

## Acquiring skills in basketball through observational learning

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### Abstract

With the ongoing COVID-19 pandemic requiring us to practice social or physical distancing, the concept of observational learning has become particularly relevant. This learning process involves observing others, retaining the information, and replicating the observed behaviors later. This research determined the skill acquisition in Basketball through observational learning of pre-service teachers at Batangas State University JPLPC-Malvar to determine its implications for teaching physical education. It specifically addressed the respondents' profile in terms of sex, program, GWA, and socio-economic status significant relationship between the respondents' profile and their skill acquisition in Basketball through observational learning. This descriptive-correlational study was conducted to assess the 89 students enrolled in the College of Teacher Education program at the Batangas State University JPLPC-Malvar campus. An adequate number of respondents and an appropriate sampling technique are adopted to produce a valid and reliable result. Using a self-made questionnaire and appropriate statistical measures, the results revealed that the respondents are greatly female, mostly from Bachelor of Secondary Education, belong to the Superior Group, and have a middle income. Chi-Square revealed that sex, program, GWA, and socio-economic status have significant relationships when correlated to their encountered challenges. The above-mentioned findings recommend using multimedia or video demonstrating skills in physical education classes to train the students' skills and strengthen the use of observational learning and conducting a webinar that focuses on how we can learn Basketball through observational learning.

**Keywords:** Acquisition, observational learning, basketball, general weighted average (GWA).

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**Authors contribution:** a – Preparing concepts; b – Formulating methods; c – Conducting research; d – Processing results; e – Interpretation and conclusions; f - Editing the final version

## INTRODUCTION

Observational learning describes the process of learning through watching others, retaining the information, and then later replicating the behaviors observed, and it is very timely now that we are facing covid-19 pandemic that requires us to practice social or physical distancing (Cherry, 2023).

Observational learning or modeling is a commonly used technique for teaching motor skills. Observational learning can be done through live, symbolic, or electronically portrayed modeling. Live observational modeling involves the observer watching the behaviors being performed, such as an observer watching another player doing such stunts. The observer views the live player as producing a set of behaviors meant to be modeled. Symbolic or nonhuman modeling involves observing players with balls and their stunts. For example, an observer views the player learning to dribble the ball while playing. Although only one live player participates, the observer still learns behaviors through interactions with the ball. Finally, electronically portrayed modeling involves observing behavior via computers or videos, such as an observer watching a player in a video demonstrating dribbling with a ball.

This study is to understand the skill acquisition and different methods that can be used to assist in this process. Schmidt (2011) stated that physical practice is the best way to acquire a motor skill. However, problems may arise when physical practice is not an option. The method of observational learning can be effective in teaching a person to learn a motor skill. Observational learning involves different types of modeling and demonstrations in which learners observe desired behavior. As the learner observes, they form a cognitive representation of the skill being taught. The cognitive representation is then recalled and used to guide movement when the observers are instructed to perform.

Of all the studies for which Albert Bandura is famous, the most significant is the Bobo doll studies from which he derived the Observational Learning Theory. Bandura theorized that there are four observational learning processes: (1) Attention—In order to learn, one needs to pay attention, one is far more likely to dedicate full attention to an interesting model; (2) Retention—Storing information is an important part of the learning process; (3) Reproduction—Performing the learned behavior observed and practicing that behavior leads to improvement and skill advancement; and (4) Motivation—Actions will weaken unless the

perceived consequences of performing them are favorable to cause a repeated performance (Bandura et al., 2013).

Much information implies that observation before physical practice facilitates motor learning. Learning would be difficult if people could only use trial and error in their efforts to learn, but to our good fortune, we can learn chiefly by observing the actions of others.

Model prestige and competence, various consequences, outcome expectations, goal setting, and self-efficacy are the several factors that may influence observational learning, including developmental status. Developmental status refers to the developmental and cognitive capacity of the model. Observational learning will be the most effective when the developmental and cognitive status of the model and observer are similar. Different consequences as models complete tasks have different motivating effects on observers. Outcome expectations refer to how observers are more likely to imitate the behaviors of the models. The observers believe that it will lead to positive outcomes. Furthermore, goal setting refers to how observers are more likely to attend to models demonstrating behaviors that achieve desired goals. Moreover, finally, observers attend to models when a belief exists that the observers are capable of performing the demonstrated behavior, it is what they call self-efficacy.

