

THE BLOOM MODEL AND ITS IMPACT ON THE DEVELOPMENT OF THE STABBING SKILL OF THE FENCING SWORD PLAYERS IN MISAN GOVERNORATE

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ABSTRACT	KEYWORDS
Fencing is one of the sports whose development has been influenced by other sciences because it is one of the sports that prioritizes fundamental abilities as a necessary foundation for growth. As a result, coaches devote a significant amount of time to teaching players these abilities, especially the stabbing technique, which is the game's foundation and allows players to take a touch by directing the weapon. As the problem of the research was that most players need an auxiliary model that harmonizes with their weaknesses, the idea of using and harnessing the model (Bloom) to achieve a level of better skill performance to reach the appropriate performance or close to the ideal, and its contents of steps contribute to mastering the skill of stabbing with a fencing sword weapon because it is one of the important skills in this sport. The objective of this research is to examine the influence of the Bloom model on the enhancement of fencing sword stabbing skills in Misan Governorate. The researcher hypothesizes that there are notable disparities between the pre- and post-test results of the two research groups, with the experimental group, which utilizes the Bloom model, exhibiting superior performance. To investigate this, an experimental approach was employed, involving two comparable groups - an experimental group and a control group. Both groups underwent pre- and post-tests to evaluate their skill development. The research sample consisted of fencing athletes from the clubs in Misan Governorate for the sports season (2022-2023). The sample size comprised 18 players, who were selected deliberately. The distribution of sample members was conducted randomly using a drawing method. Specifically, 8 players were assigned to the control group, 8 players to the experimental group, and 2 players to the exploratory experiment. The results were extracted using statistical software (SPSS) and based on the findings of the study, several conclusions were drawn. One of the notable findings was that the group that followed the Bloom model demonstrated significant improvement in acquiring the skill of stabbing. This can be attributed to the model's effectiveness and compatibility with performance. Consequently, the researcher recommended the adoption of the Bloom model for teaching fundamental skills, particularly the skill of stabbing in fencing. This model is considered distinctive and suitable for learners' capabilities and abilities.	Bloom Model, Development, Stabbing Skill, Fencing Sword.

Introduction

Our time is experiencing a great and rapid development in many facets of life, and the field of motor learning sports has benefited greatly from these developments (Gong et al., 2021). These successes were not accidental; rather, they were the result of careful scientific planning, the findings of researchers and experts in the field of physical education and sports sciences, and the use of these findings in establishing the rules (Sukendro et al., 2020). In recent times, there has been a growing interest in educational models that consider the unique characteristics of individuals. One such model that takes into account these individual differences is the Bloom model (Lefebvre, Bloom & Duncan, 2021). This particular model serves as a guiding framework that is derived from the outcomes of learning. It surpasses theoretical guidance by allowing coaches to design specific events that effectively enhance the skill level of the learner (Martin, Camiré & Kramers, 2022). The sport of fencing is characterized by its reliance on various scientific disciplines in its development. It is considered one of the sports that incorporate fundamental skills as a crucial foundation for advancement (Ahmed & Zaki, 2023). Consequently, coaches dedicate a significant portion of their training time to mastering these skills and allocate a substantial portion of educational curricula to their instruction (Ganakas & Peden, 2023). The fundamental principle of the player, particularly the proficiency in stabbing, serves as the foundation of this game. This skill enables the player to make contact by directing the weapon's trajectory towards the opponent's goal (Harfoush & Hossam, 2020). Consequently, the researcher deemed it significant to investigate this aspect. In order to enhance proficiency in the challenging skill of fencing and attain the desired athletic competence, the application of the Bloom learning model is being employed.

The Problem of the Study

In order to optimize proficiency in the skill of stabbing, it is imperative to employ diverse pedagogical approaches that facilitate mastery of this skill (Arsenovich, 2022). Drawing from the researcher's limited experience as a coach at a specialised fencing center in Misan Governorate, it is observed that a significant number of athletes require a supportive role model who can effectively address their individual weaknesses. Thus, hence the idea of utilizing and harnessing the (Bloom) model to be able to obtain a level of improved skill performance to reach the appropriate or almost ideal performance; as a result, the researcher purposefully delved into the utilization of this model to address their problems.

