Title: The Impact of Student-Centered Instruction on Academic Achievement in a High School Mathematics Classroom

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Abstract: Student-centered instruction is a teaching approach that focuses on the needs and interests of the student, rather than the teacher. This approach has been shown to be effective in a variety of educational settings, but little research has been done on its impact in high school mathematics classrooms. The purpose of this capstone project is to examine the impact of student-centered instruction on academic achievement in a high school mathematics classroom. The project includes a review of the literature on student-centered instruction and a case study of a high school mathematics classroom that implemented student-centered instruction.

Keywords: student-centered instruction, academic achievement, high school mathematics, teaching approach.

Chapter 1: Introduction

Student-centered instruction is a teaching approach that focuses on the needs and interests of the student, rather than the teacher. This approach involves the use of active learning techniques, such as problem-based learning and inquiry-based learning, which allow students to take an active role in their own learning.

Student-centered instruction has been shown to be effective in a variety of educational settings, including primary, secondary, and higher education has been done on its impact in high school mathematics classrooms, particularly in the Philippines.

The purpose of this capstone project is to examine the impact of student-centered instruction on academic achievement in a high school mathematics classroom. The project includes a review of the literature on student-centered instruction and a case study of a high school mathematics classroom that implemented student-centered instruction.

The findings of this project have the potential to inform the development of effective teaching practices in high school mathematics classrooms and to improve student learning outcomes.

Chapter 2: Literature Review

The literature on student-centered instruction suggests that this approach can be effective in improving student learning outcomes in a variety of educational settings. Student-centered instruction involves the use of active learning techniques, such as problem-based learning and inquiry-based learning, which allow students to take an active role in their own learning.

Research has shown that student-centered instruction can lead to increased student engagement and motivation, as well as increased critical thinking skills and problem-solving abilities (Looi et al., 2010; Prince, 2004). It has also been shown to be effective in improving academic achievement in a range of subjects, including mathematics (Dillenbourg, 1999).

However, much of the research on student-centered instruction has been conducted in primary and higher education settings, and there is a need for more research in the secondary education context, particularly in the Philippines. Additionally, while there is evidence to suggest that

student-centered instruction can be effective in improving academic achievement in mathematics, more research is needed to understand the specific mechanisms by which it leads to improved learning outcomes.