

The impact of Madrasati platform materials on teaching and learning behaviors

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Abstract—The Madrasati system is an e-learning system offered free by the Saudi Arabian government. The platform was developed to enhance the existing curricula and achieve national-level educational goals and objectives. Despite a high adoption rate, current evidence suggests Madrasati was poorly implemented, owing to suboptimal benefits enjoyed by various stakeholders. The system may impact teaching behaviors, student motivation, learning, teacher training, professional behavior, classroom culture, and environment. Moreover, perceived ease of use, teacher competence, perceived usefulness, user experiences, security issues, and technology availability affect uptake. The study employed a quantitative correlational cross-sectional design and methodology, using surveys, interviews, and observations on a sample (n=100) with 25 teachers and 75 students. Analysis was completed using SPSS, including Pearson's *r*, regression, and the Sobel test to assess the mediating effect, where *t*-values above or below ± 1.96 (95% CI) were considered significant. The results indicate that Madrasati positively correlates with teaching and learning behavior and student motivation. However, none of the mediating hypotheses were proven. The recommendations focus on strengthening Madrasati infrastructure, training, adopting a holistic approach, and collaborating with all stakeholders.

Keywords—Ease of use, environment, and culture, Madrasati, perceived use, professional development.

I. INTRODUCTION

The Madrasati platform is an e-learning management system offered by the Saudi Arabian Ministry of Education (MOE). According to the MOE, Kingdom of Saudi Arabia, the approach is free and contains numerous electronic educational tools supporting teaching and learning systems. Moreover, Madrasati was developed from a strategic perspective, specifically to attain the educational goals and

objectives of the current curricula, [1]. In such cases, the system was designed to support skill attainment, value, and knowledge development and align student skills with the digital vision proposed by the MOE. Despite this purpose, there is inadequate knowledge of the system's efficacy in achieving its set goals. As student compliance and attendance rates on the virtual class platform remain low, [2]. As a result, additional research is necessary to validate the platform's use.

The country's readiness for Madrasati is another hindrance to its successful implementation. Subsequently, challenges persist in teacher competencies to offer a synchronous experience to learners, [3]. Lessons from the COVID-19 pandemic underscore the need for such a system, although adequate preparation and resource availability should be provided to ensure success. From a cultural standpoint, the Madrasati platform is progressive and disrupts local conservative curricula, [4]. In such a case, teachers in most Saudi Arabian schools have negative attitudes regarding the system's perceived complexities, adversely impacting uptake. Therefore, this paper examines Madrasati's use related to materials, teaching, and learning behaviors, emphasizing perceived usefulness, ease of use, teacher training, professional development, classroom culture, and environment. The rationale is that such aspects impact uptake and the system's possibility of success and attaining set goals.

A. Research Questions and Objectives

The study aims to investigate the impact of Madrasati materials on teaching and learning behavior and factors that may mediate such a relationship.

The specific objectives are:

- How does Madrasati affect teaching behaviors?
- What is the correlation between Madrasati and student motivation?
- How does Madrasati influence students' learning behaviors?
- How do Madrasati materials and teaching behaviors impact teacher training and professional development?
- What is the correlation between Madrasati materials, teaching approaches, classroom culture, and environment?

- How does the perceived usefulness of Madrasati material impact the association between these components, teaching, and learning conduct?
- How does the perceived application of Madrasati materials impact teaching and learning behaviors?
- What is the impact of teacher training and professional development on student motivation when using the Madrasati platform?
- How do Madrasati system materials and student motivation mediate classroom culture and motivation?
- What is the relationship between Madrasati's perceived usefulness and its impact on materials and student motivation?
- How do the Madrasati platform materials affect learner motivation?
- How does the relationship between Madrasati materials use and learning behaviors affect teacher training and professional development?
- How does the relationship between Madrasati materials and learning behaviors impact classroom culture and environment?
- How does the platform's perceived usefulness affect the correlation between Madrasati materials and learning behaviors?
- How does the perceived ease of use of Madrasati materials mediate the relationship between the application of such materials and learner behaviors?

B. Hypotheses

The main hypothesis is the use of Madrasati platform materials has a significant and positive impact on teaching and learning behaviors.

The specific hypotheses are:

- The use of Madrasati platform materials is positively associated with teaching behaviors.
- The use of Madrasati platform materials is positively associated with student motivation.
- The use of Madrasati platform materials has a positive impact on learning behaviors.
- The relationship between the use of Madrasati platform materials and teaching behaviors is mediated by teacher training and professional development.
- Classroom culture and environment mediate the relationship between the use of Madrasati platform materials and teaching behaviors.
- The perceived usefulness of Madrasati platform materials mediates the relationship between the use of these materials and teaching and learning behaviors.
- The Perceived ease of use of Madrasati platform materials mediates the relationship between the use of these materials and teaching and learning behaviors.
- The relationship between the use of Madrasati platform materials and student motivation is

mediated by teacher training and professional development.

- The relationship between the use of Madrasati platform materials and student motivation is mediated by classroom culture and environment.
- The perceived usefulness of Madrasati platform materials mediates the relationship between the use of these materials and student motivation.
- The Perceived ease of use of Madrasati platform materials mediates the relationship between the use of these materials and student motivation.
- The relationship between the use of Madrasati platform materials and learning behaviors is mediated by teacher training and professional development.
- The relationship between the use of Madrasati platform materials and learning behaviors is mediated by classroom culture and environment.
- The perceived usefulness of Madrasati platform materials mediates the relationship between the use of these materials and learning behaviors.
- The Perceived ease of use of Madrasati platform materials mediates the relationship between the use of these materials and learning behaviors.

II. LITERATURE REVIEW

As highlighted, the Madrasati platform was developed for specific reasons, such as updating Saudi Arabia's digital learning methods and improving student outcomes. The MOE highlights that the system was designed to support teaching and learning processes, which are crucial in attaining and aligning with the firm's educational goals and curricula. Madrasati was also developed to enhance skill attainment, improve student value and knowledge, and align them with the MOE's vision on digital requirements, [1]. Moreover, as hypothesized, the Madrasati platform may have positive associations with various variables, including teaching behaviors, student motivation, learning behaviors, and the relationships between such components. The literature review section will examine and present existing research on Madrasati's impact and associations with such factors, including the mediatory relationships between such variables and the platform.