The Objectives of the Study

Identify the use of the (Bloom) model and its impact on the development of stabbing skill among fencing sword players in Misan Governorate.

The Hypothesis of the Study

There is a positive impact of the Bloom model on the development of stabbing skill among fencing sword players in Misan Governorate.

The Fields of study

Human Area: Fencing weapon players for clubs in Misan province.

Time Area: For the period from 1/11/2022 to 20/5/2023

Spatial Area: Fencing Hall in the Youth Forum of Al-Hussein neighborhood in Misan Governorate.

Methodology

Research Methodology and Field Procedures

Research Methodology

The researcher employed an experimental design consisting of two equivalent groups (experimental and control) with pre- and post-tests (Kirk, 2009). This approach was selected to align with the nature of the problem under investigation, as it allows for the manipulation of a single independent variable while controlling for other influential factors. By observing and measuring the effects of the independent variable or dependent variables, the researcher aimed to identify and quantify their impact (Rogers & Revesz, 2019).

Research community and sample

The process of sample selection is a crucial component in data collection and research (Chen et al., 2020). In this study, the research sample was deliberately chosen from the players of Misan fencing clubs for the sports season (2022/2023). The sample consisted of 18 players, and they were randomly assigned to different groups. Specifically, 8 players were assigned to the control group, 8 players to the experimental group, and 2 players to the exploratory experiment.

Homogeneity of the research sample

The research sample was homogeneous in terms of length, weight, chronological age, and training age in order to avoid factors that could affect the experiment's outcomes. The results demonstrated the homogeneity of the sample individuals, with the torsion coefficient constrained between (+1, -1), which is a good indicator because (whenever this value is zero or close to it, this indicates that the distribution is moderate), and thus the research sample is valid (Götz et al., 2021).

Table 1: Shows the homogeneity of the research sample (control and experimental)

Variables	Unit of measurement	M	SD	Median	Torsion coefficient
Length	CM	161.7	3.5	161	0.02
Weight	Kg	58.83	2.6	58.5	0.126
Age	Year	21.55	1.04	21.5	0.04
Training Age	Year	2.05	0.72	2.02	0.04

Equivalence of the research sample

On Sunday, January 18, 2022, the researcher performed equivalence tests on the participants of the two research groups. The (T) test was employed to compare the experimental and control groups in the pre-test, aiming to establish the equivalence between the two groups, as presented in Table 2.

Variables	Unit of Measurement	Experimental		Control		T
Stabbing Skill	Degree	1.78	0.809	2.14	1.18	0.660

df= (n-2) (14-2=12) and significance level (0.05)

Means of collecting information:

The following means were used:

- ❖ International information network (Internet).
- ❖ Observation.
- ❖ Arab and foreign sources.
- ❖ Assistant working group.

Research Tests

Stabbing Skill Accuracy Test (Hassan & khalaf, 2022).

Exploratory Experience

In order to ensure the accuracy and integrity of the research work, the researcher deemed it necessary to conduct an exploratory experiment. This experiment, although smaller in scale compared to the actual application of tests, aimed to address potential difficulties and obstacles that may arise. The experiment took place on 10/1/2022 at ten o'clock in the morning, in the fencing hall of the Al-Hussein Youth Centre. Two players were randomly selected through a lottery process. The purpose of this experiment was to establish a solid foundation for the subsequent research endeavours.

Pre-Tests:

On January 18, 2022, a researcher conducted pretests on a sample of players from clubs in Misan governorate. The sample consisted of 16 players, divided into control and experimental groups. The tests took place at the fencing hall in the Al-Hussein neighborhood youth forum, commencing at 9:00 AM. Prior to the tests, the researcher provided a concise explanation on how to perform the stabbing skill test. The players' attempts were documented through photography, and the resulting data and information were subsequently entered into a dedicated form designed for this purpose. Statistical analysis will be conducted on the collected data to obtain the necessary information.

