in the lessons. It is critical that PETE students are well trained in model-based PE teaching, which is an approach that can provide this, and that they obtain theoretical knowledge and experience through practices. It is considered that an in-depth investigation of PETE students' opinions on SEM practices can provide insights into their positive and negative perceptions towards the model, as well as provide feedback to institutions that educate PE and sports teachers.

## METHODS

**Research Model:** This study was designed as phenomenology due to the fact that it attempted to reveal the experiences, perceptions and meanings that individuals attribute to a phenomenon. Phenomenology, as a qualitative study method, focuses on phenomena such as events, situations, and experiences in depth (35). The focus of such studies is the participants' perceptions, feelings, and

thoughts about the experience. In order to obtain this knowledge, in-depth information is collected from the participants (36,37). In this regard, the PETE students involved in the study experienced volleyball lessons designed according to the SEM for fifteen weeks, and at the end of the experience, their opinions about their experiences with the SEM were attempted to be examined in depth with a qualitative perspective.

**Purpose of the Research:** The purpose of this study was to examine the opinions of PETE students towards the model in the light of their experiences in volleyball lessons organized with SEM for 15 weeks.

**Research Group:** In qualitative research, purposeful (non-probability) sampling is preferred as a sampling method since it is intended to examine the phenomenon examined in depth instead of generalizing to the population (35). Within the scope of the study, the criterion sampling method, one of the purposive sampling methods, was utilized.

The SEM season was carried out in the PE Instructional Models course in the PETE program (38). In the Faculty at which the study was implemented, this course is offered in the last semester of the 8-semester PETE program. Therefore, PETE students involved in both the SEM season and the focus group interview were in their last semester.

Eight participants, four females and four males, including at least one participant from each role among PETE students who participated in the volleyball season designed in accordance with the SEM for fifteen weeks, were involved for the focus group interview. The participants in the focus group interviews have undertaken various additional roles other than “player” within the SEM. Accordingly, participants were assigned the roles of one team manager, one coach, one fitness trainer, one statistician, and three publicist-journalist. The participants were given code names in the study. Participant details can be seen in Table 1.

**Table 1.** Focus group participants

Codename	Gender	Additional Role During the Season
Ercan	Male	Team Manager
Gamze	Female	Coach
Murat	Male	Fitness Trainer
Mert	Male	Statistician
Yağmur	Female	Statistician
Rafet	Male	Publicist-Journalist
Nalan	Female	Publicist-Journalist
Aslı	Female	Publicist-Journalist

**Data Collection (Focus Group Interview):** In in-depth studies on a phenomenon, data collection is carried out through methods such as collecting visual and auditory data, observational data, and data obtained from textual materials (36). The data used in the research were gathered from the participants who had experience by attending the SEM season through a focus group interview and audio recording. Interview questions were prepared by experienced researchers in the subject matter area. The suitability of the questions to the interview criteria was checked by a field specialist. The interview questions are as follows:

- *How would you consider SEM in overall meaning?*
- *Do you consider that SEM is useful for students to acquire knowledge and skills?*

- *Do you consider that SEM is effective in enhancing students' interest and enthusiasm towards PE lessons?*

**Process:** Prior to the 15-week SEM season, theoretical information about the SEM was provided to the PETE students by the researchers in the first week. In the second week, four volleyball teams were formed with the guidance of the researchers and by consulting the opinions of the classroom members, which were equal to each other in terms of both the amount of male and female in the class and their volleyball knowledge and skills. Furthermore, in the second week, the team names, colors, team uniforms, mottos, mascots and symbols of the teams were determined through team group discussions.

The non-player roles of the members of the teams (team manager, coach, fitness trainer, publicist-journalist, statistician), the roles of the duty team (referee and scorekeeper) and their relevant responsibilities were distributed. Finally, team fields were assigned. Out-of-class meetings were held with each role group at certain time periods in order to provide them with the required knowledge and skills to fulfil their roles. They were informed about the responsibilities expected of them during the season and various materials related to their roles were provided to the role groups periodically (observation sheets, checklists, directions, sources of informational resources).

Within the context of the volleyball season, all skills to be taught (overhand pass, bump pass, serve, spike and block) were practiced in accordance with the lesson plans and task sheets prepared by the researchers and team coaches together. According to the lesson plans and task sheets, each team trained for training competitions and official competitions. In addition, for the administration of the competitions, the other two teams served in the role of the duty team, which involved refereeing and scorekeeper. Following the culminating events at the end of the season in a festive atmosphere, a focus group interview was conducted to reveal PETE students' opinions about SEM.

**Analysis of Data:** Content analysis was used in the study in accordance with the research design. Content analysis is defined as the technique of systematically summarizing the content of the interview transcripts about a subject, categorizing them, and forming codes within predetermined rules (39,40). Content analysis is the interpretation of data in a more understandable manner by bringing together similar concepts and themes (36). The codes and themes obtained as a result of the analysis are shown in the findings chapter.

