



## RESEARCH ARTICLE

# Analytical Thinking and its Relationship to the Performance of the Simple Response Skill in Foil Weapon for Students

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## Abstract

The purpose of this paper is to identify the level of analytical thinking and its relationship to the skills of response and simple response to the foil weapon for students of the College of Physical Education and Sports Sciences, University of Basra. Achieving the objectives of the research requires the use of a research method, and accordingly, the researchers used the descriptive method using the survey method. The two researchers identified the research community with the students of the third stage - College of Physical Education and Sports Sciences / University of Basra / for the academic year (2021-2022). Their number is (45) students and the two researchers chose the entire research community to represent the research sample. One of the most important results reached by the researcher is that: There is a significant correlation between the student's analytical thinking and the skills of replying and simple replying, and the research sample individuals have a good level of analytical thinking, which helps them to perform sports skills, including fencing skills. One of the most important recommendations recommended by the researchers is that: Investing in the level of understanding shown by the research sample of the role of analytical thinking in performing skills, fencing lessons and training should include situations that encourage the use of analytical thinking, and conducting similar studies and research on university students in Iraq.

## Keywords

Analytical Thinking, Performance, Simple Response Skill, Foil Weapon

## INTRODUCTION

Increased interest in analytical thinking and ways of developing it year after year, after the ability to analyze, the aspects of the problem in order to reach solutions became one of the basics of dealing in any field of human activity in society, and the interest in developing analytical thinking for students in the field of study increased with a number of researchers, using teaching methods and methods (Abod & AlHaddad, 2022). Some used activities prepared from the content of study books, and others used activities outside the content of the study. With these measures, the role of students in the educational process changed, and the relationship between the student and the

teacher changed and became more active and positive. Contribution to the educational process by the student (Al-Razqi & Saad Saleh, 2015). This leads to modifying the way students perform and improving their behavior according to their responses (Mahjoub, W, 2001).

The student's interaction with others, and contact with them, give a clear perception of his consciousness and his personality, and this leads to others being an impression of him, and thus makes him aware through the link between his independent self and the selves of others in a certain social (sports) content (Zaid & Neamah, 2021).

The importance of the research has emerged from the special importance of its use in

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the skills of response and simple response in Foil weapon fencing as one of the subjects that students learn in the faculties of physical education and sports sciences. In addition, the research derives its importance from the importance of analytical thinking as it develops the mental processes by which situations are dismantled into its parts and reorganization through a method that allows seeing the events in a better way in which the individual realizes how the cognitive structures are interconnected, and when the individual faces a problem, and he must solve it, he resorts to fragmenting it and dismantling it into its elements and working on analyzing it until he reaches the correct solution, so he visualizes the problem mentally.

### **Research problem**

As for the research problem, it crystallized in that analytical thinking is one of the types of thinking that the individual must learn in order to coexist with the members of the society to which he belongs. His social standing, his own capabilities, and the social skills he possesses, and he is required to analyze the different situations that may contribute to finding appropriate solutions to the problems he is exposed to, especially the educational problems, and thus we are able to achieve the set goals, especially since we are dealing with students who are different in capabilities, abilities, and thinking several studies also recommended conducting recent studies related to thinking and its different types, and experimenting with them in the mathematical field, including analytical thinking. and made an urgent need to shift the educational process from the mere acquisition of knowledge and testing the learner, to move towards the development of his skills in Thinking and self-search for information, and interaction with them and employ them within the limits of practical application organized in a way that enables them to invest in the development of skill performance while learning different skills (Salim & Neamah, 2019)

Hence the research problem came to identify the relationship of analytical thinking with the performance of the two skills of response and simple response in Foil weapon fencing for students.

### **Research objective**

Identify the level of analytical thinking and its relationship to the skills of response and simple response to the foil weapon for students of the

College of Physical Education and Sports Sciences, University of Basra

## **MATERIALS AND METHODS**

### **Research Methodology**

Achieving the objectives of the research requires the use of a research method, and accordingly, the researchers used the descriptive method using the survey method

Descriptive research is one of the forms of organized scientific analysis and interpretation to describe a specific phenomenon or problem and depict it quantitatively by collecting data and standardized information about the phenomenon or problem, classifying it, analyzing it, and subjecting it to careful study (2:56).

