

RESEARCH / ARASTIRMA

Investigation of Motor Imagery Ability and Academic Achievement of Physiotherapy and Rehabilitation Undergraduate Students According to Learning Style

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ABSTRACT

Objective: The aim of physiotherapy and rehabilitation education is to equip students with essential motor skills and clinical competencies. Various methods have been proposed to enhance the quality of practical training, one of which is motor imagery (MI). However, the suitability of MI for different learning styles and its impact on academic achievement remain unclear. This study aimed to compare MI abilities and academic achievement among physiotherapy students with different learning style preferences.

Material and Methods: This single-center, cross-sectional study included 214 physiotherapy students. MI abilities were assessed using the Movement Imagery Questionnaire-3 and learning style preferences were determined with the Kolb Learning Styles Inventory-3. Students' grade point averages (GPAs) were recorded.

Results: No statistically significant differences were found in MI abilities among students with different learning style preferences ($p > 0.05$). However, academic achievement differed significantly according to learning styles ($p < 0.05$). Students with an accommodating learning style had the highest academic achievement, followed by those with converging and assimilating styles, while students with a diverging learning style had the lowest academic performance (Mean GPA: 2.86, 2.73, 2.65, and 2.20, respectively). Additionally, learning style preferences varied significantly across academic years ($p < 0.05$).

Conclusion: Differences in learning styles affect individuals' academic success. MI, a technique frequently used in motor skill acquisition, is a technique that can be applied to individuals who adopt different learning styles.

Keywords: Physiotherapy and rehabilitation education, Learning styles, Motor imagery.

Fizyoterapi ve Rehabilitasyon Lisans Öğrencilerinin Öğrenme Stiline Göre Motor İmgeleme Yetenekleri ve Akademik Başarılarının İncelenmesi

ÖZET

Amaç: Fizyoterapi ve rehabilitasyon eğitiminin amacı, öğrencilere mesleki uygulamaları için elzem olan temel motor becerileri ve klinik yeterlilikleri kazandırmaktır. Bu amaçla uygulamalı eğitimin kalitesinin artırılmasına yönelik birçok yöntem ortaya atılmış olup bunlardan biri de motor imgelemedir (Mİ). Ancak kullanılan yöntemlerin farklı öğrenme stillerini tercih eden bireylere uygun olup olmadığı ve bu uygulamaların akademik başarılarına etki edip etmediği belirsizliğini korumaktadır. Bu çalışmanın amacı farklı öğrenme stillerini tercih eden fizyoterapi öğrencilerinin Mİ yeteneklerinin ve akademik başarılarının karşılaştırılmasıdır.

Gereç ve Yöntem: Bu çalışma tek merkezli, kesitsel bir çalışmadır. 214 fizyoterapi öğrencisinin Mİ yetenekleri Hareket İmgeleme Anketi-3 ile, öğrenme stili tercihleri ise Kolb Öğrenme Stilleri Envanteri-3 ile değerlendirilmiş ve öğrencilerin 'Genel Akademik Not Ortalamaları' alınmıştır.

Bulgular: Farklı öğrenme stillerini tercih eden öğrencilerin Mİ yetenekleri arasında anlamlı bir fark bulunmamıştır ($p > 0,05$). Öğrencilerin öğrenme stillerine göre akademik başarıları arasında anlamlı fark bulunmuştur ($p < 0,05$). En yüksek akademik başarıya sırasıyla; yerleştiren, ayrıştıran, özümseyen ve en düşük akademik başarıya değiştiren öğrenme stillerini tercih eden öğrenciler sahiptir (Ortalama: 2,86, 2,73, 2,65 ve 2,20). Farklı akademik yıllarda eğitim gören öğrencilerin öğrenme stilleri farklılık göstermiştir ($p < 0,05$).

Sonuç: Öğrenme stilindeki farklılıklar bireylerin akademik başarısını etkilemektedir. Motor beceri ediniminde sıklıkla kullanılan bir teknik olan Mİ farklı öğrenme stillerinde uygulanabilir bir teknik olarak düşünülmüştür.

Anahtar Kelimeler: Fizyoterapi ve rehabilitasyon eğitimi, Motor imgeleme, Öğrenme stilleri.

