Journal of Sports for All and Recreation

e-ISSN: 2687-6027

Research Article

# Application of Direct Instruction Model in Teaching Swimming to University Students

*Ayşe Feray ÖZBAL [1] Kerim BALIBEY [2]

[1] Kastamonu University, Faculty of Sports Sciences; Kastamonu/Türkiye
[2] Kastamonu University, Institute of Graduate Education; kerimbalibey01@gmail.com; Kastamonu/Türkiye
* *Corresponding author: Ayşe Feray Özbal; fozbal@kastamonu.edu.tr*

Check for Updates

Academic Editor: Akan Bayrakdar

Received: 19.06.2025
Accepted: 10.09.2025
Published: 30.09.2025

**Citation:** Özbal, A. F., & Balıbey, K. (2025). Application of direct instruction model in teaching swimming to university students. *Journal of Sport for All and Recreation*, *7*(3), 525-538.
https://doi.org/10.56639/jsar.1723449



**Abstract:** This study aimed to determine the level of development of university students' swimming skills with the direct instruction model (DIM) and whether the model would enhance the learning process. Data were collected through student diaries, field notes, and a semi-structured interview technique developed by the researcher. The data were coded as fear of water, swimming skills, part-to-whole, feedback, student motivation, and skill repetitions. Data were analyzed with MAXQDA 2020 analysis program. According to the findings of the study, it was seen that students overcame their fear of water, their swimming skills improved, and permanent learning was achieved by repeating the previous learning. It was concluded that the implementation of the DIM led to a reduction in students' fear of water, an enhancement of their swimming skills, and an increase in their motivation, thereby fostering greater interest in swimming. Based on the findings obtained in the study, it can be recommended to use the DIM by taking into account the factors affecting success (learning) in groups who know how to swim and those who do not know how to swim.

**Keywords:** Swimming, fear of water, teaching models.

## 1. Introduction

Swimming is a recreational activity for individuals from all age groups, a sport that can be done professionally, and has numerous positive physical and mental effects. Swimming is defined as a set of meaningful movements that an individual performs to cover a certain distance in water (Özdoğru, 2018; Dedemli, 2021; Miyaç & Göktepe, 2023). In professional terms, swimming is defined as the ability of an athlete in water to complete the specified distances in the shortest possible time with butterfly, backstroke, breaststroke, freestyle, and mixed techniques (Hannula & Thornton, 2001). Swimming is a sport that has different characteristics from other sports. An essential feature of swimming that differs from other sports is that the body muscles spend energy moving horizontally against water resistance (Yıkılmaz, 2019).

Regular swimming activities could have positive physiological effects on the human body. It has multiple positive effects on the cardiovascular, respiratory, musculoskeletal, and nervous systems. Regarding its effects on cardiovascular system, it strengthens the heart muscle and increases the volume of the heart and the amount of oxygen (Ekicioğlu, 2023). In addition, the horizontal position of the body in the water and the low gravity leads the blood pumped by the heart to spread more regularly and faster throughout the body (Hızarcı, 2021). Considering the positive effects on the cardiovascular system, it is thought that cardiovascular diseases will be less common in individuals who swim (Ekicioğlu, 2023). As to the effect of swimming on the respiratory system, the amount of oxygen received reaches the upper part of the lung more effectively due to the fact that swimming is performed in a horizontal position, and this may result in a greater increase in the vital capacity of the lung compared to other sports (Stagger & Tanner, 2005). Therefore, it can be assumed that individuals interested in swimming will improve their respiratory metabolism more compared to individuals who are active in other sports (Gökhan et al., 2011). When the effect of swimming on the

musculoskeletal system is examined, it is thought to play an important role in maintaining the muscle strength, improving body balance, healing muscle weaknesses, and providing an aesthetic appearance (Numanoğlu, 2020). In addition, it can make positive contributions to the scoliosis treatment process as it supports the development of muscles (Çelebi, 2008; Soydan, 2006). Considering its effect on the nervous system, it is an important sport that contributes to the nervous system due to the simultaneous and coordinated movement of the whole body (Dedemli, 2021). Regular swimming is reported to minimize fears, increase confidence and sense of achievement due to the relaxing properties of water (Soydan, 2006). The positive effects of swimming on individuals mentioned above clearly reveal the importance of swimming. Therefore, it is important for individuals from all age groups to get acquainted with swimming. Especially introducing children to water from a young age will make it easier for them to adapt to water. It is important to provide children with a positive water experience and maintain a safe and supportive environment. Otherwise, improper teaching techniques such as not giving children the right swimming education by parents and throwing children into the water during this process can lead to permanent trauma in children. Layne et al. (2020) pointed out that individuals who fear water and swimming may encounter drowning incidents. Carluccio et al. (2019) stated that the first step individuals should take is to overcome fear of water. Therefore, it can be said that learning and teaching swimming is a necessity. Thus, instructional models can provide an effective teaching process for children or individuals to improve their swimming skills and help them overcome their fear of water. An instructional model is a comprehensive plan that can be used to guide the design of instructional programs in the classroom and other teaching environments (Keske & Gürsel, 2015). Eight different teaching models are used to guide teaching processes in physical education and sports lessons (Yenibertiz, 2019). Direct instruction model, research-based instruction model, individualized instruction model, cooperative instruction model and peer instruction model are also used in general education and physical education, while individual and social responsibility model, sports education model and tactical game model are used only in physical education and sports (Mirzeoğlu, 2017).

The direct instruction model (DIM), also used in the field of physical education and sports, is defined as a progressive model in which the responsibility for teaching starts with the instructor and is transferred to the student. In this model, subjects or skills are taught by dividing them into parts, repetitions are made to ensure retention, and feedback is used (Altay, 2017; Sural & Savaş, 2017). This model includes six primary implementation stages designed to ensure an effective learning process. These stages can be listed as reviewing previous studies, presenting new skills and concepts to be taught, conducting the first exercises by students, giving feedback and corrections, providing an environment for independent exercises, and reviewing what has been learned (Magliaro et al., 2005; Kozloff et al., 1999). These stages play a critical role in achieving the purpose of the model. Therefore, the model's main purpose is to provide students with the necessary knowledge and skills according to their developmental levels (Magliaro et al., 2005). Accordingly, the instructor using this model should structure learning process with the inductive method, aim for high achievement, keep students active, plan what, why, and how to teach, and follow a path from part to whole (Altay, 2017). The skills in each step expected to be taught should not be skipped until they are fully learned because the aim of the model is to try to realize complete learning. For this reason, it is a frequently used teaching model in the field of educational sciences in recent years.

