

How does the English4IT Platform Provide English Materials for Computer Science Learners?

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Abstract: During the COVID-19 pandemic, the learning process shifted from face-to-face to online learning. English4IT is one of the platforms that can support the success of the online learning process. This study aims to investigate and describe the use of the English4IT platform to assist the English learning process for computer science learners. The platform contains materials suitable for computer science learners' needs, including vocabulary, four main English skills, and practical activities, either synchronous or asynchronous. This descriptive qualitative study gathered the data from the contents of the English4IT platform. The data were then analyzed qualitatively by applying the platform and comparing the findings with previous studies and existing theories. This study's novelty lies in its originality since a deep investigation of this platform has not been conducted by any previous researchers. The findings indicated that the use of this platform could effectively assist the students in learning English and motivate them to join. Various materials provided adequate teaching materials and references for computer science learners. The activities could enhance the students' progress in each skill, and the re-do feature made it easier for learners to correct their mistakes. This study implies that the English4IT platform is recommended as an alternative way to teach English to computer science students. Before using this platform, it is recommended to recognize the strengths and weaknesses so that the English teachers can use it effectively.

INTRODUCTION

The COVID-19 pandemic has changed all life domains, with no exception in the learning process or education. Automatically, there was a shift from face-to-face to online learning to compensate for the lack of physical presence. The government instructed all schools and colleges to conduct the learning process from home. Of course, the learning process is running, although the challenges and barriers faced by the educators are a lot and not easy.

This era also urges educators to be creative and innovative to create an attractive learning process using online learning through the mediation of digital technologies (Bardone et al., 2022). Then, they have tried to considerably and collaboratively use various platforms, authentic e-learning medium owned by the school/university or namely learning management system (LMS), several social media, create videos, conduct the video conferences, etc. They have tried to help the students understand the materials and achieve competence by offering a virtual educational environment in preparing lessons, distributing learning materials, and assessing (Amin & Sundari, 2020).

It also happened in colleges where the lecturers have tried to use various platforms to support the learning process, including English lessons. It is getting harder when the students are non-English department students or English for Specific Purposes (ESP) students, such as students of English for computer science. Saliu & Hajrullai (2016) stated in their study that ESP itself was developed when the courses did not meet the learners' needs. As English develops to dominate as the lingua franca of technology, business, media, education, and other fields, the demand for ESP is increasing rapidly to accomplish the education curriculum requirement and achieve promotional or professional development at work.

The college has provided the syllabus containing the materials related to computer science to be taught to the learners using English to deliver those materials. Specifically, the syllabus requires specific competencies such as English in Information and Technology (IT) Literature. Moreover, the learning system in the pandemic era has forced learners to learn independently more than before. One solution to the challenge is using online platforms that help students learn IT using a foreign language since they are used to speaking their first language in other courses.

The introduction of digital platforms leads to wider applications of internet technologies, such integration of social networks, massive online courses, and others in the education environment (Vonog et al., 2021). In addition, the development of technologies also forces educators to use various platforms to make the learning process runs attractively and innovatively because learners and educators also need to leap to the new coming era where technologies influence all life domains. They also become the class facilitator to make learners reflect and develop their ideas and perceptions of what they need to learn. The demand for technology use suitable for the majors where the learners are enrolled is recommended by the college. Therefore, the educators seek a list of platforms that might be able to be used.

One of the platforms that computer science students can use is English4IT. Particularly, it is used for teaching English to computer science learners. This platform provides such a course for intensive learning of English used by the class (interaction between educator and learners). The educators also can adapt the material to be implemented from it. This study attempts to seek detailed information about this platform and compare the findings with the previous studies. This study's novelty lies in its originality since a deep investigation of this platform has not been conducted by any previous researchers. Moreover, studies about ESP for computer science learners are still limited in the Indonesian context.

LITERATURE REVIEW

English for Computer Science Learners

English for computer science learners is included in ESP. Johns (2013) explained that ESP pedagogies have tended to focus on identifying sets of transferable generic language and literacy skills applicable in most academic and workplace settings, often through needs analyses. Hence, they come to English learning with the desires, wants, and needs suitable to the majors they have been enrolled in.