A. Teaching Behaviors

Teaching behaviors determine knowledge transfer and student performance. According to the MOE, the Madrasati platform was developed to support value and knowledge development in students. However, current research suggests a negative attitude toward the system, [1]. In a study involving 759 school teachers, with ten semi-structured interviews, incompatibilities between existing teacher knowledge and the approach's requirements posed numerous barriers to uptake, [4]. Moreover, navigation challenges adversely impacted uptake, negatively affecting teaching behaviors. In another study with 374 teachers in Riyadh, surveys were applied in data collection, with the findings suggesting a considerable effect on participant attitude and competence associated with

Madrasati, [5]. Overall, Madrasati materials help enhance teaching behaviors, although inadequate knowledge of the platform and poor support at the organizational level may lead to adverse outcomes. They recommend enhanced teacher support and education to improve uptake.

B. Student Motivation

The COVID-19 pandemic provided an opportunity for schools and the Saudi government to implement Madrasati. As highlighted by [1], the platform utilizes an e-learning system to enhance ease of access, which may positively impact student motivation. In a study involving 3.3 million students at Saudi Arabian schools using the Madrasati platform, data was collected using online surveys, [6]. The findings suggest that Madrasati positively impacts student motivation, although technology infrastructure, awareness, and support from the university mediate the component. Moreover, security concerns and the need for training may hinder student motivation. Another study, [7], used a mixed-method approach with 114 female secondary school learners to explore the benefits of distance learning, where they found that personalities, such as eliminating shyness, increased participation in class activities, and reduced willingness to learn, were established. This further indicates that Madrasati improves learner motivation.

C. Learning Behaviors

As established, Madrasati enhances student motivation and COVID-19 has highlighted significant associations between the system and improved learning behaviors, [3]. The system was developed and played an essential role in offering learners a synchronous and asynchronous learning experience and progressive and motivating learning materials, which improved learning behaviors. Additionally, [2], describes Madrasati as an integrated platform specifically developed to meet the needs of all stakeholders involved. However, due to reduced accountability, the study revealed negative associations between Madrasati and learner behavior, including low attendance rates. The implication is that the system is online, with difficulty monitoring student participation. Improvement suggestions include enhancing the platform to address existing gaps. The implication is that Madrasati may augment learning behavior, although improvements are necessary to ensure success.

D. Teacher Training and Professional Behavior

The Madrasati platform has the potential to mediate teacher training and professional behavior. In a quantitative study involving a randomly selected sample of 200 teachers and data collected using surveys, the efficacy and usability of the Madrasati approach were assessed where the platform supports additional teacher training. The study found that Madrasati translates into “my class,” with most teachers reviewing the system design and usefulness positively. As a result, teacher training is subject to the availability of Madrasati materials, [8]. Furthermore, [9], developed a conceptual framework that examined teachers’ intentions toward the continued use of Madrasati. The research employed the Decomposed Theory of Planned Behavior (DTPB) model, with professional behavior

evidenced by stakeholder support in rolling out the program. From this perspective, the madrasati system significantly influences teachers training and professional behavior.

E. Classroom Culture and Environment

Madrasati is perceived as a progressive platform that may clash with a conservative curriculum. However, as emphasized by MOE emphasizes, the system was developed to revolutionize the country’s education and enhance student outcomes. A qualitative study involving 149 English language students, [10], investigated how online learning impacted students’ experiences in Saudi Arabia. Data was collected using close-ended questionnaires, with the findings suggesting positive attitudes and experiences toward learning English during and after the pandemic. The study highlighted the vital role of Madrasati materials in creating a progressive and educational culture, [10]. Additionally, [11], underscores the critical role of classroom culture in attaining student’s specific needs. Prominent aspects included student autonomy, flexibility, and time management, highlighting the mediatory role of classroom culture and environment in enhancing student outcomes. Madrasati’s online platform offers similar benefits.

F. Mediation between Teaching and Learning Behaviors

Madrasati has the potential to enhance teaching and learning behaviors and their interactions. The study, [12], has found that the online platform is correlated with improved learner motivation, which can be attributed to various benefits, such as system quality, content quality, and technology infrastructure, subject to their availability. Furthermore, the adoption of Madrasati depends on the student’s attitude and their perceived benefits of the platform. On the other hand, [13], states that increased digital competence is a mediating factor that impacts online teaching behavior. The study had a sample of (n= 1833) teachers who completed self-report scales assessing digital competence and its impacts on online teaching behavior. Although platforms like Madrasati may reduce teacher or tutor interactions, they can lead to more immersive teaching and learning experiences. By Promoting open systems, encouraging shy students to participate, and offering teachers time management, autonomy, and flexibility, a positive outcome can be achieved in learning and teaching when using Madrasati.

G. Perceived Ease of Use

Madrasati’s use is often perceived as complex, due to the disruption of traditional approaches to learning and teaching. In a study that involved 160 students and 158 teachers, data was collected on the use of technology and their future intentions for such a process, [14]. Significant findings suggest that most teachers perceive online or computer-related approaches to teaching as more challenging, although poor familiarity also contributes to such aspects. On the other hand, most students prefer a non-traditional approach to learning, but perceived complexity remains a critical barrier to uptake. Another study, examined behavioral intentions to use online platforms with a sample of 262 university students. The findings showed a significant correlation between perceived

usefulness, ease of use, and enjoyment, [15]. From this association, users with a positive attitude towards e-learning platforms were more likely to benefit than those who perceived complexities.

H. Teacher Competence

Instructor competence is a crucial factor in facilitating the uptake of Madrasati. In a similar study, [16], examined Madrasa schools with a sample of 906 teachers and found that teacher competence was linked to perceived professionalism. In this case, IT skills are essential to the successful adoption of Madrasati and are linked to improved teacher performance. The study emphasizes the importance of using such platforms to optimize instructor professionalism. The authors in, [17], conducted a study on factors affecting Madrasati uptake in sports in Saudi Arabia and found that ICT skills play a critical role in predicting uptake. The assumption is that teacher competence can promote the platform's uptake and lead to enhanced use of its materials. Consequently, professional and teacher development may mediate Madrasati materials and their intended benefits.

I. Uptake Rates

Despite various challenges, Madrasati uptake rates in Saudi Arabia are significant. A Riyadh study showed high uptake rates in most schools, with various drivers such as performance expectancy and social influence impacting user rates, [18]. Additionally, the expected effort to make the process successful, the presence and condition of the facilitating environment, and existing attitudes associated with the platform substantially impacted uptake rates. The authors in, [19], investigated the opportunities and challenges of the e-learning platform in the Saudi educational system with a sample of 150 students. Various factors, such as feedback and the availability of teacher and school support, played a crucial role in increasing the platform's adoption rates, [19]. The uptake pattern is influenced by available support, cooperation, and teaching skills in ICT and other competencies. Overall, Madrasati uptake rates are high and promising.