Previous studies indicate that direct instruction model is used in different fields and different sports (Alptekin, 2012; Sural & Savaş, 2017; Çıkılı-Soylu et al., 2018; Yenibertiz, 2019; Üçal, 2020). There are studies on teaching social skills to students with disabilities (Alptekin, 2012) and teaching science to students with intellectual disabilities (Çıkılı-Soylu et al., 2018). When we look at the studies conducted in different sports related to DIM, the studies were conducted in basketball (Sural & Savaş, 2017) and volleyball (Yenibertiz, 2019). However, the literature on research conducted in swimming with DIM is limited. There are few studies investigating the effect of DIM on teaching freestyle swimming skills (Sönmez, 2021), teaching freestyle swimming at the age of 10-12 (Yawer & Saadoun, 2023) and freestyle swimming skills (Yawer & Saadoun, 2023). As seen in these studies, DIM focused on teaching freestyle swimming techniques. However, comprehensive research on teaching freestyle and backstroke swimming techniques for basic education to individuals who do not know how to swim or who know little about swimming by using DIM was not found in the literature. However, although the direct instruction model was not employed in this study, the research conducted by İlhan et al. (2024) aimed to examine the effects of dry-land training, implemented in addition to swimming practices, on freestyle and backstroke performance in children aged 7 to 10.

The current study aimed to determine whether this model would enhance the learning process of university students' swimming skills. The application of a different model in the process of teaching swimming skills is important in terms of evaluating the learning processes of university students. For this reason, it is thought that using the DIM in swimming teaching will contribute to students' permanent learning. It is expected that this study will fill an important gap in the field and make significant contributions to the literature due to the limited number of studies conducted using the DIM. In addition, it is thought that such research in the field of swimming teaching will guide future researchers, lecturers, coaches and anyone interested in swimming.

## 2. Materials and Methods

### *2.1. Research Design*

The research was designed as phenomenological research, one of the qualitative research methods. Phenomenological research is defined as a design that focuses on human phenomena and aims to highlight the experiences of individuals. In this study, the experiences of Kastamonu University Faculty of Sports Sciences, Department of Physical Education, and Sports Teaching students regarding the processes of developing swimming skills with the DIM were thematized and coded within the framework of these themes. In the research, we tried to understand in depth whether the model applied to university students enhanced their swimming learning experience.

### *2.2. Research Group*

Fourteen students (8 female, 6 male) completed the study out of 20 students from 3rd grade of physical education and sports teaching, Kastamonu University Faculty of Sport Sciences who volunteered to participate the study. The sample of the study was determined by criterion sampling method, which is one of the purposeful sampling methods. Criterion sampling may consist of individuals or situations with specified characteristics (Büyüköztürk et al., 2022). Therefore, the participants included in the sample were studying in the third year of physical education and sports teaching and taking the compulsory swimming course. In the first week of the swimming lesson, students' swimming skills were examined. It was observed that some students stayed afloat but did not know how to swim technically, while some students were afraid of water and did not know how to swim.

**Table 1.** Demographic Information of the Participants

| Participants | Gender | Age |
|---|---|---|
| Student 1 (S1) | Female | 23 |
| Student 2 (S2) | Male | 21 |
| Student 3 (S3) | Female | 21 |
| Student 4 (S4) | Female | 22 |
| Student 5 (S5) | Male | 22 |
| Student 6 (S6) | Male | 21 |
| Student 7 (S7) | Male | 21 |
| Student 8 (S8) | Female | 22 |
| Student 9 (S9) | Female | 24 |
| Student 10 (S10) | Female | 42 |
| Student 11 (S11) | Female | 23 |
| Student 12 (S12) | Male | 22 |
| Student 13 (S13) | Female | 22 |
| Student 14 (S14) | Male | 35 |

### *2.3. Data Collection Tools*

Student diaries, field notes and a semi-structured interview form created by the researcher were used as data collection tools. In semi-structured interviews, the researcher prepares the open-ended questions he/she plans to ask, which can direct the flow of the interview and enable the participant to elaborate his/her answers (Seggie & Bayyurt, 2015; Yıldırım & Şimşek, 2021). After the questions were prepared, the questions were examined by professionals in the educational sciences and grammar field. Ten questions were directed to the students and guidance was avoided during the interview. A voice recorder was used in the interviews and the data were recorded with this voice recorder.

*2.4. Data Collection Process*

The study was conducted in the fall semester of the 2023-2024 academic year in the swimming class of third-year physical education and sports teaching students. In the first lesson, students were informed about the study, and students who wanted to participate signed an informed consent form. Students who did not want to participate in the study continued their swimming lessons but did not participate in the data collection process. In the academic calendar, swimming lessons were scheduled for 14 weeks in one semester. Swimming lessons were 3 hours per week (Thursday). Throughout the semester, student were encouraged to write diaries immediately after the swimming lesson. The instructors (I1 and I2) took field notes after each lesson for 14 weeks. Interviews were conducted face-to-face with the students between December and January. The average duration of the interviews was 20 minutes. When the data was examined for the data saturation by the researcher, 14 participants were enough to obtain data saturation. Thus, the rest were not included into the data analysis. Data saturation refers to the situation where the data reaches the saturation level in the research process (Tutar, 2022).

*2.5. Data Analysis*

Content analysis was used to analyze the research data. Content analysis is defined as a technique that uses a systematic coding and categorization approach by determining the frequencies, relationships and communication structures of words (Büyüköztürk et al., 2022). The data were transferred to the MAXQDA 2020 analysis program, read carefully and codes were determined. The MAXQDA analysis program facilitates researchers in issues such as the creation of codes, quick viewing and visualization of qualitative data (Sevilmiş & Yıldız, 2022; Dereli, 2023). In the study, the identity information of the participants was kept confidential and the participants were given code names as S1, S2, S3 in accordance with the research ethics in order not to be understood by whom the answers were given.

*2.6. Ethical Approval*

Institutional Review Board Statement: The study was conducted in accordance with the 621 Declaration of Helsinki and approved by the Social and Human Sciences Ethics Committee of Kastamonu University (11/7 and 04.10.2023).

## 3. Results

The findings of the research were processed using the MAXQDA 2020 program and codes related to the research were created. The codes were generated based on the findings obtained through the literature review (Han et al., 2022; Misimi et al., 2020; Olaves et al., 2019; Yurtçiçek et al., 2018; Oh et al., 2011) and the qualitative data analysis process. These codes consisted of student views on fear of water, swimming skills, part to whole, feedback, difficulties encountered in the lesson, motivation and skill repetitions. Figure 1 shows the code cloud created.