**Trustworthiness:** In this study, strategies such as prolonged interaction, respondent confirming, detailed description, triangulation of data sources and multiple coders were used to ensure validity and reliability (41–44). The duration of the researcher's interaction with the participants affects the trustworthiness of the data obtained from the study(36). Firstly, the implementation of this study, which was conducted for 15 weeks, by the first researcher contributed to prolonged interaction with the participants. Participant confirming is defined as checking whether the data are correctly understood by reporting back to the participants (43). In this regard, in order to ensure participant approval,

their answers to the questions were constantly checked with them, and if there were any misunderstandings by the researcher and/or the participants, these were corrected immediately, and approvals were obtained. On the other hand, detailed description is characterized as providing details by the researchers (35). In this context, the research model, participants, research process, data collection and analysis were explained in detail and direct quotations were frequently used in the reporting of the findings. In the study, participants from various roles in the SEM were involved in the focus group interview and different perceptions and experiences were revealed. The focus group interviews were recorded with a voice recorder with the permission of the participants and the whole interview was transcribed. Lastly, two researchers experienced in qualitative research separately analyzed the data obtained from the focus group interviews with PETE students and formed codes, and then discussed each code and theme and consensus was achieved.

## RESULTS

The results of the focus group interviews with the PETE students who were involved in the focus group interview were categorized under the themes of “the differences of SEM from traditional teaching”, “the effect of SEM on the acquisition of knowledge and skills” and “the effect of SEM on motivation”.

### *Differences of SEM from traditional teaching*

According to Table 2, it is seen that the theme of the differences of SEM from traditional teaching consists of the codes of lesson attendance, group belonging, motivation, sense of responsibility, socialization, and holistic learning.

**Table 2.** Codes for the theme of differences of SEM from traditional teaching

	Ercan	Mert	Asli	Rafet	Murat	Yağmur	Gamze	Nalan
Lesson attendance	+	+	+	+	+			
Group belonging	+							
Motivation	+							
Sense of Responsibility		+	+		+			+
Socialization			+	+			+	+
Holistic learning						+		

According to the PETE students’ opinions on the theme of the differences of SEM from traditional teaching, it is seen that the roles in SEM promote lesson attendance and motivation, and the fact that each member of the team takes on a certain role provides a sense of responsibility and belonging. It was also stated that the socialization among the class members increased through the SEM season. Finally, it was revealed that they considered that SEM contributed to the learning of a sport branch with all its aspects, in contrast to traditional PE teaching. The highlights of PETE students’ opinions on the theme of the differences of SEM from traditional teaching are as follows:

*The fact that everybody has a duty in the model increases attendance to the lesson. Most of the time I came to school willing to do my duty. This model ensures this very well (Rafet, Publicist-Journalist).*

*I think that the assigned roles increase the motivation for the lesson and make students feel a sense of belonging (Ercan, Team Manager).*

*It is a very impressive model in terms of increasing attendance to the lesson and raising awareness of responsibility. It was very pleasant to see everyone saying that they have a duty and trying to fulfill their responsibility (Asli, Publicist-Journalist).*

*In this model implementation, I had the opportunity to spend time with my friends that I had not spent time with in four years. I came to lessons thinking that there was an environment where I could spend time with my friends. I had a lot of fun every week. This was very impressive for me. We bonded more with our friends (Gamze, Coach).*

*I think the model is effective in learning a branch. In volleyball, in traditional PE lessons, only bump or overhead passes are taught. We learned here in a more holistic way with all its aspects. For this reason, I think the model is effective in learning a sport branch with all its aspects (Yağmur, Statistician).*

### *The effect of SEM on the acquisition of knowledge and skills*

According to Table 3, it is seen that the theme of the effect of SEM on the acquisition of knowledge and skills consists of the codes of the effect of roles, holistic learning, the factor of grade level, the increase in attendance, the factor of motivation and the season being long.

**Table 3.** Codes for the theme of the effect of SEM on the acquisition of knowledge and skills

Codes	Ercan	Mert	Asli	Rafet	Murat	Yağmur	Gamze	Nalan
Effect of roles		+	+				+	+
Holistic learning	+							
Factor of grade level					+			
Increase in attendance			+	+			+	
Factor of motivation						+		
Season being long	+							+

According to the opinions of PETE students on the theme of the effect of SEM on the acquisition of knowledge and skills, it is revealed that they indicated that the roles undertaken in SEM are beneficial in terms of ensuring the attendance of disabled and inclusive students in PE lessons, and that the long-term structuring of the season for the teaching of a sport branch in SEM compared to traditional PE teaching provides a better and more multi-faceted learning of the certain sport branch. They also stated that the model was inclusive and would ensure the attendance of all students in the class, and that traditional PE lessons had restrictions in attracting students’ interest, but through SEM, these students’ learning would be promoted. However, it is understood that certain responsibilities that students should undertake within the structure of the model are considered to be challenging for lower grade levels, and for this reason,

they thought that the implementation of the SEM from the 7th grade onwards could be more effective. Some of the opinions of PETE students on the theme of the effect of the SEM on the acquisition of knowledge and skills are presented as follows:

