
Students' Perceptions of the Effectiveness of CIDOS as a Learning Platform in Technical English classroom

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Abstract

This action research investigates students' perceptions of the effectiveness of CIDOS as a learning platform in the Technical English classroom at Politeknik Tuanku Sultanah Bahiyah Kulim Kedah. With the increasing integration of digital technologies in education, Learning Management Systems such as CIDOS are essential in supporting flexible and accessible learning environments. A quantitative research design was employed, involving 51 diploma students with prior experience using CIDOS. Data were gathered through structured questionnaires and analyzed using descriptive statistics. The results show that majority of students perceive CIDOS as an effective platform for accessing learning materials, supporting lesson revision, enhancing engagement and improving academic performance as reflected in consistently high mean scores. Nonetheless, several difficulties were identified, including technical issues, internet connectivity problems and limitations in certain interactive features. Despite these challenges, the study concludes that CIDOS is a valuable tool for facilitating teaching and learning in the Technical English classroom. It is recommended that improvements be made in technical infrastructure, user training and the development of more interactive features to further enhance the effectiveness of CIDOS in e-learning practices.

Keywords : CIDOS; e-Learning; Effectiveness; Online learning; Students' perception

I. INTRODUCTION

With the rapid advancement of technology, Learning Management Systems (LMS) have become essential tools in higher education institutions. The incorporation of digital learning platforms has transformed modern education. Traditional classroom instruction often falls short in providing a learning environment, rapid assessments and more engagement. On the other hand, technology and digital learning tools fill this gap. The efficiency and flexibility offered by such technologies are difficult to achieve through conventional teaching methods. With smartphones and other wireless devices becoming increasingly popular, it is logical for schools and educational institutions to integrate these technologies effectively into the learning environment [1]. Moreover, digital learning platforms facilitate collaborative learning, enable immediate feedback

and allow students to learn at their own pace, which further enhances their learning outcomes.

In Malaysian polytechnics, CIDOS is widely used as an online learning tools to support teaching and learning process. At certain polytechnics, CIDOS is compulsory and lecturers must achieve at least one platform blended every semester. It is designed for online, hybrid and blended learning. It acts as a secure, integrated, web-based platform for delivering curriculum, supporting and enabling personalized digital learning environments. In addition to delivering content, CIDOS supports interactive features such as discussion forums, quizzes, assignment submissions and announcements, which encourage active student participation and continuous engagement. (LMS) platforms not only support distance and blended learning models but also facilitate access to educational materials and enhance communication between students and lecturers [2].

According to Rodzah et al [3], CIDOS system is a modern method that utilizes the latest technology to

enhance the learning process in Malaysian polytechnics. It uses electronic networks (LAN, WAN, or the Internet) to allow lecturers to deliver content, share information and interact with students through the platform.

Although CIDOS is widely used, its effectiveness depends largely on students' experiences and perceptions, particularly in the Technical English class. Razali et al. [4] conducted a study comparing CIDOS with social networking sites such as Facebook and YouTube. The results revealed that lecturers tended to prefer using social networking sites to facilitate communication rather than relying on the LMS. This suggests that while CIDOS is effective for delivering content and managing learning activities, it has certain limitations in supporting real-time communication and collaborative interaction among users.

Additionally, the Technical English syllabus is newly introduced to replace the previous Communicative English syllabus, with content, activities and assessments that differ significantly from the former curriculum. Understanding students' perceptions is crucial, as their feedback can inform improvements in teaching practices and platform implementation. Therefore, this action research aims to explore students' perceptions of the effectiveness of CIDOS in enhancing their learning experience.

II. LITERATURE REVIEW

The globalization of education has necessitated the integration of digital technologies into teaching and learning processes.

This research is guided by Technology Acceptance Model (TAM) proposed by Davis in 1989 [5]. Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are key constructs of the model. Perceived Usefulness refers to the extent to which an individual believes that using a particular system or technology will improve their performance, making tasks more effective, efficient or productive. Perceived Ease of Use, on the other hand, refers to the extent to which an individual believes that using the system will be effortless. A system that is simple, intuitive and easy to operate is more likely to be accepted by users. According to TAM, both PU and PEOU strongly influence users' attitudes toward adopting technology and systems perceived as both useful and easy to use are more likely to be embraced and continuously utilised.

