

3-30-2025

The Impact of Ausubel's Theory on Teaching Some Basic Individual Offensive Skills in Basketball for Students

Bilal Haider Maki

University of Basrah–College of Physical Education and Sports Sciences, bilal.haider@uobasrah.edu.iq

Follow this and additional works at: <https://jcopew.researchcommons.org/journal>

Recommended Citation

Maki, Bilal Haider (2025) "The Impact of Ausubel's Theory on Teaching Some Basic Individual Offensive Skills in Basketball for Students," *Modern Sport*: Vol. 24: Iss. 1, Article 14.

DOI: 10.54702/2708-3454.1013

Available at: <https://jcopew.researchcommons.org/journal/vol24/iss1/14>

This Article is brought to you for free and open access by Modern Sport. It has been accepted for inclusion in Modern Sport by an authorized editor of Modern Sport.



RESEARCH ARTICLE

The Impact of Ausubel's Theory on Teaching Some Basic Individual Offensive Skills in Basketball for Students

Bilal Haider Maki 

University of Basrah–College of Physical Education and Sports Sciences

Abstract

The importance of this research lies in enhancing the level of learning and retention through a well-structured educational program based on Ausubel's Theory, which has educational objectives that contribute to effective learning and improving the required learning outcomes, including the fundamental basketball skills for students. **Research Problem:** Teaching and instructing individual basic offensive skills in basketball requires first understanding these skills and then reinforcing them in memory to ensure proper learning and retention. These are essential requirements in the learning process. Therefore, it is necessary to have a theory or strategy that strengthens this concept and facilitates the correct teaching of fundamental basketball skills. **Research Objective:** The main objective of this study is to identify the impact of Ausubel's Theory on teaching students some basic individual offensive skills in basketball. The researcher used the experimental method with an equivalent group design. The research sample consisted of first-stage students from the College of Physical Education and Sports Sciences at the University of Basrah. **Conclusions:** The study concluded that Ausubel's Theory achieved the educational objectives and enabled more effective lesson delivery through the teaching of some basic individual offensive basketball skills to students. **Recommendations:** The study recommends adopting Ausubel's Theory, as it proved effective in achieving educational goals and enabling more effective lesson delivery in teaching fundamental individual offensive skills in basketball to students.

Keywords: Ausubel's theory, Teaching fundamental skills, Basketball

1. Introduction

Scientists continuously strive to find suitable solutions to enhance learners' educational and intellectual levels by developing theories, strategies, methods, and techniques that nurture critical thinking and facilitate a clear understanding of scientific information. These approaches aim to help students comprehend and apply knowledge correctly and productively.

One of the key theories that contribute to improving education and supporting a structured learning process is **Ausubel's Theory**. According to **Ausubel** [8] (chen 2007), "Each educational curriculum has a unique organizational structure that distinguishes it from others. In every structure, the most comprehensive and general ideas and concepts come first, followed by more specific details and

information. Less comprehensive concepts and ideas are then gradually introduced, leading to the ultimate educational objective. In other words, the learning process becomes more effective when it progresses from the general to the specific." [8] (chen 2007)

Additionally, researchers [9] and [7] (Adhikari 2013) and (Pena 2012) highlight several advantages and benefits of Ausubel's Theory, stating that it "consistently reminds students of important information stored in their cognitive memory, enables them to acquire new knowledge built upon their previous learning in a meaningful way, and facilitates the storage and retention of new information in long-term memory by linking it to prior knowledge. Furthermore, it encourages active learning, as it relies on the student's ability to comprehend and participate

Received 8 February 2025; revised 18 February 2025; accepted 20 March 2025.
Available online 30 March 2025

E-mail address: bilal.haider@uobasrah.edu.iq (B. H. Maki).