*We will also have inclusive students or students with disabilities. I will be possible to engage students with such disabilities by giving them tasks that they can perform. This will make me feel good because it will make me feel that I am fulfilling my job... Even if the child is not doing the branch, perhaps in that manner... The child will say, I like this very much and I want to try this, I want to do this. Perhaps we will have affected someone's life in that manner (Aslı, Publicist-Journalist).*

*The lesson plans made in schools are usually 2-3 weeks for that branch at most. Before the student can learn that branch thoroughly in this period, they pass on to the other subject. I think the good feature of the model is that it teaches a branch thoroughly and it is extended over time. I will utilize this model in teaching (Ercan, Team Manager).*

*The fact that the lesson is long allows for better learning and the fact that the process is different, and everyone's tasks are different arouses curiosity in them, so I will use this model (Nalan, Publicist-Journalist).*

*Let me give an example from myself. I have never seen anything like this in any of my PE lessons until now. Also, the greatest advantage of this model is the attendance of all students. We can engage special students and inclusive students who may be in our class with this model. I think the most impressive aspect of this model is that it allows everyone to attend the lesson (Rafet, Publicist-Journalist).*

*I think it is quite effective in learning the branch and I wish to utilize it. Students are not enthusiastic for PE lessons; they think it is an unnecessary lesson. However, I think this model should be used in lessons (Yağmur, Statistician).*

*I wish to utilize this model because it is truly a distinctive model. But can I implement it with a child at the middle school level? Can I give that responsibility? I have some doubts in my mind there. When they get a little older, I think they can do the model in 7th, 8th, and then high school (Murat, Fitness Trainer).*

### **The Effect of SEM on motivation**

According to Table 4, it is seen that the theme of the effect of SEM on motivation consists of the codes of socialization, responsibility, competition, roles, season, awards and experiencing success.

**Table 4.** Codes for the theme of the effect of SEM on motivation

Codes	Ercan	Mert	Ash	Rafet	Murat	Yağmur	Gamze	Nalan
Socialization							+	
Responsibility							+	
Competition				+				
Roles					+	+		+
Season	+							+
Awards			+			+		
Experiencing success		+						

According to the opinions of PETE students on the theme of the effect of SEM on motivation, it was determined that they thought that the responsibilities to be undertaken by the students during the season, the competition between the teams, the season feature of the model and the awards given during the season increased motivation. Furthermore, they stated that students with limited psychomotor skills for certain sports branches would increase their enthusiasm for the lessons via the roles students would undertake, and that students with limited academic achievement in mathematics, etc. would experience success through SEM and thus their enthusiasm for the lessons would increase. The highlights of the opinions of PETE students regarding the theme of the effect of SEM on motivation are as follows:

*It's a useful model to integrate children who are very introverted and isolated with their friends. At least you give them responsibility. Responsibility both to friends and to oneself. They must communicate with their friends. They must share something. This can be more effective for them. Or the responsibility we give can motivate the child. They may wish to do better. This can also be effective (Gamze, Coach).*

*The pleasant competition in the lesson, especially in middle school and elementary school students, is something that can arouse a lot of interest and enthusiasm for the lessons. In these lessons, I think that competition is very effective for them to be attracted to the lesson. I think that competition motivates them (Rafet, Publicist-Journalist).*

*Let's assume that our subject is soccer. We teach soccer, but because we usually teach it in the training mentality, the guy can't do it, can't perform, gets bored. We play volleyball, someone doesn't like it, we play basketball, someone has no skill, gets bored and doesn't want to attend the following lesson. But if we do the lesson in this way, because of the roles, s/he will grasp something at some point. Even if s/he is not a good player, s/he will not be de-motivated because s/he will have a duty. Always inside the lesson. So, I think it is very incredibly motivating (Murat, Fitness Trainer).*

*Children usually experience this concept of season in video games. I think it would both motivate and improve children more if they could organize a real season with their classmates in any sports branch and experience more authentic feelings (Ercan, Team Manager).*

*At the beginning, we were adversely affected when we didn't get an award, but then we discussed between ourselves how to do better, and we became more motivated to work harder to get an award. We were also happy when we won awards (Aslı, Publicist-Journalist).*

*Let's say some students may fail in subjects such as math. Where will s/he show himself/herself? Definitely in PE lessons. We can ensure this through SEM. In this way, the student's success will improve, motivation will rise, and interest and enthusiasm will also increase. At this point, I see the model as effective (Mert, Statistician).*

### **DISCUSSION**

In this section, as a result of the analysis of the interview records conducted with PETE students, the results obtained from their opinions on SEM season practices are discussed

and compared with other studies in the literature. The results obtained from the study data are discussed separately under themes as follows.