### **Community and sample research**

The two researchers identified the research community with the students of the third stage - College of Physical Education and Sports Sciences / University of Basra / for the academic year (2021-2022). Their number is (45) students, and the two researchers chose the entire research community to represent the research sample.

This study followed ethical standards and received approval from the University of Baghdad College of Physical Education and Sports Sciences for Woman Ethics Committee Commission Date: 06.02.2024 Issue / Decision No: 2024/24. Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

In measuring analytical thinking, the two researchers relied on the analytical thinking test prepared by (Hamza, 2019), which consists of (30) situations. For each situation, there are two alternatives for the answer, one of which represents analytical thinking and the other does not, where the degree of the answer ranges between (1-0). (Hamzah, Noor Karim, 2019), the two researchers presented the 30 paragraphs of the analytical thinking test in its initial form to (17) experts and specialists, and to find out the validity of the test in line with the objective of the study and the research sample, the two researchers took the opinions of experts and modified the test phrases to suit the level of the sample and the

given skills. The two researchers conducted tests to evaluate the technical performance of the skills of the response and the simple response by photographing the sample members when performing the two skills and presenting the photography to three of the arbitrators for the purpose of evaluation and calculating the arithmetic mean of the three arbitrators' grades according to a special form prepared for the purpose of evaluation, which is (10 degrees) . The two researchers conducted the exploratory experiment, which is a mini-experiment on the main experiment, and its purpose is either to reveal some scientific facts or experiment with work to reveal the obstacles and negatives facing the

application of the main experiment, or for the purpose of training some auxiliary cadres to work. The two researchers conducted the exploratory experiment on a sample of students in the college Physical education and sports sciences / from outside the application sample, which consisted of (5) students who were chosen randomly, and after collecting and unpacking data to find out which paragraphs are valid for testing analytical thinking. The results showed that all items were accepted because they achieved values greater than the tabular (Chi-2) value of (3.84) at a degree of freedom (1) and a level of significance (0.5) as shown in Table (1).

**Table 1.** Shows the percentage and (Chi-2) score for the experts' answers on each item of the scale.

No.	Percentage	Agree	Disagree	Paragraphs	(Chi-2) value	level sig
1	100%	17	0	27,26,18 ,10 ,9,7 ,6, 2,1	17	0.000
2	94.12% .	16	1	17, 16, 8,5,3,21, 25,	13.235	0.001
3	88,24%	15	2	13 ,14 ,15 ,20 ,23 ,28 ,30	9.941	0.002
4	82,35%	14	3	4 ,11 ,12,19 , 22 ,24 ,29	7.118	0.008

## RESULTS

**Table 2.** Shows the arithmetic mean, median, standard deviations, and the value of the Skewness coefficient for the variables studied

Variables	Mean	Median	Std. Deviations	Skewness
Analytical thinking	18,23	18	2,352	0,293
Response skill	8,12	8	0,553	0,650
Simple response skill	8,55	8,5	0,751	0,199

It is clear from Table (2) that the sample answers were distributed normally

**Table 3.** Shows the arithmetic means, standard deviations, and the value of t calculated between the arithmetic mean and the hypothetical mean for the analytical thinking of the research sample

Variable	Hypothetical mean	Arithmetic mean	Standard deviations	t value	Level sig
Analytical thinking	15	18,23	2,352	8,706	0.000

Significant if sig score  $\leq 0.05$

**Table 4.** Shows the results of the arithmetic mean, deviations, and the value of the correlation coefficient between analytical thinking and the two skills of response and simple response

Variables	Measuring unit	arithmetic mean	standard deviations	T value calculated	Level Sig	Type Sig
Skill of response	Degree	8,12	0,553	0,658	00,1	Sig
Skill of simple response	Degree	8,55	0,751	0,751	00,1	Sig

