Saudi Students of Computers and Information Technology College: Evaluating perceptions towards the four English language skills

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Abstract

This study examined the perceptions of 120 Saudi Computer and Information Technology (CIT) students at Tabuk University towards the four language skills in terms of (i) their importance to them, (ii) their needs for these skills, and (iii) the activities related to each of these language skills. The study administered a 28-item questionnaire with the five-point Likert Scale responses. Findings showed that participants had poor perceptions towards the importance of the four language skills. They also reported their low level of needs for the English skills. However, the study showed that all the activities related to the four skills were perceived highly with lecture being rated the highest in boosting listening skills, and project work being rated the highest in developing writing skills. This study recommends the exploration of reasons behind the poor perceptions for the importance and needs of English language skills of Saudi CIT students.

Keywords: Evaluation, Four English language skills, Students, Computer and Information Technology.

Introduction

In the 1960s, universities were the leaders in using computers in the classroom though as far as the laypersons were concerned, a lot of people didn't use this new technology until personal computers came into vogue (Brown, 2000). During the 1980s, Computer Assisted Language Learning (henceforth, CALL) became a popular method of learning a new language. CALL quickly became a name for many ways that computers can help people to learn a new language, especially in the field of communication (DGEC, 2009, as cited in Lindner, 2014). Because of this, using a computer to learn a language has changed a great deal depending on what country one lives in.

Some people, according to McKay (2002), think that an international language is one that has a lot of people who speak it. Because of this, all such languages could be referred to as "international languages," given that they are languages spoken by a large number of people around the world. A language cannot be used internationally unless a lot of people who speak other languages also speak it (Sharifian, 2009). As a whole, English is the best way to communicate with people from all over the world in a way that no other language can match. In a lot of different ways, English is used to communicate with people from other countries and within the same country. From this point of view, English can be thought of as an international language both globally and in the United States (Crystal, 2003).

For one thing, English is the most common language on the planet. This makes it very important in today's global world (Tsuda, 2008). People who want to learn English need to be patient and keep practicing. Students often think it is impossible to learn English language, and that it is not easy at all (Gilakjani & Ahmadi, 2011). Because of this predetermined perception, students cannot learn English, neither can they compose a single sentence without making grammatical mistakes. Students also do not get enough practice to learn English language, which makes it hard for them. In the developing world, it is a given that upward mobility is possible only with the knowledge and communicative proficiency of English. This is especially true of countries that hire foreign workforce for their technical skills (Nishanthi, 2018).

Learning English in today's world is important because English is the most accepted international language of communication. Apart from being a communication tool, English can also be used to learn new things and adapt to the world around us (Eady & Lockyer, 2013), while communicating for mutual benefit with one's global neighbors (Putra, 2020).

Nisar (2016) discusses the idea that English language is now required for learning computer science because the advancements in science and technology are stored in English. In today's world, it is a rapidly expanding field of study all over the world. Programming, software engineering, IT skills, calculus, database, operating systems, and many other sub-fields are all part of computer sciences. Language has played an essential role in meeting global technological needs given its designation as an international language. National progress too, is a factor of English language as institutions of higher education require its proficiency in their teachers not only for their academic growth but also, to prepare their learners to be global citizens. Students are typically taught general courses in class to meet their English language skills needs, as the majority of people/students require working proficiency in writing, reading, listening, and speaking skills.

In order for students to become competent professionals in their chosen fields, they must have a thorough understanding of English language and this is possible as part of their higher education. It was this need that gave rise to English for Specific Purposes (ESP) instruction which rose to prominence in the 1970s as a dynamic and cutting-edge field of language education study (Rahman, 2012). Students can use English for Academic Purposes (EAP) to get a better understanding of what professors expect from them and how to meet those needs in a classroom. It means that EAP courses assist students in determining which types of English they need to learn or focus on based on their field or degree requirements. Needs analysis helps with course design and development, as well as the creation of syllabi and other materials and available resources (Flowerdew, 2012).