Previous studies indicate that perceived usefulness and perceived ease of use significantly influence student satisfaction and their continued intention to use e-learning platforms. [6]. Recent studies show an increasing focus on LMS research, emphasizing

their important function in enhancing educational quality in the digital age [7].

Online platforms are widely used for conducting classes, sharing learning resources, administering assessments and managing the daily operations of academic institutions.

However, the adoption of these platforms was initially gradual and often reactive rather than fully strategic or comprehensive. According to Haleem et al [1], the integration of technology in the classroom has the potential to enhance students' engagement in learning. As today's learners are increasingly familiar with electronic devices, incorporating such technologies into educational settings can help capture their interest and sustain their attention.

LMS tools have proven to greatly improve student involvement by offering interactive elements that encourage active engagement in virtual learning settings [8]

When technology is effectively integrated into instruction, it creates a more interactive and stimulating learning environment, which may reduce distractions and promote active participation. Consequently, technology-enhanced learning can contribute to higher levels of motivation and deeper engagement with the subject matter.

Previous research demonstrates that CIDOS plays a significant role in supporting effective teaching and learning in Malaysian polytechnics. According to Hassan et al [9], positive outcomes from using CIDOS demonstrate that learning through digital technology can serve as an effective alternative to conventional teaching methods. Both students and lecturers benefit from quicker and easier access to learning resources and information. When students can access design or course-related information effortlessly, it encourages them to engage more actively in information-seeking and learning activities.

Recent insights reveal that modern students prefer using technology in their learning, as it significantly enhances both engagement and interactivity [10]. When supported by modern tools and equipment, students find learning more interesting and interactive. Technology also facilitates the effective and convenient transfer of knowledge, making the learning process smoother and more impactful.

A study by Mohamad et al [11] demonstrated that CIDOS is perceived as a highly usable and accessible platform capable of effectively developing digital literacy skills and enhancing learning outcomes. The findings indicate that students exhibited high engagement with the

platform and statistical correlations revealed strong positive relationships between CIDOS ease of use, perceived usefulness, engagement, and academic performance. Although challenges exist, such as occasional internet connectivity issues and variations in students' digital literacy levels, these factors have not diminished CIDOS's effectiveness as a tool for fostering digital literacy. Designed to accommodate students with diverse levels of digital proficiency, the platform provides interactive and engaging learning opportunities that support all learners in achieving their academic goals.

Kumaran and Sulaiman [12] conducted a study on students' preparedness for blended learning in Communicative English. The results indicated that many students were supportive of the blended learning approach, provided they could access online resources conveniently. This highlights the importance for implementers of the CIDOS system to ensure faster and more reliable access to online materials.

The findings [13] indicate that the use of the LMS among engineering students at Polytechnic Sultan Ibrahim is at a high level during the learning process. This is a positive indication that students actively engage with the CIDOS platform throughout teaching and learning activities, demonstrating its effectiveness in supporting their educational experience.

Ying et al [14] found that students generally held positive perceptions of using CIDOS during the COVID-19 pandemic. Ease of use was identified as a key factor contributing to this positive perception. This can be attributed to CIDOS 3.5's user-friendly interface, which includes clear guidelines and instructions for first-time users. Additionally, the platform is relatively simple to operate, as it primarily requires basic computer skills such as downloading and uploading files.

Flexibility in teaching and learning was another significant factor encouraging students to utilize technological tools like CIDOS. The platform enabled students to access learning materials and monitor classroom activities from any location, ensuring continuity of education despite physical restrictions.

III. OBJECTIVE OF THE STUDY

1. To analyse students' perception of the effectiveness of CIDOS as a learning platform.
2. To identify how CIDOS supports students learning and academic performance
3. Determine obstacles that could affect the effectiveness of CIDOS

IV. RESEARCH QUESTIONS

1. How do students perceive the effectiveness of CIDOS in supporting their learning?
2. How does CIDOS support students learning and academic performance?
3. What challenges affect the effectiveness of CIDOS?

V. RESEARCH METHODOLOGY

A) Research design

This study used a quantitative research in which structured questionnaires were distributed to selected respondents.

B) Population and sample

This study was conducted at Politeknik Tuanku Sultanah Bahiyah (PTSB). The research population for this study was the Semester 4 students who were enrolled in the Technical English 3 course during the semester of the study. These population had previously completed Technical English 1 in Semester 1 and Technical English 2 in Semester 3, which provided them with prior exposure to the Technical English curriculum.