Training Curriculum

The researcher devised an educational curriculum aimed at enhancing the proficiency of players in Misan Governorate in the art of stabbing. This curriculum was designed based on the Bloom model and included a series of exercises specifically tailored to cultivate this skill. The primary objective of this study was to assess the effectiveness of the Bloom model in improving the targeted skill among the selected participants. The curriculum development process involved the utilization of expert opinions from a group of specialists in the domains of motor learning and fencing. The researcher sought to incorporate their valuable insights into the curriculum design. Additionally, the researcher considered the hierarchical steps outlined by Bloom's taxonomy when developing the curriculum's vocabulary. The implementation of the training curriculum spanned a duration of eight weeks, commencing on January 19, 2022. Until March 15, 2022, the number of units increased by two units per week until it reached a total of 24 units.

Post-Tests

Following the successful implementation of the predetermined curriculum, post-tests were administered to a research sample consisting of 16 players on March 16, 2022. The researcher ensured

that the tests were conducted under identical conditions, including the same situations, climatic atmosphere, and location, as well as using the same tools employed during the pre-tests. Additionally, video recording was employed to capture the execution of the skill during both the pre- and post-test phases.

Statistical Means

To accomplish the study's objective, the researcher employed the Statistical Package for the Social Sciences (SPSS). In this discussion, we will explore several statistical concepts, including the percentage law, arithmetic mean, median, standard deviation, and the law (T) for symmetrical samples.

Results

Presentation, analysis and discussion of results:

Presentation and analysis of the results of the pre- and post-tests of the experimental group to test the skill of stabbing fencing and discussing them.

The data pertaining to the pre- and post-tests of the experimental group were unloaded and subjected to statistical processing, as illustrated in Table (3).

Table 3: Shows the results of the pre- and post-tests of the experimental group to test the skill of stabbing.

Variables	Unit of Measurement	Pre-Test		Post-Test		T	Sig
		M	SD	M	SD		
Stabbing Skill	Degree	2.50	0.535	7.62	1.30	10.68	0.000

df (n-1) (8-1=7), * if the degree of significance level (Sig) $\geq$ (0.05).

Upon reviewing Table (3), which presents the results of the pre- and post-test of the experimental group in the (Stabbing Skill) assessment, it is observed that the mean score of the pre-test was 2.50, with a standard deviation of 0.535. In contrast, the mean score of the post-test was 7.62, with a standard deviation of 1.30. Applying the T-Test for correlated samples, the calculated value of T was found to be 10.68, with a significance level of 0.000. This indicates a significant difference at the 0.05 significance level, with 7 degrees of freedom. Consequently, the statistical analysis suggests that the post-test scores are significantly higher than the pre-test scores.

Discussing the results of the pre- and post-test of the experimental group in the stabbing skill test for fencing sword players:

Through the data presented in Table (3), it was determined that there are significant differences between the two tests (pre- and post), with the post-test performing significantly better than the pre-test, and that the reason for the post-test's superiority in the skill of appeal was due to (the exercises used and the method of their implementation during the educational units and regularly and distinctly, which led to the speed of learning the skill, which indicates a clear interest in the impto, the exercises used and the method of their implementation during, which then increases the level of skill performance during practice, as it is appropriate for the desire of players to learn skills, as it stimulates the learner's thinking and activates his ideas in the production of new creative movements, as these exercises allow him to use different senses during the performance of exercises by expressing those ideas through movements and controlling his body, agility, and speed during performance (Wulf & Lewthwaite, 2016). The researcher additionally ascribes the cause of these moral disparities to the

inclusion of a stabbing skill assessment in the post-tests, which can be attributed to the specific exercises employed during the educational units. These exercises incorporated a performance-oriented approach to the development of stabbing skills. The exercises facilitate the player's ability to perceive the temporal duration of repetitive and successive movements, enabling them to ascertain the speed of motor performance. Additionally, these exercises cultivate a sense of the appropriate distance for executing movements, thereby aiding the player in determining the optimal range for competitor movement. This entails coordinating and synchronizing different body parts in a cohesive and harmonious manner, while also executing movements with precision during performance. It is crucial to note that this skill necessitates meticulous execution and an acute awareness of the body parts involved. Any lapse in timing can result in the loss of control over the ball, impeding the player's ability to meet the required performance standards (Singh, 2023). According to Wu et al. (2022), the learner's capacity to surmount a higher number of challenges and subsequently arrive at suitable decisions is enhanced. The act of providing feedback is a common occurrence during the early stages of learning. It is also utilized in the processes of troubleshooting, debugging, and enhancing technical performance by increasing the frequency of iterations. According to a study conducted by Dwivedi et al. (2023), it has been established that enhancing students' technical performance can be achieved by offering them increased opportunities for practice and providing feedback to address errors during performance. This approach to teaching motor skills helps in rectifying learners' responses and guiding their motor behavior towards the correct form, thereby elevating the overall level of skill education.