Achieving reasonable proficiency in their learners to listen, speak, read, and write, therefore, has been a priority for language teachers for a long time. Communication mode (oral or written) and communication direction are the two factors that connect the four most important skills you need to achieve communicative ability (receiving or providing the message) (Bashir et al., 2018). Listening comprehension is the skill that is used in oral communication. When we say we are listening, we mean we're listening and understanding what we are hearing (Pham, 2021). Talking, on the other hand, is more complicated than it looks, and its execution requires more than stray utterances (Aydoğan & Akbarov, 2014). None of the studies conducted so far to the best of the present researcher's knowledge, have investigated the most important/ prior/ precedence skill, for the students of Computers and Information Technology College, seeking to fill this research gap. This is also the justification for the current study.

Research objectives

The present study aims to:

1. Evaluate the importance of English language for the students of Computers and Information Technology College.
2. Identify which of the four language skills has the priority and precedence for the students of Computers and Information Technology College.

Research questions

1. How important are the four skills for the Saudi students of Computers and Information Technology College?
2. To what extent are Saudi students of CIT College in need to learn English language skills?
3. To what extent do CIT students need the activities based on the four language skills?

Literature review

Language skills

According to Husain (2015), language is essentially a skill. So, the idea is that it is not a content-based subject like Science, Social Studies, Commerce, Math, and so on, where the goal is to give information and fill the human mind with knowledge. It is not also like that Psychomotor because language is a skill, it is in this group of things. There is a term for being able to do something well: skill. People learn how to swim and then use it. Having knowledge about these things is a cognitive exercise but having the ability to use or do them is a skill (action). It's easy to divide the four basic language skills into two groups as shown in the figure below:
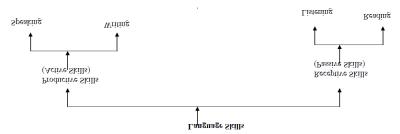

Figure 1. *Classification of Language Skills (Husain, 2015, p. 2)*

Listening

It is impossible to fully understand the importance of listening for learning a new language. We learn a language through hearing, and without it, we wouldn't be able to speak (Richards, 2008). As a rule, students always pay more attention in the classroom to listen than talking. Consequently, learners' listening skills are almost always better than speaking skills, but not always. Language teachers have put a lot of emphasis on listening comprehension in the last few years, (Alharbi & Al-Ahdal, 2022). Humans may think that speaking is the best way to showcase language proficiency as Brown (2000) puts it, language learning is important, but when we think about learning a new language, we usually think about speaking it first (p. 233).

Speaking

Speaking is one of the four language skills. It is the means of communication in speech communities to achieve certain goals or to share their thoughts, intentions, hopes, and

perspectives. A person who can speak a language is also called a person who can understand the language. This is why it is also very important to be able to speak in almost any situation. It is a language skill that is very different from how we read and write (Bolinger, 2021). For one, we speak twice as often as we read and write. Speaking and writing are often compared because they are both "productive skills," which are different from "receptive skills" like reading and listening. Speaking and listening, as two ways to communicate, are also closely linked. Every speaker is also a listener, and every listener has the chance to become a speaker one day (El Menoufy, 1997).

Reading

Reading is defined as "the process of constructing meaning through the dynamic interaction among the reader's existing knowledge, the information suggested by the written language, and the context of the reading situation" (Setiyadi et al., 2018, p. 78). This appears to imply that the reader constructs the textual meaning by attempting to connect the text to what he or she already knows about the world based on cultural values, native language, and discourse processes. This depicts a comprehension process. It can be classified in a variety of ways depends on one of the classifications suggests that comprehension may be at the factual level, interpretative level, and evaluative level (Fowler, 2001). Reading on the factual level refers to understanding what is actually written on the page. Words or vocabulary should be an important factor to consider in the process of selecting materials. Reading on the interpretative level designates reading in which the reader comprehends the meaning that is expressed "in so many words," but can also be implied or inferred (Althusser, 2016). In evaluative reading, the reader runs what he/ she reads through mental processes.