The respondents were selected because they had used CIDOS as a learning platform for at least two semesters, allowing them to gain sufficient experience with the system. Their familiarity with both the course content and the platform enabled them to provide informed and meaningful feedback regarding the effectiveness of CIDOS in supporting their learning process.

A total of 51 respondents participated in the study. These students were considered appropriate as they had adequate exposure to the use of CIDOS in the Technical English courses and were therefore able to provide reliable perceptions of its effectiveness as a learning platform.

C) Data collection instrument

The instruments that the researcher uses are structured questionnaire (Likert-scale), ranging from Strongly Disagree (1) to Strongly Agree (5). To understand the student experience, the survey featured 12 questions focusing on three key areas: perceptions of CIDOS (3 items), perceived effectiveness (5 items) and the obstacles faced by users (3 items). The research instrument

incorporates question types adapted from Kumaran and Sulaiman [12], Adnan et al [15] and Yusop [16]. To establish content validity, the previously validated measures were examined and assessed by two experts specializing in English Language Teaching (ELT).

VI. RESULT AND DISCUSSION

The quantitative findings of this research that have been gathered from the responses were analysed by using the Statistical Package for Social Science (SPSS) application.

Section A: Demographic Information

Table 1

| Variables | Frequency | Percent |
|-----------|-----------|---------|
| Gender | Male | 32 |
| | Female | 19 |
| | | 62.7 |
| | | 37.3 |

As shown in Table 1, the majority of respondents were male (n = 32, 62.7%), while female respondents accounted for 37.3% (n = 19) of the total sample.

Section B: Students' Perception of CIDOS

Table 2

| ITEM | Mean | SD |
|---|------|------|
| 2. Access to materials is easy | 4.78 | 0.42 |
| 3. Materials can be accessed anytime anywhere | 4.80 | 0.40 |
| 4. Downloading notes is easy | 4.63 | 0.53 |

The findings reveal that respondents strongly agree that CIDOS is accessible for learning activities. Item 2 scored the mean (M = 4.78, SD = 0.42), indicating that students appreciate the flexibility provided by the platform. Similarly, item 3 obtained the highest mean (M = 4.80, SD = 0.40), showing that students find it convenient to retrieve course content. Finally, Item 4 had a mean of 4.63 (SD = 0.53), further confirming the platform's effectiveness in facilitating students' learning. The overall mean of 4.74 suggests a high level of agreement, demonstrating that CIDOS is perceived as a highly effective tool for accessing and managing learning resources.

Section C: Effectiveness for learning

Table 3

| ITEM | Mean | SD |
|---|------|------|
| 5. Support in learning Technical English | 4.65 | 0.49 |
| 6. Materials help review lesson | 4.69 | 0.47 |
| 7. Improves learning performance | 4.47 | 0.63 |
| 8. Encourages active participation | 4.41 | 0.61 |
| 9. Online activities make learning more interesting | 4.37 | 0.63 |

The findings indicate that respondents have a highly positive perception of the effectiveness of CIDOS in supporting their learning. Item 6 received the highest mean score (M = 4.69, SD = 0.47), highlighting the usefulness of online resources for revision. Similarly, Item 5 scored M = 4.65 (SD = 0.49), suggesting strong agreement that the platform aids learning.

Other items, including Item 7, 8 and 9 all had mean scores above 4.3, indicating a consistently high perception of CIDOS effectiveness. The overall mean of 4.52 (SD = 0.57) demonstrates that students generally perceive CIDOS as an effective tool for enhancing learning, encouraging participation and improving academic performance.

Section D: Challenges in using CIDOS

Table 4

| ITEM | Mean | SD |
|--|------|------|
| 10. Technical problems occur sometimes | 4.61 | 0.49 |
| 11. Internet connection affects usage | 4.67 | 0.48 |
| 12. Some features are difficult to use | 4.20 | 0.71 |

Item 10 show that students generally agree that technical problems occasionally occur while using CIDOS, with a mean of 4.61 and a standard deviation of 0.49, indicating a high level of agreement and consistent responses among participants. Item 11 suggest that students perceive that internet connectivity impacts their use of CIDOS, with a mean of 4.67 and a standard deviation of 0.48, reflecting strong agreement and minimal variation in responses. The findings for Item 12 indicate that some features of CIDOS are difficult to use, with a mean of 4.20 and a standard deviation of 0.71, showing that students generally

agree although there is slightly more variation in their experiences.