#### Differences of SEM from traditional teaching

According to the results of the present study, it was determined that SEM increased lesson attendance, socialized students more and enabled them to feel more responsible and provided positive effects on group belonging and learning. Although there is not any study that directly supports the results of the study, similar findings supporting the study were found in the literature. Wallhead and Ntoumanis (45), in their study comparing the lessons taught with SEM and traditional teaching, concluded that SEM provided more fun and had a positive effect on engagement. In another study, Schneider and Marriott (46) reported that lessons taught with SEM were more enthusiastic than traditional teaching with similar findings. Furthermore, Pan et al. (47) reported that SEM was effective on sport self-efficacy, sport enthusiasm, responsibility, and game performance. They also reported that the lessons taught with SEM were more enthusiastic and effective on actively engaging in the lesson. Another crucial distinction of SEM from traditional teaching is its effect on learning. Gordon (48) supported the current research findings in the study and reported that SEM addresses learning in a more holistic way. Working for the mutual goals of a group is an aspect that increases group belonging. In many studies, it has been emphasized that the roles within SEM and the cooperation demonstrated in meeting group goals increase belonging (12,17,49,50)

#### *The effect of SEM on the acquisition of knowledge and skills*

PE and sport are an important means to ensure social, cognitive, and motor development as well as physical development in individuals. SEM is an instructional model especially designed to support all developmental domains of individuals. In the present study, PETE students reported that SEM was effective, especially in terms of the effect of the roles assigned to them, the effect of the model in increasing attendance, the inclusiveness of the subjects learned and the continuation of this throughout the whole season. Prior studies regarding the subject supported this current study with similar results (51–54). For instance, Pritchard et al. (52) reported in their study that SEM enhanced the tactical knowledge and skill level of the participants. This result showed that SEM supported not only physical development but also cognitive development. In another study, Calderón et al. (53) reported an increased skill level in participants with the implementation of SEM in lessons. Pereira et al. (51) stated that SEM supported development not only in athletics but also in cognitive and social domains. In this regard, SEM, which aims to develop students as knowledgeable, competent, and enthusiastic sports persons, provided an increase in knowledge and skills as a result of increasing attendance by providing lesson motivation and students acquiring more sport-specific experience with the roles they were assigned.

#### *The Effect of SEM on motivation*

According to the results of the present study, it was determined that the lessons taught with SEM increased student responsibility and especially the awards given were influential on lesson motivation. Based on the PETE students, success experiences that children can obtain via roles in the SEM are a factor that enhances their interest and enthusiasm towards the lesson. When the SEM literature is reviewed, many similar results are reported. Particularly, the effects of SEM on motivation have attracted a great deal of attention in research. In many studies, SEM was found to be more effective than traditional PE lessons and students showed more interested in the lessons (53–59)

For instance, Calderon et al. (53) reported that lessons taught with SEM increased student responsibility and students were more engaged in the lessons. In particular, Kao and Luo (58) stated in their study that SEM has a positive effect on attitude towards the lesson and increased active participation. Similarly, Tendinha et al. (56) emphasized that SEM supported students' learning by making them more active in the lessons. Increased attendance in lessons will increase the efficiency of the learning process. Making adjustments that would affect student motivation in PE lessons is an important effect on lesson attendance and meeting lesson objectives (60). For this reason, the importance of practices such as SEM that can affect motivation in PE lessons is becoming increasingly recognized. Another result regarding SEM was the effect of SEM on responsibility. Some previous studies have also showed results that supported the current study (49,61,62). In SEM, the roles undertaken by students in the season and the opportunities to solve the problems they face are considered as a high level of responsibility (17). In addition, undertaking roles was an important opportunity for students to develop leadership skills and self-confidence (63,64).

#### **Conclusion**

Although SEM, which was developed with the purpose of developing knowledgeable, competent, and enthusiastic sports persons, is the most widely studied instructional model on a global scale, it has not yet been sufficiently studied in Türkiye. The common emphasis of the studies is that it increased the activity in the lessons and supported physical activity. According to the results obtained from the present study, it was seen that SEM provided student learning outcomes such as increased attendance to the lesson, holistic learning, increased socialization, effect on lesson motivation, and the enjoyment of experiencing success. In particular, the consistently highlighted emphasis on motivation and the fact that it supported physical activity by increasing attendance in the lessons brought the effectiveness of the model to the forefront. In addition, it is an important acquisition in educational environments that SEM enhances motivation, increases attendance, and reinforces the sense of responsibility. In lessons taught with this feeling, curriculum objectives are more easily met. Therefore, SEM should be used effectively in curriculum practices.

In concluding, in line with the results obtained from the current study, it was found that PETE students' opinions

towards SEM were favorable. Based on the fact that teaching profession is a practical profession, it is thought that it is important to provide alternative pedagogical models such as SEM not only theoretically but also through first-hand experience through practical courses in PETE programs.

**Note:** This study was presented as an oral presentation at ERPA 2023 International Congresses on Education on September 8-10, 2023.

**Ethics Text:** In the research process of this article, journal writing rules, publication principles, research and

publication ethics rules, and journal ethics rules were followed. The responsibility for any violations that may arise regarding the article belongs to the authors. Ethical approval was obtained from Balıkesir University Ethics Committee for this study with decision number 2022/18.

