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English for Informatics: Insights from Evaluating a Contextual Learning Module

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ABSTRACT

This research article presents the findings of the assessment of the English I Module used by students of the informatics study program. The evaluation's goal is to determine how well the module supports the students' comprehension of technical English associated with the informatics sector in terms of effectiveness, relevance, and applicability. A questionnaire covering topics like material comprehension, content relevance to the workplace, contextual learning approaches, and preferred learning activities was filled out by 27 students and used to gather data. The results show that the module has been successful in promoting learning and has helped students' technical vocabulary and reading skills. These findings provide valuable insights for the development of future English modules that are more culturally relevant and adaptable.

Keywords: English for Informatics; Module Evaluation; Contextual Learning

INTRODUCTION

It is not hyperbole to say that English is the "language of programming," considering that almost all programming languages now in use make use of English terminology, phrases, structures, and acronyms. Since English dominates in a variety of technical literature, software documentation, and professional communication in the information technology field, technologists from professionals to students are certainly used to and familiar with the language when using computers as their primary instrument in their daily activities.

In her article (Putri, 2018) explained five main reasons. First, English became known as a lingua franca, or universal language, in a number of domains, like technology, education, economy, and trade. Second, as the first and biggest computer market in the entire globe, the US has shaped international standards in the technology industry. Third, most programming languages, including JavaScript,

Python, and C++, originated in English-speaking nations. Fourth, the most common coding scheme for characters in text-based digital systems which are, of course, written in English—is called ASCII (American Standard Code for Information Interchange). At last, English was considered to be the most compatible character encoding in the early stages of computer system development, allowing for increased technological efficiency in systems such as the 6-bit system.

Informatics students are technically required to be proficient in database administration, operating systems, computer networks, programming languages, algorithms, and data structures because they frequently make use of computers. Non-technical skills such as critical thinking, problem-solving, collaboration, and communication (especially in the field of English) are also required. There is no doubt that students studying informatics today must learn two languages at the same time.

Unfortunately, it is challenging for them to learn informatics skills because the majority of their English skills are not in line with the programming languages they use. Based on field studies, informatics students' English competence is still comparatively low. The majority of students' proficiency is at levels A1 to B1, according to the CEFR (Common European Framework of Reference for Languages) competency test results. This indicates that they are still having trouble understanding simple English. Because computer technology and the usage of English are intimately interconnected, this situation presents an additional problem for them.

Sekolah Tinggi Teknologi Payakumbuh (STTP) has made several efforts to address this issue and ensure that students have a strong basis from the start of their education. Implementing English I, English II, and English III as required classes is part of this. Each course's instructional materials are carefully created and structured as modules with varying levels of complexity. Terms, abbreviations, vocabulary, everyday reading texts, and linguistic patterns relevant to their scholastic demands are all provided in these modules, along with exercises and content essential to the discipline of informatics. As an additional requirement for graduation, students must pass the TOEFL exam.

A context-based learning method was used in the development of the teaching materials, which are in the form of modules. By relating the subject matter to actual circumstances, especially in the professional setting of information technology, the English I module aims to offer students a deeper understanding. To determine the effectiveness of the materials, methodologies, and instructional design, as well as their capacity to satisfy the needs of the students, the evaluation of these modules is critical. Thus, it is hoped that the findings of the comprehensive assessment will offer helpful suggestions for creating modules that are more efficient and flexible enough to meet the expectations of professionals as well as the rapidly changing field of information technology.

LITERATURE REVIEW

A strong basis is necessary when creating a learning module to ensure that the content is grounded in the demands of the students and the real-world context in the field being studied. English for Specific Purposes, ESP (English for Specific Purposes), particularly in the field of informatics, a contextual learning approach, CTL (Contextual Teaching and Learning), characteristics of an effective learning module design, and student perception-based evaluation are the four interconnected fundamental ideas that constitute the core of the development of Bahasa Inggris I module at STTP.

ESP (English for Specific Purposes)

Students (in this case, college students) need to understand the objective of learning a foreign language before starting to study English. Few students know these reasons, though. Usually, English is only offered as a general foundation course (MKDU) with a low credit number (an average of two credits). inevitably, this makes it challenging for instructors to create materials that are suited to the requirements of students from non-linguistic backgrounds. Three main reasons for the rise of ESP were noted by Hutchinson & Waters in (Ibrahim, 2019): the need to adjust to a new and changing world, the linguistic revolution, and a learner-centered approach. The resources focus on linguistic areas like morphology, syntax, lexicology, and analytical concepts, which are different from general English (GE), and have been developed to respond to the specific needs of learners in particular fields of study, such as job training sessions and other materials. ESP aims to provide students with information technology-related language skills in the context of the Informatics study program. These abilities involve communicating in IT-based settings, reading texts and documents, understanding IT terminology and spoken language, and reading product manuals and instructions.