<https://doi.org/10.54702/2708-3454.1013>

2708-3454/© 2025 The Author(s). Modern Sport. This is an open access article under the CC BY 4.0 Licence (<https://creativecommons.org/licenses/by/4.0/>).

effectively in learning activities. This theory also promotes meaningful learning, enhances students' cognitive skills, moves away from rote memorization by focusing on explaining and presenting concepts, aids in teaching sports-related content in a short time, and develops students' thinking skills while improving learning retention." [9] and [7] (Adhikari 2013) and (Pena 2012)

From this, it can be concluded that **Ausubel's Theory** is essential and fundamental in education across various disciplines, including sports education. Specifically, in basketball—a sport that requires a high level of individual skill—learners need creativity, ball control, and the ability to achieve effective results. Teaching basketball skills effectively requires an approach that fosters critical thinking and skill application, which can be achieved through explanation, demonstration, and practice according to the learner's abilities and the principles of the adopted theory.

Thus, the importance of this research lies in enhancing the level of learning and ensuring proper knowledge retention through a structured educational program based on **Ausubel's Theory**. This theory has clear educational objectives that contribute to effective learning and the improvement of fundamental basketball skills among students.

Scientists continuously strive to find suitable solutions to enhance learners' educational and intellectual levels by developing theories, strategies, methods, and techniques that nurture critical thinking and facilitate a clear understanding of scientific information. These approaches aim to help students comprehend and apply knowledge accurately and effectively.

One of the key theories that contribute to improving education and supporting a structured learning process is **Ausubel's Theory**. According to Ausubel [8] (chen 2007), "Each educational curriculum has a unique organizational structure that distinguishes it from others. In every structure, the most comprehensive and general ideas and concepts come first, followed by more specific details and information. Less comprehensive concepts and ideas are then gradually introduced, leading to the ultimate educational objective. In other words, the learning process becomes more effective when it progresses from the general to the specific." [8] (chen 2007)

Additionally, researchers [9] and [7] (Adhikari 2013) and (Pena 2012) highlight several advantages and benefits of **Ausubel's Theory**, stating that it "constantly reminds students of the essential information stored in their cognitive reservoir, enables them to acquire new knowledge built upon their previous learning in a meaningful way, and facilitates the

storage and retention of new information in long-term memory by linking it to prior knowledge. Furthermore, it encourages active learning, as it relies on the student's ability to comprehend and participate effectively in learning activities. This theory also promotes meaningful learning, enhances students' cognitive skills, moves away from rote memorization by focusing on explaining and presenting concepts, aids in teaching sports content in a short time, and develops students' thinking skills while improving knowledge retention." [9] and [7] (Adhikari 2013) and (Pena 2012)

From this, it can be concluded that **Ausubel's Theory** is essential and fundamental in education across various disciplines, including sports sciences. Specifically, in basketball—a sport that requires a high level of individual skill—learners need creativity, ball control, and the ability to achieve effective results. Teaching basketball skills effectively requires an approach that fosters critical thinking and skill application, which can be achieved through explanation, demonstration, and practice according to the learner's abilities and the principles of the adopted theory.

Thus, the importance of this research lies in enhancing the level of learning and ensuring proper knowledge retention through a structured educational program based on **Ausubel's Theory**. This theory has clear educational objectives that contribute to effective learning and the improvement of fundamental basketball skills among students.

2. Research problem

Teaching and instructing fundamental individual basketball skills requires first understanding them and then reinforcing them in memory. This process includes both learning and retaining knowledge, which are essential requirements in education. Therefore, there must be a theory or strategy that strengthens this concept and ensures the effective instruction of fundamental basketball skills.

Through the researcher's expertise in teaching methods and basketball, it was observed that the level of learning of fundamental individual offensive basketball skills among first-stage students is relatively basic. Proper teaching, along with effective retention of learned skills, is necessary to solidify them in the learner's memory. This can be achieved only through an instructional approach that builds upon previously acquired knowledge, such as **Ausubel's Theory**, which provides explanations and objectives that enhance learning and may contribute to the correct instruction of fundamental individual basketball skills for students.

