ARTICLE ON
“PERCEIVED BENEFITS OF AI TUTORING AMONG STRUGGLING STUDENTS”

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ABSTRACT

This descriptive study determines the benefits of artificial intelligence tutoring for struggling learners by evaluating the learner feedback collected using multiple-choice questions, multi-response questions, Likert scale questions, and open-ended questions. The consequences of the research indicate that learners see the importance of artificial intelligence tutoring for struggling learners to improve their conceptual clarity, learning pace, instant feedback, which increases conceptual clarity and boosts learnersâ€™ confidence levels for struggling learners or low achievers to improve conceptual clarity to boost learnersâ€™/studentsâ€™ emotional intelligence and create an atmosphere of non-judgmental learning which stimulates learnersâ€™/studentsâ€™ help-seeking behavior, despite its limitations with emotional intelligence capacity and the ability to change its language to suit learnersâ€™/studentsâ€™ requirements to increase social benefits for artificial intelligence tutoring for struggling learners/social benefits for artificial intelligence tutoring for struggling learners/ for struggling learners social benefits for artificial intelligence tutoring for struggling learners.

KEYWORDS: AI for Learning, AI Tutoring Systems, Lagging Students, Perceived Learning Benefits, Personalized Learning, Academic Support, and Educational Technology

INTRODUCTION

The rapid development of artificial intelligence technology has resulted in a significant shift in education and learning methodologies, especially regarding "intelligence assistance" as part of the Artificial Intelligence field and its active application and development as a learning tool focusing on personalized learning experiences through an "intelligent-tutor" platform/technology. Although initial studies have probably been dedicated to evaluating the efficacy of the application and development of such learning methodologies on academic performance, less emphasis is placed on how struggling learners specifically relate to this academic assistance technology.

The students who struggle may be faced with multiple issues, whether it is related to their conceptual clarity, their level of confidence, their fear of being judged, or their limited support systems, which could prove to be time-constricted by their number, considering the number of students and the number of teachers per class. By this point, it is important to note that with the introduction of AI tutors, students can enjoy their studies and stay engaged to their own pace.

This study is concerned with the investigation of the benefits associated with the tutoring provided by artificial intelligence to struggling students through the application of the descriptive research method. This study would be important in the sense that it would be able to shed light upon the matters related to the application of the student viewpoint with reference to the different aspects of learning, which would be categorized as cognitive, affective, and functional aspects of learning.

METHODOLOGY

The current study employs a quantitative and cross-sectional design in conducting an investigation regarding the perceived benefits obtained from employing AI in guiding the processes of tutoring those learners experiencing academic difficulties and shortcomings within their academic performance. The study employs the structured questionnaire method in gathering the required data from learners identified as experiencing academic difficulties in their academic performance. The study employs descriptive statistical analyses in interpreting the obtained results with a view to determine trends in the perceptions concerning the effectiveness of employing an artificial intelligence tutoring tool in guiding academic performance in those experiencing academic shortcomings in their academic learning processes.

ANALYSIS

1. Multiple Choice Questions (Q1–Q5): Core Perceived Benefits of AI Tutoring

The first five questions were aimed at understanding how students perceive AI tutoring as well as how they feel about it, using single-choice questions. The most dominant trend that was noticed in the data collected on student perceptions about AI tutoring was that understanding represents one of the most important benefits of AI tutoring, according to most of the respondents. Indeed, a dominant number of students claimed that they are assisted in understanding class concepts that they find hard, followed by learners who claimed that they are assisted in staying focused when using AI tutoring.

With regard to frequency, most participants reported that they used artificial intelligence-based tutoring, sometimes or oftentimes, when they had difficulties understanding something. This suggests that artificial intelligence-based tutoring is becoming an on-demand system for giving academic support, particularly when needed immediately. Few participants reported that artificial intelligence-based tutoring was something they had never used.

In response to the question of where artificial intelligence tutoring did not make a significant impact, the answers revealed that emotional motivation and the creativity of the subject matter were not perceived to be very significant areas by the respondents, a shortcoming also experienced by artificial intelligence systems since they are not very emotionally adaptive by nature.

Clarity of explanation was also scored strongly, giving an overwhelmingly positive rating, where most participants found explanations given by AI to be either ‘clear’ or ‘very clear.’ This adds weight to regard explanation from an AI-based tutor to be effective, especially for those who struggle within traditional classrooms.

The comfort levels with regard to asking questions for the AI tutor were higher compared to human teachers. This shows that the respondents were less apprehensive or fearful of being judged and have higher psychological safety, as struggling students will feel free to even ask repetitive or ‘basic’ questions.

MCQ Responses (Q1-Q5)

KEY INDICATION	DOMINANAT RESPONSE	No. of RESPONSES
Primary benefit	Understanding difficult concepts	39
Frequency of use	Often\sometimes	Majority
Least helpful area	Motivation/creativity	Moderate
Clarity of explanation	Clear/very clear	High
Comfort asking questions	More comfort than human teacher	High

2. Multiple-Response Questions (Q6–Q10): Functional Advantages of AI Tutoring

Moreover, questions 6-10 afforded participants the option to choose several options. Consequently, these items offered an understanding of various functional and/or pragmatic advantages associated with AI-based tutoring. Overall, the data show that learning is helped in several, but interconnected, ways by AI-based tutoring.

