



ICT in Facilitating Tertiary-level English: A Note on the Prospect of BSMRSTU

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Authors' contributions

This study is prepared, conducted, and presented as a collaborative venture. Author MA premeditated the study as well as the argument and framed the methodological approaches. Author MRI contributed in data collection and developing the first draft where author MA administered the thematic analysis, literature review and presentation of findings. This edition has been approved for publication by all the authors.

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ABSTRACT

Bangladesh has three basic levels of education: primary, secondary, and tertiary. English is taught as a mandatory subject/course at all levels. This is the only language through which people can get information from one part of the world to another. The 21st century has witnessed tremendous growth in information technology. Technology is used in medicine, business, agriculture, airlines, education, and what not. The government of Bangladesh enacted a policy in 2009 to use ICT for multivariate purposes. The policy makers aspire to impart education at all levels through the use of modern technology. This is why the curriculum has been updated. CALL (Computer-assisted language learning) and MALL (Mobile-assisted language learning) have become generic approaches in teaching and learning. To teach English, several computer-based programs and mobile-based applications can be utilized. This paper investigates the prospects of such measures in the context of BSMRSTU (Bangabandhu Sheikh Mujibur Rahman Science and Technology University). Participants were selected from the students of foundational English courses who are taught using the traditional classroom set-up. Through interviews and focused group discussions, the study diagnoses some pressing pedagogical problems that hinder effective teaching and learning and proposes that technology can be a probable solution in this regard.

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1. INTRODUCTION

English is not the only widely-used language in the world. There are some other languages, e.g. Hindi, Chinese, French, Spanish, Arabic, and Russian, which are also extensively used. Still, English enjoys the status of the only lingua franca of the modern world resulting from its enriched literature, diversity, adaptability, and history. In Bangladesh, English is taught as a mandatory subject/course from primary to the tertiary levels. Although the students study English from Grade I to Grade XII rigorously, their level of proficiency does not reach the expected level, particularly the amount which is essential for pursuing higher studies where the books are written in English and the classes are conducted using English. With this linguistic impairment, they get enrolled in the university to acquire higher education. To improve their basic knowledge in English, six months of Fundamental English/Foundation English course is offered. Yet, the condition changes a little.

Experts believe that learning or acquiring a language is a psychological phenomenon. Learning depends on several things like motivation, aptitude, personality, learning environment, learners' psychological state, etc. All these things are prerequisite to actual learning. It has been observed that the learners at Bangladeshi universities lack these learning criteria that eventually perpetuate their struggle with the linguistic codes of English, let alone aesthetic values. It is known that the classroom set-up of Bangladesh is stereotypical, where classes are taken following traditional methods. As a result, learners do not have much scope to utilize their creative faculties. Moreover, most of the classes are teacher-oriented relying upon a top-down approach. In most cases, teachers talk and students remain passive listeners. Teachers bring traditional materials to the classroom, and they follow some standard techniques to use those materials. There are also problems with the designed curriculum for instruction, the syllabus, and the testing and evaluation system. Consequently, the learners fail to appraise English as a language. Besides, numerous studies endorse that most of the classrooms in Bangladesh do not have a learner-friendly environment, the teachers lack necessary training facilities, and most of the government-run universities have excessively large

classrooms. In fine, all these factors put the learners in a situation where language learning becomes a challenging task. The researchers, with an expertise in tertiary-level education for almost nine years, have observed that the problems mentioned above are the pivotal causes for which the learners fail to master the required skills that can enable them to become proficient users of English. To overcome the shortcomings of the traditional methods and techniques of language teaching, an alternative to conventional pedagogical practices has been proposed using technology to make language teaching and learning more effective and learner friendly.

Referring to Bangladesh, a country holding the 9th position in the world based on the number of internet users [1], incorporating ICT in tertiary education can be an effective measure. Bangladesh has framed an ICT policy for a holistic development. The National Education Policy of Bangladesh (NLP 2010) also emphasizes using ICT as a tool in education. This could be an opportunity for both learners and teachers to embrace a pedagogical change. As mobile phones and computers are now available tools for instructional utilization, anyone can use these devices in the classroom together with other available materials. This study hypothesizes that introducing modern approaches like CALL (Computer-assisted language learning) and MALL (Mobile-assisted language learning) can have constructive outputs in this context.