Marra (2013) stated that the increasingly globalized workplace and English as a means of communication in the workplace made a significant demand for any uses, such as making negotiation and interaction (spoken or written), building the social constructions. In a computer science major, English is taught to communicate the materials and words related to the information and technology (IT) and explain the related stuff, such as hardware, software, application, operating system, application software, and others. It is known that the terms related to a computer science major are derived from English. Parkinson (2013) said that as a language for socialization, English represents the process of acquiring new literacy practices more simply.

English for computer science learners depends on the syllabus provided by the college. Each college has a distinctive syllabus to be taught using English without eradicating the content related to IT. Besides the vocabularies related to IT, the English skills such as reading and listening sections also contain the topic of IT by providing the passages telling the topics such as who invented the computer, the explanation about software and peripherals, and others. Further, Gridasova et al. (2008) stated that online ESP materials for IT learners should aim to develop the students' skills, the general command of English, and IT vocabulary and promote self-study. In addition, the vocabulary lists for a computer science major are found

with different meanings from the general meanings. In the reading activities of computer science texts, the learners also face additional challenges in which they have to link the transfer of general-usage meanings into a computer science context (Roesler, 2021). He also gave examples of the vocabularies such as ‘bug’, ‘port’, ‘mouse’, ‘string’, and ‘volume’.

ESP is not general English teaching and learning but specialized (Rahman, 2015). It means that there are differences in the learners and the purposes for learning English. It focuses more on the context than the grammar and language structures. The language skills are most needed by the learners, and the syllabus is designed accordingly. The expanding focus of ESP shifted the notion of skills transferable among disciplines with the specific literacy conception acquired in the context of the discipline (Parkinson, 2013). Often ESP teachers or lecturers find it difficult to provide access to their learners in the community where they are not the members. In addition, ESP teachers or lecturers must work outside of their disciplines and explore unfamiliar language varieties, disciplinary cultures, and modes.

Here, the specific purpose is to learn about IT. This learning is expected to meet the learners’ needs and support their professional development in their work in the future related to the IT specialization. Marcu (2020) stated that communication using English effectively is required to be mastered in facing the present job market. She added that the companies will not invest in fresh graduates except if they meet the requirements to compete and are ready for working life.

The choice of materials for teaching English in computer science or IT specialists was limited (Gridasova et al., 2008). The printed materials or online resources were rarely available. Among the available online learning resources, one of them was English4IT. Gridasova strengthened that at that time, English4IT was used for teaching English to IT specialists. The studies about the utilization of English4IT were not much. It appeared the possibility of this platform has not been so popular.

In 2019, a similar study entitled “The Utilization of English4IT Website in Improving Computer Major Students’ English Competence” was written by Dewi Christa Kobis and Michel Farrel Tomatala. They conducted the study at STMIK Multicom Bolaang-Mongondow, Kotamobagu, North Sulawesi, Indonesia. This study was an experiment conducted from 1st to 30th of April 2019. In the beginning, the problem was the learners’ motivation to learn English, which influenced their learning performance and achievement. They found that the use of this platform could improve learners’ English competence, as shown by the results in which as much as 92% of learners achieved maximal scores between

85-100, and the rest scored 72 and 76, respectively. Kobis & Tomatala (2019) also conducted the interview and spread the questionnaires. The result showed that using this platform can be beneficial for the learners in understanding the materials and performing the tasks very well. In addition, they were satisfied with the English4IT website as the medium to assist them in learning English effectively and efficiently. It was shown by referring to the Likert Scale, which was 3.84 and included high (3.50-4.49 = high).

The gap between Kobis and Tomatala's study with this study lies in the type of study design. They used experimental study (quantitative & qualitative research), but this study utilizes descriptive study. The study above surely became the reinforcement that this platform (they named it a website) could result in the learners' positive attitudes and improve their competence, which was indicated by their learning outcomes. Moreover, it means that they were more motivated and interested in learning English than before, in which the teachers used conventional methods without an interesting and innovative medium.