J. Perceived Usefulness

The Madrasati platform's high perceived usefulness contributes to improved uptake rates. In, [20], examined perceived usefulness and ease of use determinants in mobile technology use at the university level. The study concluded that a positive attitude toward the perceived usefulness of such platforms and ease of use substantially mediated uptake. As indicated, although users may struggle to adopt the system, an optimistic assumption of its usefulness leads to higher uptake rates. At the same time, [21], examined the correlations between the perceived benefits and actual experiences of mobile learning and how they correlate with adoption. The results established a significant association between the two variables.

Therefore, the perceived usefulness of such technologies determines uptake and successful use in achieving student-and learner-specific outcomes and subsequent incorporation into the curriculum.

K. User Experiences

While the perceived usefulness of Madrasati may mediate various variables, such as teacher uptake and student adoption, actual experiences have a more significant impact on determining success. Consequently, [22], examined the acceptance of the Madrasati platform among a sample of 374 public school educators in Riyadh, where user experiences enhanced uptake rates due to an enhanced attitude related to increased competence and positive experiences when interacting with the system. Moreover, [23], used Twitter to explore user experiences regarding Madrasati, where 177,358 tweets were analyzed. From a user experience approach, the study indicated initial negative feedback after launch, although such attitudes improved as users became more accustomed to the system, [23]. Significant concerns about uptake and negative feedback included errors, authentication issues, user denial, and poor speeds. Consequently, user experience impacts mediates the relationships between variables and uptake levels.

L. Technology Infrastructure

As demonstrated, the success of Madrasati as an e-platform is dependent on the availability of technology and infrastructure. The adoption rates of both teachers and students are influenced by the availability of such resources. The study, [24], applied the technology acceptance model (TAM) and found that technology availability has a significant correlation with e-learning uptake. This correlation is determined by the availability of modern computer laboratories, staff to promote support and maintenance, and face-to-face technical support. Additionally, [12], examined factors that determine the success of e-learning and distance learning platforms. The system quality, service, and content components are essential in ensuring the successful use of such systems. The study, [25], also attributes the success of distance learning to the availability of technology, including IT systems, technical support, and personnel. Therefore, the availability of technology is a critical driver of the Madrasati platform.

M. Security Issues

Online platforms are often adversely affected by security concerns. The risk of abuse by malicious individuals leads to increased fear of possible hacking of such systems, which reduces uptake. As a result, [26], states that although solutions are available and widely adopted to ensure safe and secure learning, cybersecurity risks constantly evolve and require significant investments to ensure uptake. Most importantly, users' poor knowledge of such risks and available solutions leads to low uptake and subsequent exposure, leading to poor outcomes. Similarly, [27], states that security concerns are among the most significant aspects associated with negative attitudes towards Madrasati and other e-learning platforms in Saudi Arabia. The study involved data from 202 public schools, with perceived security concerns frequently mentioned and associated with reduced Madrasati adoption uptake or poor utilization. From such a perspective, improving the safety of such systems will help enhance user confidence.

N. Knowledge and Awareness

Knowledge regarding Madrasati and its associated benefits influence uptake and user rates related to such systems. In a cross-sectional study involving 200 schools in the Indian district of Dharmapuri, knowledge and awareness among teachers, although focused on child disabilities, significantly impacted the uptake of recommended measures to optimize learning, [28]. The study emphasized the need for increased awareness and knowledge of available information and statistics regarding such factors to promote evidence-based utilization. At the same time, [29], assessed e-learning use in improving student health knowledge of parent populations in a rural area of Pakistan. The study utilized group discussions with a pre-and post-implementation approach, where knowledge and awareness associated with e-learning benefits played a crucial role in supporting successful knowledge transfer. In such a case, awareness substantially impacted determining e-learning success and subsequent uptake levels.

O. System Quality

System quality is a critical factor in determining the overall success of Madrasati adoption and its correlated variables. The authors in, [30], conducted an explorative study that included a sample of 277 individuals, examining factors impacting learning management systems in Saudi Arabia's undergraduate studies. The research utilized the Unified Theory of Acceptance and Use of Technology (UTAUT) model, with various elements of system quality, including resource availability, awareness, and support determining uptake. Moreover, social influence and anticipated effort weighed against expected benefit determined uptake success and correct utilization. In another study, [31], conducted literature assessing the primary factors affecting e-learning adoption at King Faisal University. The authors employed the TAM model, with various system components and determinants, such as the reliability of the e-learning system, technical quality, and user-friendly aspects, including user design and website content, as vital aspects influencing e-learning platforms, such as Madrasati. System quality mediates other variables and their relationships.

The literature review highlights that Madrasati is a crucial platform in Saudi Arabia's education system. The system positively correlates with teaching behaviors and may impact student learning motivation. Similarly, the system improves learner behavior, with other variables, such as training and professional development, enhanced by the approach. Moreover, Madrasati materials are positively associated with an enhanced classroom culture and environment, owing to improved organizational aspects, policies, goals, objectives, and other outcomes influenced by school culture. Teacher training and professionalism mediate the associations between Madrasati and the main variables, such as ease of use and perceived usefulness. At the same time, other themes, including system quality, security issues, knowledge factors, user experience, and technology aspects, are significant and play a critical role in mediating Madrasati's effect on enhanced learning, teaching, and schooling culture. However, gaps in the correlations between Madrasati and materials, teaching and

learning behaviors, and the mediatory impacts on the platform's success present and warrant further research.

III. THEORETICAL AND CONCEPTUAL FRAMEWORKS

This research will use the Decomposed Theory of Planned Behavior (DTPB). As represented in the title and literature review, the primary variables include ease of use, perceived usefulness, teacher training, professional development, classroom culture, and environment. In such a case, DTB covers most components and will help assess the correlations between the variables. As Fig. 1 illustrates, the framework has eight main components.

Ease of Use: The aspect describes the perceived ease of application. The study, [32], notes that this component highlights the intended user's perceptions of the technology's complexity and ease of use. Increased complexity leads to reduced adoption and higher rejection rates, while assumed enhanced ease of use results in increased uptake.