**Conflict of Interest:** There is no personal or financial conflict of interest within the scope of the study.

**Authors Contribution Rate:** In this study, the authors contributed to the study at the same rate.

## References

- MacPhail A, Lawson H. School physical education and teacher education: Collaborative redesign for the twenty-first century. In: Curriculum Studies in Health and Physical Education. 2020. p. 210–2.
- Aimah S, Purwanto B. Evaluating teachers' performance: A need for effective teaching. Celt: A Journal of Culture, English Language Teaching & Literature. 2019;19(1):2–5.
- Sims S, Fletcher-Wood H, O'Mara-Eves A, Cottingham S, Stansfield C, Goodrich J, et al. Effective Teacher Professional Development: New Theory and a Meta-Analytic Test. Review of Educational Research. 2023;1–42.
- MoNE. Beden Eğitimi ve Spor Dersi Öğretim Programı [Internet]. Ankara; 2018 [cited 2023 Aug 15]. Available from: <https://mufredat.meb.gov.tr/Programlar.aspx>
- Mirzeoğlu D. Model temelli beden eğitimi öğretimi. Ankara: Spor Yayınevi; 2017.
- Metzler M, McCullick BA. Introducing innovation to those who matter most - The P-12 pupils' perceptions of model-based instruction. In: Journal of Teaching in Physical Education. 2008. p. 512–28.
- Fernandez-Rio J, Iglesias D. What do we know about pedagogical models in physical education so far? An umbrella review. Physical Education and Sport Pedagogy. 2024;29(2):190–205.
- Metzler M. Instructional models for physical education. Scottsdale, AZ: Holcomb Hathaway; 2005.
- Mosston M, Ashworth S. Teaching physical education: First online edition. Spectrum of Teaching Styles. 2008;32.
- Gurvitch R, Metzler M. Theory into Practice: Keeping the Purpose in Mind: The Implementation of Instructional Models in Physical Education Settings. Strategies. 2010;23(3):32–5.
- Siedentop D. Sport education: Quality PE through positive sport experiences. Champaign, Illinois, USA: Human Kinetics; 1994.
- Farias C, Valério C, Mesquita I. Education as a curriculum approach to student learning of invasion games: Effects on game performance and game involvement. Journal of Sports Science and Medicine. 2018;17:56–65.
- Pereira J, Hastie P, Araújo R, Farias C, Rolim R, Mesquita I. A Comparative study of students' track and field technical performance in sport education and in a direct instruction approach. Journal of Sports Science and Medicine. 2015;14:118–27.
- Hastie PA, Calderón A, Rolim RJ, Guarino AJ. The development of skill and knowledge during a sport education season of track and field athletics. Research Quarterly for Exercise and Sport. 2013;84(3):336–44.
- Wallhead TL, Garn AC, Vidoni C. Sport Education and social goals in physical education: relationships with enjoyment, relatedness, and leisure-time physical activity. Physical Education and Sport Pedagogy. 2013;18(4):427–41.
- Siedentop D. Sport Education: A Retrospective. Journal of Teaching in Physical Education. 2002;21:409–18.
- Bessa C, Hastie P, Araújo R, Mesquita I. What do we know about the development of personal and social skills within the sport education model: A systematic review. Journal of Sports Science and Medicine. 2019;18:812–29.
- Burgueño R, Medina-Casaubón J, Morales-Ortiz E, Cueto-Martin B, Sánchez-Gallardo I. Sport education versus traditional teaching: influence on motivational regulation in high school students. Cuadernos de Psicología del Deporte. 2017;17:87–9.
- García-López LM, Gutiérrez D. The effects of a sport education season on empathy and assertiveness. Physical Education and Sport Pedagogy. 2015;20(1):1–16.
- Hastie PA, Wallhead T. Models-based practice in physical education: The case for sport education. Journal of Teaching in Physical Education. 2016;35(4):390–9.
- Smither K, Xihe Zhu K. High school students' experiences in a Sport Education unit: The importance of team autonomy and problem-solving opportunities. European Physical Education Review. 2011;17(2):203–17.
- Perlman D, Karp GG. A self-determined perspective of the sport education model. Physical Education and Sport Pedagogy. 2010;15(4):401–18.
- Oğuzhan-Saraç Neşe. Students' experiences on their roles in sport education model: A longitudinal study. [Denizli]: Pamukkale University; 2019.
- Oğuzhan-Saraç Neşe, Hunuk D. Experiences of students with special needs on sport education model. Journal of Education and Training Studies. 2018;5(13):70.
- Sural V, Savaş S. The effects of basketball classes taught through different education models on psychomotor achievement skills of students. Kastamonu Education Journal. 2017;25(1).
- Doydu İ, Çelen A, Hakkı Ç. Spor eğitimi modeli'nin öğrencilerin beden eğitimi ve spora karşı tutumuna etkisi. e-