2. LITERATURE REVIEW

In the present world, technology has become an inseparable part of education. Warschauer [2] recommends two approaches to incorporate technology in the language classroom, cognitive and social, where the former deals with meaningful exposure to language and the latter addresses the learners' social interaction in a real-life situation. Bordbar [3] reports a study on the underlying causes behind the integration of computer program in the classroom. It was conducted on teachers' perception of information technology and how they employed CALL in their language-specific instruction. The results of the study portray that the majority of the teachers have positive feedback towards the utilization of the CALL in the class. Shyamlee & Phil [4] explore the credibility of implementing multimedia

contents in a language classroom. The research identifies that the use of technology in language instruction motivates learners and increases their attention, as it directs students in a pragmatic way towards language learning through interaction with each other. In line with that, Susikaran [5] points that the poverty of chalk-and-talk method has brought fundamental and promising transformations in pedagogies concerning language teaching. Abdullah, Abidin, Luan, Majid, & Atan [6] present a survey justifying the degree of English language teachers' attitude and motivation in using computer technology for their English language instruction and the challenges they face. The results clearly demonstrate that most of the teachers are highly motivated to use computer technology in their classrooms. Healey, et al. [7] consider English teaching using multimedia technology as flexible, which emphasizes on the exploitation of technology inside and outside the classroom. Chapelle [8] corroborates the same by extolling the necessity of utilizing technology to improve the linguistic ability of the learners.

Bearing that language learning is a cognitive process and CALL aims at producing responsible learners, Drayton, Falk, Stroud, Hobbs, & Hammerman [9] maintain that computer technology involves learners with an authentic learning experience that boosts their responsibilities. It further motivates them to become individuals and responsible seekers of knowledge related to the use of language. Eaton [10] sees computer-based learning as a convenient process which ensures equal participation compared to face-to-face communication. Dede [11] emphasizes on having a computer inside the classroom because he believes a computer to be the most potent instrument in any classroom. Singhal [12] stretches the same by detailing the interrelation between technology and ELT. Dalton [13], through a survey conducted on the use of social networks in learning, claims that teachers need a shift in their roles of the only sources of knowledge and should encourage participatory activities for ensuring a more engaging learning experience. The study finds that 69% of the learners positively appreciated social media in terms of improving language skills. In addition to such experiments related to CALL and MALL, socio-cognitive approach to language learning and acquisition [14,15] that provides language learners with opportunities to interact in an actual social setup rightfully posits that integrating

technology with education can yield fruitful outcomes in metacognition and nurturing holistic language aptitudes. Since authentic technological materials could bring benefits for language learners both culturally and pedagogically [16], Tomlinson & Masuhara [17] resiliently suggest that by using computer-based activities, language learners can get quick information and updated materials which are motivating, inclusive, and easily-accessible. In short, it can be clearly viewed that numerous researchers have tried to manifest the utilitarian aspects of technology-based language instruction where they emphasize the aspects like individual and responsible learning, motivation, positive attitude, flexible learning, authentic material, and learning inside and outside the classroom.

3. MATERIALS AND METHODS

This study was conducted with the first-year students, studying in different departments, of BSMRSTU (Bangabandhu Sheikh Mujibur Rahman Science and Technology University), where English is taught as a mandatory six-month foundation course. After a close observation and several open discussion sessions, the researchers tried to incorporate CALL and MALL specific instruction in their classrooms. Positive attitudinal changes towards the learning processes were observed after the implementation. Provided that the students are taught conventionally, through lectures without any attention towards T-S or S-S interaction, from Grade I to Grade XII, the new approaches proved to be fruitful and effective. It is highly probable that other tertiary institutes may get the desired results if such technology-based modes are integrated instead of traditional grammar-based instructions.

4. THEORETICAL STAND

Language, being a complex human phenomenon, relates to many factors, e.g. environment, psychology, socioeconomic background, culture, personality, and attitude. Following theories have been considered before opting for this revised mode of instruction.