In other literature, this platform was also used as speaking learning materials to be taught to the learners of daytime evening forms of study of the technical specialties (related to IT), such as computers, systems and networks, automated information processing systems, artificial intelligence, and programmable mobile systems. The compilers were Olga Vasilievna Prokopyuk and Lyudmila Nikolaevna Shpudeiko (2016). They borrowed English4IT materials as a handbook for teaching those majors. It was conducted with support from the Ministry of Education of the Republic of Belarus, Brest State Technical University, and the Department of Foreign Languages in technical specialties. This handbook was intended for the first-year students of the specialties mentioned above to teach professional vocabulary, repetition, and systemization of the grammatical minimum. It reported the formation of skills and abilities in reading English, in computer programs documentation, and other original literature on the specialty, improvement of translation skills, and the development of professional oral speech within worked out topics. They compiled 92 pages. This handbook became the reinforcement and recommendation for those who would adopt the material from English4IT to be implemented in computer science learners.

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Figure 1. Contents of manual book
(<https://rep.bstu.by/handle/data/3810>)

In this manual book, the compilers combined grammar materials with the materials from English4IT in each unit. For example, in unit 1, the grammar taught was the plural of nouns, and the oral topic was ‘What is Computer?’. They provided lexical and grammatical exercises by giving learners the instructions to read the words and translate the sentences into Russian as the learners’ first language. Further, the passage related to computer science was provided in the reading section. There, they wrote the certain words in bold then the passage would be discussed using an oral one with the learners’ groupmates.

Unit 1

Grammar: The Plural of Nouns
Oral Topic: What Is a Computer?

Lexical and Grammar Exercises

1. Read the following words. Translate the sentences into Russian. Learn the words by heart.

1) instruction [ɪnˈstrʌkʃ(ə)n] - 1) обучение, образование
Our school provides bilingual instruction. Computer-assisted instruction can help with employee training. Webinars are a popular part of computer-assisted instruction.
Syn. **teaching, training**

2) instruction, правило, команда
To change row height or column width, follow these instructions. A program is a sequence of machine instructions.
Syn. **command**

2) to carry out [ˈkæəri] - осуществлять, выполнять
We all have certain duties and jobs to carry out. What are the methods of carrying out experimental analysis?
Syn. **to perform, to execute**

3) unit [juːnɪt] - 1) единица, элемент, часть
Large departments are broken down into smaller units. The pound is the monetary unit of Britain. Electricity consumption is measured and paid for by units, where one unit is the equivalent of 1 kilowatt hour.
2) устройство, установка, прибор
Be careful with this sensing unit, it's very fragile.

Figure 2. The example of lexical and grammar exercises
(<https://rep.bstu.by/handle/data/3810>)

15. Name the different types of computers you know. What functions do they perform? What are the differences between them? Study the text below to check your answers.

Introduction to Computers

Today's **PCs** can perform several billion operations per second. They are used not only for household management and personal entertainment, but also for most of the automated tasks required by small businesses, including word processing, tracking inventory, and calculating accounting information. The fastest desktop computers are called **workstations**, and they are generally used for scientific, engineering, or advanced business applications.

Servers are fast computers that have greater data processing capabilities than most PCs and workstations and can be used simultaneously by many people. Often several PCs and workstations are connected to a server via a local area network (LAN). The server controls resources that are shared by the people working at the PCs and workstations. An example of a shared resource is a large collection of information called a database.

Mainframes are large, extremely fast, multiuser computers that often contain complex arrays of processors, each designed to perform a specific function. Because they can handle huge databases, simultaneously accommodate scores of users, and perform complex mathematical operations, they have been the mainstay of industry, research, and university computing centers.

The speed and power of **supercomputers** are almost beyond human comprehension, and their capabilities are continually being improved. The fastest of these machines can perform many trillions of operations per second. Supercomputers attain these speeds through the use of several advanced engineering techniques. For example, critical circuitry is supercooled to a

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Figure 3. The example of passage for the reading section
(<https://rep.bstu.by/handle/data/3810>)

In the following year, 2017, they also compiled a similar manual book by borrowing the materials from English4IT. The aim was still the same for the first-year learners of the specialties mentioned above. It was included in the second part with the continued materials. For example, in unit 1, the grammar taught was simple tenses (active voice) with the oral topic of 'Programming Languages'. It is one of the topics in English4IT platform material for teaching English to computer science learners.