Presentation and analysis of the results of the pre- and post-tests of the control group Test of the skill of stabbing with a fencing sword weapon:

The data from the pre- and post-tests of the control group were collected and subjected to statistical analysis, as presented in Table 4.

Table 4: The results of the pre- and post-tests of the control group show the skill test of stabbing with a fencing sword weapon.

Variables	Unit of Measurement	Pre-Test		Post-Test		T	Sig
		M	SD	M	SD		
Stabbing Skill	Degree	2.37	0.518	4.37	0.518	10.68	0.000

df (n-1) (8-1=7), * if the degree of significance level (Sig) $\geq$ (0.05).

Upon reviewing Table (4), which presents the pre- and post-test results of the control group in the Stabbing Skill test, it is observed that the mean score of the pre-test was 2.37 with a standard deviation of 0.518. In contrast, the mean score of the post-test was 4.37 with the same standard deviation of 0.518. Utilizing the T-Test for correlated samples, the calculated T-value was 7.48, with a level of significance of 0.000. This indicates a significant difference at the 0.05 level of significance, with 7 degrees of freedom, favoring the post-test.

Discussing the results of the pre- and post-tests of the control group in the test of the skill of stabbing with a fencing weapon.

The results presented in Table (4) for the values of arithmetic medians, standard deviations, and values (t) calculated for the skill test (Stabbing) indicated that there are significant differences between the pre- and post-tests for the two control groups and in favor of the post-tests; the reason for these differences for the control group is attributed to their regularity in the educational units assigned to

them by the trainer in accordance with the usual curriculum, as well as the fact that they participated in the experiment. This is confirmed by Newell (2020), who states that the purpose of this stage is to acquire motor skills in general and not full mastery and stability of the art of motor performance. However, the main purpose of this stage must be to acquire the ability to carry out a variety of movements to an acceptable degree while conserving effort. Therefore, we find that the control group has achieved teams of learning for the skills surveyed as a result of repetition and practice through the educational units in which the method used by the trainer, the main goal of each unit is to deliver the material to be learned to the learner, and that the development of the level of skill performance is due to the access of members of the control group to the repetitions of each skill with the emergence of the role. As the steering factor is one of the most crucial factors in a learner's assimilation of movement, it must be emphasized in movement instruction (La Fleur et al., 2021). The detection and correction of errors in sports performance plays a significant role in enhancing success (Faure et al., 2020). The probability of achieving success is higher when errors are identified and rectified at an early stage. This process involves categorizing players into smaller groups, which facilitates the provision of feedback in a more efficient and effective manner (Koh, Li & Mukherjee, 2020). In contrast, the current method of providing feedback becomes challenging when the number of players increases, as it may result in the coach not being able to effectively observe and provide feedback (Yazid, 2014). However, by utilizing smaller learning groups, the coach can overcome these challenges and ensure effective feedback delivery. The learning groups are characterized by their small size, facilitating seamless interaction among learners, fostering the exchange of experiences, and enabling the provision of feedback to individual learners. Certain forms of learning cannot be acquired solely through knowledge of outcomes or feedback. It is widely acknowledged among researchers that the provision of feedback to individual learners is a crucial variable that significantly influences and determines learning and motor performance following the training process (Pol et al., 2020). According to Morris, Perry, and Wardle (2021), empirical evidence supports the notion that feedback plays a pivotal role in regulating learner performance. It has been demonstrated that the absence of feedback impedes performance improvement, while the provision of feedback enhances performance gains, particularly during the early stages of learning.

Presentation and analysis of the results of the post-tests of the experimental and control research groups in the stabbing skill test for fencing sword players.

The researcher's data on the two-dimensional assessments of the experimental and control groups were unloaded, processed statistically, and displayed in Table (5).

