The Relationship Between Social Economic Status (SES) and Productive Pedagogy Approached Among Elementary School Students in Shanghai, China.

Sun Jiang[1,2], *NORAINI BINTI HJ ZAINAL ABIDIN*[1]

1. Faculty of Education anLiberal Studies,CityUniversity Malaysia, 46100 Petaling Jaya, Selangor, Malaysia.

2. College of Education Science, Heihe University,Heilongjiang Heihe 164300,China.

Abstract: This study examines the relationship between productive pedagogy approaches and academic performance, and the moderating role of socioeconomic status (SES) among elementary school students in Shanghai, China. Specifically, the study focuses on five variables related to productive pedagogy approaches: collaborative learning, inquiry-based learning, differentiated instruction, active learning, and technology integration. The study uses a mixed-methods research design and collects data from elementary school teachers in Shanghai, China, through surveys and interviews. The data are analyzed using descriptive and inferential statistics to identify the most effective productive pedagogy approaches and to examine the relationship between these approaches, academic performance, and SES. The findings of this study could provide insights into how educators can design effective pedagogical approaches to improve academic outcomes and reduce achievement gaps between students from different socioeconomic backgrounds.

Key Words: Productive Pedagogy Approached , Elementary School Students, China

1.INTRODUCTION

1.1 Background of the Study

In Shanghai, China, there is a growing interest in promoting productive pedagogy approaches in elementary schools as part of broader efforts to improve the quality of education. In recent years, the Chinese government has invested heavily in educational reform initiatives aimed at enhancing teacher training and curriculum development, and promoting student-centered and inquiry-based approaches to learning.

Therefore, the current study aims to address this gap in the literature by examining the relationship between productive pedagogy approaches and academic performance among elementary school students in Shanghai, and by exploring the moderating role of SES in this relationship. Specifically, the study will investigate five variables related to productive pedagogy approaches: a) collaborative learning, b) inquiry-based learning, c) differentiated instruction, d) active learning, and e) technology integration. By examining the effectiveness of these approaches and their relationship to SES and academic performance, this study aims to contribute to a better understanding of how productive pedagogy approaches can be used to support academic achievement and reduce disappointment gaps in diverse educational contexts.

1.2 Problem Statement

Majority teachers in Elementary school more focus in mathematics education in China beside other essential subjects for laying a solid foundation for students' later studies and developing their problem-solving and critical thinking skills. Nonetheless, traditional teaching methods and rote learning still dominate in mathematics classrooms at the elementary level, with limited emphasis on deeper learning and critical thinking. This approach can lead to students simply memorizing formulas and procedures, with little opportunity to develop a deeper understanding of mathematical concepts or apply their learning to real-world situations. As a result, students may lack the skills and confidence needed to excel in mathematics and related fields in the future.

Limited access to resources and educational opportunities is a significant problem for students from low SES backgrounds in China. These students often attend underfunded schools that lack the resources necessary for effective mathematics instruction. They may not have access to up-to-date textbooks or technological devices, such as computers or calculators, which can hinder their ability to learn and perform well in mathematics. productive pedagogy approaches have the potential to address these issues by providing alternative strategies for promoting academic achievement in mathematics, even in resource-limited settings (Scriver, Walsh Olesen, & Clifford, 2021). Inquiry-based instruction can encourage students to develop their critical thinking skills and engage in active learning, without relying on expensive resources or technology. Collaborative learning approaches can promote peer-to-peer interaction and support, which can be especially beneficial for students from low SES backgrounds who may not have access to other forms of academic support.

This study aims to examine the effectiveness of productive pedagogy approaches in promoting academic performance in elementary school mathematics classrooms in China.

1.3 Research Objectives

To examine the currents pedagogy approach practice being used in elementary school classrooms in Shanghai, China.

To identify the types of productive pedagogy approaches that are being used in elementary school mathematics classrooms in Shanghai, China.

To investigate the relationship between the use of productive pedagogy approaches and academic performance in mathematics in elementary school classrooms in Shanghai, China.

To examine the socioeconomic status on the relationship between productive pedagogy approaches.

To examine the socioeconomic status on the relationship between the academic performance in mathematics.