Table 1. It illustrates the means, standard deviations, coefficients of variation, and t-values used to verify homogeneity and equivalence across the variables employed in the study.

Tests	Control Group			Experimental Group			Calculated T-value	Significance level
	Mean	Standard Deviation	Coefficient of Variation	Mean	Standard Deviation	Coefficient of Variation		
Weight (kg)	73.145	0.974	1.331	73.345	0.884	1.205	0.456	Non-significant
Height (cm)	171.07	1.745	1.02	171.63	1.562	0.91	0.717	Non-significant
Lay-up shooting (sec)	9.474	0.652	6.881	9.334	0.745	7.981	0.424	Non-significant
Fast passing (sec)	15.745	0.765	4.859	15.674	0.845	5.391	0.187	Non-significant
Dribbling (sec)	12.664	0.674	5.322	12.574	0.763	6.068	0.265	Non-significant

2.1. Research objective

1. To identify the impact of **Ausubel's Theory** on teaching some fundamental individual offensive basketball skills to students.

2.2. Research hypothesis

1. There is a positive impact of using **Ausubel's Theory** in teaching some fundamental individual offensive basketball skills to students.

2.3. Research fields

- **Human Field:** First-stage students in the College of Physical Education and Sports Sciences –University of Basra for the academic year 2024–2025.
- **Spatial Field:** The indoor hall at the College of Physical Education and Sports Sciences – University of Basra.
- **Temporal Field:** From October 24, 2024, to December 23, 2024.

3. Methodology and procedures

The experimental method was employed using a two-group design involving control and experimental groups, with both pre- and post-tests, due to its relevance in accomplishing the research objectives and addressing the identified problem. The research population consisted of first-year students in the College of Physical Education and Sports Sciences at the University of Basra, totaling 350 students for the academic year 2024–2025. A sample of 20 students was randomly selected from one division (Division B), representing 5.714% of the total population.

The sample was further randomly divided into two groups: a control group and an experimental group, with 10 students in each. The variables were processed, as shown in [Table 1](#), to ensure group homogeneity and equivalence across the selected measures.

The tabulated t-value at a degree of freedom of 18 and a significance level of 0.05 is 1.734.

3.1. Methods of data collection and research tools

3.1.1. Methods of data collection

- Arabic and international references.
- Scientific observation.
- Standardized tests.

3.1.2. Tools and equipment used

- A regulation basketball court.
- Six basketballs.
- Two benches.
- A measuring tape (three meters).
- Three digital stopwatches.
- Three wristwatches for pulse measurement.
- Five cones.

4. Research procedures

4.1. Identification of research variables

The research variables were determined based on the official curriculum for teaching first-year students in the basketball course, which included:

- Shooting
- Passing
- Dribbling

4.2. Applied tests

4.2.1. Lay-up shooting test

Objective of the Test: To measure the participant's dribbling and lay-up shooting ability.

Equipment and Tools Used: Three (3) cones, a basketball, and a digital stopwatch. The starting line is placed 19.5 meters away from the point directly beneath the center of the hoop. The first cone is positioned 6 meters from the starting line, and the distance between each cone is 4.5 meters.

4.2.2. Test performance conditions

The participant stands at the starting line and, upon hearing the start signal, begins dribbling the ball between the markers, starting to the right of the first marker (for a right-handed player). Upon reaching an appropriate distance from the target,

the participant performs a lay-up shot. If the shot is successful, they quickly return with the ball; if the shot is missed, the player must retrieve the ball from under the hoop and repeat the attempt until the shot is made. The total time taken is recorded and considered the basis for evaluating the test.

4.2.3. *Speed pass test*

Objective of the Test: To measure the participant's ability to quickly pass and receive the basketball.

Equipment and Tools Used: Stopwatch, basketball, flat surface, smooth wall.