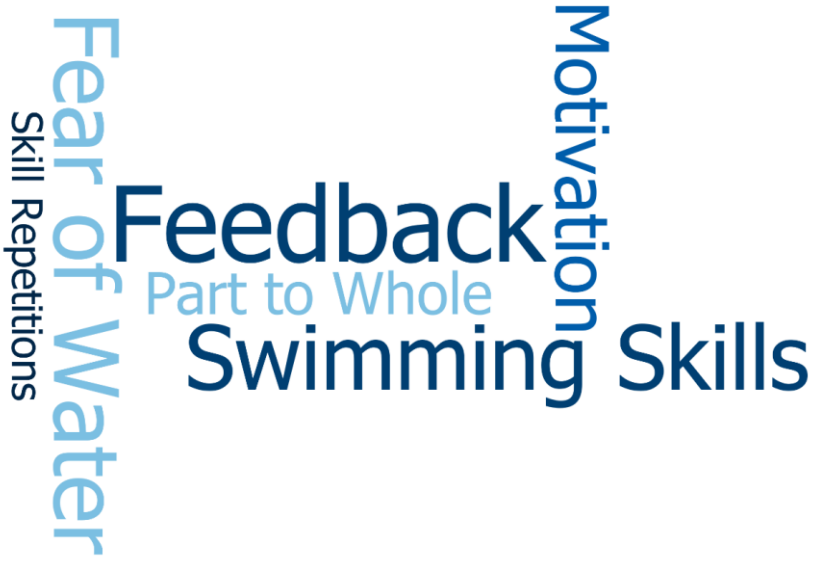


**Figure 1.** Figure 1. Code Cloud Analysis

The size of the codes in the code cloud analysis in Figure 1 reflects how frequently they appear in the data. It is seen that codes such as feedback, swimming skills, and fear of water were used more frequently, while codes such as motivation, skill repetition, and part-to-whole were used less frequently. Based on the research findings, a word cloud analysis was created in Figure 2.

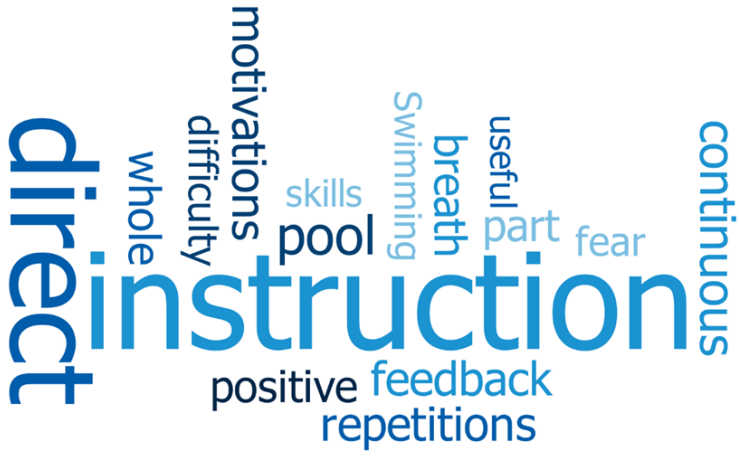


**Figure 2.** Word Cloud Analysis

When Figure 2 is examined, it can be seen that students generally used words such as instruction, direct, model more frequently, and words such as positive, difficulty, motivated less frequently.

*3.1. Findings Related to Fear of Water*

The views of university students on their fear of water were examined. Some of the students stated that some of them love water and some of them are afraid of water. Student opinions regarding these findings are as follows:

> *Since my father was afraid of this, he usually tied me with a rope and sent me to the sea. This may have remained as a trauma for me (S1). Until 2 years ago, I was afraid of the sea, I mean the pool, I had a phobia. I had experienced a case of drowning before. I started to overcome this fear gradually with some activities with my friends (S2). I love swimming very much. I had no fear of water. I only jumped into the water once by nailing into a deep place. Then, when I came out, I couldn't breathe for a while. After that, I had a little fear of nailing and fishing jumps (S3). I was afraid of water, but thanks to our lesson, I got more used to the water and started to like it (S4). When I went to the sea in the summer, I felt like I was going to faint when I got into the water because the pressure there scared me, but I think I overcame that fear with those breathing exercises in the swimming lesson (S6). I like swimming and water very much, so I did not have any bad thoughts about swimming (S7). I did not have any fear or anxiety (S8). I had fear, I have never been in a pool before, I have never even seen a pool (S11). I have not even been in the water before, I was extremely afraid of swimming, I was already afraid even in the shower when I put my head under the water (S13). It is seen that students generally experience fear of water (S1, S2, S3, S4, S6, S11, S13). Student diaries also support these findings. Normally, I had an extreme fear of drowning, but in this lesson I realized that it was completely gone (S13, 02.11.2023). Thanks to our instructors, I learned to exhale and overcame my fear of water, at the same time, I had difficulty jumping into the pool in the previous weeks, but now I have overcome these fears thanks to the games (S4, 19.10.2023). I could wait in the pool for a very short time with my head under the water or I would somehow draw water from my mouth or nose and I would feel like I would drown. Here breathing exercises helped me to make progress in this regard (S1, 19.10.2023). I was afraid of water and I overcame this fear to some extent (S6, 19.10.2023). In line with the data obtained from student interviews and student diaries, it is seen that students were afraid of water, but they overcame this fear with DIM (S2, S4, S7, S8, S13).*

Students' fear of water was also reflected in the diaries of the instructors. On the first day of the swimming lesson, the researcher (one of the instructors) made observations to reveal the existing situation regarding students' fear of water. The opinions reflected in the diaries of the instructors are as follows:

*Students were asked whether they knew how to swim and whether they had a fear of water. The lesson started with water familiarization activities in the play pool with students with and without fear of water. After a certain period of acclimatization activities, the class moved to the semi-Olympic pool, and the students were divided into two groups as those with and without fear of water. Acclimatization activities were continued with swimming equipment (pool noodle, foot board). By the end of the lesson, students without fear of water were able to perform the skills expected to be acquired, albeit to a lesser extent (I1, 19.10.2023). I tried to find out the source of the fear by talking to the students who had fear of water. I learned that the students' fear of water was generally caused by negative situations in the past and the fear of drowning. These students were first made to familiarize with the water with skill repetitions. These activities helped the students feel that water was safe (I2, 19.10.2023).*

Based on these observations, which are supported by student diaries and interviews, it can be said that at the end of the lesson, students reached the skills expected to be acquired, despite to a lesser extent, and gradually overcame their fear of water.