1. Introduction

Physiotherapy and rehabilitation education is delivered over four years by accredited and/or recognized universities (1,2). The primary objective of this program is to equip students with essential motor skills and clinical competencies required for professional practice (3). In applied sciences such as medicine, nursing, and physiotherapy and rehabilitation, both instruction

and practical training are often delivered through a master-apprentice model (4,5). Within this framework, students are expected to observe and apply practices, synthesize the knowledge acquired through experiential learning, and internalize these practices (4,5). However, individual differences in the learning process both negatively affect and slow down this process (6,7).

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Educators have observed that students often prefer certain methods of learning over others. Each individual has a characteristic way of acquiring and processing information (8). These preferences are referred to as learning styles. Learning style can be defined as an individual's preferred way of receiving, processing, and retaining information during the learning process (9). Researchers emphasize that the most effective learning occurs when the optimal learning method for the individual is identified and the learning environment is organized accordingly (10).

It is crucial for students to develop effective learning strategies for acquiring motor skills during short and intensive training programs (11). Health profession education is both costly and time-limited, and individual differences in learning processes have led educators to explore innovative methods, particularly in health-related fields (11–14). One such method is motor imagery (MI) (15).

Numerous studies in the literature have examined the use of MI to teach motor skills in the training of health professionals (16–20). MI is a technique that involves engaging the kinesthetic, tactile, auditory, visual, and olfactory senses to mentally simulate movement without motor execution. MI is closely related to memory processes and enriches the cognitive phase (19). However, MI is influenced by various personal factors, leading to individual differences in MI ability. While existing studies mainly focus on the neurophysiological and performance-related aspects of MI, its educational implications—particularly in relation to different learning styles—have largely been overlooked. In this context, identifying who benefits most from MI and the factors that enhance its effectiveness can help educators improve their teaching methods and support students in developing more effective learning strategies (19).

The aim of this study was to evaluate the MI abilities and academic achievements of students who prefer different learning styles.

In this study, we hypothesized that there is a difference in MI abilities and academic achievement according to different learning styles. Moreover, we hypothesized that learning style preferences vary among individuals in different academic years.

2. Material and Method

2.1. Research Type and Sample of the Research

This research is a single-center, cross-sectional study.

2.2. Data Collection

2.2.1. Participants

A total of 552 students were enrolled in the Department of Physiotherapy and Rehabilitation at the university where the research was conducted. Students were invited to participate in the study via their institutional email addresses. Of these, 215 students volunteered to take part. One student was excluded for not meeting the inclusion criteria. Ultimately, the study included 214 students who both volunteered and met the eligibility requirements. Learning style groups (Accommodating, Diverging, Assimilating, and Converging) were determined based on the participants' scores from the Kolb Learning Style Inventory-3 (KLSI-3). The inventory was administered during the data collection phase, and the classification into learning style groups was carried out during data analysis.

2.2.2. Sample Size

The sample size was determined using the G*Power 3.1.9.2 software. The calculation was performed at a 95% confidence level, with an α value of 0.05 and a statistical power of 0.95.

In this calculation, the standardized effect size was assumed to be 0.50, based on Cohen's guidelines for medium effect size. As a result, the minimum required sample size was determined to be 210 participants (27).

2.2.3. Inclusion Criteria

Inclusion criteria were volunteering to participate in the research, being an undergraduate student at Kutahya Health Sciences University Department of Physiotherapy and Rehabilitation and being a native speaker of Turkish language.

2.2.4. Exclusion Criteria

Exclusion criteria were being not volunteer to participate in the study, having a neurological problem that prevented the MI task, using a medication that prevented the MI task, and having an orthopedic problem that prevented the jumping.

2.2.5. Outcome Measures

The outcome measures of the study were MI abilities and learning style preferences, assessed using the Movement Imagery Questionnaire-3 (MIQ-3) and KLSI-3. Secondary outcome measures included students' academic achievement and their year of study.

2.2.4.1 Movement Imagery Questionnaire-3

MIQ-3, developed by Williams, was used to evaluate individuals' MI abilities (21). MIQ-3 is a self-report psychometric tool designed to assess individuals' abilities in both kinesthetic imagery and visual imagery, including internal and external visual perspectives. The questionnaire comprises 12 items and evaluates four distinct movements imagined in three different modalities. Following each imagery task, participants are asked to rate the ease or difficulty of performing the mental activity. For internal and external visual imagery, responses are recorded using a 7-point Likert-type scale, where 1 indicates "very difficult to see" and 7 indicates "very easy to see." Similarly, for kinesthetic imagery, participants rate their experience from 1 ("very difficult to feel") to 7 ("very easy to feel"). The scoring range for each item is between 1 and 7, with higher scores indicating greater imagery ability (21,22).

