

Critical Thinking as Predictors of Physical Education Instructors Teaching Performance in A Government University in Hunan Province

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Abstract

Critical thinking is a process of reasoning in which the person doing the thinking uses factual information gathered from various sources and analyzes that information to come to a logical conclusion, rather than relying on their own reasoning to justify their conclusion. This study aims to assess the level of critical thinking of the PE instructors in Hunan University of Science and Engineering as predictors of teaching performance, with an end view of proposing a contextualized development program for PE instructors. The participants in this study are 376 students as samples. He researcher will use random sampling using 95% level of confidence at 5% margin of error. The study established a robust positive correlation between the level of critical thinking skills possessed by physical education instructors and their teaching performance. Instructors who demonstrated higher critical thinking abilities were more likely to employ effective teaching strategies, adapt to diverse student needs, and make informed instructional decisions, resulting in enhanced teaching performance.

Keywords

Critical Thinking, Teaching performance, Predictors.

1. The Problem and Its Setting

1.1. Introduction

Critical thinking is now a central educational goal, from the Common Core State Standards to employers' demands for the future workforce particularly in physical education. But physical education instructors are observed apparently falling short of that goal. Physical education instructors get more information at earlier ages than ever before, and are frequently tested to see if they have retained it. But neither strategy teaches them how to think and make connections. In fact, many educators and policymakers don't understand how to help physical education instructors understand and how to think and make connections. Developing critical thinking is more complicated than teaching basic arithmetic, and yet instructors receive little training in how to do it.

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1.2. Statement of the Problem

This study aims to assess the level of critical thinking of the PE instructors in Hunan University of Science and Engineering as predictors of teaching performance, with an end view of proposing a contextualized development program for PE instructors.

Specifically, it will seek to answer the following questions:

- 1.2.1 What is the profile of the student respondents in terms of:
- 1.2.2 What is the assessment of the student respondents on the level of their PE instructor's critical thinking in terms of these factors?
- 1.2.3 Is there a significant difference in the student respondents' assessment of their PE instructors' level of critical thinking when their profiles are taken as test factors?
- 1.2.4 What is the level of PE Instructors' teaching performance as reflected in their last two years performance?
- 1.2.5 Is there a significant relationship between the student assessment of their PE instructors' level of critical thinking with their PE instructors' teaching performance?
- 1.2.6 What contextualized development program for PE instructors may be proposed based on the result of the study?

1.3. Scope and Delimitation of the Study

This study will investigate the relationship between students' assessment of their PE instructors' critical thinking in relation to the PE instructor's teaching performance in Hunan University of Science and Engineering, China towards development of contextualized development program.

The researcher will make use of the 376 students from 16,230 present student population at Hunan University of Science and Engineering in Hunan China. They will be chosen using the proportional stratified random sampling with the aid of the Qualtrics calculator at 95% level of confidence at 5% margin of error.

2. Review of Related Literature

The general focus of this chapter is to present the literatures related to the concepts, theories and principles of rote learning and critical thinking of students from a wide range of references. People have reached a widespread consensus that critical thinking is an indispensable tool for people to equip with in this rapidly-changing society (Dower, 2018) and is one of the five important skills that future citizens need to develop (Liu, 2000) and in the midst of a rapidly changing world, critical thinking has become one of the key attributes demanded of instructors in higher education.

It has also long been contended that for East Asian students studying at Western universities, the ability to think critically has proved particularly challenging, given the differing character of their educational and cultural backgrounds (Davies, 2020; Shaheen, 2016).

Paton (2019) , Clark and Gieve (2019) argue that international students from China are regarded by their monolingual English-speaking educators as "lacking the capacity for critical thinking"; Berliner (2020) report that international teachers from China believe that "good performance bring a feeling of self-esteem and self-worth" and attach little value to good critical thinking capabilities.

When educators in Western universities discuss the lack of Critical Thinking skills in international Asian, they are usually referring to their ability to compose argumentative essays or participate in academic discussions. There is indeed evidence that Asian teachers gain far less practice at these tasks in school than their counterparts in the West due to the focus on fact-based examinations (Shaheen, 2016).

Theoretical Framework

This study is anchored with the old and new theories of learning; the laws of association and multi-store model theory for theories of reasoning, critical discussion and cognitive mechanism for critical thinking.