18. Look through the text and name types of programming languages mentioned in the text. Read the text attentively for the details.
Make sure you read the following words correctly:

Pascal ['pæskæɪ]	GUI ['gu:i]
COBOL ['kəʊbɒl]	Zürich ['zjʊərɪk]
ALGOL ['ælgɒl]	Dartmouth ['dɑ:tməθ]
BASIC ['beɪsɪk]	Switzerland ['swɪtsələnd]
Java ['dʒɑ:və]	command [kə'mɑ:nd]
Visual Basic ['vɪʒuəl], [-zjuə-]	Massachusetts [ˌmæsə'tʃu:səts]
Ada ['eɪdə]	

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Programming Languages

There are two general types of languages – low-level and high-level. Low-level languages are similar to a computer's internal binary language, or machine language. They are difficult for humans to use and cannot be used interchangeably on different types of computers, but they produce the fastest programs. Since people prefer to use words, a new type of language based on the machine code was developed. It uses words instead of decimal numbers to represent computer operations, e.g., 01 means ADD, 02 – SUBTRACT. However, "subtract" is a long word, so a shorthand form was used, namely, SUB. This *mnemonic language*¹ is known as assembly language.

Figure 4. The example of vocabulary use and reading passage
(<https://rep.bstu.by/handle/data/3892>)

METHODOLOGY

To initiate the methodology used in this study, it needs to know the question of this study: “How does the English4IT platform provide English materials for teaching computer science learners?” This study offers a spacious view of the English4IT platform for teaching English to computer science learners. Thus, qualitative research was conducted, especially by reviewing literature related to the topic. To collect the data, the writer tried to provide the previous studies of the research using this platform to be compared and synthesized. There was just an original research-based paper that used the English4IT platform for improving computer science learners’ motivation and learning achievement in English class. In addition, the handbook for teaching English to computer science learners by using this platform was also explained as being a recommendation when developing materials for teaching similar specialties. The description of the features, strengths, and weaknesses was obtained from the writer’s experiences and supported by valid references and sources. A literature review of a topic addresses to criticize and deliver the potential of reconceptualization to expand and diversify the knowledge base of the topic that has to be developed (Ramdhani et al., 2014).

As implemented in this writing, the researcher aimed to obtain a new interpretation from the combination of some studies that have been conducted using the English4IT platform. Indeed, there have not been many studies using this platform due to the lack of information about this platform, the limitation of the study using this platform, the less popularity of this platform among ESP educators, and the different syllabus provided and implemented in each college. The new interpretation will be the recommendations for those who teach English in a similar class or the future writers for the deeper and wider observation, explanation, and even the better implementation.

RESULTS AND DISCUSSION

Features in the English4IT Platform

The use of technology, such as gamification, application, and devices in language learning, is not new (Amin & Sundari, 2020). The development of technologies in wider domains tries to force educators to be proficient in technologies to fulfill and enrich their educational commitments (Yüksel & Kavanoz, 2011). Language educators also incorporate technology in language classroom environments more (Hussein, 2015). Ahmadi (2018) stated that with technology being part of our daily lives, it aims to rethink the idea of integrating technology into the curriculum and embedding it to support the learning process.

Generally, platforms can be defined as a group of technologies used as a base upon which other processes, applications, or technologies are developed (Bigelow, 2021). The application software can be run through this platform, so it can be stated that it is the basic foundation where any application software is supported and/or developed. Platforms can be social media, online marketplace, websites for education, etc. Various technologies, especially platforms, assist the learners in the learning process so much. One of them is English4IT. This platform is one of *English4Work* parts providing features such as *English4IT*, *English4Accounting*, *MedicalEnglish*, *English4Hotels*, and *English4Office*. They generally provide the materials to teach ESP classes suitable to the learners' needs through the courses, either free or paid. The users can be learners and teachers or lecturers since there are two choices. For free, they provide a free trial with the limited features and contents, while for the paid version, there are prices offered, from the lowest to the highest ones suitable with the levels taken such as basic, advanced, and pro+. Here, the learners are not charged any payment as long as they enroll in a class where the educators are members and have paid monthly subscriptions.

English4IT platform offers a wide array of IT topics such as hardware, software, engineering, programming, networks, databases, technology support, etc. These topics are packaged in features available in American English and British English. The language learning activities include *reading*, *writing*, *speaking*, *exercises*, *spelling*, and *listening comprehension*. Here, by tutoring online, the teachers take a role in guiding, leading, controlling, and facilitating the online English learning process. We can be inspired by the research conducted by Kobis & Tomatala (2019), who used this platform as the leader, controller, and facilitator of online learning classes to monitor learners' performance and how to complete the discussion forum.