1.4 Significance of the Study

The Firstly, the study aims to investigate the effectiveness of productive pedagogy approaches in promoting academic achievement in elementary school and focusing in mathematics classrooms in Shanghai, China. By doing so, the study can inform the development of effective teaching practices, which can potentially improve academic outcomes for students. In addition, as productive pedagogy approaches promote active, student-centered learning, this study has the potential to contribute to the development of critical thinking and problem-solving skills in students. These skills are highly valued in China today's society and are essential for success in future academic and professional endeavors.

Secondly, this study is significant because it aims to investigate the moderating effect of socioeconomic status on the relationship between productive pedagogy approaches and academic performance in mathematics among elementary school students. Students from low SES backgrounds often face numerous challenges that can negatively affect their academic outcomes. By examining the moderating effect of SES on the effectiveness of productive pedagogy approaches, this study can identify effective strategies for promoting academic achievement among these students. Furthermore, this study has the potential to reduce the achievement gap between students from high and low SES backgrounds, promoting greater academic performance in elementary school mathematics education in Shanghai, China.

Thirdly, this study has broader implications for mathematics education in China and beyond, particularly among elementary school students. By identifying effective productive pedagogy approaches, this study can inform future curriculum development and teacher training efforts, promoting the use of effective teaching practices in elementary school mathematics education. Furthermore, this study can add to the body of research on productive pedagogy approaches in mathematics education among elementary school students. This can inform future research and practice, contributing to the development of effective teaching practices in mathematics education more broadly.

1.5 Research Question

To examine the currents pedagogy approach practice being used in elementary school classrooms in Shanghai, China

To identify the types of productive pedagogy approaches that are being used in elementary school mathematics classrooms in Shanghai, China.

To investigate the relationship between the use of productive pedagogy approaches and academic performance in mathematics in elementary school classrooms in Shanghai, China.

To examine the socioeconomic status on the relationship between productive pedagogy approaches.

To examine the socioeconomic status on the relationship between the academic performance in mathematics.

2. LITERATURE REVIEW

2.1 Collaborative Learning and Academic Performance

Collaborative learning refers to a teaching and learning approach where students work together in groups or pairs to complete a task, solve a problem, or achieve a common goal. It is a student-centered approach that emphasizes active participation, communication, and cooperation among learners. Collaborative learning can take many forms, such as peer tutoring, project-based learning, problem-based learning, or group discussions. In collaborative learning, students are encouraged to share their ideas, knowledge, and skills with each other and to work together to achieve a common objective. The goal of collaborative learning is to promote critical thinking, problem-solving, communication, and teamwork skills among students, as well as to foster a sense of community and support among learners.

2.2 Inquiry-Based Instruction and Academic Performance

Inquiry-based instruction is a teaching approach that emphasizes the active engagement of students in the learning process through the exploration of questions, problems, or issues that are of interest or relevance to them. This approach is characterized by the use of open-ended questions, student-centered activities, and opportunities for students to collaborate and share their ideas and findings with others. Inquiry-based instruction encourages students to develop their critical thinking, problem-solving, and communication skills, as well as their ability to work independently and collaboratively. The goal of inquiry-based instruction is to promote deep understanding and meaningful learning by encouraging students to ask questions, think critically, and explore their own interests and ideas.

2.3 Problem-Based Learning and Academic Performance

Problem-Based Learning is a teaching and learning approach that revolves around presenting students with complex and challenging real-world problems as the starting point for learning. In this approach, the teacher acts as a facilitator, providing guidance and support as the students engage in active learning and inquiry to identify and explore potential solutions to the problem. The problems are designed to be open-ended and often have multiple solutions, requiring students to engage in critical thinking and collaborate with their peers to arrive at a solution. The main objective of Problem-Based Learning is to equip students with the necessary skills and competencies, such as critical thinking, problem-solving, and collaboration, that are essential for success in the real world. By working through real-world problems, students are encouraged to take ownership of their learning, develop their abilities to work collaboratively, and deepen their understanding of the subject matter.

2.4 Flipped Classroom and Academic Performance

The flipped classroom is an instructional strategy where traditional teaching methods, such as direct instruction and lecture, are delivered outside of the classroom through pre-recorded videos or other materials. This allows for class time to be spent on active learning activities, such as discussions, problem-solving, and collaboration, rather than on passive listening. The goal of the flipped classroom is to enhance student engagement and learning outcomes by promoting a more student-centered and interactive approach to education.