*3.2. Findings Related to Swimming Skills*

The opinions of university students about their swimming levels were examined. The majority of the students stated that their swimming skills were insufficient. Student opinions regarding these findings are as follows:

*I can say that I absolutely do not know how to swim (S1). I knew how to swim, but only to the extent that I could stay on top of the water, not too fast or in the right way, I knew enough for myself (S3). Before the class, my swimming level was just staying on top of the water. I could not make any progress, but now it is not like that, of course there is improvement (S6). I don't think my level is very bad (S7). I can't say bad, I think I have technical mistakes, I mean I think I know (S8). I thought my swimming level was quite good, but in the swimming lesson I saw that it was not so good. I saw the mistakes in my techniques. I tried to correct them with the videos taken or with the words of my instructors (S10). I learned to swim when I came to university (S11). My swimming level was very, very bad before the class (S13). Before the class, I thought I knew how to swim very well. I thought I knew how to swim but learned how to swim naturally and that there was no technique in my swimming. I actually said I don't know how to swim. My thinking developed in this way. I focused myself on how to swim technically. For that purpose, I attended the lesson more willingly (S14). Based on the student opinions, it is seen that some of the students (S1, S3, S6, S7, S11, S13) do not know how to swim and some of them (S8, S10, S14) do not have a good command of swimming techniques.*

These findings show that students have deficiencies in basic skills and techniques related to swimming. This can be explained by the fact that the students had not taken swimming lessons before. The thoughts in the students' diaries about their swimming levels support the above findings. Some of the opinions about swimming skills reflected in the students' diaries are as follows:

*I knew how to swim but actually I didn't. Thanks to our instructors, I am learning very well (S3, 07.12.2023). I have a little more difficulty in backstroke, but I believe that I can handle it by practicing (S4, 7.11.2023). When I came to the first lesson, I thought I was very good at swimming, but when I came to the lesson, I was shocked to see that the swimming I knew was different from technical swimming, so although the first lesson was enjoyable, it was a surprise for me (S14, 19.10.2023). In today's lesson, I was worse than in the other lessons and I could not swim again, I repeated a lot, but I could not do it. I find it difficult to leave myself alone (S6, 07.12.2023). The styles I knew were wrong, I was mostly swimming wrong and I think I corrected these mistakes (S7, 21.12.2023). Based on the student diaries, it is seen that some students stated that they know swimming (S3, S14) and swimming style (S7). However, after the lessons with DIM, students also stated that they did not know how to swim and swimming style (S3, S7, S14).*

The instructors made observations to reveal the current situation regarding students' swimming skills. The opinions reflected in the diaries of the instructors are as follows:

*Students who thought they knew how to swim well and students who did not know how to swim at all were divided into 2 different groups. Students who thought they knew how to swim well were made to swim freestyle and backstroke until the middle of the pool. It was observed that there was no student who could swim the styles with the desired technique. The mistakes made were given as feedback to the students. Then, drills were made to correct these mistakes (I1, 19.10.2023). The lesson started with a repetition of the drills performed in the previous weeks and it was observed that some students improved*

*their swimming skills while others did not (I2, 2.11.2023). The instructors' repetition of the skills practiced in the previous week, giving feedback by watching videos of student mistakes, and the instructor's utilization of the demonstration technique show that the lessons were conducted in line with the DIM. The lesson was delightful because the students were made to play games to reinforce the skills they learned, and it was found that most students were more comfortable swimming than in the first lesson (I2, 07.12.2023).*

The diaries of the instructors support the interviews and diaries of the students. Based on the diaries of the instructors, playing games and repetitions to acquire skills in the lessons helped students improve their swimming skills.

*3.3. Findings Regarding the Demonstration of Swimming Skills from Part to Whole*

The opinions of university students on the demonstration of swimming skills from part to whole were examined. Most of the students stated that they comprehended the skills better when going from part to whole. Student opinions regarding these findings are as follows:

*When you show the whole movement, for example, let's say I didn't see that fine point, I didn't understand, when we do it again by showing it in detail, yes, this hand enters like this, the fingers are like this, the toes are like this, we bend the knee from here, we take the elbow from here and so on, because we see them in more detail. It is good for us (S1). First, we were seeing the whole movement and then the movements were divided into parts, so this was the most logical, it was very useful for me (S5). Seeing the steps had a positive effect on me in this lesson (S8). Taking each movement from the beginning, we went from the smallest part to the whole by combining them, which made learning very easy for friends who did not know anything (S10). We went from part to whole and this helped us understand the movement better (S11). Since it went from part to whole, I think it was better because we started from the very beginning and learned the movement correctly and then moved on to the next movement (S12). Our continuous piece-by-piece practice was effective for me (S13). We did not move on to the next movement without practicing one movement piece by piece. I mean, even if we moved on to the next one, it was as if we repeated the previous one. It was like we didn't move on to running without knowing how to walk. So, in the same way, dividing into parts provided permanent learning for us (S14).*

Based on the students' opinions (S1, S5, S8, S10, S11, S12, S13, S14), it is seen that demonstrating swimming skills from part to whole has a positive effect on students and provides permanent learning.

It can be said that the use of direct teaching model helped students to improve their swimming skills. The thoughts in the students' diaries regarding the demonstration of swimming skills from part to whole support the above findings. Some of the opinions reflected in the students' diaries about the demonstration of swimming skills from part to whole are as follows:

*Our lesson was both fun and instructive, I had never swam with board before, the practice steps were very instructive (S4, 19.10.2023). In my mind, the course of the lesson and the step-by-step learning style were very well established (S14, 2.11.2023). Using the direct teaching model, our instructor taught us backstroke swimming. Thanks to this teaching model, I think we learned without much difficulty (S10, 07.12.2023). In addition to these, the materials and games we used were beneficial and we make progress by having fun (S1, 2.11.2023). Going from part to whole in the lesson allowed me to see improvement in myself every week (S8, 02.01.2024).*

Based on the student diaries, it can be said that teaching skills directly from part to whole enhanced the learning process and was effective in gaining swimming skills. The instructors divided the skills to be practiced in order for the students to improve their swimming skills into parts and made them do exercises in the pool and made observations. This situation was reflected in the diaries of the instructors as follows:

*Water acclimatization activities, standing comfortably on the water, breathing and exhalation skills were taught to students by going from part to whole. Especially for some students who were afraid of water and did not know how to swim, it was observed that teaching the skills by going from part to whole provided permanent learning for the students (I2, 26.10.2023). It was observed that the students in the group who had never swam had difficulty in learning skills such as getting used to water and standing comfortably on the water. In order to teach two students the skills of getting used to the water and staying comfortable in the water, we started from the most basic level. As the weeks passed, it was observed that these two students got used to the water but had difficulty with the combined movements (I1, 26.10.2023).*

Based on these observations that support student diaries and interviews, it can be said that the skills taught by going from the part to the whole provided permanent learning in most students.