On their page, they claimed that they regarded it as an 'interactive textbook' by providing a 'certification program' that can be used in either 100% online or blended learning. This statement was supported by the certificate for those who have completed the course and successfully passed the passing grade to show the potential as evidence for English job skills. The English4IT certificate offers the students skills suitable for the major and the work positions they choose. The learners must complete all units with a minimum of 85% or above grade. Then, the certificate will be automatically displayed on this platform when the criteria are met. Surprisingly, the learners can re-do the activities to achieve the desired score (Kobis & Tomatala, 2019).



Figure 5. The English4IT certificate
(<https://www.english4it.com/>)

Moreover, the statement telling that this platform can be used in either 100% online or blended learning is suitable for the learning process in this era. As evidence, the course is delivered through web browsers and works on any desktop, laptop, tablet, or mobile phone with an internet connection. Everyone can access it anywhere and anytime. It is also the ease offered by this platform.

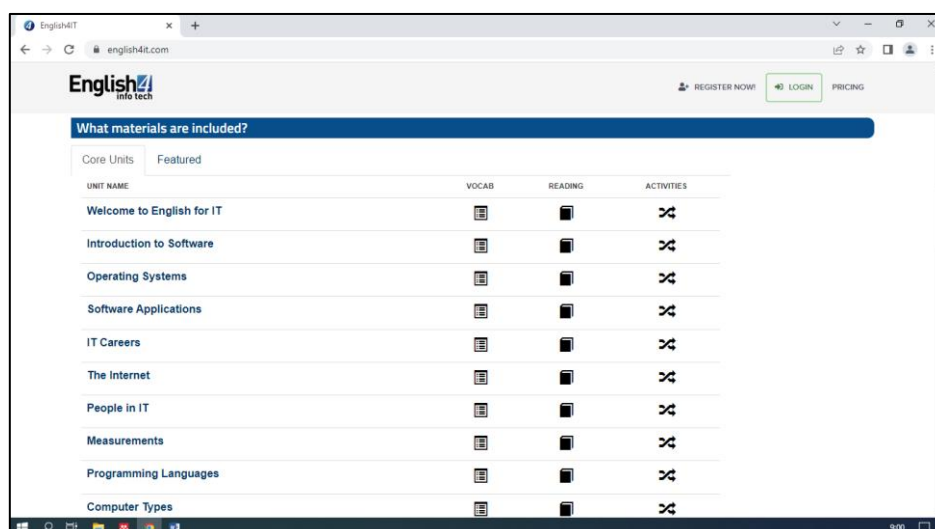


Figure 6. The materials in English4IT
(www.english4it.com)

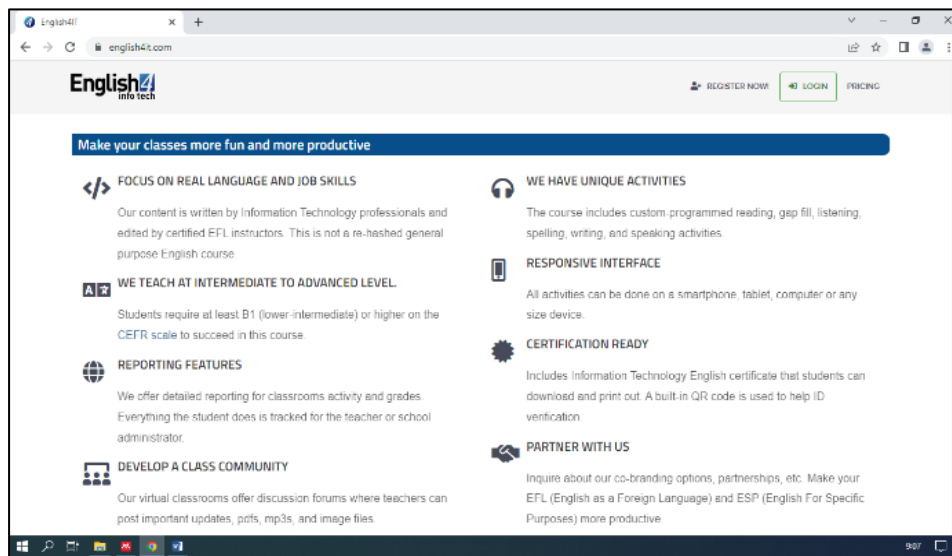


Figure 7. The other services offered
(www.english4it.com)