The Approach of Contextual Teaching and Learning (CTL)

John Dewey first proposed the idea of contextual learning in the early 1900s, and it emphasizes learning strategies based on students' interests and experiences. In response to shifting cultural norms and program dynamics, educational professionals around the world have been consistently refining this idea. Because it emphasizes student participation in tailoring learning materials to their real-life experiences, CTL has grown in popularity 1. Relating, which starts with students' current understanding (prerequisite knowledge) and links external elements like media, teachers, and the surrounding environment with internal elements such as knowledge, skills, talents, and interests. 2. Direct experience (experiencing), especially the significant impact of instructional media that include books, audio, and video, 3. Application (applying); giving students' experience-gaining possibilities, like fieldwork and internships, priority 4. Cooperation (cooperation); creating students' teamwork skills, 5. Transfer of knowledge: students receive lessons on how they can put their knowledge into practice (Abdul Gafur, 2003). The

CTL concept is ideal for students studying informatics, particularly when they use computers or other technology to finish tasks.

Designing Modules for Effective English Language Learning

Learning modules are instructional resources created to support self-directed, methodical, and ongoing learning. Self-instruction, self-containment, independence, adaptability, and user-friendliness are qualities of a good module (Nurmanita, Pargaulan Siagian, 2019). This implies that students must be able to use the module on their own, in a comprehensive, organized, and user-friendly way. Key components in the development of the English I Informatics module involve technical documents, context-based grammar exercises, and an emphasis on IT vocabulary. This module is intended to act as a study aid that aids students in understanding that the topic has significance both linguistically and practically in real-world work settings.

Module Assessment Using Student Perspectives

Evaluation based on the perspectives of students directly involved in the learning process is required for determining the effectiveness of learning modules. The findings of the evaluation will undoubtedly enhance the development of media, presentation techniques, and content, as well as the understanding and proficiency of the topic that is being taught. Modules and teaching resources constitute the learning evaluation's main objectives. 1. To evaluate the efficiency and efficacy of educational and learning activities, 2. To make teaching and learning activities better, 3. To make teaching and learning programs better, 4. To recognize and address the challenges that students face during lessons, and 5. Assuring that students in learning environments receive instruction that is appropriate for their abilities (Desta Sri Mahdalena et al., 2024). In addition, evaluations can be beneficial, but they can also have a positive impact on students' self-confidence in improving their English language proficiency. Feedback (umpan balik) effectively supports learning (in this case, college students) by identifying and improving their problems and inspiring them to learn from them. The teacher (in this context, the lecturer) is willing to provide individual guidance using a rubrir reflection to ensure that they have a solid understanding and learn from their problems (Vera H Nainggolan & Listiani, 2024). The type of feedback enables the learner to comprehend the various aspects that must be considered, evaluated, or as well as highlighted in the module. The development of the English I module can be directed to be more responsive to the actual requirements of informatics students and adaptive to the dynamics of modern technology by conducting evaluations based on student perceptions.

METHOD

Design and Sample

This study employed a descriptive research design to evaluate the English I module for Informatics students. The research began with a review of related literature, followed by classroom observations that focused on monitoring students' daily performance. A total of 27 students from the Informatics study program participated in the evaluation. To support the learning process and track progress, students were also shown updates on their assignment completion, particularly the exercises contained in the module.

Instruments and Procedures

The primary instrument used in this study was a questionnaire developed to capture students' perceptions of the English I module. The questionnaire consisted of both closed-ended and open-ended questions. Closed-ended questions used a Likert Scale, which allowed students to express their opinions within a defined range. This type of question was selected because it provides clear, quantifiable data, is easy for respondents to understand, and works well with a moderate number of participants (Adinata, 2025). Meanwhile, the open-ended questions allowed students to freely express their opinions, including both positive and negative experiences, as well as provide suggestions for improving the current module and for developing the English II module. The questionnaire covered several aspects: the readability and clarity of the module's content, its relevance to the informatics and technology context, the presentation of grammar and vocabulary exercises, the variety of reading and writing tasks, the layout and visual appeal, the level of student engagement, and their preferred learning activities. Students were also invited to share their expectations and recommendations for future module improvements.