Table 5: Shows the results of the post-tests of the two research groups in the stabbing skill test for fencing sword players.

Variables	Unit of Measurement	Experimental		Control		T	Sig
Stabbing Skill	Degree	7.62	1.30	4.37	0.518	6.55	0.000

df: (n-2) (16-2=14), * if the degree of significance level (Sig) $\geq$ (0.05)

By presenting Table 5, the results of the post-tests conducted on both the experimental and control groups are evident. The arithmetic mean for the experimental group in the skill assessment of stabbing was found to be 7.62, with a standard deviation of 1.302. On the other hand, the arithmetic mean for the control group was 4.37, with a standard deviation of 0.518. Utilizing the T-Test for non-correlated

samples, the calculated value of T was determined to be 6.55, with a significance level of 0.000. This indicates a significant difference at a significant level of 0.05, with a degree of freedom of 14. Consequently, the statistical analysis reveals a significant difference in favor of the experimental group.

Discussing the results of the post-tests of the experimental and control research groups in the stabbing skill test for fencing weapon players.

The findings presented in Table 4 indicate that there are notable disparities in the enhancement of stabbing proficiency with a fencing weapon, favoring the experimental group as evidenced by the outcomes displayed in Table 5. These disparities can be attributed to the utilization of the Bloom model as the instructional approach during the educational units. The researcher attributes these differences to the independent variable of the study, namely the implementation of Bloom's model, which was practiced by the experimental group throughout the duration of the study. The utilization of the Bloom model during the learning phase has been shown to enhance performance levels and facilitate increased learning. This suggests that the model incorporates two fundamental principles: the principle of individual differences and the principle of access to mastery. With regards to individual differences, Bloom has been specifically designed to accommodate diverse learning needs and ensure successful outcomes for all learners. Moreover, the model emphasizes the importance of breaking down tasks into manageable parts, rather than progressing from one task to another without completion. Following the completion of the preceding task, in instances of suboptimal performance, the remedial approach entails employing suitable feedback, engaging in repetitions, and incorporating supplementary modules until the skill is thoroughly acquired. The researcher posits that the utilization of this model in the realm of education enhances learners' motivation, which is deemed crucial in the learning process. This is due to the fact that a decline in motivation among individuals undergoing education can result in feelings of frustration and a tendency to neglect educational tasks, ultimately impeding the individual's ability to acquire knowledge. According to Jaitner and Mess (2019), it is crucial for individuals to be motivated in order to effectively acquire motor skills. When learners perceive a task as lacking meaning or personal preference, their learning outcomes become specific and limited. Furthermore, if motivation is extremely low, learning may not occur at all. Additionally, the mastery learning model is recognized as a significant approach in the learning process, as it enables learners to attain high levels of achievement. The method of diversification with inputs is employed to enhance motivation in the learning process. This method is specifically designed to consider individual differences during learning. Consequently, this approach aims to increase learners' motivation towards acquiring knowledge beyond what is typically observed in traditional learning styles. One notable benefit that has arisen from this model is the facilitation of opinion expression and critical thinking among educated individuals (as observed in the research sample). This model provides each member of the learning group with the opportunity to articulate their own perspectives and ideas, thereby fostering increased enthusiasm and motivation among learners. Additionally, it cultivates a sense of accountability towards the learning process, prompting each member of the group to assume individual responsibility for comprehending the prescribed material. The principle of repetition in learning is a fundamental principle that contributes to achieving mastery in performance. It involves determining the appropriate number of repetitions based on individuals' performance levels. Consequently, learners with lower performance receive more repetitions compared to those who excel in performance. It is