Skill acquisition involves the development and adoption of a new skill, practice, or way of doing things or stunts, it is usually gained through training or experience. Basketball federations, teams, coaches, players, and support personnel are all interested in enhancing the performance of teams and players to improve the likelihood of competitive success.

According to the study by Zinsser et. Al (2010), self-talk (ST) facilitates performance in various ways, such as skill acquisition, building confidence and self-efficacy, modifying ineffective habits, as well as controlling effort. Observational approaches have been commonly used to support the development of basketball skills. However, this approach has some inherent limitations and challenges that must be addressed. One of the main problems with observational approaches is that they only

sometimes reflect the complexity of real-world game situations. Observational approaches often involve simplified or isolated skill tasks, which may translate to something other than the game context. Research has shown that skill transfer from isolated drills to game situations is only sometimes guaranteed, and players may need help to apply the skills they learned in practice to real games (Krause & Chow, 2015).

Another issue is that observational approaches may only be suitable for some types of learners. Some players learn better through experiential approaches, such as trial and error, rather than through observation alone. In addition, observational approaches may need to take into account individual differences in learning styles and preferences (Bolton & Hesp, 2018). Furthermore, observational approaches can also be limited by the quality of the observer or coach. The coach's ability to accurately identify and communicate key skill components and provide appropriate feedback can impact the effectiveness of observational approaches (Santos et al., 2020).

Additionally, the observer's bias can affect the feedback they provide, which can be problematic for players who need more objective and accurate feedback. Observational approaches have been widely used to support basketball skill development, but they may only sometimes be effective or appropriate for all players. Coaches should consider the limitations and challenges of observational approaches and incorporate other learning strategies to ensure the most effective development of basketball skills.

Limited research examines the relationships between sex, GWA, socio-economic status, and skill acquisition explicitly through observational learning. However, some studies have investigated the relationship between these factors and learning more broadly. One study by Gottfried and colleagues (2017) found significant differences in students' academic achievement based on their socio-economic status and sex. The study found that females tended to have higher grades than males, but students from higher socio-economic backgrounds tended to have higher grades than those from lower socio-economic backgrounds. However, the study did

not specifically examine the relationship between these factors and observational learning.

Another study by [Kalyuga and Sweller \(2014\)](#) investigated the relationship between GWA and expertise reversal effects in learners. The study found that high-GWA learners were less susceptible to the expertise reversal effect, meaning they could better apply previously learned information to new situations. However, this study did not specifically examine the relationship between GWA and observational learning. Overall, while there is some evidence to suggest that sex, GWA, and socio-economic status may affect learning more broadly, there is limited research specifically examining their relationship with observational learning. This research is needed to fully understand these relationships and their underlying mechanisms.

For observational learning to be effective, the model's behavior must be seen as useful, and the model must relate to the observer in a personal manner. Further, people will only be engaged and attentive if they see themselves associated with or attracted to the model.

To optimize your progress and improve faster than others, you need to have a smart attack plan for how to get there. Make no mistake, it is better to practice any practice than to have no training, but if you are serious about going to the next level, it is critical to have a smart plan.

The demand to know how useful observational learning can be in skill acquisition in Basketball will be helpful to our nation's future Physical Education teachers. This opens them to a new knowledge of acquiring skills and allows them to be self-sufficient. Moreover, in this research, the researchers are focusing on how important observational learning in skill acquisition in Basketball to give sports coaches, future physical education instructors, and researchers the idea of how to identify the techniques that they may use in terms of skill acquisition and will help them become knowledgeable on acquiring skills through observational learning. Also, the researchers believed that the result would greatly help students' way of skill acquisition in Basketball.

## METHODS

This study used the descriptive-correlational method. Descriptive research describes the phenomenon and its characteristics (Nassaji, 2015). It was used to obtain information concerning the present status of the phenomena to explain what exists with respect to variables or conditions during a situation. On the other hand, the correlational method is used to identify the relationship and degree of association between two or more variables (Creswell, 2012).