Perceived Usefulness: As, [9], highlight, perceived usefulness determines technology uptake and other outcomes. In such a case, the component includes the benefits of uptake, such as learner motivation and a shared approach that involves students and their teachers. Positive use increases adoption rates and subsequent benefits.

Compatibility: The technology, such as Madrasati, should be compatible with the current needs of the target recipients. The study, [9], underscores the need to match the platform's benefits or features with the needs of all stakeholders, including learners, schools, parents, and regulatory agencies, such as the government.

Peer Influence: Technology adoption is impacted by behavioral aspects. One of the primary components affecting the process is peer influence, a subset of knowledge access and awareness, [32]. Addressing peer needs and their influence is vital in persuading the target group to adopt the needed technology.

Superior's Influence: In the current case, superiors are government agencies, including the MOE. As illustrated, Madrasati is a national program with the MOE as the primary influencer, offering a free e-learning platform. Highlighting benefits, and providing resources, leadership, and guidance, are some of the roles played by superior influencers, [32].

Self-efficacy: The concept refers to a person's capacity for independent technology uptake. In such a case, knowledge, trust, resources, and a positive attitude towards the framework are required to improve adoption success, [32]. Recipients should use the system without assistance.

Resource Facilitating Conditions: Resources are vital in promoting uptake. As discussed, computers, the internet, training, and teachers with an adequate understanding of how the platform works are needed to ensure correct uptake and implementation, [32]. A supportive environment is crucial, including policies, regulations, and other aspects required for uptake.

Technology Facilitating Condition: Madrasati is an e-platform that uses technology to ensure success. In this regard, an atmosphere that supports the required technological expertise is vital, including technical support, equipment, the

internet, and policies required to reduce possible hindrances to uptake, [32].

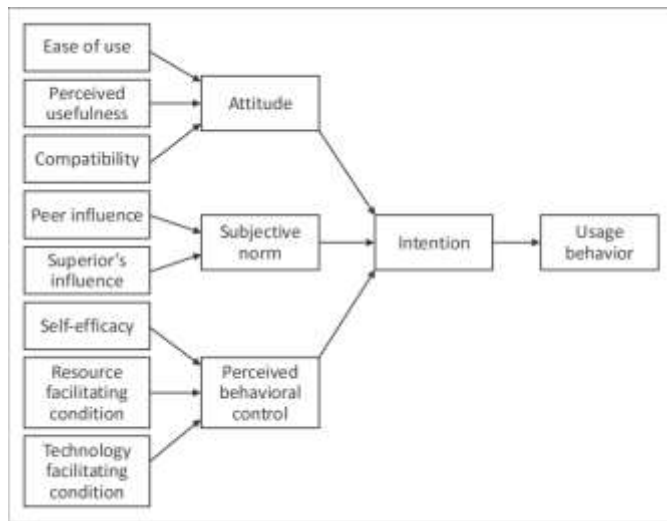


Fig. 1 DTPB

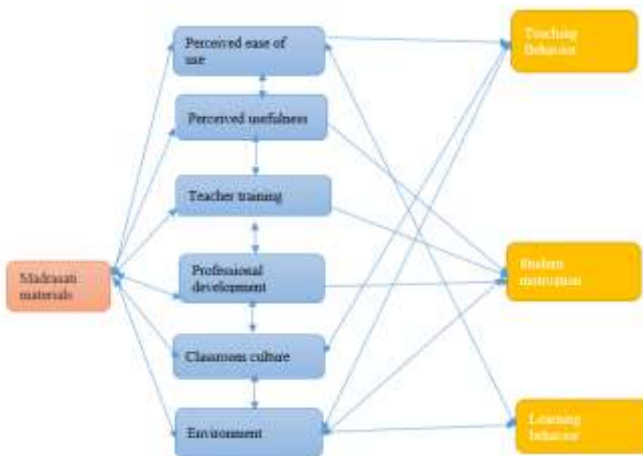


Fig. 2 Concept Framework

The model focuses on user behavior as a subset of other correlations, including intention, attitudes, subjective norms, and perceived behavioral control (Figure 1). Similarly, the concept framework is presented in Figure 2. The study, [9], applied a similar model, although the emphasis was on continuance intention. In this case, a gap in the intervening impact of Madrasati is apparent. As hypothesized in the 15 points, the e-learning platform has a potential mediating and modulating effect on the impact of the Madrasati materials on teaching and learning behaviors and the impacts of perceived usefulness, ease of use, teacher training, professional development, class culture, and environment. Using DTPB to assess usage behavior will be vital in examining Madrasati's mediating role in attaining desired educational outcomes.

IV. RESEARCH METHODS

The study will apply a mixed methods approach. Therefore, qualitative and quantitative techniques will be employed to enhance the study's credibility, validity, and reliability. The goal is to promote enhanced outcomes, reduce possible bias,

and balance the limitations associated with qualitative and quantitative methods. Similarly, the analysis approach will incorporate both approaches. As, [32], highlights, mixed methods combine benefits from two designs, including triangulation and improved reliability. Triangulation of Findings enhances generalizability and study transferability to other settings. More substantial evidence and confidence in using such results inform the choice of the study methodology employed. At the same time, a mixed methods approach offers more granular results compared to what the individual techniques can provide. Therefore, the methodology helps improve the study's credibility and reliability.

The first approach involved a survey. In this regard, questions evaluating the participants' perceptions regarding the usefulness and ease of use of the Madrasati materials were formulated and distributed to the target population. As discussed, usefulness is a critical component that determines uptake levels. The study, [9], states that the variable assesses the assumed benefits of the platform, including student motivation, system access, and conveniences, such as use from various settings, including homes, schools, and other places. At the same time, ease of use determined adoption rates and influenced perceived benefits. As hypothesized, increased complexities of the systems discourage uptake, while perceived ease of use improves consumption. The surveys offered a subjective experience of such variables. The method was also used to collect data on training level, professional development, culture, and class environment, prominent variables in the study.

Secondly, interviews were conducted with a subset of the participants. The data collection approach was employed to get a deeper insight into the user's experiences and interactions with the Madrasati materials. The qualitative method involved a face-to-face session with open-ended questions and on-site guidance and supervision. As highlighted, the focus was on user experiences and interactions with the Madrasati materials. Moreover, qualitative interviews are more immersive and allow the researcher to observe subjects. Although opinions and perceptions are subjective, they offer first-hand information, vital in increasing the study's credibility and validity. The study's questions included design features, convenience, and possible frustrations. Additionally, as, [26], [30], indicate, system quality and security are functional uptake determinants of the Madrasati technology. Interviews facilitate a first-hand assessment of such experiences.