The contents consist of materials and activities written by the TEFL (Teaching English as a Foreign Language) experts with ranges of difficulty from ‘pre-intermediate’ to ‘advanced’ level English under CEFR (Council of Europe Language Level) scales. Council of Europe (2022) added that the CEFR arranges language proficiency in six levels they are A1, A2, B1, B2, C1, and C2, which are regrouped into three general levels: basic, independent, and proficient user. Waluyo (2019) stated that CEFR provides clear definitions of proficiency levels. The framework outlines the range of knowledge, skills, and competencies that the learners should learn and acquire to use a language for communication in all forms effectively.

In the materials column, there are core units and features. The units consist of *Welcome to English for IT, Introduction to Software, Operating Systems, Software Applications, IT Careers, The Internet, People in IT, Measurements, Programming Languages, Computer Types, Components, Peripherals, Networking, The Keyboard 1 & 2, Memory and Storage, Input Devices, Removable Storage, IT Slang 1 & 2, English for Electronics, Computer Ethics, American IT Companies, English for Programmers, Introduction to Cryptocurrency, Quality Assurance, The Concise Guide of ITIL, and Freelancing*. While features consist of *IT Slang 1, Coronavirus COVID-19, Epidemic, Viruses, and Pandemics, Making Career in Accounting, Restaurant Menus and Taking Orders, and Job Interviews*. In other words, the features represent the additional materials. Each material provides vocabularies used commonly with meanings. The reading section is integrated with the listening section, in

which the audio is available to support the activities. Then, there is a quiz according to the audio. The audio file (MP3) also helps learners to learn the pronunciation, although they do it at home (without an English teacher) (Kobis & Tomatala, 2019).

Besides, in the last material, there are basic activities (computer-graded) and advanced activities (teacher-graded) which can be used, such as reading comprehension, multiple-choice exercises, listening comprehension, writing activity, and speaking activity. The rich vocabularies offered in this platform make learners find it easy to memorize the vocabulary related to their major. Eventually, the learners will be familiar with the words they have just heard once when learning using it. It is what this platform also emphasizes.

The Strengths of English4IT

Every learning medium has strengths and weaknesses. The strengths of this platform lay in the flexibility in which it can be used anytime and anywhere using desktops, tablets, and mobile phones. It gives more value to the users with various matters to learn English from IT literature. Then, the features like vocabulary, reading comprehension, and the activities also can be the references for supporting the learning process. The educators can retrieve the vocabulary and other materials from this platform and use them for the examination. Besides, there is a feature for developing a class community where they can post important updates, PDFs, MP3s, and images for discussion. In addition, this English4IT provides a forum for discussion that teachers and learners can use to fulfill the tasks (Kobis & Tomatala, 2019).

To help improve learners' English skills, this platform has provided four main English skills added to the vocabulary. With the educators' help, the learners are asked to complete some activities. To learn vocabulary, they have to click the button to recognize and listen to the meaning of words related to IT. This activity makes students have richer vocabularies than before. The reading skill is integrated with the listening skill in which there are recordings of short texts or dialogues supported by subtitles. Therefore, here the learners will find it easy to study the two of them. Besides, to learn speaking skills, the learners will be given five sentences, and they have to record and upload them on YouTube or Google Drive by putting the link in the available box. Then, in writing skills, the learners are asked to review the reading activity and choose one of the available questions to answer using their writing. By doing this, the learners will explore their English writing skills without feeling doubt about making mistakes and errors since they conceal what they think and experience.

The contents inside this platform have been developed year by year. In 2016-2017, as written in a manual book compiled by Prokopyuk & Shpudeiko (2016), the materials covered *'What is Computer?'*, *'Introduction to Computers'*, *'Computer Applications'*, *'Types of Computers'*, *'Parts of Digital Computer System'*, *'Input Devices'*, *'Memory-Storage Devices'*, *'Output Devices'*, *'Software'*, *'Programming'*, *'Programming Languages'*, *'The Internet and the World Wide Web'*, *'Careers in the Computer Field'*, *'History of the Computer'*, *'Computer Generations'* and *'Virtual Reality'*. The possibility of developing the materials considered the recent phenomena and current IT advancements. It can be seen in the recent materials in which the creator put the topic of *Coronavirus COVID-19, Epidemic, Viruses, and Pandemics*.