4.2.4. *Method of test execution*

The participant stands behind a line marked on the ground at a distance of 9 feet (2.70 meters) from the wall. Upon hearing the start signal, the participant begins passing the ball toward the wall using any passing technique of their choice. The pass must be made at head level and performed as quickly as possible. After the ball rebounds off the wall, the participant receives it and immediately repeats the pass. The task continues until ten accurate passes are completed.

4.2.5. *Test performance conditions*

- The ball may hit the wall at any height.
- Striking the ball immediately after rebound is not allowed; the participant must receive it first, then pass it again.
- All passes must be made from behind the designated line.
- If the ball falls to the ground during the performance, the participant must retrieve it and resume the test from behind the line. Only passes that travel directly from the participant to the wall and back, without touching the ground, are considered valid.
- Each participant is allowed two attempts, and the best attempt is recorded.

4.3. *Scoring*

The timing of this test begins when the ball first touches the wall during the initial successful pass and continues until it makes contact with the wall on the tenth and final successful pass. Time is recorded in seconds and tenths of a second. Each participant is allowed two attempts, and the attempt with the shorter recorded time is considered. The final score reflects the time taken to complete ten successful passes.

4.4. *Dribbling test (dribble test)*

4.4.1. *Objective of the test*

This test aims to assess the participant's speed and control while dribbling a basketball through a series of cones.

4.4.2. *Equipment and tools used*

Six cones, stopwatch, basketball. The cones are arranged as illustrated in Figure 11. A starting line and a finish line must be marked. The starting line is placed 5 feet (1.5 meters) away from the first cone, while the distance between each of the remaining cones is 8 feet (2.40 meters).

4.5. *Method of test execution*

At the start, the participant stands behind the starting line with the basketball. Upon hearing the start signal, they begin dribbling the ball in a zigzag motion through the cones, maintaining continuous dribbling. The participant moves forward to the finish line and then returns along the same path, continuing the zigzag dribble, until crossing the starting line again. The timer records the total time taken to complete the course from start – finish – back to start.

4.6. *Test performance conditions*

- The participant is allowed to rehearse the test before the actual attempt.
- Dribbling must be performed legally and according to official basketball rules.
- The participant may use either the right or left hand for dribbling.
- Each participant is allowed two attempts, and the better attempt is recorded.

4.7. *Scoring*

- Time is recorded from the moment the test begins until the participant crosses the starting line again with the ball.
- Both attempts are timed and recorded.
- The shorter time of the two is considered the final result.

5. *Pilot study*

The pilot study was conducted on October 24, 2024, using the original research sample. It involved applying individual offensive skill drills in basketball to assess their level of difficulty, frequency, and the challenges faced in implementing them, in accordance with **Ausubel's theory**.

5.1. *Field experiment*

Pre-tests: The pre-tests were administered on November 3, 2024.

5.2. Application of the instructional theory

The researcher designed a series of instructional exercises focused on teaching fundamental individual offensive basketball skills based on **Ausubel's Theory**, which emphasizes:

“Helping learners acquire new information by presenting related concepts in advance that serve as cognitive organizers. These advance organizers form a structured reference framework that directly links to and supports the integration of new information” [1, p. 155].

These exercises were implemented during the main part of the instructional unit across full lessons (see [Appendix 1](#)) over a period of eight weeks, with two instructional sessions per week. The program was launched on November 4, 2024, and concluded on December 30, 2024.

5.3. Post-tests

The post-tests were conducted on December 31, 2024.

5.4. Statistical methods

The SPSS statistical package was used to process and analyze the data.

6. Results

The tabulated t-value at a degree of freedom (df) of 9 and a significance level of 0.05 is 1.833.

The t-table value at 9 degrees of freedom and a 0.05 significance level = 1.833.

The tabulated t-value at a degree of freedom (df) of 18 and a significance level of 0.05 is 1.734.