Thirdly, observations were employed to collect data on teaching and learning behaviors. In this case, the researcher participated in an ethnographic approach by being a member and a participant in the Madrasati teaching and learning process. For example, [3], associated Madrasati with synchronous and asynchronous learning, while the MOE correlates the platform with enhanced motivation. The researcher observed student learning behavior when using Madrasati, including virtual participation and differences from physical class settings. To illustrate, how did the learners participate in the online discussion, were they confident and direct, and did they freely express themselves? Similarly, the method was effective in observing the students' motivational

levels. Optimism, student attitude, instructor interaction, and overall participation were all vital, and related data was conveniently collected using observations.

A. Research Design

As illustrated, this study focused on the mediating effects of Madrasati materials and platforms on various variables and their relationships, including teacher behaviors, learner motivation, and behaviors. Moreover, the mediating impacts of the Madrasati on the associations between training and professional development, as well as classroom culture and environment, were crucial. To achieve this, the research adopted a mixed-methods correlational design. Given the emphasis on the mediating impact of the Madrasati materials, the study assessed the correlations between the variables and how the platform mediated the association between the different aspects. This research design helped test the proposed hypotheses and provided the qualitative and quantitative evidence required to prove and evaluate the associations between the assessed components. As illustrated by the conceptual framework, usage behavior correlates with the variables.

More specifically, a cross-sectional correlational study was employed, given the observational approach to data collection. The method focuses on the present, measuring the outcome and exposure of the study's participants simultaneously, [33]. As indicated, the data collection approach involved interviews, surveys, and virtual classroom observations, assessing the learner's experiences while interacting with the Madrasati platform. The e-learning system was the exposure, although there were no cohorts or trial and test groups. This approach allowed observation of student's learning behavior, teacher training, and professionalism. The data was employed in assessing the mediating impacts of the Madrasati approach on the main variables and their associations. Cross-sectional correlational studies are relatively easier to complete, less costly, and offer immediate results as the researcher simultaneously assesses the exposure and its effects on the outcomes.

B. Study Population

The study will involve 100 participants, comprising 25 teachers and 75 middle and secondary school students. The study population is Arar City, located in the Northern border province of Saudi Arabia, According to the 2022 census; the city had a population of 166,512, with 21 secondary schools. Additionally, there are 2,283 male and 1,663 female teachers, with an average of 5,780 students at the secondary level.

To participate in the study, students must meet specific criteria, which includes being above 13 years of age, using the Madrasati platform, having prior IT skills, and being in middle and secondary school. Students below 13 years, not using Madrasati, lacking prior IT skills, or being above or below the middle and secondary school are excluded from the study.

For teachers, eligibility criteria are, teaching in Arar City, holding a certificate in IT, having experience as a Madrasati tutor, and possessing over 2 years of teaching experience. Teachers not meeting these criteria, such as those not teaching in Arar City, lacking an IT certificate, being unfamiliar with

Madrasati, or having less than 2 years of teaching experience, are excluded from the study.

C. Sampling Methods

Random sampling was employed in selecting the participants. The target population for the study was identified, as illustrated in the study population section by identifying the geographical area for the research and developing inclusion and exclusion criteria, as shown in Table I (Appendix). The second step involved deciding on a sample size of 100 participants for the two groups. The third step focused on the random selection of the sample. The recruitment process included obtaining permission from the schools' administrations. Parents of students below 18 were contacted through email and phone to obtain informed consent. Flyers and posters were printed and posted on schools' notification boards, with contact details for interested individuals. The interested individuals were then asked to fill out an online form with their details to assess if they met the inclusion criteria and assigned numbers for the random selection process.

D. Data Collection Instruments

Surveys: As highlighted, surveys were utilized to evaluate the participant's perceptions of the usefulness and ease of use of the Madrasati platform. The surveys also captured data on the teacher's level of training, professional development, classroom culture, and environment.

Interviews: Open-ended interviews were conducted to gain a deeper understanding of the participant's interactions and subjective experiences with the Madrasati platform. These interviews included questions about motivation levels, perceived level of difficulty, ease of use, prior knowledge, opinions on security concerns, convenience, and accessibility to examine the participant's interactions and experiences with the Madrasati.

Observation log: For the observation, a behavioral sheet was used to quantify the variables and observed factors. A scale of 1 to 10 was employed to assess motivation levels during virtual sessions and student engagement and participation approaches. Teacher behaviors were assessed using scales measuring confidence levels, comfort, and ease of use.

E. Reliability

The study's methodology demonstrates sufficient consistency and reproducibility in other settings. The variables, design, and steps are well described and can be applied to other situations with similar results. The study used a cross-sectional and correlational design, guided by the same conceptual framework and variables, with a consistent approach to promote reproducibility under the same or different settings. The research conditions, including the selection process for participants, exposure to Madrasati, and teaching and learning situations, were kept constant to minimize confounding factors and deviations in research settings. The use of mixed methods allowed triangulation, ensuring the instruments were consistent and the data collected was reliable under different conditions or situations.

F. Validity

To ensure validity, measures were accurately enhanced to ensure that the results represented what they were supposed to assess. As highlighted, the chosen methods and design, including a cross-sectional and correlational approach, helped assess the needed variables. A comprehensive literature review informed and guided by an exhaustive list of hypotheses also promoted validity. The variables were well outlined, including proposed correlations and associations and the expected mediating effect of the Madrasati materials and platform. The results were developed for a generalizable population, with a well-defined region and geographical area to ensure focus. Additionally, the sample of 100 participants allowed for result transferability, despite the target population being more than 100,000. The 100 individuals adequately ensured generalizability.

V. RESULT

A. Ethical Issues

The research was conducted using the highest ethical standards. Informed consent was obtained from the parents of participants, who were under 18 years old, and all subjects were adequately briefed and educated about their role in the research, they were given an accurate and comprehensive description of benefits and potential risks associated with their participation, as well as the measures developed to minimize or eliminate those risks. Approval for the use of human subjects, including IRB approval, was obtained from the relevant authorities before initiating the study. Participants were informed of their right to participate and withdraw from the study at any time without explanations or repercussions. Ethical approval from the university's board was also obtained to ensure that the study met all necessary criteria and objectives.