2.2.4.2 Kolb Learning Style Inventory-3

The KLSI-3 developed by David Kolb. According to Kolb's classification, learning styles can be categorized into four distinct groups: diverger, assimilator, converger, and accommodator. Kolb Learning Style Inventory comprises of twelve items, each offering four alternatives. Every item possesses four sentences that corresponded to one of the four learning styles, such as a sentence stating, "I acquire knowledge most effectively from..." and each conclusion corresponds to the four learning styles (diverger, assimilator, converger, and accommodator). The students were instructed to evaluate the suitability of each sentence by assigning a rank order (with the most appropriate sentence being ranked as "4," the second most suitable as "3," the third most suitable as "2," and the least suitable sentence as "1"). Utilizing the assigned scores for each individual option, cumulative scores were derived. Responses were arranged along the X-Y axes in such a way that the total number of points in each axis corresponds to a score in one of the four categories (23–25).

2.2.4.3 Academic Success

Students' academic achievements were evaluated based on their grade point averages (GPAs), which were obtained through the university's online system.

2.3. Implementation of the Research

2.3.1. Research Data Collection

Individuals who volunteered to participate in the study signed an informed consent form. Individuals participating in the study filled out the "Demographic Data Form," which included their demographic information (gender, age, academic year, medication used, orthopedic problems, neurological problem).

Students who met the inclusion criteria completed the KLSI-3 survey after completing the informed consent form. Subsequently, the students were taken to a quiet and isolated room, where a physiotherapist provided them with detailed information regarding the MIQ-3. The instructions included in the questionnaire were then read aloud to the participants. Prior to the MI session, a brief (1-minute) relaxation exercise was implemented to help participants concentrate and enhance their mental focus. Relaxation is a commonly used preparatory technique before MI and serves multiple purposes, including reducing distracting stimuli, facilitating focus on mental images, decreasing somatic tension, and promoting overall relaxation (26). After the exercise, the physiotherapist gave three exercises to help the students understand the MIQ-3 test. In accordance with the instructions provided in the questionnaire, verbal cues were given to the students both prior to initiating the imagery and during the imagery process. Following the completion of the imagery exercise, participants proceeded to complete the survey. After physically performing each movement, students were instructed to close their eyes and mentally visualize or feel the movement they had just executed, without producing any actual motor output. All imagery instructions were delivered in accordance with the commands specified in the questionnaire and were repeated for each movement. In total, each participant completed twelve imagery tasks (21,22). Following the evaluation, students' GPAs were collected through the university's online system.

2.3.2. Analysis of Research Data

Statistical analyses were performed with SPSS 18.0 (SPSS Inc., Chicago, IL, USA). When evaluating the data, descriptive statistical methods (number, percentage, min-max values, average) are given in tabular form. The suitability of the data for normal distribution was analyzed with Kolmogorov Smirnov tests. Parametric tests were used for normally distributed scales. For normally distributed continuous variables, One-way ANOVA test was used for multiple group comparisons. Homogeneity of variances was evaluated with the Levene test. In cases where there was a significant difference between the groups, Post Hoc tests such as Bonferroni or Tukey pairwise comparison were used to find the group that made a difference between their means. Non-parametric tests were used for variables that did not show normal distribution. Kruskal Wallis test was used for intergroup comparison of non-normally distributed continuous variables. Chi-Square test was used to test whether there was a difference between independent groups in categorical variables that did not comply with normal distribution. Pearson correlation analysis was applied when the relationship between continuous variables was normal. The results were evaluated at the $p < 0.05$ statistical significance

level. According to the results of the power analysis of the variance between the learning style preferences and academic achievements of the 214 students included in the study, the power of the study was found to be 87% with a 95% confidence level and an effect size of 0.50.

2.4. Ethical Aspects of the Research

This research was conducted with the approval of the Clinical

(Decision No: 2022/154). Permission was also obtained from Kutahya Health Sciences University, where the research data were collected. Data collection was carried out between September and November 2022. The study was conducted in accordance with the principles and recommendations of the Declaration of Helsinki and was prepared in line with the STROBE reporting guidelines.