Writing

Attaining writing proficiency in a language is the most difficult of the four language skills, and it is also the most productive because it takes the most time for learning (Al-Ahdal & Abduh, 2021). Because of the multiple micro-skills involved in it, writing is thought to be the most difficult skill (Bin-Hady et al., 2020). Furthermore, the spelling system and pronunciation of English language are completely different. Most ELLs have a hard time writing in English because there isn't a one-to-one relationship between how words are written and how they sound (Rao & Rao, 2018). Coherence and organization are also important when writing. People who are not native English speakers should have group activities in the classroom to help them learn how to write better. This way, they will be able to take part fully in these activities and finish the tasks they have been given. It is important for teachers to show their students how to write small paragraphs in English because writing has a lot of important parts. Teachers should help students with their assignments while they are working on them, so they can get them done faster. It is up to the teachers to help ELLs learn English so that they can write better in it (Rao, 2019).

The role of English language in teaching students of Computer Science

English language is sometimes called the "computing industry's lingua franca" (McArthur, 2001). In computer science, English language is very important (Chabert, 1994). Non-English speaking countries laid the groundwork for computer science, which is based on math (O'regan, 2021). An important part of computer science shows why students who want to be successful in their careers as computer scientists need to learn skills in English, speech, technical writing, and even foreign languages (Beaubouef, 2003). Because English is important in all fields, it must be taught and learned. English for specific purpose (ESP) was the subject area born out of this. It is possible for ESP to adapt to the unique circumstances of teaching and learning so that it can teach a language that fits the subject, improve discipline skills, and meet the needs of the students (Brahimi, 2017). Good ESP teachers need to have a lot of training and be good at what they do (Kourichi & Benyelles, 2019).

There has been a significant amount of research on the role of English language in learning computer science. Munteanu (2011, p. 7) states, "the language used in the professional contexts of natural sciences and technology".

Previous research

There are certain previous studies regarding the importance of English language for computer science students or the importance of computers for learning English language. Regarding the language skills in relation to ICT, many studies have deeply focused on it. One of them is Hedge (2000) which examines the various language skills in relation to ICT, so, the description of the various language skills has proven to be extremely useful. For example, it compares two groups of university students' reading performance. Both groups were given the same text, but one received it printed on paper and the other was given it in digital format to work with. There were no significant differences in the reading abilities of the two groups, according to the results.

Concerning the various language skills, Green (2005) showed that computers can be used to assist in the teaching of core skills like reading and writing to English Language students. Computers can also help with both vocabulary and verbal language development.

Pudyastuti et al. (2014) reported that the English language instruction should be tailored to the objectives of the students in learning the language. The students of Informatics Engineering must master English to create a computer program using a particular computer programming language. According to the observations, students in Informatics Engineering have difficulty handling or resolving problems during the development of computer programs because they lack strong English skills, particularly in the area of reading.

Methods

Research design

The present study is quantitative by nature; that is, statistical. MacDonald and Headlam (2008) clarify that "quantitative methods can tell you how many of the target population feel or think" (p. 35). The theoretical and conceptual framework is a set of open-ended questions that are required to be answered by the participants. The pilot study was conducted during the academic year 2021-2022, in the middle of the second semester in April and was concluded in an hour.

Sample and Population

The actual study included 150 EFL Saudi students at Tabuk University (2nd / undergraduate). An accessible population was selected by using a simple random sampling procedure, in which male participants were chosen. Any study needs certain ethical issues to run legally and honestly. Consent is the main ethical issue when conducting a study. Grove et al. (2015) support the idea of "privacy," which represents "the freedom people have to determine the time, extent, and general circumstances under which their private information will be shared with or withheld from others" (p. 115). It is important to show respect to the people who are being studied and for researchers to tell the truth.

Instrument

A validated questionnaire was used to collect data from the students, about the effect of the university environment on the academic performance of the students at the university. This questionnaire consisted of two different components. The first section of the questionnaire dealt with the aim "to evaluate the importance of English language for the students of computer and information technology college". This section comprised of 4 statements that used the scale of "agree, disagree, slightly agree, strongly agree, lightly disagree, not certain." The second

section of the questionnaire dealt with the aim "to know which skill has priority and precedence for the students of computer and information technology college ". This section comprised on 24 statements across the scale of " always, seldom and sometimes." In all, there were 28 items on which the participants needed to respond. The responses were converted to the numerical scale of 1-5 to facilitate data handling.