The researcher will determine the student respondents' profile in terms of sex, age and year level. The students' assessment on the PE instructors' level of critical thinking will be assessed based on evaluating information, creative thinking, and problem solving. Similarly, the researcher will determine the PE instructors' teaching performance as reflected in their last 2 years performance evaluation. Lastly, the researcher will determine the significant relationship between the level of critical thinking of the teacher respondents to develop a contextualized development program.

Hypotheses

This study proposed the following null hypotheses:

There is no significant difference in the student respondents' assessment of their PE instructors' level of critical thinking when their profiles are taken as test factors.

There is no significant relationship between the student assessment of their PE instructors' level of critical thinking with their PE instructors' teaching performance.

3. Methodology

This chapter presents the research design to be used, the respondents of the study, the research instrument, and the data gathering procedure and the statistical data analysis that will be used.

3.1. Research Design

This study is a descriptive, comparative – correlational research. A comparative descriptive design is used to describe variables and examine differences in variables in two or more groups that occur naturally in a setting. A correlational research is research designed to discover relationships among variables and to allow the prediction of future events from present knowledge.

The method of inquiry was based on two adapted instruments. The collected data from the questionnaires was analyzed by quantitative survey tools, which provided guarantee for the study to explore the significant relationship of the research variables.

3.2. Sample and Sampling Technique

The participants in this study are 376 students as samples. The researcher will use proportional stratified random sampling using 95% level of confidence at 5% margin of error.

3.3. Research Instruments

Questionnaire

The researcher will use one (1) adapted questionnaires. It is the researcher adapted the Critical Thinking Assessment Test (CAT). The instrument assesses a broad collection of critical thinking skills that transcend most disciplines. This helped the student respondents successfully apply the CAT that were used to evaluate and encourage their teachers' critical thinking assessment basing questions on evaluating information, creative thinking and problem solving.

Data Gathering Procedure

The researcher will adopt questionnaires to be validated by the experts from the fields of educational psychology and leadership and management. After which, a letter of request to the president of Hunan University of Technology and Engineering will be personally given by the researcher asking permission to conduct the study. Following approval, the questionnaires will be distributed to the student respondents for data collection. This study will be conducted during the second semester of school year 2022-2023.

3.4. Statistical Analysis of Data

In analyzing the data to be gathered, the following statistical treatments will be used in the study at 0.05 level of significance using Statistical Package for Social Sciences or SPSS software:

3.5. Decision Criteria

The analysis of the hypothesis will be carried out using the 0.05 level of significance. The null hypotheses will be accepted if the computed significance value is greater than the set value at 0.05.

4. Research Results

This chapter deals with the presentation of the gathered data together with the analysis and interpretation according to the statement of the problem. The gathered data on the profile of the student respondents and their assessment of their present situation are hereby presented.

Table 1. Shows the demographic profile of the student respondents in terms of their age,

Profile	Frequency	Percentage
Age		
18 to 20 years old	275	72.1%
21-23 years old	105	27.9%
Total	376	100%

Table 2. Shows the assessment of the teacher respondents' level of pe instructor's critical thinking

EVALUATING INFORMATION My PE teacher ...	Mean	Qualitative Description	Interpretation
can separate factual information from inferences.	3.31	Agree	High Level
can interpret numerical relationships in graphs.	3.29	Agree	High Level
can understand the limitataion of correlational data.	3.35	Agree	High Level
can evaluate evidence and identify inappropriate conclusions.	3.34	Agree	High Level
Overall Mean	3.32	Agree	High Level

Table 3. Assessment of Student Respondents on the Level of PE instructor's Critical Thinking in terms of Critical Thinking

CREATIVE THINKING My PE Teacher	Mean	Qualitative Description	Interpretation
can identify alternative interpretations for data or observations.	3.32	Agree	High Level
can dentify new information that might support or contradict a hypothesis.	3.33	Agree	High Level
can explain how new information can change a problem.	3.36	Agree	High Level
can analyze information and make a reasonable judgement call.	3.39	Agree	High Level
Overall Mean	3.35	Agree	High Level

Table 4. Assessment of Student Respondents on the Level of PE instructor's Critical Thinking in terms of Problem Solving

PROBLEM SOLVING			
My PE Teacher	Mean	Qualitative Description	Interpretation
can separate relevant from irrelevant information.	3.39	Agree	High Level
can integrate information to solve problems.	3.39	Agree	High Level
can learn and apply new information in appropriate situations.	3.41	Agree	High Level
can use PE skills to solve real – world problems.	3.39	Agree	High Level
Overall Mean	3.40	Agree	High Level