3. Results

The demographic characteristics of the participants are given in Table 1. 183 (85.5%) of the participants were women and 31 (14.5%) were men. Of the students participating in the research, 100 (46.7%) were in the 1st grade, 39 (18.2%) were in the 2nd grade, 33 (15.4%) were in the 3rd grade and 42 (19.6%) were in the 4th grade. 66 (30.8%) of the students participating in the research preferred the assimilating learning style, 65 (30.4%) preferred the converging learning style, 43 (20.1%) preferred the diverging learning style and 40 (18.7%) preferred the accommodating learning style. Comparison of individuals' MI abilities according to their learning styles is given in Table 2. The results showed that there were no statistically significant differences in Intrinsic Visual Imagery among the learning styles ($\chi^2 = 6.7$, $p = .34$). Similarly, no significant differences were found for Extrinsic Visual Imagery ($\chi^2 = 1.7$, $p = .53$) or Kinesthetic Imagery (χ^2 values not provided, p -values not reported).

Table 1. Descriptive statistics of participants' demographic characteristics (N=214)

Variable	Numbers and percentages
Sex, n (%)	
Women	183 (85.5%)
Men	31 (14.5%)
Class, n (%)	
1	100 (46.7%)
2	39 (18.2%)
3	33 (15.4%)
4	42 (19.6%)
Learning Style Preferences, n (%)	
Accommodating	40 (18.7%)
Diverging	43 (20.1%)
Converging	65 (30.4%)
Assimilating	66 (30.8%)
n:number of participant, %: percentage	

Although minor variations were observed in mean scores, no statistically significant differences were detected between Accommodating, Diverging, Converging, and Assimilating learning styles in any of the MI dimensions.

Comparison of academic achievements of individuals according to their learning styles is given in Table 3. The analysis revealed

Table 2. Motor imagery ability according to learning style preference

	Intrinsic Visual Imagery				Extrinsic Visual Imagery				Kinesthetic Imagery			
	Kruskal Wallis H				Kruskal Wallis H				Kruskal Wallis H			
	x	sd	x ²	p	x	sd	x ²	p	x	sd	x ²	p
<i>Learning Style Preferences</i>												
Accommodating (n=40)	5.35	1.05			5.80	.80			5.58	.93		
Diverging (n=43)	5.61	1.15			5.91	.89			5.58	1.07		
Converging(n=65)	5.32	1.26	6.7	.34	5.76	1.04	1.7	.53	5.46	1.17		
Assimilating (n=66)	5.62	.83			5.86	1.09			5.61	.90	1.7	.97
N:number of participant, x:mean, SD: Standard Deviation, x ² :Kruskal Wallis value, p<0.05												

a statistically significant difference in academic success scores across the four learning styles ($F(3, X) = 4.08, p = .008$). Post-hoc comparisons using the Bonferroni test indicated that students with an Accommodating learning style ($M = 2.86, SD = 0.54$) had significantly higher academic success scores compared to those with a Diverging learning style ($M = 2.20, SD = 0.53$) ($p < .05$). Additionally, students with a Converging learning style ($M = 2.73, SD = 0.56$) also had significantly higher academic success scores than those with a Diverging learning style ($p < .05$). No statistically significant differences were found between the Assimilating learning style and the other learning styles. These findings suggest that students with Accommodating and Converging learning styles tend to perform better academically than those with a Diverging learning style.

Table 3. Academic success by learning style preference

Learning Styles	n	mean	sd	df	F	p	Diff
Accommodating (1)	40	2.86	.54				
Diverging (2)	43	2.2	.53				
Assimilating (3)	66	2.65	.66	3	4.08	.008*	1>2*
Converging (4)	65	2.73	.56				4>2*

n: number of people, SD: Standard Deviation, df: Degrees of Freedom, F: One-Way Anova, * Bonferroni Test, Diff: Difference, $p < 0.05$.

The comparison of learning style preferences by academic years is given in Table 4 (Table 4). The analysis revealed a statistically significant association between these variables ($\chi^2(9) = 17.2, p = .04$), suggesting that learning style preference varies across different academic years. Examining the distribution, students with an Accommodating learning style were evenly distributed across all academic years. Diverging learners were more prevalent in the earlier years, with a sharp decline in the later years. Conversely, students with an Assimilating or Converging learning style were more consistently distributed, with slight variations across years.

Table 4. Learning style preference and academic year

Learning Style Preference	Academic Year					X ²	SD	p
	1	2	3	4	Total			
Accommodating	14	6	6	14	40	17.2	9	.04*
Diverging	22	12	7	2	43			
Assimilating	37	10	9	10	66			
Converging	27	11	11	16	65			
Total	100	39	33	42	214			

X²: Pearson Chi-Square Value, SD: standard deviation, $p < 0.05$.