Validity represents the extent to which a study considers what the researcher intends to examine. The instrument was fine-tuned during the pilot testing phase before being published for use. Face validity is the appropriate type to find out whether the performance of a test is valid to accomplish the aim of the study or not. "Face validity refers to the degree to which a test appears to appraise the abilities or knowledge it claims to evaluate" (Richard & Schmidt, 2002, p. 196). The survey was conducted among jury members, who were asked to provide their modification, agreement, or any additional points regarding the test. All of the jurors agreed that the test was valid, with the exception of the following changes and notes:

1. Some of the items required spelling adjustments,
2. Some of the questions were slightly altered by jury members by changing a few word to rule out ambiguity.

After achieving face validity, the survey was administered to students from the Department of Computer Science, Department of Information Technology and Department of Computer Engineering/ Tabuk University.

Results

RQ1:How important are the four skills for the Saudi students of Computers and Information Technology College?

Table 1 provides details of the perceived importance of the four language skills: speaking, listening, writing and reading. Overall, data shows their being regarded as being of slight-to-moderate importance to CIT students with a mean score of (M=2.29) (on a scale of 1 to 4) across the four skills. Reading is the skill perceived to be of the greatest importance to CIT students (M= 1.78), followed by writing (1.83), listening (1.83) and, speaking (1.87).

Table 1 *Perceived precedence of English language skills*

English Language Skills:	Skills Importance [a]		
	n	Mean	SD
Speaking	120	1.87	1.05
Listening	120	1.83	1.04
Writing	120	1.83	1.07
Reading	120	1.78	1.08

Note: [a] measured on a 4-point rating scale (1 = very important, 4 = less important)

RQ2: To what extent are Saudi students of CIT College in need to learn English language skills?

The study further examined to what extent CIT students needed the English language skills. Table 2 provides details on students' perceptions of how often they believe that they needed these skills in studying CIT major. Students generally reported needing all the four skills examined in this study, as average with an overall mean score of 1.37 (on a scale of 1 to 3). Consistent with being the skill of the greatest importance to students, results show reading is always needed by CIT students with a mean score of 1.30. While, speaking, writing, and listening skills are regarded as being of moderate need, with mean scores (M= 1.38, 1.40, and 1.40), respectively.

Table 2 *CIT students' perceived need for English language skills*

English Language Skills:	Skills Need [a]		
	n	Mean	SD
Listening	120	1.40	0.60
Writing	120	1.40	0.57
Speaking	120	1.38	0.57
Reading	120	1.30	0.48

Note: [a] measured on a 3-point rating scale (1 = always, 3 = rarely)

RQ3: To what extent do CIT students need the activities based on the four language skills?

Furthermore, the study investigated the scope of study activities carried out to boost the four English language skills. Table 3 provides details on students' perceptions of needing the four skills in studying CIT major, in relation to verity of studying activities. Table 3 Panel A shows that lectures are the most voted to require the listening skill in studying CIT with a mean score of 4.54 (on a scale of 1-5), followed by discussions (M=4.40, Std=0.81) and seminars (M=4.35, Std=0.82). Whereas the need of listening skill in relation to conversations and taking notes are ranked lower with mean scores of 4.29 and 4.27, respectively.

Table 3 *Perceived areas of need for English language skills*

	Skills Need [a]		
	n	Mean	SD
Panel (A) areas of needing Listening skill:			
Lectures	120	4.54	0.74
Discussions	120	4.40	0.81
Seminars	120	4.35	0.82
Conversation	120	4.29	0.91
Notes	120	4.27	0.82
Panel (B) areas of needing Writing skill:			
Projects	120	4.33	0.75
Homework	120	4.30	0.76
Reports	120	4.24	0.80
Research	120	4.15	0.97
Notes	120	4.09	0.88
Articles	120	3.98	1.02
Panel (C) areas of needing Speaking skill:			
Discussions	120	4.41	0.74
Presentations	120	4.24	0.84
Conversations	120	4.22	0.86
Declamations	120	4.15	0.98
Panel (D) areas of needing Reading skill:			
Comprehension	120	4.55	0.67
Text translation	120	4.48	0.72
Summarization	120	4.44	0.71
Details	120	4.43	0.75
Graph translation	120	4.15	0.91

Note: [a] measured on a 5-point rating scale (1 = strongly disagree, 5 = strongly agree)

Table 3, Panel B shows that the most favored activity for the writing skill are projects (M= 4.33, Std=0.75), followed by homework (M=4.30, Std=0.76) and reports (M=4.24, Std=0.80). While writing research, notes and articles ranked lower with mean scores of 4.15, 4.09 and 3.98, respectively. These results are consistent with the need of listening skill, students attached less need to writing notes as compared with other skill activities.