- international Journal of Educational Research. 2013;4(2):99–110.
27. Luna W De, Sur MH, Shapiro DR. Using Paralympic School Day and Sport Education Model to Increase Awareness and Inclusion of Students With Disabilities in Physical Education. *Journal of Physical Education, Recreation & Dance*. 2023;94(5):5–15.
  28. Curtner-Smith MD, Sofu S. Preservice teachers' conceptions of teaching within sport education and multi-activity units. *Sport, Education and Society*. 2004;9(3):347–77.
  29. Curtner-Smith MD, Hastie PA, Kinchin GD. Influence of occupational socialization on beginning teachers' interpretation and delivery of sport education. *Sport, Education and Society*. 2008;13(1):97–117.
  30. Keske Aksoy G, Gürsel F. Modele dayalı uygulamada beden eğitimi öğretmenini güçlendiren ve yavaşlatan öğeler. *Ankara Üniv Spor Bil Fak*. 2015;13(1):73–82.
  31. Romar J-E, Henriksson J, Ketomäki K, Hastie P. Teachers' learning experiences with the sport education model in physical education. 2016;7:1–26.
  32. Arufe-Giráldez V, Sanmiguel-Rodríguez A, Ramos-Álvarez O, Navarro-Patón R. News of the Pedagogical Models in Physical Education—A Quick Review. *International Journal of Environmental Research and Public Health*. 2023;20(3):2586.
  33. Asma M, Soytürk M. Examination of volleyball lessons performed by different forms in terms of learning outcomes Farklı öğretim biçimleri ile gerçekleştirilen voleybol derslerinin öğrenme çıktıları açısından incelenmesi. *Journal of Human Sciences*. 2018;15(2):779.
  34. Mirzeoğlu D, Özcan G. Akran öğretimiyle işlenen okul deneyimi dersi hakkında öğrenci görüşleri ve kazanımları. *NWSA Academic Journals*. 2015;10(4):16–33.
  35. Creswell J. *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage; 2009.
  36. Yıldırım A, Şimşek H. *Sosyal bilimlerde nitel araştırma yöntemleri*. 12th ed. Ankara: Seçkin Yayıncılık; 2021.
  37. Bogdan R, Biklen SK. *Qualitative research for education: an introduction to theory and methods*. Allyn and Bacon; 1998.
  38. CoHE. *Beden eğitimi ve spor öğretmenliği lisans programı* [Internet]. 2018 [cited 2023 Jul 16]. Available from: [https://www.yok.gov.tr/Documents/Kurumsal/egitim\\_ogretim\\_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Beden\\_Egitimi\\_ve\\_Spor\\_Ogretmenligi\\_Lisans\\_Programi.pdf](https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Beden_Egitimi_ve_Spor_Ogretmenligi_Lisans_Programi.pdf)
  39. Fraenkel JR, Wallen NE, Hyun HH. *How to design and evaluate research in education*. Vol. 8. 2011.
  40. Büyükoztürk Ş, Kılıç Çakmak E, Erkan Akgün Ö, Karadeniz Ş, Demirel F. *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi Yayıncılık; 2017.
  41. Dennis H. *Introduction to qualitative research methods in psychology*. Pearson UK; 2019.
  42. Creswell J, Creswell J. *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage; 2018.
  43. Merriam S. *Nitel araştırma - Qualitative research: A guide to design and implementation*. 3rd ed. Turan S, editor. Nobel Akademik Yayıncılık; 2023.
  44. Patton MQ. *Nitel araştırma ve değerlendirme yöntemleri*. 3rd ed. Bütün M, Demir SB, editors. Pegem Akademi; 2018.
  45. Wallhead TL, Ntoumanis N. Effects of a sport education intervention on students' motivational responses in physical education. *Journal of Teaching in Physical Education*. 2004;23(1):4–18.
  46. Schneider RC, Marriott ST. Applying the sport education model to basketball. *Journal of Physical Education, Recreation & Dance*. 2010 Feb;81(2):15–7.
  47. Pan Y-H, Huang C-H, Lee I-S, Hsu W-T. Comparison of learning effects of merging TPSR respectively with sport education and traditional teaching model in high school physical education classes. *Sustainability*. 2019;11(7):2057.
  48. Gordon B. Merging teaching personal and social responsibility with sport education: A marriage made in heaven or hell? *ACHPER Healthy Lifestyles Journal*. 2009;56:13–6.
  49. Fernandez-Rio J, Menendez-Santurio JI. Teachers and students' perceptions of a hybrid sport education and teaching for personal and social responsibility learning unit. *Journal of Teaching in Physical Education*. 2017;36(2):185–96.
  50. Mesquita I, Pereira JAR, Araújo R, Farias C, Rolim R. Representations of the students and their teacher about the educational value of sport education model within an athletic unit. *Motricidade*. 2016;12(1):26–42.
  51. Pereira J, Araújo R, Farias C, Bessa C, Mesquita I. Sport education and direct instruction units: Comparison of student knowledge development in athletics. *Journal of Sports Science and Medicine*. 2016;15:569–77.
  52. Pritchard T, Hawkins A, Wiegand R, Metzler JN. Effects of two instructional approaches on skill development, knowledge, and game performance. *Measurement in Physical Education and Exercise Science*. 2008;12(4):219–36.
  53. Calderón A, Martínez de Ojeda D, Hastie PA. Students and teachers' perception after practice with two pedagogical models in physical education. *RICYDE Revista Internacional de Ciencias Del Deporte*. 2013;9(32):137–53.
  54. Hastie PA, Li P, Liu H, Zhou X, Kong L. The Impact of Sport Education on Chinese Physical Education Majors' Volleyball Content Knowledge and Performance. *Research Quarterly for Exercise and Sport*. 2023;94(3):618–26.
  55. Giménez MA, Fernández-Río J, Méndez-Alonso D. Sport education model versus traditional model: Effects on motivation and sportsmanship. *International Journal of Medicine and Science of Physical Activity and Sport*. 2015;15(59):449–66.
  56. Tendinha R, Alves MD, Freitas T, Appleton G, Gonçalves L, Ihle A, et al. Impact of sports education model in physical education on students' motivation: A systematic review. *Children*. 2021;8(7).
  57. García-González L, Abós Á, Diloy-Peña S, Gil-Arias A, Sevil-Serrano J. Can a hybrid sport education/teaching games for understanding volleyball unit be more effective in less motivated students? An examination into a set of motivation-related variables. *Sustainability*. 2020;12(15):1–16.
  58. Kao C-C, Luo Y-J. The influence of low-performing students' motivation on selecting courses from the perspective of the sport education model. *Physical education of students*. 2019;23(6):269–78.
  59. Burgueño R, Cueto-Martín B, Morales-Ortiz E, Medina-Casaubón J. Influence of sport education on high school