Further, based on the interview result in Kobis & Tomatala's paper (2019), one of the learners appreciated using this platform since it could help him do other IT course assignments. On this platform, there was *People in the IT* unit consisting the materials about IT experts and scientists. He mentioned that there was a course, namely *Introduction to Information Technology*, and he was given the assignment to make a list of people who work in IT to adopt the answers from this platform.

The Weakness of English4IT

Unfortunately, this platform is not only free. The limited features will be acquired when the user chooses a free price, although there is a free trial at a certain time. For example, there are just 4-5 words available if the free trial time runs out in the vocabulary feature. In addition to the features, free views for reading comprehension are also limited. The user will be given the caution like "Sorry, but your free views have run out!" and they just allow access to a limited number of content views per month. It means the more the user pays, the more they will get.

This weakness implies further consequences for its users. While they find it very beneficial to assist English learning, they unfortunately only can access a few materials. It makes the learning incomplete unless the school or the English teachers give financial support for the subscription. In the Indonesian context, in which the economic status of Indonesian students is varied from lower to higher levels, it doesn't support equality for all computer sciences learners.

How to use English4IT?

The users actually do not need to sign up and log in for the free system. They can use it by choosing the materials which will be learned or used for references. On the other hand, the user has to sign up and create an account for the paid version. The user can click ‘sign up free’ for the free trial and complete the form by choosing whether it is for a learner account or a teacher account. Besides, the name (first and last name), email address, and password are needed to be completed. After the user signs up successfully, there are five choice buttons: dashboard, my classrooms, pricing, contact us, and my account.

In the dashboard button, the user will come to the choice of the course. When clicking the ‘English4IT’, the user will come to the classroom manager (for teachers) with the choices such as class settings, learners, class wall, grade activities, and certificate. This platform provides the identity in class settings, such as class name, description, and the class key. While in class, it contains the instructions to populate the class. The class wall contains a forum where the teacher can post the material to discuss with the learners. Grade activities accommodate the learners’ results after completing activities by email. The last one is a certificate which provides the award of the learners’ achievement and for the teacher who has facilitated and guided the class.

The user who clicks the pricing button will find the shop on this platform. This platform provides full access by paying monthly and yearly. For the basic level, the user must pay \$20 per month, \$42 per month for the advanced level, and \$79 per month for the pro+ level. This platform provides 40 learner seats with two classrooms at the basic level. The advanced level includes 100 learner seats, five classes, and all basic features, while the pro+ one includes 200 learner seats, ten classrooms, and all basic & advanced features.

This platform is for both educators and learners. It accommodates the simple way to be used and implemented as the medium for learning English in certain majors. The educators have to understand and explain how to use this platform in simple words to the learners. This platform is like other English courses providing the materials and activities to reinforce learners’ knowledge and improve their learning achievement. Moreover, the materials and activities inside this platform can be done anytime and anywhere by using some media, such as laptops, smartphones, tablets, etc.

English Learning Design Using English4IT

In each meeting, there are new materials to be discussed. In each material, there will be new vocabulary, new skills to be mastered, and also the activities made by the educators. The vocabularies are equipped with meanings. The learners with basic grades can choose receptive skills like listening and reading to build their knowledge of either English or IT. The following are examples of the use of the English4IT platform for teaching English in computer science classes.

Table 1. The examples of learning design using English4IT for computer science students

No.	Material	Vocabularies used	Activities
1.	Inside a computer (this material tells about what is inside a computer, such as units in a computer, arithmetic logic unit, memory unit, control unit, and input/output unit).	Hard disk drive (a storage device using rotating magnetic platters to store and retrieve data).	Pronouncing the word 'hard disk' and matching the word with the meaning in a different column.
2.	Software and operating system (this material tells about the most common software and operating system used by our computers, such as Windows, Linux, iOS, etc.).	Bug (an error or glitch in a computer program caused by a programmer's mistake).	Giving the text content about new software related to the current phenomenon.
3.	Programming languages (this material tells the programming languages used in computers, such as C, C++, Pascal, etc.).	Bash (a command language written by Brian Fox and used to administer Linux and other Unix-like systems).	Providing the words to be matched with the meanings which contain various programming languages (GO/Golang).
4.	Introduction to the computer (this material tells about what a computer is, who invented the computer, and the types of the computer).	Computer (an electronic, digital device that stores and processes information).	Spelling the words related to the computer, pronouncing the meaning, and selecting the definition of the word or phrase related to the computer.