Table 3, Panel C shows that students highly rated their need for the speaking skill in discussion activities with mean score of (M=4.41, Std=0.74) followed by presentations (M=4.24, Std=0.84) and conversations (M=4.22, Std=0.86). Whereas the need to declamations is ranked lower (M=4.15, Std=0.98) as compared with other speaking skill activities.

Finally, Table 3, Panel D shows that comprehension is the most voted activity requiring the reading skill in studying CIT with a mean score of (M=4.55,Std= 0.67) followed by text translation (M=4.48, Std=0.72), summarization (M=4.44, Std=0.71) and details (M=4.43, Std=0.75). Whereas the need of reading skill in relation to graph translation is ranked lower with a mean score of 4.15.

Discussion

This study explores three dimensions of the importance of the four language skills to Saudi CIT students. Initially, the findings show that all the four language skills are important for students, however the level of importance varied as all the four language skills were rated less than the mid-level, 2. Previous studies on the importance of English for Computer Science students (Beaubouef, 2003; Brahimi, 2017;, 2021; Kourichi & Benyelles, 2019; McArthur, 2001; O'regan). Chabert (1994) affirmed that English language is very important in Computer Science. Beaubouef, (2003) stated that English language is an important part of Computer Science which shows why students who want to be successful in their careers as computer scientists need to learn skills in English, speech, technical writing, and even foreign languages. Kourichi and Benyelles, (2019) held that good ESP teachers need to have a lot of training and be good at what they do.

The study found that Saudi CIT students do not much perceive the need to learn the four language skills. Regarding the language skills in relation to ICT, many previous studies focused on it. One of them is Hedge (2000) which examined the various language skills in relation to ICT; yet the description of the various language skills has proven to be extremely useful. Green (2005) showed that computers assisted in the teaching of core academic subjects like reading and writing to English Language students. Computers can also help with both vocabulary and verbal language development. Furthermore, Pudyastuti et al. (2014) reported the students of Informatics Engineering must master English in order to create a computer program using a particular computer programming language.

The current study found that all CIT students in the EFL setting under tudy are in need for all the activities related to the four language skills with high level. All the activities for listening were perceived highly, though lecture was rated the highest amongst them. The same with writing activities which were perceived as highly important. Projects received the highest scores. In the speaking skill, discussion activities got the highest scores from the CIT students. Finally, comprehension activities were perceived as the most important by Saudi CIT students in developing the listening skills.

Conclusion

The present research examined the importance of English language skills for computer science students. The importance of listening, speaking, reading, and writing skills for computer science students, as well as which one of the skills is required and has priority with them. Computer Science is an interesting subject. it incorporates in addition to the fundamental computer science courses, knowledge and skills from a variety of fields of study. Because the sciences encompasses such a wide range of specializations, the importance of English in all disciplines necessitates the teaching and learning of English for Computer Science. It is critical that students develop strong language skills, which are required for almost all computer science careers. As a result, computer science majors are typically required to master all the skills of English language. The study recommends further studies to measure the level of competency amongst such CIT students in the Saudi context. Furthermore, the reasons behinds such low perception of the importance and needs of Saudi CIT students for the four language skills should be examined.

Recommendations

That the CIT students rated the learning of the four language skills as of poor significance to their field of study shows that their level of awareness as well as the course content need to be hauled. Much like any other specialized subject, English for the students of Computer Science needs to be an area of deep research and materials development to make it appealing for the students under the field of ESP. Further, EFL teachers need to counsel the CIT students on the professional need for them to achieve English proficiency to compete int eh global workplace.

Limitation

This was a study with all male respondents. The researcher realizes that gender can be a significant factor in changing language research findings and hence, sees this as a limitation here. It is hoped that replicated studies will consider this shortcoming and include gender as a variable.

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