The respondents of this study were composed of 89 third-year students from the College of Teacher Education in Batangas State University-JPLPC Malvar Campus who are officially enrolled during the academic year 2020-2021. They served as the respondents of this research endeavor. An adequate number of respondents and appropriate sampling techniques are adopted to produce a valid and reliable result. There are 114 students from the College of Teacher Education at Batangas State University JPLPC-Malvar. The sample sizes of respondents were determined using Raosoft Digital Calculator with a five percent margin of error, resulting in 89 respondents. In order to arrive at a proportional distribution of the sample size, the respondents were selected through simple random sampling. The respondents were grouped according to year level for appropriate representation.

The main tool in gathering data was the research-made questionnaire. A researcher-made questionnaire was used to collect the necessary information for the study. The draft questionnaire was created based on the researcher's readings, previous studies, technical literature, and published and unpublished proposals relevant to the report. The requirements for designing excellent information-gathering tools were examined during the instrument's development. For example, the statement detailing the conditions or difficulties mentioned was toned down to meet the respondents' knowledge readiness. Open-ended alternatives have been provided to accommodate free-formatted perspectives on themes or situations. As a result, the instrument was able to elicit significant reactions

from the students. Essentially, it advocated for easy answers to pressing challenges. Furthermore, before the study, the instrument was examined by several professionals and specialists.

The researchers gathered information about the study to formulate a questionnaire which served as the study's main instrument. The questionnaire was composed of two parts. The first part focuses on the profile of the respondents; it reveals the profile of the respondents in terms of sex, program, GWA, and socio-economic status. For the Socio-Economic Status, the researchers used the socio-economic status and the National Statistics Office 2014 bracketing. It is divided into High Income (P37, 001.00 and above), Middle Income (P10,000.00-P37,000.00), and Low Income (P9,999.00 and below). The following ranges with their interpretation were used to interpret the mean and composite mean. The respondents' skill acquisition in Basketball is the study's second variable. The numerical values (4,3,2,1) were utilized together with the mean ranges (4.00-3.51,3.50-2.51,2.50-1.51,1.50-1.00) with verbal interpretation (Very Useful, Useful, Slightly Useful, Not Useful).

Researchers made a questionnaire through a Google form. The first part was the respondents' profile, and the second part was the Likert scale, which contains four response options ranging from strongly agree to disagree strongly. Consultation with an adviser was taken into consideration online for the validation and revisions of the formulated questionnaires. The comments and suggestions of panel members are also considered to ensure validity and reliability. Proven, valid, and reliable, the researchers gathered data from the respondents.

Before conducting the research study, a letter asking permission to conduct and administer a researcher-made questionnaire to the target respondents was presented for approval to the Associate Dean of the College of Teacher Education. The validity and reliability of the questionnaire were considered with the help of the respective individuals. The researcher then requested permission from the program chairperson and the respondent's adviser to distribute the survey questionnaire link.

After the approval, the researchers sent the questionnaires in Google form via messenger or email. The respondents answered all the questions. After answering the Google form, the respondents clicked the submit button for the researchers to retrieve the data. Data gathered from answered questionnaires were checked, analyzed, and tabulated to come up with the results and recommendations of the study.

## RESULTS

### 1. Respondents' Profile

In this portion, the profile of the respondents in terms of sex, program, GWA in P.E., and socio-economic status are presented. These are found in the succeeding tables.

#### 1.1 Sex

Sex refers to the physical trait and social positions that members of society hold. It is also their nature or characteristics of being male or female. The table below reveals the profile of the respondents when they are grouped according to their sex.

**Table 1.** Distribution of the respondents' profile in terms of sex

Sex	Frequency	Percentage
Male	8	9
Female	81	91
<b>Total</b>	<b>89</b>	<b>100</b>

The table exposes that the majority of the respondents were female. Out of the total sample of 89, there were 81 or 91% female, and 8 or 9% male. A more significant number of female respondents is revealed. This numerical disparity can be attributed to the fact that females tend to assess the usefulness of observational learning to skill acquisition in Basketball.