The materials have been provided on this platform, and the educators adjust them with the syllabus, either given by the college or self-created. The vocabularies are adopted to enrich the learners' vocabularies. The activities depend on the learners' authority. However, this platform also has provided many activities, including pronunciation, reading, listening comprehension, speaking and writing activities, filling the gaps, etc. The educators can choose suitable for learners' needs to learn. Teaching English for computer science is different from other majors or even general English majors. Here, if the college/school has given the educators the syllabus, it will be easier to determine the materials that will be

learned. English4IT provides various materials to support the learners in learning English, suitable to the syllabus. Here is the illustration.

In today's lesson, they will learn about "Introduction to Software". Both educators and learners use English4IT and log in. The activities have been available here, and the educators explain how to do them briefly. There are vocabulary activities (containing 15 words in each of this menu, learners have to learn it and press the 'Mark Complete' button to continue); reading activities plus questions (containing the audio recording and the text, then the learners have to answer the questions afterward); multiple-choice (containing some words with the meanings and learners must choose the best meaning); listening comprehension (containing the pronounced words that have to be spelled); spelling and recognition (containing the terms that must be corrected); speaking activities (containing five sentences where the learners must listen and practice); and the last one is writing activities (containing some questions to be answered as a review from the learners after using this platform in the written form using their own words).

In the previous studies that have been explained above, English4IT is not only used online. The educators can also use it by adopting the materials from this platform and adjusting the syllabus. Further, the educators can choose the vocabularies suitable to the materials and create the activities suitable to the learners' needs. Furthermore, as illustrated above, the writing activity has a role in reinforcing the grammatical structure, enhancing learners' vocabularies, and assisting other language skills (Kellogg, 2008). The learners can learn how to construct the sentences, and the educators take a role in correcting and giving feedback for the sake of the learners' improvement.

The reading comprehension skill also ignites the learners to search the information in the text implicitly and explicitly and trains their critical thinking skills. Here is the illustration.

The lesson that will be learned is about programming languages. The educators adopt some vocabularies from this platform, for example, bash. This word can also be added with the meaning related to IT particular vocabulary list. Then, for the learning activity, the educators can provide some words to match the meanings in the different columns. Here, students will search for the matched ones and enhance their IT particular vocabulary list using English.

Recommendations and Suggestions for Successful English4IT Platform Use

Recommendations are given for successful *English4IT* platform use in the learning process. First, as the English4IT platform can help learners do other IT courses assignments

as the interview result on Kobis & Tomatala's (2019) paper, the educators could combine English materials with the IT course materials to enrich the learners' insight. Second, the institutions and educators could consider facilitating comprehensive learning by paying every month to get complete features used with the learners. Third, the educators should create technology-integrated lesson plans and materials using this platform's assistance. The educators need to promote learner-centered more than the conventional ones, whether teacher-centered or one-way instruction (Gilakjani, 2017).

By investigating and describing the *English4IT* platform in detail, supported by strong evidence by providing a previous study with a satisfying result, it is suggested that educators who teach English for computer science use this platform to support the English learning process. At least, the educators can use it for trial before using the paid one and experience the difference between the two versions. Moreover, educators can invite the learners to join the discussion forum to complete and fulfill the tasks together. These learning activities could improve learners' competence and motivation to join English classes through new learning experiences.

CONCLUSIONS

In conclusion, the important issues dealing with using the *English4IT* platform to support learners of computer science majors in learning English have been investigated and described. It indicates that the features (including materials), tasks, and activities provide references for English educators. English educators can interact with the students as creators, controllers, facilitators, and feedback givers. The contents and features in this platform assist the students in learning English in a new way, either guided by the teachers or autonomously. In addition, the learners can measure their abilities themselves. The previous study reported high satisfaction with utilizing this platform to improve their skills and learning motivation.

The recommendations for the educators and learners in using this platform are to integrate both English and IT materials, facilitate subscription, and promote learner-centered learning without losing the educators' roles to monitor, correct, give feedback and motivate the students. Further studies may investigate the effectiveness of this platform with different research designs.

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