Significant if sig score  $\leq 0.05$

## DISCUSSION

It is clear from the results in Table (3) that the research sample enjoys a degree of analytical thinking, and the researchers believe that this indicates that the vocabulary of the fencing subject curriculum has the ability to develop analytical thinking, as well as the use of modern methods by teachers in teaching fencing skills, which would raise the level of thinking in general, and analytical thinking in particular, when the student learns, he faces multiple and varied situations, so he not only collects information, but more importantly, he needs to know enough of that information (Rana & Mohammed. 2023), and knowing what it takes to estimate the necessary effort in collecting information within the limits of the time allowed by the learning data, meaning that he must know the skill of quantitative estimation of the required information, and the skill of time estimation required for successful analytical thinking (Khalaf, Saad Ibrahim, 2005), and the role of the student who thinks analytically does not end with simply testing the best alternative for performance, but rather goes beyond it to working on its interpretation and clarification to ensure the soundness of resolving the situation, or reaching the best skillful performance (Jian Ahmed & Sahar Hurr 2022). Some variables and factors surrounding the situation may occur, and these variables and factors are characterized by constant change and diversity, so the student must pay attention to interpretation and clarification of the situation to determine the best solution (Nadema And Kzar 2021), examining the available parts of the information and the relationships between them, and distinguishing between vocabulary (Habib, Majd Abdel Karim, 1995). The two researchers believe that analytical thinking, like other types of thinking, can be acquired through learning, practice or training, and it is based on communication and interaction to achieve certain goals. As shown in Table (4), there is a significant correlation between analytical thinking and the skills of response and simple response, which the researchers attribute to the fact that fencing skills need to analyze and divide situations into the largest possible number of elements to make the right decision quickly due to the presence of the opponent. The student must understand, classify and analyze the information he receives in order to be able to perform the skills correctly (Ismail,

Adham And Al- Zuhiri, 2022), and many studies have proven that learning is more profound if the student relies on achieving a broader understanding and accurate analysis of the skills he learns (Butler et al., 2003). In addition, that the sport of fencing requires great effort, high concentration, and thinking in various situations (Ahmed & Majeed, 2022). In analytical thinking, individual behavior and the personal style of each individual are determined and he has a kind of commitment that helps predict behavior and performance (Shroukh, S, 2004; Shaker, Tuama, & Radhi 2022). In addition, the adoption of analytical thinking of the situations that the student is exposed to while learning fencing skills achieves a kind of integration and balance between the mental and skill aspects, which is reflected in the improvement of integrated performance (Mohammed & Razzaq, 2022). Therefore, our attention must focus on thinking, analyzing and interpreting situations, taking the appropriate decision or reaching appropriate solutions, and improving the ability to think positively (Meriam Abdul-ameer and Sahira Razzaq, 2021)., as the ability to observe, experiment, inquire and analyze situations is one of the important things that must be developed and paid attention to in order to enhance thinking, which is consequently focused on improving skillful performance (Jinan Ghazi Sigar & Najlaa Abbas, 2021), which gives students the opportunity to actively participate, discover knowledge themselves (Saba Abdul Kareem and Sahira Razzaq, 2022) Sa, think about what is presented to them, and analyze situations in order to reach the required response (Younes, 2007), especially since the sport of fencing is one of the sports that requires high mental and physical abilities due to its speed in performance and accuracy of movement during defense and attack and the need to acquire sufficient time to receive the stimulus, interpret it and analyze the competitor's movement in order to respond, also movements made by the player require sufficient strength and are accompanied by appropriate speed and good flexibility thus the performance is consistent and coordination (Yuneus & Neamah, 2022).

### Conclusions

There is a significant correlation between the student's analytical thinking and the skills of replying and simple replying. The research sample individuals have a good level of analytical



thinking, which helps them to perform sports skills, including fencing skills.

### Recommendations

Accordingly, the two researchers recommended the following;

Investing in the level of understanding shown by the research sample of the role of analytical thinking in performing skills,

Fencing lessons and training should include situations that encourage the use of analytical thinking,

Conducting similar studies and research on university students in Iraq.

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### Conflict of Interest

We declare that this article we wrote is not involved in any conflict of interest.

### Ethics Statement

This study followed ethical standards and received approval from the University of Baghdad College of Physical Education and Sports Sciences for Woman Ethics Committee Commission Date: 06.02.2024 Issue / Decision No: 2024/24.

### Authors Contribution

Study Design, SFR, HQM, and IAM; Data Collection, SFR, HQM, and IAM; Statistical Analysis, HQM, SFR, and IAM; Data Interpretation IAM, SFR, and HQM Manuscript Preparation, HQM, and IAM; Literature Search, IAM, SFR and HQM. All authors have read and agreed to the published version of the manuscript.