- students' motivational response: A gender perspective. *RETOS Nuevas tendencias en Educación Física, Deporte y Recreación*. 2020;37:546–65.
60. Sinelnikov O, Hastie P. A motivational analysis of a season of sport education. *Physical Education & Sport Pedagogy*. 2010;15(1):55–69.
61. Sinelnikov O, Hastie P. Teaching sport education to Russian students: An ecological analysis. *European Physical Education Review*. 2008;14(2):203–22.

62. Browne TBJ, Carlson TB, Hastie PA. A comparison of rugby seasons presented in traditional and sport education formats. *European Physical Education Review*. 2004;10(2):199–214.
63. Ang SC, Penney D. Promoting social and emotional learning outcomes in physical education: Insights from a school-based research project in Singapore. *Asia-Pacific Journal of Health, Sport and Physical Education*. 2013;4(3):267–86.
64. Clarke G, Quill M. Researching sport education in action: A case study. *European Physical Education Review*. 2003;9(3):253–66.

## GENİŞLETİLMİŞ ÖZET

### Çalışmanın Amacı

Türkiye’de, beden eğitimi öğretmeni yetiştiren kurumlarda ve beden eğitimi öğretmenlerince modellerin yeterince tanınmadığı belirtilmektedir (5). Öğretmen yetiştirme lisans programlarında öğretim modellerinin yalnızca teori ile sınırlı kalmayıp uygulamalı derslerle de desteklenmesi, gelecek dönemlerde Milli Eğitime bağlı eğitim kurumlarında kullanımının yaygınlaştırılması açısından önemli bir husustur (33). Bu çalışma ile beden eğitimi ve spor öğretmen adaylarının spor eğitimi modeli uygulamalarına yönelik görüşlerinin derinlemesine araştırılmasının beden eğitimi ve spor öğretmeni adaylarına üniversite tercihlerinde yol gösterebileceği gibi, beden eğitimi ve spor öğretmeni yetiştiren kurumlara da dönütler vereceği düşünülmektedir. Bu düşünce doğrultusunda çalışmanın amacı, 15 hafta süresince Spor Eğitimi Modeli ile işlenen voleybol derslerine ilişkin BE öğretmen adaylarının deneyimleri doğrultusunda model hakkındaki görüşlerini incelemektir.

### Yöntem

Bu çalışma bireylerin bir olguya ilişkin deneyim, algı ve buna yükledikleri anlamı ortaya koymayı amaçladığından fenomenoloji (olgubilim) olarak desenlenmiştir. Araştırma kapsamında amaçlı örnekleme yöntemlerinden ölçüt (kriter) örnekleme yöntemi tercih edilmiştir. Odak grup görüşmesine, 15 hafta süresince spor eğitimi modeline uygun olarak tasarlanan voleybol sezonuna katılan öğretmen adayları içerisinde her bir rolden en az bir katılımcı olmak üzere dört kadın ve dört erkek toplam sekiz kişi dahil edilmiştir.

Odak grup görüşmesine katılan bireyler, spor eğitimi modeli içerisinde oyunculuk dışında çeşitli ek roller üstlenmişlerdir. Buna göre katılımcıların biri takım idarecisi, biri antrenör, biri kondisyoner, istatistikçi, üçü basın yayın sorumlusu rollerini üstlenmişlerdir. Katılımcılara araştırma içerisinde kod isimler verilmiştir.

Çalışmada araştırma desenine uygun olarak içerik analizi kullanılmıştır. Çalışmada yapılan analiz sonucunda elde edilen kodlar benzer kategorilerin altında birleşmiş ve temalar oluşturularak bulgular bölümünde gösterilmiştir. Çalışma kapsamında geçerlik ve güvenilirliği sağlamak açısından uzun süreli etkileşim, katılımcı teyidi, ayrıntılı betimleme, veri kaynakları çeşitlenmesi ve çoklu kodlayıcıların yer alması gibi stratejiler kullanılmıştır (41–44).