*3.4. Findings Related to Feedback*

Students' views on the feedback given in swimming lessons were analysed. The majority of the students stated that feedback was useful in their swimming learning process. Student opinions regarding these findings are as follows:

> *When the instructor warned a student verbally if a movement was wrong, it is not useful. When the instructor tell to correct it, a student who doesn't know how to do it doesn't understand it. For example, there was a video in one or two lessons. I understand more clearly when I watch it. Watching it has a more positive effect because I see myself there (S1). It was very useful. Because the instructors constantly warned us when we were doing a movement wrong and encouraged us to do the right thing. In other words, we practiced the movements more accurately via feedback (S3). We learned the movements exactly the right way (S4). We were getting direct feedback while we were doing the movement. We were trying to correct it in the next repetition. It was very useful for us (S5). We do something in the pool, but we cannot know whether it is right or wrong, so it is very important for us to do what you say. Because if we don't get your feedback, I don't think we can learn anything (S6). He tells us our mistakes, gives us feedback. He shows us in the water. Our instructors get into the water and show the movement. We learned where we have mistakes both by seeing them and by getting feedback. In other words, I can say that we learn our mistakes both auditorily and visually (S7). The feedback was very useful for me. When you say bravo, you are progressing well as soon as we do the lesson, it encourages us. It was a great effect to see that we could do it. At the same time, being told immediately where we could not do it helped us reinforce that moment (S8). Sometimes you take our videos and show us what you are doing. This always contributes positively to us in order to correct our mistakes because we see our mistakes or you correct us with feedback (S10). When you show us the movement, you intervene immediately when we do the movement wrong. You do it in the heat of the moment. Thus, this was very good for us (S11). I learned my mistake at that moment and I realized my weakness that I need to focus on and I need to improve. I focused on the part I was lacking and learned to swim better (S14). Based on the student opinions (S1, S3, S4, S5, S6, S7, S8, S10, S11, S14), it is seen that students improved their swimming skills and tried to correct their mistakes thanks to feedback.*

Thanks to the feedback, students were more motivated and practiced more, which can lead to faster and more effective development of swimming skills. Therefore, it can be said that the DIM is an important model for students to improve their swimming skills. The thoughts in the students' diaries about the feedbacks support the above findings. Some of the opinions about the feedback reflected in the students' diaries are as follows:

> *I think I corrected it a little bit compared to the first time I did it by our instructor telling us our mistakes and watching my friends who did better (S1, 02.11.2023). I think the efficiency of the lesson increases a lot when our instructors record videos and make us watch them and give us feedback immediately when we are right or wrong. I also like it when they motivate us by saying Bravo, you are learning well or you will learn (S8, 02.01.2024). I made mistakes in today's swimming lesson, but my instructors saw my mistakes and intervened immediately. With the support of my instructors, I will correct these mistakes until the midterm (S11, 02.11.2023). My instructors' interest in us, their desire to teach and their efforts were admirable. The fact that they gave us instant feedback during the application helped us to see our mistakes and enlightened us every time about what and how much to correct psychomotorly (S14, 02.11.2023).*

In the student diaries, it is seen that motivating students, giving positive feedback and instructors' interest in each student were effective on the learning process. The instructors made observations by giving feedback during the lessons. This was reflected in the instructors diaries as follows:

> *During the lesson, students were given positive or negative feedback verbally. Some students repeated their mistakes despite the feedback. For this reason, videos were taken and watched for students to see their mistakes. It was observed that visual feedback played an important role in correcting the mistakes (I1, 02.11.2023). It was observed that a few students repeated the mistakes that should not have been made despite the verbal and visual feedback. Thus, the mistakes were taught by breaking them into pieces again. These students were praised and encouraged for correct actions. This increased their motivation and made them more willing to correct their mistakes (I2, 02.11.2023).*

The diaries of the instructors support the diaries and interviews of the students. From this point of view, it was observed that the use of visual aids and giving encouraging and immediate feedback positively affected the students' learning process.

*3.5. Findings Related to Student Motivations within the Framework of DIM*

Students' views on their motivation related to DIM were analyzed. Most of the students stated that the direct instruction model positively affected their motivation. Student opinions regarding these findings are as follows:

> *The direct instruction model positively affected my motivation (S1). For example, we used to come to the swimming lessons very eagerly. It is actually very difficult to get up in the morning, but since we knew that we were going to the swimming lesson, we were more motivated to get up. You know, and we start the day fresh and energetic (S3). I went to the lessons already more motivated with the help of the games (S4). I was definitely participating more in the lessons, it affected our motivation positively (S5). It affected my motivation positively because I was trying to swim more motivated because I felt a sense of accomplishment because we repeated what we did in the last lesson in the next lessons. I think this contributed positively to my development (S6). I used to come with a great motivation because I like swimming, so my motivation was high. You gave me free time, sometimes I was trying to improve myself at that time. In general, my motivation was high (S7). In the feedback, the more I correct the things I did wrong, the more I want to do better. That's why I participated more effectively, it motivated me (S12). I said I knew how to swim, but I realized that I didn't and my motivation dropped. In this model, since it divides it into parts, when I went part by part, I realized that I had reached the whole. This made me happy, that is, it improved my learning (S14).*

Based on student opinions (S1, S3, S4, S5, S5, S6, S7, S12, S14), it is seen that the direct instruction model increased the motivation of most students. It can be said that the increase in student motivation makes the learning process more effective. The thoughts in students' diaries about motivations support the above findings. Some of the opinions about motivation reflected in the students' diaries are as follows:

> *I started to swim more comfortably in this lesson compared to the last lesson. I started to come to the lessons more willingly (S6, 26.10.2023). We played ear to ear in the water, we laughed a lot and had fun. This lesson is progressing very perfectly for me. I wish there was swimming every day (S3, 02.11.2023). I come to class so motivated and curious to learn that I feel very happy and excited (S8, 02.01.2024). The lesson started to make me more confident about swimming every week (S5, 26.10.2023). The fact that my instructors took care of us as if they were giving private lessons made me more eager for the next lesson as in other lessons (S14, 09.11.2023). My favorite lesson at school was swimming. I am sure that I will learn it well (S13, 02.11.2023).*

Based on the student diaries, it can be said that DIM positively affected students' motivation and increased their willingness to participate in the lessons. The instructors made observations about how the direct instruction model affected students' motivation. This situation was reflected in the diaries of the instructors as follows:

> *It was observed that the motivation of the students who got used to the water and successfully performed the required skills was high (I1, 07.12.2023). It was observed that some students had low motivation because they had difficulty and felt inadequate in swimming despite the skills being demonstrated piece by piece. Due to low motivation, games were played by all students to improve their swimming skills. Thanks to the games, students' motivation increased and it was observed that their willingness to participate in the lesson increased (I2, 07.12.2023).*

Based on these observations, which are supported by student diaries and interviews, giving motivational speeches, giving feedback and playing games with students in situations where student motivation is low can help the lesson to be effective.