Students generally have a positive perception of CIDOS in terms of accessibility and convenience. Most of the respondents believe that CIDOS offers easy and flexible access to educational resources and assignments, enabling them to study anytime and anywhere. Nevertheless, some students reported experiencing technical challenges such as occasional technical problems and unstable internet connections which can hinder their ability to use the platform effectively. In terms of usability, a few respondents indicated that certain features of CIDOS are somewhat difficult to use, suggesting that enhancements to the platform could improve the overall user experience.

Dhawan [17] in her study mentioned that technical difficulties in online learning can be managed by preparing solutions such as pre-recording video lectures, testing content in advance and having alternative plans ready to ensure the teaching and learning process continues smoothly. Online courses should also be designed to be dynamic, engaging and interactive. In addition, teachers should set clear time limits and reminders to keep students attentive and provide personal support to help them adapt effectively to the online learning environment.

Regardless of these challenges, the overall findings suggest that CIDOS is highly effective in supporting students' learning and academic performance. Addressing the technical and usability concerns would further improve the effectiveness and user satisfaction of the platform.

VII. CONCLUSION

The findings indicate that respondents generally have a very positive perceptions of using CIDOS in supporting Technical English class. Descriptive analysis shows high mean scores for accessibility, learning support and engagement, suggesting that CIDOS plays an important role in facilitating online learning activities. Respondents strongly agreed that the platform allows them to easily access study materials, download lecture notes and review course content whenever they wish. This flexibility supports independent learning and helps students manage their studies more effectively.

Furthermore, the result show that CIDOS positively influence students' learning experience in the Technical English course. Many respondents agreed that the platform supports their understanding of course materials, encourages active participation and makes learning activities more interesting.

According to Anderson [18], interactivity in e-learning is a key factor influencing students' perceptions of their skill development. The level of engagement with online learning materials is strongly associated with how students perceive improvements in their abilities. Active participation in e-learning activities can significantly enhance various skills, including communication, collaboration, digital content creation and critical thinking or problem-solving.

The availability of online materials and activities through CIDOS also helps students revise lessons and improve their academic performance. These results indicate that the incorporating of CIDOS into teaching practices enhances the overall learning environment and promotes greater student engagement.

However, in spite of the positive perceptions, several challenges were identified. Some students stated experiencing occasional technical problems when using the platform and internet connectivity issues were found to affect their ability to access CIDOS effectively. In addition, a number of respondents pointed out that certain features of the platform are difficult to navigate. These challenges highlight the need for continuous improvement in both the technological infrastructure and the usability of the system. Overall, the study concludes that CIDOS is an effective learning platform for supporting teaching and learning in the Technical English classroom although improvements in technical support and platform usability could further enhance students' learning experiences.

VIII. RECOMMENDATIONS

Based on the findings of this research, several suggestions can be made to improve the effectiveness of CIDOS in facilitating teaching and learning process in Technical English classroom.

First, the management of polytechnic institution and system administrator should enhance the technical infrastructure that support CIDOS. Improving internet connectivity and system stability will help reduce technical disruptions and ensure smoother access to learning materials and online activities. Reliable access is crucial for maximizing the benefits in digital education platforms.

Other than that, both lecturers and students should receive training and support to increase their understanding of CIDOS functions and features. Workshops or training sessions can assist users in grasping how to use the platform efficiently particularly in areas such as online discussions, quizzes and assignment submission. This is in line

with Hasnan and Mohin [19] who emphasized that instructor training programs, teaching modules and workshops conducted by experts in content and technology can enhance users' digital literacy. Boosting digital literacy among users will improve the overall effectiveness of the platform.

Additionally, lecturers are encouraged to design more interactive and engaging learning activities using CIDOS. Incorporating quizzes, discussion forums and collaborative tasks can increase student participation and make learning more meaningful. When used creatively, the platform can support more dynamic and student-centered learning experiences.

Finally, future studies could broaden the focus of this research by involving a larger sample size or including respondents from diverse courses and institutions. Qualitative methods such as interviews could also be used to gain deeper insights into students' experiences with CIDOS. Such research would provide more comprehensive evidence regarding the effectiveness of digital learning platforms in higher education

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