

**MIDOCEAN UNIVERSITY
FACULTY OF HUMANITIES
DEPARTMENT OF FINANCIAL TECHNOLOGY**

RESEARCH PROPOSAL

**THE REALITY OF USING ARTIFICIAL
INTELLIGENCE APPLICATIONS AND THE
CHALLENGES FACING SCHOOL TEACHERS AND
FACULTY MEMBERS IN JEDDAH**

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Abstract

This research proposal lays out a practical and simple study to explore how school teachers and university faculty members in Jeddah use Artificial Intelligence (AI) in their daily work, as well as the main challenges they face. Smart tools like ChatGPT, automated grading tools, and lesson generators are changing how we teach. However, there is still a big gap between the release of these tools and the real support teachers get in their schools and universities.

In this study, I will collect feedback from teachers in schools (elementary, middle, and high school) and professors across universities in Jeddah. I will use a simple online questionnaire divided into two main areas: (1) how often educators actually use AI for lesson preparation, teaching, and grading, and (2) what problems they run into, such as weak internet, lack of training workshops, fear of student cheating, or unclear school policies.

I will analyze the survey data using simple statistical tests in SPSS, such as averages, percentages, t-tests, and ANOVA. This will help me compare whether university professors use AI more than school teachers, or if younger educators face different challenges than experienced ones. The goal of my study is to give school principals and university leaders in Jeddah clear information so they can offer better training, improve technical tools, and set fair rules for using AI in classrooms.

Keywords: Artificial Intelligence in Education, School Teachers, Faculty Members, Jeddah, Teaching Challenges, Technology Acceptance, Simple Survey Study.

1. Introduction and Background

Technology is transforming classrooms and classrooms across the world faster than ever before. In recent years, Artificial Intelligence (AI) has moved from science fiction into our everyday lives. In education, smart tools—ranging from simple spellcheckers and automated quiz makers to advanced generative AI systems like ChatGPT—are changing how teachers plan their lessons, deliver lectures, and evaluate student work.

In Jeddah, both school teachers and university professors play a central role in guiding students through this digital age. When used well, AI tools can save educators a lot of time. For example, a teacher can use AI to generate creative class activities in seconds, create multiple versions of a quiz, or tailor explanations to help struggling students. AI can also handle tedious administrative work, leaving teachers with more time to focus on direct interaction with their students.

However, bringing AI into classrooms is not always easy or smooth. Many educators in Jeddah feel overwhelmed by how quickly these tools are evolving. They face practical everyday problems: some schools lack fast internet or modern hardware, many teachers have never received proper training on how to prompt AI tools effectively, and many are worried about students using AI to cheat on homework and essays. Furthermore, most schools and universities do not yet have clear, written rules explaining what is allowed and what is forbidden when using AI.

Because education in Jeddah spans both general school stages (K-12) and higher university education, it is important to understand how both groups of educators are handling this shift. By looking at the actual experiences of teachers and professors in Jeddah, my study will provide a clear, down-to-earth picture of where we stand today and what kind of help our educators really need.

2. Statement of the Problem

While there is a lot of talk and excitement about Artificial Intelligence in education, we have very little real information about how teachers in Jeddah are actually using it in their daily routines. Some tech-savvy educators use AI tools every day to write lesson plans and design slides, while others avoid AI completely because they lack confidence, do not know how it works, or fear that it will harm student learning.

Right now, there is a clear disconnect between the fast release of AI technologies and the practical support provided to educators in Jeddah. Teachers in both public and private schools, as well as university professors, are often expected to adapt to digital trends without receiving proper workshops, technical assistance, or clear guidelines from their institution.

This situation creates several real risks. Without guidance, teachers might misuse AI tools, or conversely, miss out on great opportunities to reduce their workload and improve their teaching. Additionally, if administrators do not know what specific problems teachers are facing—whether it is a lack of devices, fear of plagiarism, or lack of time—they cannot design effective training programs or fair policies.

Therefore, my research directly addresses this problem. By surveying a broad group of school teachers and university faculty members in Jeddah, I will gather real, practical data about how they use AI and what obstacles stand in their way. This information will help bridge the gap between technology creators and classroom teachers.

3. Research Questions and Hypotheses

3.1 Research Questions

To solve the problem described above, my study answers four simple and direct research questions:

RQ1: What is the actual level of AI usage among school teachers and university faculty members in Jeddah for lesson preparation, teaching, and student assessment?

RQ2: What are the main challenges (technical, administrative, training, and ethical) facing educators in Jeddah when using AI in their teaching?

RQ3: Are there statistically significant differences in the level of AI usage among educators in Jeddah based on their sector (school vs. university), gender, qualification, or years of experience?

RQ4: Are there statistically significant differences in the severity of challenges faced by educators in Jeddah based on their sector (school vs. university), gender, qualification, or years of experience?

3.2 Research Hypotheses

To answer RQ3 and RQ4 statistically, I will test two main null hypotheses:

H01: There are no statistically significant differences (at $\alpha \leq 0.05$) in the average level of AI usage among educators in Jeddah attributable to their sector (school vs. university), gender, qualification, or years of experience.