Sports differ in whether they are gender-typed as masculine, feminine, or gender-neutral. [Mohsen et al. \(2012\)](#) stated that one of the mediator variables that has a motivational role in observational learning is gender. The females prefer to compete with the skill level of the model more than the males, which makes them perform better



and more efficacies. In addition, the learning role of gender in motor skills is socio-culture, and in the present study, gender differences are considered according to self-efficacy theory. Other evidence also revealed that females were more confident than males because they had more achievement motivation and competitiveness. Therefore, it seems that the gender differences in performance and observational learning are related to the least efficacy expectations of females. So, another goal of the current study was to determine the role of the model's gender on the learning and self-efficacy of motor tasks. Since gender is a cultural variable and its effect is different in different societies, thus its association with learning motor skills in educational settings is important to realize according to the interactional approach in sport psychology.

## 1.2 Program

The second profile variable sought is the program categorized as BSEd, BPEd, and BEEd. The profile of the respondents in terms of the program was determined and interpreted using frequency and percentage revealed in Table 2.

**Table 2.** Distribution of the respondents' profiles in terms of the program

Program	Frequency	Percentage
Bachelor of Elementary Education	16	18
Bachelor in Physical Education	17	19
Bachelor of Secondary Education	56	63
<b>Total</b>	<b>89</b>	<b>100</b>

Table 2 reveals the frequency and percentage distribution of the respondents when grouped according to their program. The data shows that out of the total sample of 89, 56, or 63% are BSEd, 17, or 19% are BPEd, and 16, or 18%, are BEEd. A more significant number of BSEd respondents is revealed. This numerical disparity can be attributed to many students in the College of Teacher Education at Batangas State University-JPLPC Malvar taking Bachelor of Secondary Education. This may be because there are

more specializations in BSEd, like Mathematics, English, Science, Filipino, etc., than BEEd and BPEd (Ulla,2016).

### 1.3 General Weighted Average (GWA)

The third profile variable sought is GWA which is categorized as 1.00-1.24 (Excellent), 1.25-1.49 (Superior), and 1.50-1.74 (Very good). The profile of the respondents in terms of GWA was determined and interpreted using frequency and percentage revealed in Table 3.

**Table 3** Distribution of the respondents' profile in terms of a general weighted average (GWA)

General Weighted Average	Frequency	Percentage
1.00 – 1.24	6	7
1.25 – 1.49	72	81
1.50 – 1.74	11	12
Total	89	100

The table exposes that most of the respondents belong to the Superior group. Out of the total sample of 89, 72 or 81% of respondents belong to the Superior group, 11 or 12 respondents belong to the Very Good group, and 6 or 7% of respondents belong to the Excellent group.

It could be gleaned from the table that most of the respondents belong to the Superior group. This is because the respondents are flexible in facing academic adjustment being in the pioneer batch of the K-12 curriculum.

Jagersma 2012 stated that the curriculum is constructed with the learner as its central focus. Thus, the students who are introduced to a new curriculum will be taught with different experimental approaches. Students are flexible enough to adopt changes, and being the pioneer batch has proven that those approaches are effective for the succeeding batch.

### 1.4 Socio-Economic Status

The fourth profile variable determined is socio-economic status, categorized as high, middle, and low income. The profile of

the respondents in terms of socio-economic status was determined and interpreted using frequency and percentage revealed in Table 4.

**Table 4** Distribution of the respondents' profile in terms of socio-economic status

Socio-economic Status	Frequency	Percentage
Middle Income	65	73
Low Income	24	27
Total	89	100

Table 4 reveals the frequency distribution of the respondents when grouped according to their socio-economic status. The data shows that out of the total sample of 89, 24 or 27% belong to the low-income group, and 65 or 73% belong to the middle-income group. It could also be observed that most respondents belong to the middle group income. This outcome ascertains that the respondents' families can sufficiently respond to every day's call for survival.

## **2. Respondents' Skill Acquisition in Basketball through Observational Learning**

This part of the study determined the respondents' assessment of the usefulness of skill acquisition in Basketball through observational learning. These are found in the succeeding table.

Table 5 presents the respondents' assessment of the usefulness of skill acquisition in Basketball through observational learning. The gathered data were interpreted using mean and standard deviation.