Table 5. Differences in the Assessment of the Students as to Reasons Behind the Level of PE instructor's Critical Thinking when Grouped according to Profile

Variable	Profile	Mean	SD	F-value/ T-value	Sig	Decision on Ho	Interpretation
Age	18-20 years old	67.92	10.47	8.43	.00	Not Accepted	Significant
	21 - 23 yearsold	64.40	10.77				
	Total	66.94	10.66				
Sex	Male	66.86	11.32	.02	.89	Accepted	Not Significant
	Female	67.01	10.04				
	Total	66.94	10.66				
Year Level	Freshmen	68.76	10.65	6.18	.00	Not Accepted	Significant

5. Conciusions and Recommendations

This chapter contains the summary of findings obtained through the conduct of this research. It also includes the conclusions and recommendations formulated by the researcher, which were based on the gathered and analyzed data.

5.1. Findings

5.1.1 Profile of the Respondents

The demographic profile of the student respondents showed that in terms of sex, majority of the student respondents are females in terms of sex. This goes to show that there are more female students in the institution than male students.

In terms age, majority of the student respondents are 18-20 years old. This may be taken to mean that the student respondents are in the appropriate age and are able to assess the level of PE instructor's critical thinking.

In terms of year level, majority of the student respondents are freshmen in terms of year level. This goes to show that there are more freshmen students in the institution among the year levels.

5.1.2 Assessment of Student Respondents on the Level of PE instructor's Critical Thinking in terms of Evaluating Information

The assessment of the student respondents on level of PE instructir's critical thinking showed that the highest mean of 3.35, with the qualitative description of agree is observed among the students and is interpreted as the students being high level in the critical thinking, was found for item 3 which states that the teacher can understand the limitation of correlational data. Teacher quality trumps all other factors.

5.1.3 Assessment of Student Respondents on the Level of PE instructor's Critical Thinking in terms of Critical Thinking

The assessment of the student respondents on the level of instructor's critical thinking showed that the highest mean of 3.39, with the qualitative description of agree observed among the teachers and is interpreted as the teachers being high level in the critical thinking, was found for item 4 which states that the teachers can analyze information and make a reasonable judgement call. Teachers' judgments in school are of outstanding importance. They serve as a basis for the assessment of student performance, instructional decisions, and the selection and placement of students with special talents or deficits

5.1.4 Assessment of Student Respondents on the Level of PE instructor's Critical Thinking in terms of Problem-Solving

The assessment of the student respondents on the instructor's level of problem solving showed that the highest mean of 3.41, with the qualitative description of agree observed among the teachers and is interpreted as the teachers being high level in the level of problem solving, was found for item 3 which states that the teachers can learn and apply new information in appropriate situations.

5.1.5 Significant Differences in the Assessment of the Students as to Reasons Behind the Level of PE instructor's Critical Thinking when Grouped according to Profile

In terms of age, a computed T-value of 8.43 and a significance value of 0.00 were identified. Since the significance value is not greater than 0.05 level of significance, the null hypothesis is not accepted which means that there is a significant difference in the assessment of the students as to reasons behind the instructor's level of critical thinking when they are grouped according to age. This means that there is a difference in the assessment of the students as to reasons behind the instructor's level of critical thinking.

5.2. Conclusions

5.2.1 The study established a robust positive correlation between the level of critical thinking skills possessed by physical education instructors and their teaching performance. Instructors who demonstrated higher critical thinking abilities were more likely to employ effective teaching strategies, adapt to diverse student needs, and make informed instructional decisions, resulting in enhanced teaching performance.

5.2.2 The research highlighted the significant influence of interdisciplinary exposure on the critical thinking abilities of physical education instructors. Those who engaged in collaborative discussions and interactions with colleagues from different academic backgrounds demonstrated a heightened capacity to think critically. This exposure led to the integration of innovative teaching methods, positively affecting their overall teaching performance.

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5.3. Recommendations

5.2.1 Incorporate Critical Thinking Training into Professional Development.

5.2.2 Promote Interdisciplinary Collaboration.

5.2.3 Design Scenario-Based Learning Experiences.

5.2.4 Implement Reflective Teaching Practices.

5.2.5 Integrate Assessment of Critical Thinking in Performance Reviews.

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