H02: There are no statistically significant differences (at $\alpha \leq 0.05$) in the average severity of challenges perceived by educators in Jeddah attributable to their sector (school vs. university), gender, qualification, or years of experience.

4. Research Objectives and Significance

4.1 Research Objectives

The main goals of my research are practical and straightforward:

1. To measure how often school teachers and university professors in Jeddah use AI tools for planning lessons, delivering lectures, and grading students.
2. To identify and rank the biggest obstacles (such as poor internet, lack of training, workload, or cheating concerns) that prevent educators from using AI effectively.
3. To compare the responses of school teachers versus university faculty members to see if one group faces more difficulties or uses AI differently.
4. To provide clear, evidence-based recommendations for school principals, university deans, and education officials in Jeddah on how to support teachers with better training and clearer rules.

4.2 Significance of the Study

This study is valuable for two main reasons:

- Theoretical Significance: It provides up-to-date, real-world data about how AI is being adopted in schools and universities in Saudi Arabia, specifically in the city of Jeddah. It helps us understand how real teachers react to new technologies in their everyday work.
- Practical Significance: It gives school directors, university leaders, and training centers clear facts. Instead of guessing what teachers need, administrators in Jeddah can use this study to organize practical workshops, improve school internet and equipment, and write fair AI guidelines for classrooms.

5. Research Scope and Definitions

5.1 Research Scope (Delimitations)

To keep the study focused and doable, I have set the following clear boundaries:

- Topic Scope: Focused strictly on measuring the reality of AI application usage in teaching and the practical challenges faced by educators.
- Geographic Scope: Limited strictly to public and private schools and universities located inside the city of Jeddah, Saudi Arabia.
- Time Scope: Field survey collection and data analysis will take place during the 2025/2026 academic year.
- Human Scope: Targets active school teachers (across elementary, middle, and high schools) and full-time university faculty members in Jeddah.

5.2 Simple Operational Definitions

- Artificial Intelligence in Education (AIE):

Meaning: Smart computer tools and applications (like ChatGPT, automated quiz builders, and presentation generators) that help teachers prepare and deliver lessons.

Operational Definition: The overall score a teacher or professor gets on Section 1 of my survey, showing how often they use these tools for lesson planning, teaching, and grading.

- Challenges Facing Educators:

Meaning: The everyday problems and obstacles that make it hard for teachers to use AI tools in their job.

Operational Definition: The average rating educators give on Section 2 of my survey regarding technical problems, lack of training, ethical worries, and lack of clear rules.

6. Ethical Considerations and Expected Outcomes

6.1 Ethical Considerations

To make sure my research is completely ethical and respects all participants, I will follow these simple rules:

1. Permissions: I will obtain official permission from relevant school administrations and university authorities in Jeddah before distributing the survey.
2. Voluntary Participation: Every teacher will receive a clear explanation of the study's purpose and can freely choose whether to participate or stop at any time.
3. Privacy & Anonymity: The survey will not collect names, phone numbers, or employee IDs. All answers will remain 100% anonymous and secure.
4. Honest Reporting: I will analyze and present all survey numbers honestly, without changing or hiding any results.

6.2 Expected Outcomes

By the end of this study, I expect to produce:

- A clear statistical summary showing how widely AI is used by teachers and professors in Jeddah.
- A ranked list of the top challenges educators face, showing whether school teachers or university professors need more support.
- A short, practical guide with recommendations for educational leaders in Jeddah on how to design effective training and set clear classroom AI policies.

7. Research Methodology and Procedures

7.1 Research Approach

I will use a Descriptive Quantitative Approach. This method is simple, practical, and effective because it allows me to collect clear numerical facts directly from a large group of teachers using a survey, without changing their normal working environment.

7.2 Participants and Sampling

The target group includes active school teachers and university faculty members in Jeddah. I will use a stratified random sample to reach both school and university sectors. My goal is to gather completed surveys from at least 100 to 150 educators across Jeddah, which will provide a reliable sample for statistical testing.

7.3 The Research Survey (Questionnaire)

I developed a straightforward online questionnaire divided into three short parts:

Survey Part	What it Measures	Details & Scale
Part 1: Basic Info	Sector (School/University), Gender, Qualification, Experience	5 simple multiple-choice questions
Part 2: AI Usage	How often AI is used for lesson plans, teaching, and grading	10 items rated from 1 (Very Low) to 5 (Very High)
Part 3: Challenges	Technical issues, lack of training workshops, cheating worries, rules	10 items rated from 1 (Very Low) to 5 (Very High)

Checking the Survey: Before sending the survey out, I will show it to 5 expert professors to make sure the questions are clear and easy to understand. I will also run a small pilot test with 20 teachers to check its statistical reliability .

8. Data Analysis Plan

I will analyze the survey responses using SPSS software through simple and clear statistical tests:

1. Percentages and Frequencies: To describe the background of the teachers who answered the survey.
2. Averages (Means) and Standard Deviations: To rank the most common AI uses and the biggest challenges.
3. Independent Samples t-Test: To compare if there are differences between school teachers and university professors, or between male and female educators.
4. One-Way ANOVA: To see if teachers with different years of experience or qualifications have different experiences with AI.

9. References (APA 7th Edition Style)

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