**Table 5** Assessment of skill acquisition in Basketball through observational learning

Indicators	Mean	Standard Deviation	Descriptive Interpretation
1. Enable them to penetrate the hoop, move the ball across the court, get away from the defense, and find a good passing lane.	3.44	0.64	Useful
2. Help to learn good offensive attacks and good passing from players.	3.49	0.62	Useful
3. Help to develop a great deal of attention to quickly and accurately process what is happening on the court.	3.47	0.64	Useful
4. Help to become more competitive but fair during the game.	3.52	0.59	Very Useful
5. Increase motivation by observing the performance of another player.	3.55	0.60	Very Useful
6. Train on a particular skill and become an expert on it.	3.42	0.70	Useful
7. Optimize progress in playing Basketball by improving speed as compared to others.	3.44	0.67	Useful
8. Promote enjoyment in learning and encourage good social interactions when playing Basketball.	3.65	0.60	Very Useful
9. Help to create a picture of the skilled movement and become confident to play Basketball.	3.51	0.68	Very Useful
10. Help to discover and develop new skills.	3.63	0.63	Very Useful
<b>Overall</b>	<b>3.51</b>	<b>0.64</b>	<b>Very Useful</b>

Table 5 reveals the respondents' assessment of the usefulness of skill acquisition in Basketball through observational learning. Acquiring the highest mean of 3.65, the respondents strongly agreed that they find observational learning promotes enjoyment in learning and encourages good social interactions when playing Basketball. This signifies that observational learning promotes enjoyment in learning and encourages good social interactions among the players while playing Basketball.

The least in rank is statement no. 6, with a weighted mean of 3.42. The respondents only agreed that observational learning trains them on a particular skill, and they become experts on it. This least favored statement can be embedded in the fact that it is hard to be trained in a particular skill and become an expert on it just by observational learning.

Magill (2011) stated that whenever a new learner learns a specific form of behavior just by observation, s/he uses observational learning. Observational learning is caused changes in the observed

behavior of a model and is most useful and enjoyable when learning skills are needed for a new pattern of coordination. It is logical that when an observer uses and perceives unchangeable movement patterns, the viewing quality is screened as it is not an incentive to mimic the performance of the non-qualified model when seeing him, but the observer, in a manner more actively involved in the problem-solving process. Along with modeling positive behaviors for youngsters, spending time communicating clearly and defining consequences creates a comfortable environment for observational learning.

[Ghalkhani \(2011\)](#) stated that direct observation is one of the most effective and stable modeling methods of learning. In this method, concrete and imitable examples will be provided for the students, and he will try to visit his actions and speech pattern, in all cases, to make the pattern desired. Learning skills allow the trainee to connect the duty motor verbal explanation and information obtained from valid marks to perform the task for successful implementation, and when a person observes a model with a focus on temporal and spatial characteristics of skills, a proficiency model will be learned. Moreover, observing a person's movements and observational learning leads to increasing error correction capability, better performance, transferring the related data, strengthening memory, increasing confidence, increasing motivation, and overcoming anxiety.

### **3. Relationship between the Respondents' Profile and their Skill Acquisition in Basketball through Observational Learning**

Table 6 presents the relationship between the respondents' profile and their skill acquisition in Basketball through observational learning. The correlation of the variables was tested using the Chi-square formula.

**Table 6** Relationship between profile and skill acquisition in Basketball through observational learning

Variables	Computed $\chi^2$	p Value	Decision (H <sub>0</sub> )	Interpretation
Sex and Skill Acquisition in Basketball through Observational Learning	49.225	0.000	Reject	Significant
Program and Skill Acquisition in Basketball through Observational Learning	29.154	0.000	Reject	Significant
GWA and Skill Acquisition in Basketball through Observational Learning	81.853	0.000	Reject	Significant
Socio-economic Status and Skill Acquisition in Basketball through Observational Learning	23.579	0.000	Reject	Significant

The table shows that when the profile of the respondents in terms of sex was correlated to skill acquisition through observational learning, the computed Chi-Square value was 49.225. Having the equivalent p-value of 0.000, the null hypothesis is rejected, confirming a significant relationship between sex and the respondents' skill acquisition in Basketball through observational learning.