important to note that the researcher is unable to manipulate the duration of the educational unit due to the presence of a control group. As a result of the observed individual differences among learners in the research sample, the researcher decided to augment the number of repetitions for the two groups while maintaining a consistent time frame. This adjustment was made in order to accommodate the formation of smaller groups based on these differences. Specifically, the groups were categorized into high-performing, average-performing, and low-performing groups, this approach simplifies the task by providing each set with additional iterations that correspond to its current level. Bessa et al. (2019) have substantiated the utilization of the principle of additional training units as a means to mitigate individual differences. According to Bessa et al., the presence of individual disparities among sample participants necessitates the inclusion of supplementary teaching units for individuals with lower or moderate proficiency levels. The objective is to enhance their performance, enabling them to match their peers and attain mastery. The researcher ascribes the enhanced performance of the experimental group to the provision of instructions and guidance from both the coach and colleagues. This influence surpasses the impact of the coach's input alone in the control group's methodology. Additionally, the division of players into three groups based on their skill levels (i.e., good, average, weak) contributes to an augmented quantity and quality of feedback. The model developed by Bloom is notable for its distinctive approach to diagnosis, which is highly regarded for its effectiveness and quality. Diagnosis, as a form of evaluation, involves the identification and description of the learner's behavioral aspects in terms of both strengths and weaknesses. Given that accurate diagnosis is a crucial prerequisite for prescribing appropriate treatment, it significantly enhances the efficacy and efficiency of the treatment process. This assertion is supported by the findings of Alosco et al. (2021), who emphasize the crucial role of diagnostic tests in therapeutic education. The authors argue that diagnosis serves as the foundation for therapeutic education, and without prior therapeutic education, diagnostic procedures can become burdensome and result in wasted resources. Furthermore, the authors suggest that diagnostic tests can also be employed post-remedial education to assess the effectiveness and viability of such interventions. In order to facilitate the implementation of effective interventions, it is imperative to employ diagnostic assessments that can identify the educational challenges experienced by players. According to Hayward et al. (2022), learner needs are identified, and their performance strengths and weaknesses are diagnosed in order to determine appropriate interventions. Additionally, formative diagnostic tests are utilized to enhance learner motivation by providing feedback on performance results and errors, as well as guidance on how to address and rectify them. These tests serve the purpose of evaluating student performance, determining their level, and not establishing a final level for the learner. Linhart (2020) confirms that formative tests are a specific type of periodic assessment administered subsequent to the completion of a portion of educational material. Unlike traditional grading systems, these tests are not assigned numerical scores, but rather serve to evaluate a student's proficiency and limitations within a particular domain of educational tasks. The primary objective of formative tests is to enhance the learning process. According to Bloom, formative assessments have the potential to enhance student learning by providing support to those who have mastered the material and alleviating anxiety related to course achievement. Additionally, these assessments can identify areas of weakness for learners who have not reached the level of mastery, enabling them to compare their performance with their peers. It may be necessary to employ instructional assistants in order to achieve superior outcomes in the experimental group compared to the method being followed (Megahed & Hassan, 2022). The experimental group implemented the

practice of utilizing small groups, resulting in a greater need for a larger number of assistants. This approach enables the identification of errors within each group and the provision of appropriate feedback to address these errors. The objective is to enhance the performance of the participants in the sample. Additionally, the principle of individual differences was considered, leading to the emergence of exemplary performance models among the sample members. This served as a source of motivation for individuals who were performing below the desired level, thereby inspiring others to strive towards achieving their own performance goals.

Conclusions

Based on the findings of the study, the researcher provided a concise summary of several key conclusions, specifically:

1. The application of the Bloom model yielded significant improvements in the acquisition of stabbing techniques among fencing athletes. This was accomplished through a well-designed curriculum that emphasized problem-solving and the execution of precise movements aligned with the necessary skills. As a result, the participants demonstrated notable advancements in their performance outcomes.
2. The educational model proposed by Bloom incorporates theoretical and scientific elements that intersect with the educational units, thereby playing a significant role in facilitating learning and ensuring alignment with the specific skill being studied.
3. Bloom's model increased the enthusiasm of fencing participants as they learned the skill of stabbing.

Recommendations

1. The necessity of adopting the Bloom model when acquiring any of the fencing skills, as it is a distinct model that corresponds to the players' capabilities and abilities.
2. The necessity for coaches of various age groups to use the Bloom model, which enables them to recognize the individual differences of players.
3. Emphasizing the use of modern technology with this model and in educational units because it provides fast ratios to learn as well as achieving the desire of learners to perform and its repetitions, which contributes to overcoming repeated errors at the beginning of learning and being the result of a practical applied lesson aligned with their abilities and skills.
4. It is necessary to conduct additional studies and research on both sexes due to their distinct roles in acquiring skills, particularly in various situations.

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