VI. FINDINGS AND DISCUSSION

The findings of the study are presented in Table II (Appendix) to Table XVI (Appendix), with data for the two groups compared. Using SPSS, Pearson r was used to assess the correlation between variables in the first three hypotheses, while the Sobel test was used to evaluate the remaining hypothesis after regression analysis to find the t values used in the Sobel test to examine the mediating effects of Madrasati on the proposed correlations.

The findings from the study revealed varying degrees of correlation between Madrasati and different aspects of education. Table II (Appendix) indicates that Madrasati displayed a notably strong positive correlation (0.768) with teaching behavior, suggesting a robust relationship between the two variables. Meanwhile, Table III (Appendix) illustrates a moderately positive correlation (0.215) between Madrasati and student motivation, and Table IV (Appendix) displays a moderate correlation (0.424) with learning behavior. Notably, among these correlations, teaching behavior exhibited the most substantial connection with the independent variable, Madrasati.

The Sobel test results yielded consistent outcomes across various facets of the study. Specifically, as revealed in Table V (Appendix), Madrasati and the teaching platform were not found to mediate teacher training and professional behavior ($t=0.262$). This pattern extended to Table VI (Appendix), which demonstrated that classroom culture and environment were not influenced by Madrasati's mediating effect ($t=0.258$). Additionally, Table VII (Appendix) showed that perceived usefulness did not mediate teaching and learning behavior ($t=0.784$) within the specified 95% confidence interval (CI). Similarly, Table VIII (Appendix) indicated that the ease of using Madrasati did not mediate teaching and learning behavior ($t=0.240$), as confirmed in Table IX (Appendix), which revealed that Madrasati use did not mediate teacher training and professional development ($t=0$). Furthermore, Table X (Appendix) conveyed that Madrasati and student motivation did not serve as mediators for classroom and culture ($t=0.499$), while Table XI (Appendix) demonstrated that perceived use did not mediate the relationship between Madrasati use and student motivation ($t=0.004$). Finally, Table XII (Appendix) underscored that perceived ease of use did not mediate the connection between Madrasati use and student motivation ($t=0.406$). The consistency of these findings reflects the absence of significant mediating effects in these aspects of the study, as supported by Table XIII (Appendix), which showed no mediating effect between Madrasati and learning behavior and teacher training and professional development ($t=0.454$), Table XIV (Appendix), which indicated no mediation between classroom culture and environment ($t=0.436$), Table XV (Appendix), which revealed no mediation between perceived usefulness and Madrasati use and learning behavior ($t=0.005$), and Table XVI (Appendix), which showed no mediation between ease of use and Madrasati use and learning behavior ($t=0.119$).

As illustrated, Madrasati had a strong correlation with teaching behavior, while the relationship was moderate for student motivation and learning conduct. However, the Sobel test did not prove any of the hypotheses, indicating that Madrasati's use is most effective when implemented individually, with a focus on benefits such as ease of use, student motivation, teaching, and learning behaviors. Although Madrasati remained significant when individually assessed, its mediating impact was reduced when combined with other variables. The t -values showed an insignificant mediating impact between the variables and their relationships (Table II to Table XVI, Appendix).

As, [10], highlights, user experiences regarding Madrasati are diverse and subjective. The results suggest poor system implementation and a lack of customization to promote school and student-specific benefits. Focusing on student-specific needs will be vital in optimizing e-learning benefits in Saudi Arabia. This statement underscores the study's findings, which underscore the critical need for enhancing system implementation and tailoring it to the distinct needs of schools and students (Table II to Table XVI, Appendix). By doing so, we can significantly boost the effectiveness of e-learning within the Saudi Arabian educational landscape. This underscores the significance of tailoring e-learning to address

the unique requirements of both educational institutions and individual learners, which, in turn, can lead to more effective e-learning outcomes in the Saudi context.

VII. CONCLUSIONS AND RECOMMENDATIONS

This study has provided valuable insights into the mediating effects of Madrasati materials and platforms on various variables, including teaching behaviors, student motivation, learning behaviors, teacher training, professional development, classroom culture, and environment. The mixed methods approach, combining qualitative and quantitative techniques, has allowed for a comprehensive examination of these relationships and their impact on e-learning in the Saudi Arabian context.

One of the key findings of this study is the positive correlation between Madrasati and teaching behavior, highlighting the platform's potential to enhance the teaching process. Additionally, it has been observed that Madrasati has a moderate correlation with student motivation and learning behaviors, emphasizing its role in supporting and motivating students in the learning process.

However, the Sobel test did not establish any significant mediating effects, indicating that Madrasati's impact is most pronounced when implemented individually, focusing on aspects such as ease of use, student motivation, and teaching and learning behaviors. While Madrasati remains a significant factor when considered in isolation, its mediating influence diminishes when combined with other variables.

Future research in this area should consider the following directions:

Customization and User Experience: Explore how customization of the Madrasati platform to cater to specific school and student needs can further enhance its effectiveness. Investigate user experiences and satisfaction with tailored e-learning solutions.

Long-Term Impact: Conduct longitudinal studies to understand the long-term effects of Madrasati on student performance and teacher development. This would provide insights into the sustained benefits of the platform.

Comparative Analysis: Compare the effectiveness of Madrasati with other e-learning platforms to identify its unique advantages and areas where it can be further improved.

Hybrid Learning Models: With the growing trend of hybrid learning, investigate how Madrasati can complement traditional classroom instruction to maximize the benefits of both modes of education.

Accessibility and Inclusivity: Examine the platform's accessibility and its impact on inclusivity in education, particularly for students with diverse learning needs.

Based on the findings of this study and the directions for future research, we offer the following recommendations:

Tailored Implementation: Educational institutions in Saudi Arabia should consider customizing the Madrasati platform to align with the specific needs of their students and teachers. Customization can enhance user satisfaction and optimize the platform's impact.

Teacher Training: Given the positive correlation between Madrasati and teaching behavior, it is recommended that

professional development programs for teachers include training on effectively utilizing the platform. This will ensure that teachers can maximize the benefits of e-learning in their classrooms.

Continuous Improvement: The Ministry of Education should continue to invest in Madrasati and its development, incorporating user feedback to enhance the platform's usability, features, and content.

Longitudinal Studies: Conduct long-term studies to monitor the academic performance and career development of students who have been exposed to the Madrasati platform. This will provide insights into the sustained impact of e-learning.

Hybrid Learning: As the education landscape evolves, institutions should explore the integration of Madrasati into hybrid learning models, combining online and in-person instruction to offer a comprehensive educational experience.