A considerable number of participants have made choices concerning the way a computer program would explain things step by step and provide feedback and a learning pace according to individual needs. It reveals the importance of AI learning programs to struggling students as they provide explanations according to individual needs rather than a standard way of learning.

Students reportedly used it mostly for homework, exam preparation, and clearing their doubts after a class. This places importance on artificial intelligence tutoring as an aid to students instead of replacing teachers.

AI tutoring was perceived to make learning easier because of immediate responses, repeated explanations, and the use of simpler language. These factors collectively reduce cognitive overload, which is often a major challenge for struggling learners. Confidence building, on the other hand, seems to happen when AI tutoring provides clear explanations, practice questions, and error correction. That is to say, it works like a non-judgmental rehearsal space for learning. The challenges identified included a language barrier, inadequacy of emotional understanding, and certain inaccuracies; therefore, though AI tutoring is very helpful, it also has its limitations.

Multiple-Response Question (Q6-Q10)

FUNCTIONAL ASPECT	MOST SELECTED EXPLANATION
Learning support	Step-by-step explanation
Usage purpose	Homework & exam preparation
Ease of learning	Instant clarification
Confidence booster	Feedback & practice
Key challenge	Language & emotional gaps

3.Likert Scale Questions (Q11–Q15): Attitudinal Impact of AI Tutoring

Within the scale of questions 11 to 15, students' attitudes were assessed based on a linear scale. The general trend reflects high agreements for positive AI tutoring-related statements. Overall, the majority of participants agreed or strongly agreed that "AI tutoring helps me understand difficult subjects," validating earlier findings. Likewise, many student participants agreed that "using AI tutoring decreases my exam anxiety," which is also a psychological benefit. The confidence level revealed considerable improvement among

the respondents after being exposed to AI tutoring. This is evident by their increased confidence to try difficult questions on their own, a factor of AI tutoring that enables one to build self-efficacies.

Likert Scale Trends (Q11–Q15)

STATEMENT THEME	DOMINANT AGREEMENT LEVEL
Improved understanding	Agres/strongly agree
Reduction anxiety	Agree
Increased confidence	Strongly agree
Useful feedback	Agree
Learning enjoy	agree

4.Open-Ended Questions (Q16–Q20): Student Voice and Lived Experiences

Qualitative responses further supported these results with recurring themes of clarity, accessibility, and language support. Students in this study also often commented that the AI tutoring helps them when they are "stuck" by explaining concepts in simpler terms.

The most helpful features mentioned were availability 24/7, repeat explanation, and instant doubt resolution. Many respondents reported instances wherein AI tutoring enhanced understanding in subjects like mathematics and science through step-by-step explanations.
This was primarily due to challenges related to language proficiency and restricted emotional interaction; it also focused on further improvement in language adaptation with more support in terms of vocabulary.

Qualitative Themes (Q16–Q20)

THEME	FREQUENCY
Concept clarity	High
Availability	High
Language challenges	Moderate
Emotional limitation	moderate

DISCUSSION

The current research can also be said to be contributing to an increasingly large body of research on artificial intelligence within an educational framework, focusing on learner-oriented, perception-based analysis, and including struggling learners, an underrepresented population within current research on artificial intelligence-based tutoring. Previous research has heavily focused on system-based performances, algorithm-based accuracy, and/or learning-based outcomes using the general student populace, but this current research can also be described as contributing to an increasingly evolving field, focusing on understanding

struggling student-based perceptions on the overall value, effectiveness, and limitations of artificial intelligence-based tutoring programs. The current research was able to identify several innovative trends within artificial intelligence-based research.The present study contributes to the growing body of research on artificial intelligence in education by offering a learner-centered, perception-based analysis focused explicitly on struggling students, a population that remains underrepresented in current AI tutoring literature. While prior studies have largely emphasized system performance, algorithmic accuracy, or learning outcomes in general student populations, this study advances the field by foregrounding how struggling learners themselves interpret the benefits, limitations, and experiential value of AI tutoring systems. The findings reveal several novel trends that extend existing theoretical and empirical understandings of AI-supported learning.

The current study's contribution revolves around understanding conceptual scaffolding as a primary benefit with which individuals associate when using AI-based tutoring, different from other studies that highlight "efficiency/economy, or 'machine' aspects" when looking at utilizing AI-based tools for maximizing productivity, such as Holmes et al. (2023). Following from Tom Cruse et al. (2024) on improving outcomes for low-performing individuals using adaptive explanation delivery, struggling individuals focus on understanding and value clarity or simplicity, contrary to utilizing efficiency/economy, or 'machine' aspects, highlighting an emerging trend that goes from outcomes-based evaluation of utilizing an AI-based system for improving learning to process-based evaluation.