This is because most of the respondents are female and more confident than males because they have more achievement motivation and competitiveness (Mohsen, 2010).

When the profile of the respondents in terms of the program was correlated to the skill acquisition through observational learning, the computed Chi-Square value was 29.154. Having the equivalent p-value of 0.000, the null hypothesis is rejected, confirming that there exists a significant relationship between the program and the respondents' skill acquisition in Basketball through observational learning.

This is because of the fact that there are more specializations in BSEd, like Mathematics, English, Science, Filipino, etc., than BEEd and BPEd (Ulla, 2016).

When the profile of the respondents in terms of GWA was correlated to the skill acquisition through observational learning, the computed Chi-Square value was 81.853. Having the equivalent p-

value of 0.000, the null hypothesis is rejected, confirming that there exists a significant relationship between GWA and the respondents' skill acquisition in Basketball through observational learning.

This is because students are flexible enough to adopt changes and are the pioneer batch, proving that those approaches are effective for the succeeding batch (Jagersma, 2010).

When the profile of the respondents in terms of socio-economic status was correlated to the skill acquisition through observational learning, the computed Chi-Square value is 23.579. Having the equivalent p-value of 0.000, the null hypothesis is rejected, confirming that there exists a significant relationship between socio-economic status and the respondents' skill acquisition in Basketball through observational learning.

This is because of the fact that the respondents' families can sufficiently respond to every day's call for survival.

## DISCUSSION

Based upon the foregoing questions, the researcher verified the hypotheses that the respondents' profile which includes sex, program, GWA, and socio-economic status, have a significant relationship when correlated to their encountered challenges. With the descriptive-correlational method as the research design, the researcher made use of a questionnaire as the means of obtaining the data.

Part of Kim et al. (2017) recommendations found that video modeling effectively facilitates observational learning in Basketball. Found that novice basketball players who received observational learning training through video modeling showed significant improvement in their shooting accuracy. When using video modeling, choosing high-quality videos that demonstrate the desired skills clearly is important.

While observational learning can be effective on its own, it can also be combined with other methods to enhance skill acquisition in Basketball. For example, a study by Lewthwaite and Wulf (2010) found that combining observational learning with physical practice resulted in more significant

improvement in basketball shooting accuracy than alone. Observational learning is a valuable method for skill acquisition in Basketball, and these recommendations can help coaches and trainers effectively incorporate it into their training programs.

Feedback is also an important component of observational learning in Basketball. Zhao et al. (2019) found that beginner-level basketball players who received feedback on their dribbling skills during observational learning demonstrated more significant improvement than those who did not. It is important to provide timely and specific feedback that focuses on the key aspects of the learned skill.

In addition, individual differences, such as sex, age, and prior experience, can affect the effectiveness of observational learning in Basketball. For example, a study by Van der Kamp et al. (2019) found that male and female basketball players have different preferences for observational learning, with females preferring to observe a more significant number of trials. To maximize their effectiveness, it is important to consider individual differences when designing observational learning programs.

Moreover, each of the statements made has associated research findings that are provided. The respondents are greatly female, mostly from Bachelor of Secondary Education, belong to the Superior Group, and have a middle income. The profile of the respondents that include sex, program, GWA, and socio-economic status have a significant relationship when correlated to their encountered challenges. The above-mentioned findings recommend using multimedia or video demonstrating skills in physical education class to train the students' skills and strengthen the use of observational learning and conducting a webinar that focuses on how we can learn Basketball through observational learning.

## **CONCLUSIONS**

The following conclusions are taken from the study findings given above. Skill acquisition through observational learning, as perceived by the pre-service teachers, revealed that the respondents are greatly female, mostly from Bachelor of Secondary Education, belong to the Superior



Group, and have a middle income. Also, observational learning in terms of promoting enjoyment in learning and encouraging good social interactions when playing Basketball is interpreted as very useful. Chi-Square revealed that sex, program, GWA, and socio-economic status have a significant relationship when correlated to their skill acquisition through observational learning. In order to develop students' skills and strengthen observational learning, the findings mentioned above suggest using multimedia or videos that demonstrate skills in physical education classes. Also holding webinars that concentrate on how we can learn Basketball through observational learning.

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