*3.6. Findings Related to Skill Repetitions*

Students' views on skill repetitions were analysed. Most of the students stated that skill repetitions helped them improve their swimming skills. Student opinions regarding these findings are as follows:

> *Due to what we did in the direct teaching model, for example, I did not come to the next week with fear. Since it was repeated every week, there was nothing missing, we always went to complete it, that is, as a whole. So I think it is a positive contribution (S4). After each lesson, my willingness to come to the lesson increased because we repeated what we learned in the previous*

*lesson and I felt that I could do something (S6). Repetition helps in the following way, you cannot do it in the first lesson, you do it a little better in the second lesson. In the third one, you feel like you are doing it completely or like you are doing it. You know, you improve yourself a little more (S9). We reinforced what we learned in the following weeks. It was very positive in this regard (S12). In the other weeks, we were repeating everything we did in the previous week from the beginning and taking a new action. I learned faster and it was better for me (S13). We reinforced it with continuous repetitions and it helped us to correct our mistakes (S14).*

Based on the student opinions (S4, S6, S9, S12, S13, S14), it is seen that most of the students reinforced their skills better with the skill repetitions in swimming lessons. It can be said that repeating the subjects or skills taught provides permanent learning in students. The thoughts in the students' diaries about skill repetitions support the above findings. Some of the opinions about skill repetitions reflected in students' diaries are as follows:

*Although it was a little difficult to coordinate all of what we learned at once, we realized that all of them can be overcome with plenty of repetition (S3, 26.10.2023). It was difficult at first, but with the right technique and as the number of repetitions increased, I grasped the exhalation technique (S5, 19.10.2023).*

Based on the student diaries, it can be said that repetitions have a positive effect on the skills to be learned. The instructors made observations about how the skill repetitions improved the students. This situation was reflected in the diaries of the instructors as follows:

*It was observed that some students were bored because one skill was not learned before another skill was learned. To eliminate this situation, games were played between lessons. After the games, it was observed that the students were willing to do the repetitions (I1, 07.12.2023). Special attention was paid to students who could not do the repeated skills. This increased the motivation of the students and made them more enthusiastic in the lesson, and it was observed that they were able to do the skills after continuous repetitions (I2, 19.10.2023).*

The diaries of the instructors support the diaries and interviews of the students. From this point of view, continuous repetitions can provide permanent learning in students.

## 4. Discussion

Swimming is a sport with technique requirements and therefore needs to be taught with care. Different methods can be used to teach swimming. In this study, it was tried to reveal whether the model enhanced the learning process while developing university students' swimming skills with the direct instruction model. When the results of the research are examined, it is seen that the majority of university students are afraid of water and their swimming skills are not at an adequate level. This may be due to the negative experiences that students have had with swimming before. Especially when unconscious parents try to teach their children to swim in a way that may cause fear or exhibit attitudes that may cause children to experience trauma. In addition, students not having the opportunity to swim and being introduced to water at a very late age can also be interpreted as factors that may cause fear. It was concluded that with the teaching model applied in the research, university students overcame their fear of water in swimming lessons and improved their swimming skills with plenty of repetition and teaching skills piece by piece. The basis of the direct teaching model is to teach skills step by step with plenty of repetition and going from part to whole. For this reason, it can be said that students learned more easily by practicing a skill step by step and by doing repetitions. When the studies conducted using DIM are examined, it is seen that similar results are obtained. In the study conducted by Sural and Savaş (2017), in order to investigate whether there is a difference in the psychomotor achievement levels of the students in basketball lessons, they applied the Sports Training Model (SEM) to the first of the experimental groups and DIM to the second experimental group. It was observed that the students who participated in the basketball lessons taught with the DIM learned all of the psychomotor skills at a higher level than the SEM group. From this point of view, it can be said that the direct instruction model is effective in students' learning the skills in basketball lessons. Mashud et al. (2023) aimed to examine the effects of project-based learning and direct instruction model on students' freestyle swimming skills. They applied project-based learning to the experimental group and direct instruction model to the control group. The researchers concluded that both models had a positive effect on improving students' freestyle swimming skills. However, they found a significant difference between the experimental and control groups and found that project-based learning applied to the experimental group had higher learning outcomes. Yawer and Saaodun (2023) aimed to

investigate the effect of direct instruction model on 10-12-year-old students' learning freestyle swimming skills. They found a significant difference between the experimental group and the control group. They concluded that the direct instruction model had a positive effect on the development of freestyle swimming skills of the experimental group. Sönmez (2021) aimed to examine the effect of Individualized Teaching Model (ITM) on university students' freestyle swimming skills and track exit technique learning. Individualized instruction model was applied to the experimental group and direct instruction model to the control group. When the sub-problems of the research are examined, there was a significant difference between the pre-test and post-test scores of freestyle swimming skills, exit technique and total skills of the students who were taught swimming lessons with ITM (experimental group) and DIM (control group) It was concluded that ITM and DIM had a positive effect on students' learning of freestyle swimming, exit technique and total skills. Yenibertiz (2019) aimed to determine the effect of ITM on learning volleyball skills and attitudes towards volleyball lesson in university students. The experimental group was administered ITM and the control group was administered DIM. Was there a significant difference between the pre-test and post-test scores of attitude towards volleyball lesson; finger pass, cuff, pass and tennis serve pre-test and post-test scores of the students who had volleyball lessons with ITM (experimental group) and DIM (control group) The study sought answers to these questions. When the entry and exit behaviors of the experimental and control group students' attitudes towards volleyball lesson are compared, it is seen that there is a significant increase in the exit behaviors of the students. In addition to this, it was concluded that the ITM and DIM had significant effects on the learning of all psychomotor skills in the volleyball lesson.

In the direct instruction model, skills are systematically broken down into steps and taught from part to whole; this approach allows the learning process to progress in a planned and controlled manner. At each step, students are expected to achieve a success rate of 80–90%, and the next step is not introduced until this criterion is met. This structured approach ensures that learning is built on a solid foundation and that errors are corrected before they accumulate. Furthermore, beginning each lesson with a review of previously covered content enables students to reinforce prior knowledge and maintain the coherence of their cognitive frameworks, thereby supporting the attainment of durable learning outcomes. In addition, regular practice and guided exercises contribute to students' gradual adaptation to the aquatic environment, enhance their sense of safety, and reduce anxiety related to water. Another result of the study is that the direct instruction model positively affected the motivation of university students. It can be said that teaching skills in small steps by dividing them into parts increases students' motivation by contributing to easier learning of skills that may be complex. Collectively, these findings indicate that the direct instruction model exerts a positive impact on both cognitive and affective domains of learning, thereby demonstrating its efficacy as a highly effective instructional approach. Wallhead and Ntoumanis (2004) aimed to examine the effect of SEM on the motivational responses of high school students in physical education class. They compared SEM (experimental group) and traditional teaching (control group). They measured students' satisfaction, perceived effort, perceived competence, goal orientations, perceived motivation and perceived autonomy before and after the intervention for both groups. From this point of view, in their study to examine the effect of traditional teaching and SEM on the motivational responses of high school students, they concluded that the experimental group increased their motivation. Alcala and Garijo (2017) aimed to examine the motivation and achievement perceptions of high school students in physical education classes with tactical game model (experimental group) and traditional teaching model (control group). The authors concluded that high school students showed higher motivation in physical education lessons in which they applied the tactical game model compared to the traditional teaching model. It can be said that selecting the correct models or strategies to be applied in swimming teaching will contribute to the realization of permanent learning by increasing student motivation and making students feel safe in the water.