Inclusivity Initiatives: Ensure that the Madrasati platform is designed with accessibility and inclusivity in mind, accommodating the diverse needs of all learners, including those with disabilities.

In conclusion, the study has shed light on the potential of Madrasati in Saudi Arabian education, and by addressing the areas of customization, teacher training, and continuous improvement, the Ministry of Education can harness the platform's benefits to their fullest extent. This work contributes to the broader discussion on e-learning platforms and their impact on education, particularly in a regional context, and sets the stage for further research and development in this area.

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APPENDIX

Table I. Data

Participant	Madrasati use	Teaching Behaviors	Student Motivation	Learning Behaviors	Teacher Training	Professional Development	Classroom Culture	Environment	Perceived Usefulness	Ease of Use
T1	8	8			7	5	5	6	8	5
T2	7	7			5	6	6	7	6	6
T3	8	8			7	7	7	8	4	8
T4	9	6			6	8	5	6	6	9
T5	7	6			8	6	8	9	7	6
T6	7	7			6	7	9	7	8	6
T7	7	8			9	8	6	8	5	8
T8	9	5			7	7	7	6	6	5
T9	8	9			8	9	8	7	5	6
T10	9	10			5	6	9	8	7	8
T11	9	10			6	7	5	6	7	9
T12	9	8			7	7	6	7	5	5
T13	8	9			8	8	8	5	7	9
T14	9	6			6	9	9	5	8	7
T15	8	5			8	6	6	6	4	8
T16	6	3			9	5	7	7	7	8
T17	7	5			9	8	8	5	9	5
T18	8	6			7	9	9	7	7	6
T19	8	6			8	7	9	8	9	9
T20	8	5			6	6	7	9	6	6
T21	8	7			7	8	5	5	8	6
T22	8	4			7	9	7	6	9	7
T23	9	9			8	5	8	7	5	4
T24	10	4			6	7	8	5	7	6
T25	6	10			9	9	9	5	8	7
S1	7		7	8			7	9	9	9
S2	8		8	7			8	9	6	4
S3	8		7	6			9	9	7	7
S4	9		6	5			7	5	5	8
S5	6		8	8			6	7	7	6
S6	7		9	6			8	5	8	5
S7	5		6	8			9	7	6	6
S8	4		7	9			6	8	5	5
S9	7		6	7			7	4	7	7
S10	6		8	4			8	6	8	8
S11	5		5	5			5	5	4	6
S12	6		5	6			7	6	7	5
S13	8		5	7			9	8	5	5
S14	7		5	6			7	6	5	6
S15	5		6	8			8	7	7	7
S16	4		7	9			7	8	8	8

Participant	Madrasati use	Teaching Behaviors	Student Motivation	Learning Behaviors	Teacher Training	Professional Development	Classroom Culture	Environment	Perceived Usefulness	Ease of Use
S17	5		8	8			8	5	9	7
S18	6		5	4			6	6	5	5
S19	8		5	6			8	5	6	8
S20	9		6	6			9	8	7	6
S21	0		3	7			7	5	8	8
S22	7		7	8			6	8	9	5
S23	8		9	5			9	4	7	4
S24	6		9	6			9	6	5	5
S25	5		8	7			6	8	6	6
S26	4		6	8			7	6	7	6
S27	6		5	8			8	7	8	8
S28	3		5	6			8	9	5	5
S29	5		8	6			9	5	6	7
S30	7		9	7			6	6	7	8
S31	8		7	8			8	7	8	5
S32	5		7	9			7	8	4	7
S33	6		5	5			6	6	6	8
S34	7		7	6			8	7	7	4
S35	8		5	7			9	5	8	6
S36	4		8	8			8	6	9	7
S37	5		5	8			5	7	5	9
S38	7		8	7			5	8	6	6
S39	8		7	6			3	9	4	7
S40	9		6	9			5	6	8	9
S41	5		6	7			6	5	6	5
S42	6		9	8			6	6	7	6
S43	7		8	9			7	7	8	8
S44	5		6	5			7	6	9	9
S45	7		8	7			5	5	7	5
S46	9		9	8			7	6	5	7
S47	3		5	6			8	7	6	7
S48	9		4	4			9	8	6	5
S49	7		8	9			7	9	8	7
S50	5		7	7			5	5	5	9
S51	7		9	5			7	6	7	7
S52	8		5	6			8	7	8	8
S53	8		7	8			8	5	4	5
S54	9		9	7			6	5	7	6
S55	5		7	4			6	7	5	5
S56	8		9	6			8	8	7	7
S57	8		7	4			9	9	8	6
S58	6		7	6			6	5	6	5
S59	9		8	9			4	7	7	9
S60	6		9	4			5	5	5	6
S61	8		5	6			7	6	6	8

Participant	Madrasati use	Teaching Behaviors	Student Motivation	Learning Behaviors	Teacher Training	Professional Development	Classroom Culture	Environment	Perceived Usefulness	Ease of Use
S62	8		8	9			8	9	7	4
S63	8		6	7			9	6	5	5
S64	8		7	8			6	8	5	6
S65	5		5	9			7	7	6	7
S66	6		4	6			8	4	7	5
S67	6		7	9			9	7	7	5
S68	7		7	7			6	5	8	6
S69	7		5	8			8	8	5	7
S70	7		9	5			6	8	7	8
S71	4		8	5			7	4	7	6
S72	8		5	6			6	7	8	5
S73	8		7	7			7	8	6	4
S74	5		6	8			8	7	5	7
S75	6		7	5			9	5	6	8

Table II. Madrasati and teaching behavior

Correlations			
		Madrasati use	Teaching Behaviors
Madrasati use	Pearson Correlation	1	.062
	Sig. (2-tailed)		.768
	N	100	25
Teaching Behaviors	Pearson Correlation	.062	1
	Sig. (2-tailed)	.768	
	N	25	25

Table III. Result: Madrasati and student motivation

Correlations			
		Madrasati use	Student Motivation
Madrasati use	Pearson Correlation	1	.215
	Sig. (2-tailed)		.064
	N	100	75
Student Motivation	Pearson Correlation	.215	1
	Sig. (2-tailed)	.064	
	N	75	75

Table IV. Result: Madrasati and learning behavior

Correlations			
		Madrasati use	Learning Behaviors
Madrasati use	Pearson Correlation	1	.094
	Sig. (2-tailed)		.424
	N	100	75
Learning Behaviors	Pearson Correlation	.094	1
	Sig. (2-tailed)	.424	
	N	75	75