### Bulgular

Beden eğitimi ve spor öğretmeni adayları ile yapılan odak grup görüşmesi sonucunda “spor eğitimi modelinin geleneksel öğretimden farkları”, “spor eğitimi modelinin bilgi ve beceri kazandırmadaki etkisi”, “spor eğitimi modelinin motivasyona etkisi” temaları ortaya çıkmıştır. Spor eğitimi modelinin geleneksel öğretimden farkları

temasına ilişkin beden eğitimi ve spor öğretmen adaylarının görüşlerine göre, spor eğitimi modeli içerisinde yer alan rollerin ders katılımı ve motivasyonu arttırdığı ve takımın her üyesinin belirli bir rol üstlenmesinin sorumluluk ve aidiyet duygusu sağladığı anlaşılmaktadır. Ayrıca, spor eğitimi sezonu aracılığıyla sınıf üyeleri arasındaki sosyalleşmenin arttırdığı bildirilmiştir. Son olarak, spor eğitimi modelinin geleneksel beden eğitimi öğretiminin aksine bir spor branşının tüm unsurlarıyla öğrenilmesine katkı sağladığını düşündükleri ortaya çıkmıştır.

Spor eğitimi modelinin bilgi ve beceri kazandırmadaki etkisi temasına ilişkin beden eğitimi ve spor öğretmen adaylarının görüşlerine göre, spor eğitimi modeli içerisinde üstlenilen rollerin engelli ve kaynaştırma öğrencilerinin beden eğitimi derslerine katılımlarını sağlamak açısından faydalı olduğunu belirttikleri, geleneksel beden eğitimi öğretimine kıyasla spor eğitimi modelinde bir spor branşının öğretimi için sezonun uzun süreli yapılandırılmasının ilgili spor branşının daha iyi ve çok yönlü öğrenilmesine katkı sağladığını bildirdikleri anlaşılmaktadır. Ayrıca, modelin kapsayıcı olduğunu ve sınıftaki tüm öğrencilerin katılımını sağlayacağını bildirdikleri, geleneksel beden eğitimi derslerinin öğrencilerin ilgisini çekmede sınırlılığı olduğunu ancak spor eğitimi yoluyla bu öğrencilerin öğrenmelerinin destekleneceğini ifade ettikleri görülmektedir. Bununla birlikte, model kapsamında öğrencilerin üstlenmesi gereken belirli sorumlulukların alt sınıf düzeyleri için zorlayıcı algılandığı, bu nedenle de spor eğitimi modelinin 7. Sınıftan itibaren uygulanmasının daha etkili olabileceğini düşündükleri anlaşılmaktadır.

Spor eğitimi modelinin motivasyona etkisi temasına ilişkin beden eğitimi ve spor öğretmen adaylarının görüşlerine incelendiğinde, sezon içerisinde öğrencilerin üstlenmesi gereken sorumlulukların, takımların birbirleriyle rekabetinin, modelin sezon özelliğinin ve sezon içerisinde verilen ödüllerin motivasyonu arttırdığını düşündükleri görülmüştür. Ayrıca, belirli spor branşlarında psikomotor becerisi düşük olan öğrencilerin üstlenecekleri roller aracılığıyla derse yönelik isteklerinin artacağını belirttikleri, matematik vb. derslerde başarı düzeyi düşük olan öğrencilerin spor eğitimi modeliyle başarıyı deneyimleyeceğini ve böylece derse yönelik isteklerinin artacağını bildirdikleri tespit edilmiştir.

### Sonuç ve Değerlendirme

Yapılan çalışmada beden eğitimi ve spor öğretmen adaylarının sezon uygulamalarından keyif aldıkları, her birinin ayrı rollerinin olmasının sezon katılımını arttırdığı görülmüştür. Ayrıca eğitim modelinin ders motivasyonunu artırarak öğrenci katılımını arttırdığını düşündükleri sonucuna varılmıştır. Beden eğitimi ve sporda bilgili, becerili ve istekli bireyler yetiştirmek amacı ile geliştirilen spor eğitimi modeli ülkemizde sınırlı olsa da birçok uluslararası araştırmada incelenmiştir. Araştırmaların ortak

vurgusu derslerdeki etkinliđi artırması ve fiziksel aktiviteyi desteklemesidir. Yapılan çalışmadan elde edilen bulgulara göre, SEM 'in derse katılımı artırması, bütünsel öğrenmeyi sağlaması, sosyalleşmeyi desteklemesi, ders motivasyonuna etkisi, başarıyı deneyimleme hazzı gibi öğrenci çıktıları sağladığı görülmüştür. Özellikle motivasyon üzerine sürekli vurgu yapılmış olması ile derslerdeki katılımı artırarak

fiziksel aktiviteyi desteklemesi modelin etkinliğini öne çıkarmaktadır. Ayrıca SEM'in motivasyon sağlaması ile katılımı artırması ve sorumluluk duygusunu güçlendirmesi eğitimde önemli bir kazanımdır. Bu duygu ile işlenen derslerde program hedeflerine daha kolay ulaşılabilir. Bu nedenle SEM program uygulamalarında etkili bir şekilde kullanılmalıdır.