Several studies have explored the impact of the flipped classroom on academic performance. found that students in a flipped classroom setting achieved higher exam scores than those in a traditional lecture-based classroom. Similarly, Wang & Zhu (2019) demonstrated that students in a flipped classroom environment had significantly higher grades than those in a traditional classroom. These studies suggest that the flipped classroom can positively impact academic performance.

2.5 Moderating Effect of Socioeconomic Status

Socioeconomic status (SES) refers to an individual's or family's position within a social hierarchy, based on a combination of factors such as income, education, occupation, and social status. It is a measure of an individual's access to resources and opportunities, and it can have a significant impact on one's quality of life, health, and well-being. SES is often used in research to examine the relationship between social factors and outcomes such as academic achievement, health outcomes, and economic success.

3.RESEARCH METHODOLOGY

3.1Research Design

The research design of this study employs a qualitative method, specifically interviews, to explore the relationship between Productive Pedagogy Approaches and academic performance with the moderating effect of socioeconomic status among elementary school students in Shanghai, China. Qualitative research is an appropriate approach for this study because it allows for an in-depth exploration of the experiences and perspectives of the participants, and the use of interviews enables the researcher to gather rich and detailed data directly from the participants themselves.

The study will use purposive sampling to select participants who meet the inclusion criteria. Inclusion criteria include elementary school students in Shanghai, China, who have experience with Productive Pedagogy Approaches, and whose parents/guardians are willing to participate in the study. The sample will be selected based on SES, with an equal number of participants from low, middle, and high SES backgrounds.

Data will be collected through semi-structured interviews with the participants and their parents/guardians. The interview questions will be developed based on the research questions and will explore the participants' experiences with Productive Pedagogy Approaches, their academic performance, and the influence of SES on the relationship between the two. The interviews will be audio-recorded and transcribed for analysis. Data analysis will be conducted using a thematic analysis approach. The researcher will analyze the data by identifying patterns, themes, and categories that emerge from the participants' responses. The analysis will be guided by the research questions and the theoretical framework of the study.

3.2Population and Sample

In order to gather data for the study, this research will involve interviewing and observing elementary school mathematics teachers in Shanghai, China. These teachers will serve as the primary source of information regarding their practices, experiences, and perspectives on the use of productive pedagogy approaches in mathematics education. By directly engaging with teachers, valuable insights can be gained into their instructional methods, classroom dynamics, and the challenges they face in promoting academic achievement in mathematics.

3.3 Unit of Analysis

The unit of analysis in a research study refers to the individual, group, or entity that is the focus of the research investigation. In this study, the unit of analysis is elementary school students in Shanghai, China. The study seeks to examine the relationship between productive pedagogy approaches and academic performance with the moderating effect of socioeconomic status on this relationship.

3.4 Research Technique

The research technique used in this study is semi-structured interviews. Semi-structured interviews involve a set of pre-determined questions that are open-ended and flexible, allowing the interviewee to expand on their answers and share their experiences in greater detail.

3.5Conclusion

This chapter presents the methodology used to investigate the relationship between Productive Pedagogy Approaches and academic performance, with the moderating effect of socioeconomic status (SES) among elementary school students in Shanghai, China. This study adopted a quantitative research design and used a survey questionnaire to collect data from participants. The purpose of this chapter is to describe the research design, participants, instrumentation, data collection, and data analysis procedures used in this study.

REFERENCES

[1]Ali,SS.Problem Based Learning: A Student Centered Learning Approach[J], English Language Teaching,2019(12):73-78

[2]Reexamination of Social Reproduction Theory[D], British Sociology of Education,2021(7):1086-1104.

[3]Interactive feedback on learning mathematics in a digital learning environment [J], Education Science,2021(6):279

[4]Chen Changqing, Tu Huiying. The Impact of Digital Gaming Learning on Learning Motivation and Performance under Social Cognitive Theory and Entrepreneurial Thinking [J]. Frontiers of Psychology,2021(12):750711

[5]Ethnic Interaction in Law School Classrooms: Teaching Methods for Creating a Safe Learning Environment[J]. Legal Education, 2017: 67-780.

[6]Guo Li, Huang Jun, Zhang Yong. Development of Education in China: Education Returns,Quality, and Equity Sustainability[A], 2019:11-13

[7]Zhang Fei, Jiang Yong, Ming Hui, Ren Yong, Wang Li, Huang Shi. Family socioeconomic status and children's academic achievement: different roles of parental academic participation and subjective social mobility. British Journal of Educational Psychology,2020(3): 561-579.