4. Discussion

In this study, the MI abilities (kinesthetic imagery, extrinsic visual imagery, and intrinsic visual imagery abilities) of students who preferred different learning styles were similar. Recent studies have demonstrated that MI training, when integrated into health professions education, enhances profession-specific motor skills and facilitates motor learning process (13,15,16,19,20,28,29). For this reason, the integration of MI into health professions education has become increasingly prevalent, particularly in disciplines that require the acquisition of complex motor skills, such as surgery, physiotherapy, occupational therapy, and nursing. For instance, research in medical education has shown that MI enhances fine motor skills—such as performance in laparoscopic surgery—by enabling students to mentally rehearse complex movements prior to physical execution (16,20). In their study involving physiotherapy students, Cuenca-Martínez et al. evaluated the time required to perform the manipulation technique, test performance, and perceived difficulty of the rotational lumbar manipulation technique following a single session of MI training (13). They found that a single session of MI training improved the total time required for practice and test score and reduced the perceived difficulty in learning. However, the authors

emphasize that MI ability can be affected by many variables such as previous physical conditions, imagination, and mental fatigue. Moreover, individuals' preferences for different learning styles may influence their MI ability. Variability in MI ability among individuals may be attributed to differences in cognitive processing, prior motor experience, and learning styles. Although no statistically significant relationship was found between learning styles and MI ability in the present study, the absence of such an effect does not necessarily imply that individual differences are irrelevant. Previous research has indicated that MI ability varies across individuals, with factors such as imagery vividness, working memory capacity, and kinesthetic awareness contributing to its effectiveness (30). Some students may benefit more from MI due to their ability to produce clear and dynamic mental representations, while others may struggle due to limitations in imagery vividness or cognitive interaction. For example, a study conducted on dancers investigated whether there was a difference in MI abilities among dance students with different learning styles (17). As a result of their study, the authors reported that dancers with a diverging learning style exhibited the highest MI abilities, followed by those with accommodating and assimilating styles, while individuals with a converging learning style demonstrated the lowest MI abilities. Although previous research has identified significant differences in MI ability based on learning style preferences, our findings did not support this relationship. In our study, individuals with different learning styles exhibited comparable levels of MI ability. This discrepancy may be attributed to variations in sample characteristics, the measurement tools employed, or contextual factors influencing MI performance.

In this study, we found that academic performance of students varied according to their preferred learning styles. Specifically, students with a diverging learning style demonstrated lower academic achievement compared to those with accommodating, assimilating, and converging learning styles.

Unlu et al. defined learning styles as the techniques and habits that the student uses to achieve his/her academic goals (31). It is thought that it may be indirectly effective in increasing the student's academic success by exhibiting a more positive attitude (32). A study examining the relationship between nursing students' learning style preferences and academic achievement did not find a statistically significant difference between the two variables (33). The study emphasizes that learning style preferences are not superior to each other and are not a fundamental variable affecting a student's academic success, regardless of ability and intelligence. As stated in the study, learning styles reflect individual differences in learning; however, no single learning style is considered superior to the others. While some individuals learn more effectively through hands-on experience, others may find it easier to learn by observing. Treating all learners as if they acquire knowledge in the same way may adversely impact students' motivation and their belief in their ability to learn. Academic success is not only affected by cognitive parameters such as talent and intelligence. Many parameters, such as learning environment, and motivation, have an impact on academic success (34).

Learning styles refer to the preferred methods through which individuals learn and emphasize that educational environments should be designed in alignment with these preferences (9). Rather than being a parameter that directly affects academic success, learning style preferences can indirectly increase student success by affecting many parameters, such as motivation and the learning environment mentioned above, in a personalized manner. Awareness of one's own learning style, along with instructional adaptations made by the educator, accordingly, can facilitate the learning process. As a result, knowledge is retained more effectively, and students are likely to

demonstrate more positive attitudes toward learning, leading to improved academic achievement (35,36).

In our study, individuals who preferred the diverging learning style had the lowest academic success. Individuals who prefer a diverging learning style tend to avoid active participation and prefer to learn through observation and reflection—an approach that may not align well with the structure of physiotherapy education. In physiotherapy training, students are expected to apply what they observe and engage in hands-on practice. However, those with a diverging learning style are generally less inclined to learn through action and application (9,37). This is interpreted as not only making the student's learning process more difficult but also negatively affecting the student's academic success indirectly by affecting their motivation.