Data Analysis

The data collected from the questionnaires were analyzed using both descriptive and quantitative approaches. For the quantitative analysis, responses to closed-ended questions were converted into percentage distributions and averages, allowing researchers to identify general trends in student perceptions. For the qualitative analysis, answers to open-ended questions were thematically analyzed by categorizing the responses into three main areas: the strengths of the module, challenges faced by students, and their recommendations for improvement. The combination of these analyses allowed the researchers to evaluate the module's overall effectiveness, identify specific strengths and weaknesses, and provide insights that would inform the design and development of English II, ensuring that it better meets the academic and professional needs of Informatics students.

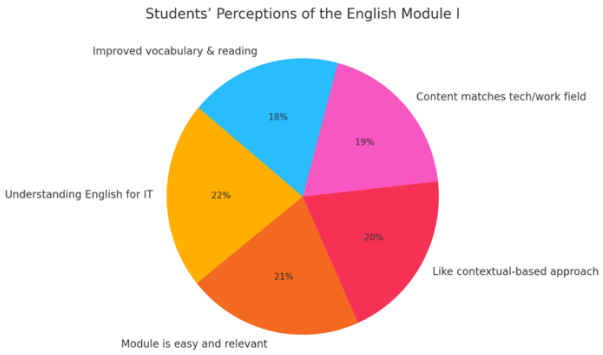
RESULT AND DISCUSSION

Based on data obtained from 27 students, the evaluation of the English Module I for Informatics Students showed very positive responses in various aspects. The following table summarizes the five main evaluation categories analyzed by respondents:

Table 1. Summary of Module Evaluation Results

Evaluation Category	Percentage (%)	Number of Students
Understanding English for IT	85%	23
The module is easy and relevant	81%	22
Like a contextual-based approach	78%	21
Content matches tech/ work field	74%	20
Improved vocabulary & reading	70%	19

With an average acceptance rate above 75%, the data generally indicate that students have positive opinions of the English I module. A significant majority (85%) agreed that the module enhanced their understanding of English in the context of information technology. This suggests that the module effectively addressed the students' professional language needs in their field. Furthermore, 81% of students found the module both easy to understand and relevant to their studies. The clarity and accessibility of the content were key in promoting student engagement and supporting their learning outcomes. The contextual-based learning approach employed in the module was also well-received, with 78% of respondents expressing that learning English through informatics-related topics made the experience more meaningful and engaging. This alignment between content and students' academic focus added value to the learning process. Approximately 74% of the students agreed that the module's content reflected the realities of the technology sector and workplace. This suggests that the instructional material was designed with the future professional environment in mind, making it more applicable and beneficial for career preparation. Although rated the lowest among the five evaluated aspects, 70% of students still acknowledged improvements in their vocabulary and reading skills. This finding highlights the module's contribution to students' technical literacy, while also suggesting that further development in this area could be beneficial. This data reflects that the module has been designed well enough to answer the needs of students in the field of Informatics as seen in the diagram below.



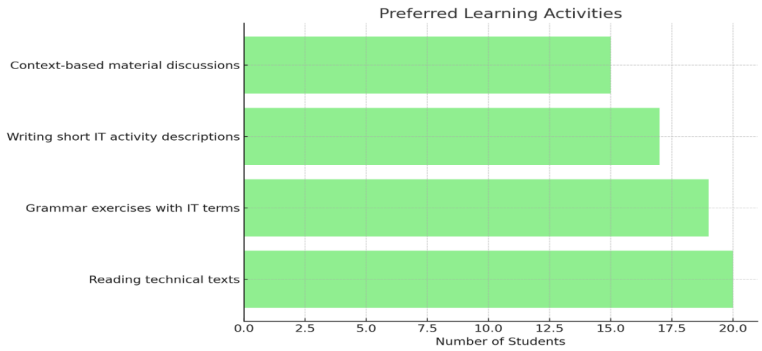
In addition to the general evaluation, students were also asked to identify their preferred types of learning activities within the module. The most favored activity was reading technical texts, chosen by 20 out of 27 students (approximately 74%). This indicates that students see value in engaging with authentic IT-related texts, which help them understand vocabulary, grammar structures, and the professional context commonly encountered in the workplace.