It was concluded that giving correct feedback, which is one of the results obtained in the research, contribute to students' swimming learning processes. It is thought that timely and skill-oriented feedbacks allow students to correct their mistakes instantly and therefore are beneficial for students. When the researches outside the field are examined, it is seen that there are studies that are parallel to the research result. In his study, Erol (2024) aimed to determine how direct and indirect feedbacks affect the development of writing skills of two different groups at B1 level. It was determined that there was no significant difference in the writing achievement of the students who received direct and indirect feedback in the pre-test and post-test. However, a significant difference was found between the pre-test and post-test of the group receiving direct feedback. From this point of view, it can be concluded that the writing skills of the group receiving direct feedback improved. Han et al., (2022) aimed to examine the effects of feedback on motor skill learning

in physical education students. The authors concluded that using feedback contributed to the motor skill learning of physical education students. Çelebi (2017) aimed to determine the effect of teaching prosody with visual feedback activities on the reading aloud skills of foreign students learning Turkish in terms of reading speed. A significant difference was found between the students' pre and post-test read-aloud speeds which increased post-test. This shows that there is an improvement in students' reading speed skills. In the study, it can be said that the instructors' and coaches' providing accurate and timely skill-oriented feedback to the students during the swimming teaching process motivates the students and helps them improve their swimming skills.

## 5. Conclusions

As a result, it was determined that by using the direct teaching model in swimming lessons, students' swimming skills improved, they overcame their fear of water, their motivation increased, they felt safe in the water and their learning became easier. This is because learning from the part to the whole, which is the basis of the direct teaching model, contributed to all the characteristics of the students. In line with these results, future research can be conducted for university students to develop their skills in different sports and to realize permanent learning. In addition, the applicability of the direct instruction model on swimming and different sports in younger age groups can also be investigated. Applied research can be conducted to compare the direct teaching model with other teaching models.

**Author Contributions:** Conceptualization, A.F.Ö. and K.B.; methodology, A.F.Ö. and K.B.; formal analysis, A.F.Ö. and K.B.; investigation, A.F.Ö. and K.B.; resources, A.F.Ö. and K.B.; data curation, A.F.Ö. and K.B.; writing—review and editing, A.F.Ö. and K.B. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Informed Consent Statement:** Informed consent was obtained from all participants in the study.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author.

**Conflicts of Interest:** The authors declare no competing interests.

## References

Alcala, D. H., & Garijo, A. H. (2017). Teaching game for understanding: A comprehensive approach to promote student's motivation in physical education. *Journal of Human Kinetics, 59*, 17–27.

Altay, F. (2017). Doğrudan öğretim modeli. In A. D. Mirzeoğlu (Ed.), *Model temelli beden eğitimi öğretimi* (1. Baskı, s. 29–49). Spor Yayınevi ve Kitapevi.

Alptekin, S. (2012). Sosyal becerilerin zihinsel engelli öğrencilere doğrudan öğretim yaklaşımıyla öğretimi. *On Dokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 31*(1), 1–19. https://doi.org/10.7822/egt92

Mirzeoğlu, A. D. (2017). Doğrudan öğretim modeli. In A. D. Mirzeoğlu (Ed.), *Model temelli beden eğitimi öğretimi* (1. Baskı, s. 29–49). Spor Yayınevi ve Kitapevi.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2022). *Eğitimde bilimsel araştırma yöntemleri* (32. Baskı). Ankara: Pegem Yayıncılık.

Corrine, C. (2020). *Nitel araştırmaya giriş* (6. Baskı; Çev. A. Ersoy & P. Yalçınoğlu). Anı Yayıncılık.

Carluccio, I. D., Zulli, S., Mariani, A. M., & Viscione, I. (2019). Effortless swimming and movement development in childhood. *Journal of Human Sport and Exercise, 14*(4), 830–834.

Çelebi, Ş. (2008). *Yüzme antrenmanı yaptırılan 9–13 yaş grubu ilköğretim öğrencilerinde vücut yapısal ve fonksiyonel özelliklerinin incelenmesi* [Yayınlanmamış yüksek lisans tezi]. Erciyes Üniversitesi.

Çıkılı-Soylu, D., Dağseven-Emecen, D., & Yıkmış, A. (2019). Zihinsel yetersizliği olan öğrencilere fen konularının öğretiminde doğrudan öğretim yöntemi ile şematik düzenleyiciyle öğretim yönteminin karşılaştırılması. *Kalem Eğitim ve İnsan Bilimleri Dergisi, 9*(1), 1–25. https://doi.org/10.23863/kalem.2019.118

Çelebi, S. (2017). *Yabancı dil olarak Türkçe öğretiminde görsel geri bildirim etkinlikleriyle gerçekleştirilen bütün öğretiminin sesli okuma becerisine etkisi* [Yayınlanmamış doktora tezi]. Atatürk Üniversitesi.

Dedemli, S. (2021). *Rekreaktif amaçlı yüzme sporu yapan 8–14 yaş arası çocukların mutluluk, boş zaman tutumu ve yaşam tatmin düzeylerinin belirlenmesi ve aralarındaki ilişkinin incelenmesi* [Yayınlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.

Dereli, A. B. (2023). MAXQDA: Yaratıcı veri analizi üzerine notlar. *İletişim Araştırmaları Dergisi, 13*(1), 149–152. https://doi.org/10.53495/e-kiad.1319405

Ekicioğlu, M. S. (2023). *Yüzme sporuyla ilgilenen bireylerin yaşam kalite ve spora bağlılık düzeyinin incelenmesi* [Yayınlanmamış yüksek lisans tezi]. Sinop Üniversitesi.

Erol, N. (2024). *Doğrudan ve dolaylı geri bildirimin yabancı dil olarak Türkçe öğrenen öğrencilerin yazma başarısına etkisi* [Yayınlanmamış yüksek lisans tezi]. Bartın Üniversitesi.

Gökhan, İ., Kürkçü, R., & Devecioğlu, S. (2011). Yüzme egzersizinin solunum fonksiyonları, kan basıncı ve vücut kompozisyonu üzerine etkisi. *Journal of Clinical and Experimental Investigations, 2*(1), 35–41. https://doi.org/10.5799/ahinjs.01.2011.01.0207

Hannula, D., & Thornton, N. (Eds.). (2011). *The swim coaching bible*. Human Kinetics.

Han, Y., Bin Syed Ali, S. K., & Ji, L. (2022). Feedback for promoting motor skill learning in physical education: A trial sequential meta-analysis. *International Journal of Environmental Research and Public Health, 19*(22), 2–18.

Hızarcı, A. (2021). *12 yaş kız- erkek yüzücülere uygulanan kara ve havuz antrenmanlarının seçilmiş antropometrik ölçümlere ve 50 metre serbest stil derecelerine etkilerinin araştırılması* [Yayınlanmamış yüksek lisans tezi]. İstanbul Gelişim Üniversitesi.

İlhan, G., Tutar, M., & Kale, M. (2024). 7–10 yaş grubu çocuklarda yüzme antrenmanlarına ek olarak yapılan kara antrenmanlarının serbest ve sırtüstü stil yüzme performansına etkileri. *GSI Journals Serie A: Advancements in Tourism, Recreation and Sports Sciences (ATRSS), 7*(1), 226–238.