Our findings revealed a distinction between learning style preferences and academic year. First-year students most frequently preferred the assimilating learning style, followed by converging, diverging, and least frequently, accommodating. Among second-year students, the diverging learning style was most common, followed by converging, assimilating, and again, accommodating as the least preferred. Third-year students showed the highest preference for the converging style, followed by assimilating, then diverging, with accommodating remaining the least preferred. Finally, fourth-year students predominantly preferred the converging style, followed by accommodating, with assimilating and diverging styles being the least frequently selected. These findings align with Kolb et al.'s assertion that there is no single "best" learning style, as preferences may vary across individuals and over time (37). Titus et al. state that in early adulthood, individuals' learning styles are more prone to concrete learning and that abstract learning develops with age (38). Our result is parallel to the result obtained in this study. The 1st grade, 2nd grade and 4th grade students who participated in this study among students aged 18-24 mostly preferred assimilating and diverging learning styles. This learning style is preferred by individuals who are prone to learning through Abstract Conceptualization (37). Researchers found that first-year students in both the Faculty of Medicine and the Faculty of Dentistry most frequently preferred the assimilating learning style, followed by the converging style, with the diverging style being less common and the accommodating style the least preferred (32). The undergraduate department of physical education and sports teaching examined the relationship between learning styles and academic year in a study (39). The study revealed significant differences in learning style preferences between the 1st and 4th grades. It has been found that there is a proportional decrease in the preference for assimilating learning style as the grade level increases. There were no first-year students who preferred the accommodating learning style. Researchers have found that the preference for accommodating learning style increases towards the 4th grade. A study examining the relationship between undergraduate nursing students' learning style preferences and academic year did not find a statistically significant difference between students' learning style preferences and academic year (40). However, the study found that there was a statistically significant difference between the students' classroom and the Concrete Experience, Abstract Conceptualization, Reflective Observation and Active Experience stages of the learning cycle. A statistically significant difference was found between Abstract Conceptualization and Concrete Experience. Researchers stated that these differences originate from first-year students and that students begin to acquire skills such as critical thinking skills, taking responsibility, decision-making, and problem solving specific to the nursing profession in the 2nd, 3rd, and 4th grades. Researchers believe this finding stems from the shift in the learning cycle during the acquisition of these qualities. Despite the findings, there is a need for long-term and comprehensive

studies on the change in learning style preferences of physiotherapy and rehabilitation students according to academic years.

4.1. Limitation

This study has some limitations. One of the limitations is that students' MI abilities were assessed via a self-report questionnaire, and it was not possible to objectively measure whether students performed MI. Assessing whether MI occurred during MI using objective methods such as autonomic nervous system response (e.g., electrodermal activity, heart rate variability) would guide future studies. Future research should investigate how MI training can be adapted to different learning styles or cognitive profiles to maximize its benefits. Additionally, a more comprehensive comparison with the existing literature may provide insight into how our findings are consistent with or different from previous studies, particularly in terms of the effectiveness of MI among different health professions.

5. Conclusion and Recommendations

In conclusion, educational activities carried out considering learning style preferences can enable students to recognize their own characteristics both in the process of perceiving information and in the learning process, and to use the learned information more effectively under appropriate conditions. Knowing the differences in learning styles of educators and students and carrying out the educational process according to these dynamics can positively affect the learning process by increasing the motivation of both the educator and the student. In line with the literature, we recommend using MI during motor skills training. However, before using MI, it is important to evaluate individuals' MI abilities and consider individual factors. According to this study, MI training can be applied to students with different learning styles. The relationship between MI ability and learning style preferences requires further research.

6. Contribution to the Field

The implementation of different teaching strategies in physiotherapy and rehabilitation education can enhance students' motivation and improve their academic performance. In this context, the increasing use of MI in health professions education may also be applicable to individuals with different learning style preferences. Furthermore, it has been found that the academic success of physiotherapy and rehabilitation students varies according to their learning styles. Based on this finding, educators in physiotherapy and rehabilitation should be aware of students' learning style preferences and make appropriate adjustments to enhance their motivation and academic achievement.

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Conflict of Interest

There is no conflict of interest with any person and/or institution.

Authorship Contribution

Concept: AAD, ŞA; Design: AAD, ŞA Supervision: ŞA; Funding: AAD, ŞA; Materials: AAD, ŞA; Data Collection/Processing: AAD; Analysis/Interpretation: AAD, ŞA; Literature Review: AAD, ŞA; Manuscript Writing: AAD; Critical Review: ŞA.

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