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## Appendix (1)

No.	Paragraphs
1	When I talk to my colleagues and the professor about learning the simple response skill, I: A- I get busy talking to them without focusing enough on the details. B- Focus carefully on their words.
2	When I seek to learn the skill of simple response in fencing, I organize my thoughts in a way that begins: A- The main idea of the skill, leading to the sub-ideas. B- Sub-ideas, leading to the main idea.
3	When discussing how to perform the simple response skill in fencing, I: A- I focus on the stages of implementation. B- I just focus on doing it.
4	When I encounter difficulty in implementing the simple response skill in fencing, I: A- I watch the rest of my colleagues, regardless of their correct performance. B- Analyze the skill into parts and then implement it.
5	When I am asked to explain the skill of simple response in fencing, I: A- I present an idea in a very simple and brief way. B- I try to explain my thoughts in detail.
6	While I was performing the simple response skill in fencing, I forgot the final stage, so I: A- I often feel anxious. B- I seek to find more than one way to solve it.
7	When I process information about the simple response skill in fencing, I: A- I am interested in collecting accurate and detailed information about him. B- I focus on the end result only.
8	When I think of building a motor program for the skill of simple response in fencing, I build it in the following way: A- Organized and accurate. B- Automatic and simple.
9	When I participate in a dialogue within the groups implementing the simple response skill in fencing with my colleagues, I: A- I speak at random. B- I focus on ideas before they occur.
10	When I fail to perform the simple response skill in fencing, I: A- I think about it. B- I ignore it and don't care about it.
11	When I can solve the performance of the simple response skill with ease, this indicates: A- I did it correctly. B- The skill was not difficult.
12	While displaying the simple response skill in front of me, I: A- I focus my attention on a specific part of the skill. B- Focus on all component parts of the skill.
13	When a friend gives me an opinion about my performance of the simple response skill, I: A- I follow my friend's opinion and trust him. B- I discuss his opinion carefully.
14	When my thoughts differ with the teacher's thoughts on how to perform the simple response skill, I: A- I hold on to my thoughts. B- Find a way for our ideas to fit together.
15	When I encounter a problem while performing the main part of the simple response skill, I: A- I use the teacher when I try to master the skill of simple response correctly. B- I rely on thinking and meditation.
16	<sup>1</sup> If I am asked to resolve a dispute between two colleagues in the appropriate way to perform the simple response skill, then I: A- I accept only one point of view. B- I contain and analyze different viewpoints.
17	When I face a complex problem, I prefer to: A- I collect a lot of information, even if it takes a long time. B- I am satisfied with the information I have.
18	What interests me most in obtaining theoretical information about the skill of the slow response is that I: A- I sweat carefully on the skill and how to perform it. B- Just to see the skill.
19	When I am exposed to a difficult situation while performing the skill of the slow response, I: A- I feel stressed and upset. B- Inquire and search for a solution to reach an accurate understanding of the skill.
20	When a video is shown in front of me to perform the skill of the slow response, I focus on: A- Watch the movie only. B- What the film contains of ideas about the performance.
21	When there is a difference between me and the teacher in my method of implementing the simple response skill, I: A- I try to perform it as the teacher asks me to do it. B- I care about the details of the dispute from all sides.
22	When I am in a group to perform the simple response skill, I: A- I oppose their ideas and mock them. B- I care about their ideas even if they disagree with mine.
23	When a colleague of mine performs a skill and I see that it is incorrect, I: A- Correct his opinion objectively. B- I agree with him.
24	When the teacher criticizes me for my response skill, I: A- Ignoring criticism. B I try to discuss them in order to understand the reasons for criticism.
25	My method is described for solving the problems that I face in performing the simple response skill, as I: A- Think calmly to reach an appropriate solution. B- I avoid it and do not think about it.
26	When a friend presents me with problems performing the simple response skill, I: A- I think carefully and calmly and offer him a set of solutions. B- I propose to him the first solution that comes to my mind in order to overcome the problem.
27	If the teacher asks me to perform additional repetitions of the simple response skill, then I: A- I feel frustrated and lazy with the performance. B- I work with precision and focus until I perform the skill to the fullest.
28	performing the main part of the simple response skill, I deal with it by: A- Calm, deliberate and careful. b- Quit performing the skill.
29	When I participate with my colleagues in performing the skill during the educational unit, I: A- My participation with them is limited and I avoid them. B- I enjoy my time with others.
30	When I remember what the professor said during the lecture about the simple response skill, the reason goes back to: A- I pay attention and focus on what the professor says. B- I rely on what my colleagues record of observations.