Table 2. Students' Preferred Learning Activities

Preferred Activities	Number of Students (n-27)
Reading technical texts	20
Grammar exercises with IT terms	19
Writing short IT activity descriptions	17
Context-based material discussions	15

Grammar exercises using IT-related terminology were also highly appreciated, with 19 students expressing interest in these tasks. This reflects the importance of integrating grammar instruction into content that is directly relevant to students' academic fields, making learning more engaging and practical. Seventeen students preferred writing short descriptions of IT-related activities, such as coding, debugging, or attending meetings. These writing tasks allowed students to apply technical vocabulary while practicing basic sentence construction, thereby reinforcing both language and content learning. Lastly, context-based material discussions were favored by 15 students. Although this activity ranked lowest among the four, it still reflects a meaningful level of interest. Such discussions, when conducted in a supportive environment, can enhance students' speaking skills and critical thinking, helping them articulate ideas more confidently in English.

According to this preference, students: feel more at ease with content that is directly related to their field of study; prefer individual or semi-structured activities (reading, grammar, and writing) over loosely organized discussions; and must have a balanced approach between input-based learning (reading, comprehension) and output-based learning (writing, speaking). The bar chart below illustrates the learning activities most preferred by students in English for Informatics. The most popular activity was reading technical texts, with nearly 20 students choosing it, followed by grammar exercises with IT terms. Furthermore, quite a few students also preferred writing short IT activity descriptions and context-based material discussions. This data shows that students are more interested in activities that are technical and applicable within their academic context.



The following also explains the strengths and the weaknesses of the English I module based on the results of the analysis of open questions.

Strengths of the Module

Several strengths consistently came to light from open student feedback, highlighting the positive aspects of the module: firstly, the module is considered simple and easy to understand. Several learners reported that the module's language was straightforward and suitable for their level of proficiency, which made this subject significantly simpler to comprehend. Students with elementary through intermediate comprehension of English ought to give particular attention to this. Secondly, contextual and relevant to the IT world. Students valued how the module's content was adapted to the actual workplace in the informatics industry, including the use of real-world examples and IT technical terms. This illustrates how well the module applies a contextual learning strategy. Thirdly, a systematic module structure, based on several responses, the way the material was put together felt logical and well-organized, encompassing every detail from reading and grammar exercises to vocabulary introduction and language production skills consisting of speaking and writing. Fourthly, varied and interesting exercises; the module's broad selection of exercises was well-received by the students, particularly the interactive ones that called for them to construct sentences, answer inquiries regarding technical texts, or compose short descriptions of IT-related activities. In addition, it was also found that there were module deficiencies as described as follows.

Weaknesses of the Module

Regardless of the module's overall high rating, students highlighted the following issues: 1. insufficient speaking and listening resources; even though speaking and listening are both essential to interpersonal interaction in a global workplace, some students expressed dissatisfaction over the lack of available resources. They were hoping there were more dialogues as well as audio readily accessible for direct practice and listening; 2. Visual appearance is less attractive; a few students commented that the module looked monotonous or extremely text heavy. They suggested the inclusion of more images, infographics, or illustrations to make learning more enjoyable; 3. Insufficient Indonesian explanations.

In modules that are entirely in English, some students who continue to have difficulty with the language are unable to comprehend instructions or explanations. They recommend including brief explanations in Indonesian or a glossary. Some suggestions frequently raised in student responses include: adding short videos or podcasts to strengthen listening skills, providing more practice examples and answer keys for independent learning, presenting group activities or small projects that can connect theory with real-world IT practice, and providing interactive digital modules accessible through e-learning platforms. Furthermore, the modules should also focus on more engaging visual displays. Positive feedback on *One Minute Speech*: this activity is considered very useful for developing public speaking in the IT context. Support for continued learning, students want a continuation in the form of English Module II, with more applicable and communicative material.

CONCLUSION

Based on student assessments, the English I module was considered to be very beneficial for comprehending English-related informatics content. Students thought the context-based approach was suitable and engaging, and the module's content was easy to understand and applicable to the workplace. The majority of learning activities were text-based ones, as reading and grammar tests. Additionally, some students offered ideas about improving the variety of exercises and materials, such as more examples from real life, audio, and video. Overall, students have had a good learning experience with this module, and their confidence in their capacity to comprehend technical English has grown. To make the module more interesting and adaptable to meet the various learning needs of students, there is still an opportunity for development.

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