Jones, R., Marshall, S., & Peters, D. (2010). Can we play games now? The intrinsic benefits of TGfU. *European Journal of Physical and Health Education, 42*(2), 57–63.

Keşke, A. G., & Gürsel, F. (2015). Modele dayalı uygulamada beden eğitimi öğretmenini güçlendiren ve yavaşlatan öğeler. *Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi, 13*(1), 73–82. https://doi.org/10.1501/Sporm_0000000271

Kozloff, M. A., LaNunziata, L., & Cowardin, J. (1999). *Direct instruction in education*. https://www.beteronderwijsnederland.nl/files/active/0/Kozloff%20e.a.%20DI.pdf

Layne, T. E., Irwin, C. C., Pharr, J. R., & Irwin, R. L. (2020). Factors impacting swimming participation and competence: A qualitative report. *International Journal of Aquatic Research and Education, 12*(4), 1–26. https://doi.org/10.25035/ijare.12.04.10

Mashud, Warni, H., Putra, M. F. P., Haris, M. A., Samodra, Y. T. J., Tantri, A., Kristiyandaru, A., & Suryadi, D. (2023). Integrating the project-based learning and the inclusive teaching style: An innovation to improve freestyle swimming skills. *International Journal of Human Movement and Sports Sciences, 11*(5), 956–964.

Magliaro, S. G., Lockee, B. B., & Burton, J. K. (2005). Direct instruction revisited: A key model for instructional technology. *Educational Technology Research and Development, 53*(4), 41–55.

Mıyaç, M., & Göktepe, M. (2023). Düzenli yüzme eğitimi alan bireylerin yaş değişkenine göre sakatlanma risklerinin belirlenmesi. *ROL Spor Bilimleri Dergisi, Özel Sayı*(1), 530–543. https://doi.org/10.5281/zenodo.10031023

Misimi, F., Kajtna, T., Misimi, S., & Kapus, J. (2020). Development and validity of the fear of water assessment questionnaire. *Frontiers in Psychology, 11*, 1–9.

Numanoğlu, H. (2020). *Rekreatif amaçlı yüzme havuzuna giden bireylerin serbest zaman tatmin düzeylerinin farklı değişkenler açısından incelenmesi* [Yayınlanmamış yüksek lisans tezi]. Fırat Üniversitesi.

Oh, S., Licari, M., Lay, B., & Blanksby, B. (2011). Effects of teaching methods on swimming skill acquisition in children with developmental coordination disorder. *International Journal of Aquatic Research and Education, 5*(4), 432–448.

Olaves, J., Aly, E. R., Allen, A. N. B., & Okeke, M. (2019). Perceptions and motivation toward water safety and aquatic activities in college students. *International Journal of Aquatic Research and Education, 12*(1), 1–15.

Özdoğru, K. (2018). *10–12 yaş grubu erkek yüzücülerde 8 haftalık dinamik kor antrenmanının bazı motorik özellikler ile 100 m karışık stil yüzme performansına etkisi* [Yayınlanmamış yüksek lisans tezi]. İstanbul Gelişim Üniversitesi.

Seggie, F. N., & Bayyurt, Y. (2015). *Nitel araştırma: Yöntem, teknik, analiz ve yaklaşımlar* (1. Baskı). Anı Yayıncılık.

Sevilmis, A., & Yıldız, Ö. (2022). Focus groups: A practical guide for sport education research. *International Journal of Recreation and Sport Science, 6*(1), 33–43. https://doi.org/10.46463/ijrss.1161584

Stager, J. M., & Tanner, D. A. (2005). *Swimming* (2nd ed.). Department of Kinesiology Indiana University Bloomington, IN, USA: Blackwell Science Ltd.

Soydan, S. (2006). *12–14 yaş grubu bayan sporcularda klasik ve vücut ağırlığıyla yapılan 8 haftalık kuvvet antrenmanlarının 200 m serbest yüzmedeki geçiş derecelerine etkisi* [Yayınlanmamış yüksek lisans tezi]. Kocaeli Üniversitesi.

Sönmez, H. O. (2021). *Bireyselleştirilmiş öğretim modelinin serbest stil yüzme becerilerinin öğrenimine etkisi* [Yayınlanmamış yüksek lisans tezi]. Sakarya Uygulamalı Bilimler Üniversitesi.

Sural, V., & Savaş, S. (2017). Farklı öğretim yöntemleriyle işlenen basketbol dersinin öğrencilerin psikomotor erişi düzeylerine etkisi. *Kastamonu Eğitim Dergisi, 25*(1), 345–360.

Tutar, H. (2022). Nitel araştırmalarda geçerlilik ve güvenilirlik: Bir model önerisi. *Anadolu Üniversitesi Sosyal Bilimler Dergisi, 22*(Özel Sayı 2), 117–140. https://doi.org/10.18037/ausbd.1227323

Üçal, G. (2019). *Geleneksel yaklaşım ve doğrudan öğretim modelinin ortaöğretimde öğrenim gören öğrencilerin bilişsel süreçlere etkisi* [Yayınlanmamış yüksek lisans tezi]. Karamanoğlu Mehmetbey Üniversitesi.

Yawer, F. A., & Saadoun, D. A. (2023). The impact of the educational modeling strategy using the direct teaching method in acquiring the skillful performance of free swimming for ages (10–12) years. *Journal of Sports Science and Nutrition, 4*(1), 19–23. https://dx.doi.org/10.33545/27077012.2023.v4.i1a.140

Yenibertiz, S. (2019). *Bireyselleştirilmiş öğretim modelinin voleybol becerilerinin öğrenilmesine ve tutuma etkisi* [Yayınlanmamış yüksek lisans tezi]. Sakarya Uygulamalı Birimler Üniversitesi.

Yıldırım, A., & Şimşek, H. (2021). *Sosyal bilimlerde nitel araştırma yöntemleri* (12. Baskı). Ankara: Seçkin Yayıncılık.

Yıkılmaz, H. (2019). *Yüzme havuzu kullanıcılarının memnuniyet düzeylerinin belirlenmesi ve yaşam kalitelerinin incelenmesi* [Yayınlanmamış Yüksek lisans tezi]. Bozok Üniversitesi.

Yurtçiçek, S., Hotun Şahin, N., & Miral, M. (2018). Fiziksel aktivite engelleri ölçeğinin Türkçe formunun geçerlik ve güvenirlik çalışması. *Akademik Sosyal Araştırmalar Dergisi, 6*(71), 396–404.

Wallhead, T. L., & Ntoumanis, N. (2004). Effects of a sport education intervention on students' motivational responses in physical education. *Journal of Teaching in Physical Education, 23*(1), 4–18. https://doi.org/10.1123/jtpe.23.1.4