- a. **Behaviourist model:** Skinner [18] opines that children acquire language based on behaviourist reinforcement principles that associate words with meanings. If users receive positive response, they reflect expected linguistic behaviour, which

- necessitates an appropriate learning environment. Human beings are born with "tabula rasa" or "clean slate" that is shaped with the advent of time through essential input from the external world.
- b. **Innatist model:** Contradicting Skinner, Chomsky [19] proposes that children are not born with a blank brain. Rather they are gifted with a unique kind of quality termed as LAD (Language Acquisition Device) that aids in constructing and monitoring knowledge of language by interacting with the real world. From this point of view, meaningful and measurable input becomes a crucial element.
 - c. **Cognitive model:** The Cognitive theory of language acquisition emphasizes comprehension. It focuses on reasoning rather than memorizing and prioritizes understanding the subject matter from the root level. With a focus on nurturing the ability to relate newly-gained knowledge to experience, it encourages the learners to reflect on the input and apply it in real-life situations. Piaget [20] bears that children acquire language because adults expose language to the children, and they learn the language step by step. He speculates that language learning does not happen in a random manner. Unlike other theories, constructivism upholds that it is a graded process and the user takes control of learning through careful observation and trial-and-error method. Hence, input that is acceptable and favourable to the learner should be given the utmost importance.
 - d. **Monitor model:** This model emphasises a learner-centred approach through age-specific and timely inputs. Learners with high motivation, self-confidence, right self-image, and low level of anxiety are better equipped for success in acquiring a second language [21]. Therefore, preparing the learners for developing such qualities becomes substantial.

From the above discussion, it can be asserted that language learning takes place following one or more theories simultaneously involving both behavioural and cognitive activities. The objective of this study is to provide with some insights about how technology can be used as a tool for language instruction as postulated by the theories of language acquisition and learning.

Keeping all the above-mentioned philosophies in mind, a paradigm shift is possible in ELT with the

introduction of modern technology that can assist in augmenting a balance comprising appropriate learning environment as well as meaningful and learner-friendly input. However, historically English teaching in Bangladesh poses a challenge for both the teacher and the learner due to various issues, e.g. large and heterogeneous classrooms, inefficient teachers, traditional and overtly method-based pedagogy, and limited access to technology. Unfortunately, solid pragmatic steps have not yet been taken to address these problems. With the utilization of technology, it is possible to bring some positive changes in the situation.

In the domain of ELT, CALL has brought notable changes. It works in three phases: structural, communicative, and integrative. The structural stage deals with stimulus-response following behaviourist principles. The computer stimulates learners seeking valid responses. The program is designed in a way that participants are required to practice specific linguistic structures repeatedly until the expected proficiency level is achieved. Programs like this are devised based on the underlying principles of Grammar Translation Method, Direct Method, and Audio-Lingual Method. On the other hand, the teacher no longer uses the prototype of structure-based (morpheme, syntax, rules) elements in the communicative phase; rather a communicative task is assigned. Schemas of Communicative Language Teaching is exploited before such tasks are materialised. It also helps learners gain insights into real-life contexts and the situational uses of language. The integrative step unifies the other two, where learners discover necessary structures and respective contexts. To talk about MALL, a smartphone has a great potential to become the tool of language teaching and learning. Both learners and teachers can use different mobile-based applications such as Study Flash (for learning vocabulary and rules), Fluent U (to get real-world video content, students can engage themselves), Memorize (for teaching vocabulary and phrases), Kahoot (game-based learning APP), Clips (for listening purpose), Cabbly (it connects English learners from all over the world with private, native English speaking tutor), Nice Talk (China's first language learning mobile APP), and Palfish (this is used for video chat in English).

As per the scenario of Bangladesh, a traditional classroom is more or less teacher-centred. In this method, teachers talk most of the time and learners remain silent. It does not give sound output and so, restricts learners' active

involvement which is necessary. Here, technology can play a significant role by creating a context using necessary Apps, and based on that, learners can interact with one another, and develop their linguistic competence. Although Bangladeshi educationalists have adopted different strategies to teach English, the result has not yet been able to yield expected outcomes. Different methods, especially relating to ELT, have been introduced at different phases, but the learners still carry a vague notion of the linguistic elements of English. The internet users, predominantly the students, can utilise modern devices for learning English and can get maximum output. Many students no longer want to stay in the classroom to listen to traditional lectures. By using mobile phones and computers, learners can take the responsibility to learn a language through virtualisation of classrooms and automatization of lecturing system. Also, students can engage themselves more efficiently and learn the target language in a self-paced environment. One of the greatest rewards of technology is that it helps learners to learn inside and outside the classroom concurrently. Computer programs and mobile apps are designed in such a way that learners can learn the target language on their own. So, individual learning is promoted here; whereby learners do not need the assistance of their teachers all the time. These programs and Apps instruct them on how to master the desired language structure. Additionally, technology stimulates learners' cognitive faculty, and they respond to it automatically. Through this process, learners use their critical thinking quotient to solve different problems related to language activities. Technology can support incorporating authentic materials in any pedagogical process. Learners can learn the target language like native speakers by using those materials. In line with that, technology gives equal opportunity to every learner as they do not need much help from their teacher. They become autonomous and self-dependent. In terms of testing and assessment, by embracing a technology-based system, learners can take part in any test without much hassle, and they can get the result of the test instantly. It eventually grants more space to the teacher and saves paperwork. Referring to the multiple intelligences by Gardner [22] and other subsequent findings, it has been proven that students learn better when learning is associated with motor activities; and for maximum output, they need to use the left and right hemispheres of the brain simultaneously. Technology provides them with the opportunity to use optic and