7. Discussion

Based on the results obtained from [Tables 2](#) and [3](#), it is evident that both the control and experimental groups demonstrated learning gains in individual offensive fundamental skills. This indicates the learners' ability to effectively apply the prescribed exercises and achieve the educational objectives outlined in the curriculum. According to [2] (Ismail 1996), “An educational curriculum leads to growth and development when it is scientifically designed and systematically implemented to organize the learning process, incorporating appropriate and progressively challenging teaching methods, as well as effective instructional materials, under suitable learning conditions regarding time, location, and available resources.”

Meanwhile, [5] (Sabr 2005) notes that “Learning within an objectively implemented curriculum leads to increased learning and, consequently, to skill development in both the cognitive and psychomotor domains.”

From [Table 4](#), it is evident that the experimental group outperformed the control group as a result of implementing **Ausubel's educational theory**, which is grounded in structured principles and objectives aimed at enhancing the learning of individual fundamental basketball skills. According to [6] (Mohammed 2015), in line with **Ausubel's perspective**, “The role of the school is to identify and organize structured knowledge, while the teacher's role is to help the student perceive and understand this knowledge, and to enable them to apply it meaningfully in new contexts. Meaningful learning occurs when learners attempt to connect newly acquired information with their existing cognitive structure. When new concepts and information are linked with prior knowledge, learners form new understandings through the interaction between

Table 2. It illustrates the differences between the pre-test and post-test results of the control group in the administered performance tests.

Tests	Arithmetic Mean		Standard Error	Calculated t-value	Significance Level
	Pre-test	Post-test			
Lay-up shooting (sec)	9.474	8.098	0.556	2.474	Significant
Fast passing (sec)	15.745	13.045	0.886	3.047	Significant
Dribbling (sec)	12.664	11.022	0.587	2.797	Significant

Table 3. It illustrates the differences between the pre-test and post-test results of the experimental group in the administered performance tests.

Tests	Arithmetic Mean		Standard Error	Calculated t-value	Significance Level
	Pre-test	Post-test			
Lay-up shooting (sec)	9.334	6.425	0.995	2.923	Significant
Fast passing (sec)	15.674	11.234	1.224	3.627	Significant
Dribbling (sec)	12.574	9.324	0.885	3.672	Significant

Table 4. It presents the calculated t-values for the post-test differences between the control and experimental groups in the performance tests administered.

Tests	Control Group		Experimental Group		Calculated t-value	Significance Level
	AM	SD	AM	SD		
Lay-up shooting (sec)	8.098	0.869	6.425	0.979	3.837	Significant
Fast passing (sec)	13.045	0.947	11.234	0.992	3.962	Significant
Dribbling (sec)	11.022	0.821	9.324	0.833	4.365	Significant

past and present experiences. This integration is not imposed, but rather occurs through intentional and logical processes. In contrast, recalling newly acquired information through rote learning does not allow for meaningful connection with what the learner already knows.” [6] (Mohammed 2015)

Therefore, following the correct instructional procedures contributes significantly to the success of the learning process, as observed in the development of individual offensive basketball skills. According to [10] (Magill 2004), “One of the natural characteristics of the learning process is that development will occur as long as the teacher adheres to sound educational principles, ensuring proper execution, consistent practice, and focus on correct performance until the skill is well-established and retained.”

Likewise, [3] (Ismail 2002) affirms, “It is a natural aspect of the learning process that progress must occur as long as the teacher follows the fundamental principles of instruction, emphasizing proper execution, continuous practice, and repeated effort until the performance is firmly established and stabilized.”

For a lesson to be effective, its intended learning outcomes must be fully realized. In this context, [4] (Abdul Kareem 1996) emphasizes that “The purpose of a series of teaching methods is to highlight the value of each approach and to understand its relationship with other methods. The most important goal of such a framework is to equip teachers with a comprehensive understanding of teaching that enables them to be more flexible and effective in promoting learning.” [4] (Abdul Kareem 1996)

8. Conclusions

1. **Ausubel’s theory** proved effective in achieving the educational objectives and delivering the lesson more efficiently by enhancing the teaching of selected individual offensive basketball skills to students.
2. According to **Ausubel’s theory**, both the teacher and the student play distinct yet complementary roles. The teacher’s role is to enable students to comprehend structured knowledge, grasp its meaning, and apply it appropriately in new situations. The student’s role involves integrating new concepts and information

into their existing cognitive structure, forming new understandings. In this context, the newly acquired knowledge takes the form of individual fundamental basketball skills.