Yet another new trend that may be identified through this data set is related to psychological re-arrangement identified through assistance need that is facilitated by AI tutors. A significant number of students showed more confidence in posing queries to AI tutors than their human counterparts. Existing literature may state that a lack of social anxiety is induced through AI-mediated learning scenarios. However, through this data set, this can be located within a perspective that is new to learning vulnerability. Struggling students often experience a lack of confidence stemming from a perceived lack of understanding that may be attributed to their learning failure. This data set finds that AI learning scenarios facilitate a repetitive query situation that can be located within psychological re-arrangement. Thus, this data set re-locates AI tutors through a perspective that can be termed a "Psychologically Safe Zone." This perspective remains unlocated within AI tutor literature.

The multi-response data also shows that the benefits of AI tutoring for the students are not experienced independently; instead, they are experienced together as directly dependent upon each other. Thus, as proposed by Zawacki-Richter et al. (2021), while personalization can serve as a hallmark for educational AI, the results of this particular study suggest that this particular factor must exist alongside others. The struggling students benefited significantly by means of step-by-step explanations and immediate resolutions for their multifarious doubts, revealing that this particular form of AI tutoring serves as a way of reducing cognitive overload by adjusting the speed as per the learner. Thus, this form of tutoring can serve as an important incorporation for cognitive load theory.

Likert-scale responses further reveal that AI tutoring has a measurable affective impact, primarily by reducing academic anxiety and increasing self-efficacy. Though previous research by Graesser and McNamara (2020) also links intelligent tutoring systems to improved metacognitive awareness, the current study reveals a different emotional arc: students reported feeling more confident trying difficult problems on their own after working with the AI tutors. This suggests that AI tutoring serves as a possible confidence rehearsal mechanism, in which students practice failure and correction in private, prior to formal assessment. The presence of such a mechanism is particularly significant for struggling students, who almost invariably experience a fear of failure that precedes disengagement.

Qualitative responses add richness as the narratives of learners-of dependency, trust, and, finally, accessibility-were narrated through the responses. Students described AI tutors repeatedly as "always available" and "patient", qualities sharply juxtaposed with institutional constraints faced by human instructors. According to Kim et al. (2023), availability is one of the main logistical advantages of AI systems. However, this study reframes the concept of "availability" as emotional and cognitive assurance for struggling learners. This further seems to facilitate academic continuity, thereby reducing fragmentation in learning experiences.

Most specifically, there is a strong emphasis on the inherent disadvantages identified from a learner-centered data perspective, especially on the topic of emotional intelligence and language adaptability. Although students recognize the cognitive usefulness and assistance from AI, they have been unable to identify any disadvantages on this topic but have still been able to express a degree of concern about its applicability and usefulness through other perspectives, as was observed and confirmed strongly through the ideas and foundational perspectives created by Luckin et al. (2019) and as applied and illuminated through the education-focused ideas created by Baker & Smith (2020). The novelty is not only related to a rejection of AI but to how students express this rejection as a potential future advantage, which illustrates a high degree of trust and validation among learners and students on this topic as a means to meet a key subjective objective to ensure a solid and strong degree of learners as stakeholders themselves.

CONCLUSION

The present descriptive study investigates the perceived advantages of AI tutoring among poor performers with the purpose of exploring how different forms of AI-mediated support are experienced across the cognitive, affective, and functional dimensions of learning. Based on responses collected through multiple-choice, multi-response, Likert-scale, and open-ended questions, the current study offers a comprehensive, learner-centered perspective on the positioning of AI tutoring in supporting academically vulnerable students. Aggregately, these findings position AI tutoring not as a replacement for traditional instruction, but as a strong supplemental learning mechanism that remedies persistent gaps in understanding, confidence, and accessibility. One of the more important findings of this study is the manner in which the value of AI tutoring for the struggling student is deeply rooted in the capacity to offer clarity through the use of straightforward, step-by-step descriptions. Here, the findings

of this study diverge significantly from more dominant, Neo-Marshallian efficient narrative discussions found within educational technology studies, which tend to center an individual student's understanding of the importance of speed-focused, efficient descriptions to a greater degree. One finds, through the present study, a reshaping of the manner in which the student seeks guidance through the utilization of a non-judgmental environment. Apart from cognition, it can also be derived that the AI tutoring has had a significant affective component, where anxiety related to academics has reduced, confidence has been enhanced, and a willingness to engage in difficult problems independently has been fostered by AI tutoring. This therefore implies that AI tutoring is a building block towards having a certain type of self-efficacy, which is important—particularly in relation to academic motivation, even amongst students who are said to be struggling. The availability of AI tutoring can ensure that it is continuous. At the same time, the report did recognize some of the limitations faced by current AI tutoring tools, especially with regards to emotional intelligence and flexible use of language. The students understood this but generally saw it more as an area for development rather than a limitation from usage; therefore, it reveals student acceptance of AI tutoring tools at a high level. Conclusively, this research develops new empirical insight into how low-achieving students think of and experience AI tutoring. These findings strongly reveal the potential for AI tutoring, through well-thought-out design and ethical integration, to create an inclusive, individualized, and confidence-building learning environment. As the educational arena remains to incorporate more and more AI-powered tools, the voices and needs of the failing student will require to be brought to the forefront to allow for the equation of the innovative tool to education, the latter being a form of educational empowerment for the student.

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