auditory nerves at the same time through audio-visual learning. In a social context, technology gives more opportunities to the learners through different language-intensive activities. Many of such tasks require cooperation between individuals, pairs, and groups that boosts vital soft skills like interpersonal and negotiatory competences.

5. RESULTS AND DISCUSSION

BSMRSTU is a specialized government-run university established in 2001 to impart science and technology education in Bangladesh. The university, aiming at fulfilling the government's vision of Digital Bangladesh, now operates with 34 departments. As per guidelines of the University Grants Commission of Bangladesh, all the universities; be it public or private, must include a 3-credit fundamental English course in their curriculum. Accordingly, all the departments of BSMRSTU offer a six-month long fundamental English course that goes by different titles depending on the respective departments. Faculty members from the Department of English conduct all these courses. The foremost and most shocking realisation is that the students from the departments, other than English, consider the fundamental English course pointless and redundant. After compulsory English education from Grade I to Grade XII, to attend an English language course at tertiary level seems overbearing to them. Their perspectives are overshadowed by the fallacy that their knowledge of English is enough to tackle higher studies. On the contrary, a recent study reveals that most of them struggle to cope up with the rudimentary understanding of English and ultimately fail to keep pace with the obligatory level of competence [23]. It is known from the teachers' experience that students from the mentioned departments feel demotivated while the teachers conduct the sessions following traditional methods and techniques. This study attempts to investigate the reasons behind their demotivation to attend the English course. One student from the Department of Chemistry reports that they do not find interest in traditional lectures as they are used to it from their school days. Another student from the Department of Mathematics mentions that there is nothing creative in these classes and they feel uninterested while just sitting idly and listening to one-way lectures. A student from the Department of Civil Engineering points out that they do not have anything to do in the class as the teacher talks all the time and they are just passive

listeners. A student from the Department of Physics argues that there is no interaction in the classroom.

After receiving such feedback, researchers devised an alternative model replacing traditional methods. Computer-based language programs and mobile phone-based language applications were introduced to the students. After familiarising the students with technology in the classroom, remarkable improvements in behavioural pattern were recorded. Students started to take technology as a stimulus and began to respond to it automatically for positive reinforcement. Their attitude towards learning also changed. They became active participants in the classroom by using technology. Their level of motivation increased and they started to solve different language-related problems using their rationale through active participation. By doing so, technology helps reform their cognitive processes in a way that they can comprehend the language patterns in an accelerated manner. They try to analyse those using their cognitive faculties. Subsequently, they were successful in using those structures in a real-life situation. Combining an approach more suited to the participants' interest, eases learning English from the viewpoints of both behaviourist and cognitive theories of language acquisition. Prior to these new additions, some of the praiseworthy changes are that learners now enjoy the classroom activities, are highly motivated, and can learn in an anxiety-free environment. Earlier, there were restrictions about the use of mobile phones and laptops inside a classroom since the teachers believe that it distracts the learners and hampers their minute concentration. However, after flipping that barrier, better outputs are observed compared to the earlier ones.

6. CONCLUSION

As implementation of technology-based pedagogy produces positive changes in the mindset of the learners at BSMRSTU, it is highly expected that other universities can also get fruitful results in teaching and learning of English language if they venture into the technology-assisted language learning programme. English has been taught following traditional methods in Bangladesh for decades. Yet, little progress has been achieved in the field of teaching and learning of English from secondary to tertiary level. The intended success is hindered by the incorporation of the top-down approach in the language classrooms, but the era of information

technology can change the narrative. The use of technology in education is the demand of time. There is no alternative to exploiting technology in the education sector than to fulfil the vision of Digital Bangladesh. As most of the earlier methods of language teaching failed, it is high time an alternative to the age-long classical pedagogy of language teaching is brought under scrutiny.

CONSENT

As per international standard or university standard, participant's written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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