Table V. Result: Madrasati and teaching platform x teacher training and professional behavior

Madrasati and teaching platform						
Coefficients						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	5.840	3.378		1.729	.097
	Madrasati use	.125	.419	.062	.298	.768
a. Dependent Variable: Teaching Behaviors						
Teacher Training & Professional Development						
Coefficients a						
Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	6.405	1.393		4.597	.000
	Professional Development	.105	.192	.114	.550	.587
a. Dependent Variable: Teacher Training						
Sobel Test						
	ta	tb		Test statistic		p-value
	.298	.550		0.26201238		0.7933119

Table VI. Result: Madrasati and teaching platform x classroom culture and environment

Madrasati and teaching platform						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	5.840	3.378		1.729	.097
	Madrasati use	.125	.419	.062	.298	.768
Classroom Culture and Environment						
Coefficients a						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	6.798	.674		10.086	.000
	Environment	.052	.100	.052	.518	.606
a. Dependent Variable: Classroom Culture						
Sobel Test						
	ta	tb		Test statistic		p-value
	.298	.518		0.25830575		0.79617095

Coefficients a

Table VII. Result: Perceived usefulness x teaching and learning behavior

perceived usefulness and teaching						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.712	1.074		7.179	.000
	Teaching Behaviors	-.145	.151	-.196	-.961	.347
a. Dependent Variable: Perceived Usefulness						
Perceived Usefulness and Learning Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.328	.216		29.351	.000
	Learning Behaviors	.027	.020	.157	1.358	.179
a. Dependent Variable: Perceived Usefulness						
Sobel Test						
	ta	tb		Test statistic		p-value
	-.961	1.358		0.78444921		0.43277657

Table VIII. Result: Ease of use and Madrasati x teaching and learning behaviors

Ease of Use and Madrasati Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.786	.599		11.337	.000
	Madrasati use	-.042	.085	-.050	-.492	.624
a. Dependent Variable: Ease of Use						
Teaching and Learning Behavior Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.520	2.507		3.000	.006
	Teacher Training	-.095	.345	-.057	-.275	.786
a. Dependent Variable: Teaching Behaviors						
Sobel Test						
	ta	tb		Test statistic		p-value
	-.492	-.275		0.24004723		0.81029364

Table IX. Result: Madrasati uses x teacher training and professional development

Madrasati and Teacher Training
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.493	1.705		7.329	.000
	Madrasati use	-.667	.212	-.549	-3.152	.004

a. Dependent Variable: Teacher Training

Madrasati and Professional Development
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.160	2.206		3.245	.004
	Madrasati use	.000	.274	.000	.000	1.000

a. Dependent Variable: Professional Development

Sobel Test

ta	tb	Test statistic	p-value
-3.152	.000	0	1

Table X. Result: Madrasati and student motivation x classroom and culture

Madrasati and Student Motivation
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.539	.665		8.331	.000
	Madrasati use	.186	.099	.215	1.878	.064

a. Dependent Variable: Student Motivation

Classroom and Culture
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.798	.674		10.086	.000
	Environment	.052	.100	.052		.606

a. Dependent Variable: Classroom Culture

Sobel Test

ta	tb	Test statistic	p-value
1.878	.518	0.49935288	0.61753081

Table XI. Result: Perceived usefulness x Madrasati use and student motivation

Perceived Usefulness and Madrasati Use
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.577	.574		11.454	.000
	Madrasati use	.000	.081	.001	.005	.996

a. Dependent Variable: Perceived Usefulness

Perceived Usefulness and Student Motivation
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.577	.574		11.454	.000
	Madrasati use	.000	.081	.001	.005	.996

a. Dependent Variable: Perceived Usefulness

Sobel Test

ta	tb	Test statistic	p-value
.005	.518	0.00353553	0.99717906

Table XII. Result: Perceived ease of use x Madrasati use and student motivation

Perceived Ease of Use and Madrasati Use
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.786	.599		11.337	.000
	Madrasati use	-.042	.085	-.050	-.492	.624

a. Dependent Variable: Ease of Use

Perceived Ease of Use and Student Motivation
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.947	.761		9.130	.000
	Student Motivation	-.079	.110	-.084	-.718	.475

a. Dependent Variable: Ease of Use

Sobel Test

ta	tb	Test statistic	p-value
-.492	-.718	0.40585697	0.6848477

Table XIII. Result: Madrasati and learning behavior x teacher training and professional development

Madrasati and Learning Behavior
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.322	.280		22.550	.000
	Learning Behaviors	.021	.026	.094	.805	.424

a. Dependent Variable: Madrasati use

Teacher Training and Professional Development
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.405	1.393		4.597	.000
	Professional Development	.105	.192	.114	.550	.587

a. Dependent Variable: Teacher Training

Sobel Test

ta	tb	Test statistic	p-value
.805	.550	0.45412645	0.64973782

Table XIV. Result: Madrasati and learning behavior x classroom culture and environment

Madrasati and Learning Behavior
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.322	.280		22.550	.000
	Learning Behaviors	.021	.026	.094	.805	.424

a. Dependent Variable: Madrasati use

Classroom Culture and Environment
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.798	.674		10.086	.000
	Environment	.052	.100	.052	.518	.606

a. Dependent Variable: Classroom Culture

Sobel Test

ta	tb	Test statistic	p-value
.805	.518	0.43560734	0.66312164

Table XV. Result: Perceived usefulness x Madrasati use and learning behaviors

Perceived Usefulness and Madrasati Use						
Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.577	.574		11.454	.000
	Madrasati use	.000	.081	.001	.005	.996
a. Dependent Variable: Perceived Usefulness						
Perceived Usefulness and Learning Behavior						
Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.328	.216		29.351	.000
	Learning Behaviors	.027	.020	.157	1.358	.179
a. Dependent Variable: Perceived Usefulness						
Sobel Test						
	ta	tb		Test statistic		p-value
	.005	1.358		0.00499997		0.99601062

Table XVI. Result: Ease of use x Madrasati use and learning behavior

Ease of Use and Madrasati Use						
Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.786	.599		11.337	.000
	Madrasati use	-.042	.085	-.050	-.492	.624
a. Dependent Variable: Ease of Use						
Ease of Use and Learning Behavior						
Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.433	.231		27.886	.000
	Learning Behaviors	-.003	.021	-.014	-.123	.902
a. Dependent Variable: Ease of Use						
Sobel Test						
	ta	tb		Test statistic		p-value
	-.492	-.123		0.11932753		0.90501587

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