9. Recommendations

1. It is recommended to adopt **Ausubel’s theory**, as it effectively achieved the intended educational objectives and improved lesson delivery by enhancing the instruction of selected individual offensive basketball skills to students.
2. Emphasis should be placed on the dual roles of both teacher and student as outlined in **Ausubel’s theory**. The teacher’s role is to support students in comprehending structured knowledge, understanding its meaning, and applying it appropriately in new situations. Meanwhile, the student’s role is to connect new concepts and information to their existing cognitive structure, resulting in the formation of new knowledge and understandings—specifically, the development of individual fundamental basketball skills.

Author’s declaration

Conflicts of interest: None.

We confirm that all tables and figures in this article are ours and written by the researchers themselves.

Ethical-clearance: his manuscript approved by local ethical committee of physical education and sport sciences college for women on (January/2023).

Author’s contributions

All contributions of this study were done by the researchers (B.H.) who get the main idea and work on writing and concluding also with number of experts, Bilal Haider in Statistics, Ibrahim Dabayeb in revision, Inaam Ghalib in translating, Batoul Ahmed Salim in proofreading.

Facilitate the task: this study was supported by first-year students in the College of Physical Education and Sports Sciences at the University of Basra.

References

1. Al-Sharqawi, A. M. (2012). Learning: Theories and Applications. Anglo Egyptian Bookshop.
2. Ismail, S. M. (1996). The Effect of Teaching Methods on Developing Explosive Power of the Legs and Arms in Long-Range Jump Shooting Accuracy in Handball (PhD Dissertation). College of Physical Education, University of Baghdad.
3. Ismail, Z. H. (2002). The Interleaved Training Method and Its Effect on Learning and Development Through Spatial Organizational Options in the Tennis Learning Environment (PhD Dissertation). University of Baghdad.
4. Abdul Kareem, A. (1996). Instruction for Learning in Physical and Sports Education. Al-Maaref Establishment Press.
5. Sabr, Q. L. (2005). Topics in Motor Learning. Al-Jumah Printing Press.
6. Mohammed, M. M. (2015). Sources for Developing Mathematics Education. De Bono Center for Teaching Thinking.
7. Adhikari, K. (2013). Ausubel's learning theory: Implications on mathematics teaching. Retrieved from. https://www.academia.edu/4103526/Ausubels_learning_Theory_Implications_on_Mathematics_Teaching_Khagendra_Adhikari.
8. Chen, B. (2007). Effects of advance organizers on learning and retention from a fully web-based class (Doctoral dissertation). University of Central Florida, Orlando, Florida.
9. Pena, J. (2012). Application of visual learning to the teaching of Spanish grammar to Taiwanese students. Tamkang University, Taiwan.
10. Magill, A. (2004). Motor learning and control. Baton, Mc.

Appendix 1

Sample of Educational Units

Week: First

Total Duration: 30–32 minutes

Educational Unit: 1–2

Unit Objective: To teach selected individual offensive fundamental skills

Section	Exercise Duration	Exercise Number	Volume	Notes and Observations
Practical	30 Minutes	1. Presentation of images accompanied by an explanation of the dribbling skill, followed by performing dribbling between cones within half of the basketball court.	3 × 2 min	- Emphasis on the instructional principles of Ausubel's theory
			3 × 2	
		2. Perform chest passes with a partner, first from a stationary position, then while in motion.	3 × 2	
			3 × 1	
		3. Perform high dribbling back and forth.	3 × 2	
		4. Execute a free throw.	3 × 2	
		5. Perform a chest pass followed by a lay-up shot.		
		6. Dribble across the full court, finishing with a lay-up shot.		