The Impact of Technology-Enhanced Language Learning (TELL) on Developing English Speaking Skills Among Undergraduate Students At MBSTU

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ABSTRACT

English speaking proficiency has become an essential skill for academic and professional success in today's modern world. Despite English being a compulsory subject in the national curriculum in Bangladesh, undergraduate students still struggle with meaningful oral communication due to poor infrastructure, large class sizes and inadequate exposure to authentic language use. Technology-Enhanced Language Learning (TELL) is regarded as a transformative pedagogical approach. TELL addresses these challenges by providing an interactive, flexible, and authentic language use practice beyond the traditional classroom setting. This study examined the impact of Technology-Enhanced Language Learning (TELL) on developing English speaking skills among undergraduate students at Mawlana Bhashani Science and Technology University (MBSTU), Bangladesh. This research was conducted using a mixed-methods approach and data were collected from 130 participants: 100 students through a 6 point Likert-scale survey questionnaire, 24 students and 6 English language teachers through semi-structured interviews. The data were analyzed using descriptive statistics and thematic analysis techniques. The findings show that TELL has a significant positive impact on students English-speaking skills including fluency, accuracy, pronunciation and confidence. Technological tools like ChatGPT, Duolingo, and Youtube were identified as the most widely used platforms for instant feedback and self-paced learning experiences. The study also identified some challenges in implementing TELL at MBSTU such as poor infrastructure, lack of trained teachers, limited internet access, and insufficient institutional support. The study recommends infrastructure development, continuous teacher training, adoption of a blended learning approach and increase government funding to ensure the effective implementation of TELL at MBSTU.

Keywords: Technology-Enhanced Language Learning (TELL), English speaking skills, undergraduate students, MBSTU, Bangladesh, EFL, Blended learning

INTRODUCTION

In the present globalized era, English plays a pivotal role in communication and is widely used for academic, professional and international contexts (Crystal, 2003). English is one of the most widely spoken and impactful languages in the world and serves as an effective role in higher education and career development (Richards, 2008). In the 21st century, modern education has been constantly shaped by the advancement of technology. Nowadays, incorporating technologies into language learning education gained momentous consideration worldwide. The importance of technology in language learning has developed considerably in today's globalized world (Chapelle, 2001; Warschauer, 2013).

Although English is added in the national curriculum in Bangladesh from primary to higher secondary levels, most of the students are unable to speak English fluently which creates serious threat to their academic success and future career prospects (Rahman, 2015). There are various reasons behind the students' inability to speak English fluently including lack of practice, shyness, and low motivation (Harmer, 2001). Traditional teacher-

oriented classrooms often provide limited opportunities for students to practice English speaking which negatively affects their communicative competence. In recent decades, technology has emerged as an effective tool to overcome these limitations in English speaking skills.

Technology-Enhanced Language Learning (TELL) has emerged as an effective approach for learning English speaking. Technology comes with numerous benefits such as playing the role of virtual mentor, providing creative and personalized learning experiences and offering automated assessment systems. It can assist learners to improve their four basic English skills, especially speaking skill. One of the latest tools in TELL is ChatGPT which plays an extraordinary role in oral English teaching including individualized oral practice, real-time error correction and feedback, realistic dialogue simulation and a secure and comfortable environment (Shi, 2024). The main objective of learning English is to communicate with individuals. The development of English speaking proficiency is a complex process which involves both linguistic competence and psychological factors such as motivation and confidence (Brown, 2007).

At the university level, English speaking skills are essential for academic activities such as presentations, seminars and classroom discussions. However, many university students in EFL contexts struggle to achieve communicative competence due to limited exposure to authentic language use and over-reliance on traditional teaching methods. Therefore, TELL in higher education is crucial for developing learners' speaking skills and meeting the academic and communication needs of students, particularly undergraduate students at MBSTU.

Statement of the Problem

English speaking skills are essential for MBSTU undergraduate students pursuing science and technology careers. However, most graduates have poor oral communication abilities. At MBSTU, English instruction is limited to one or two courses in the first year that focuses mainly on grammar, reading technical texts and writing reports. Speaking skills receive little attention and students have almost no opportunities to practice speaking in later years.

Several challenges inhabit speaking skills development at MBSTU. Limited English courses of only two to three hours per week for one to two semesters cannot properly develop speaking skills given students per week entry-level English (Rahman et al., 2019). Large class sizes of 60 to 80 students make speaking practice impossible. Examinations test only grammar and reading, not speaking (Chowdhury & Le Ha, 2008). After finishing required English courses, students get no more English instruction even though they need English for their major subjects. Students feel anxious about speaking English, fearing mistakes and embarrassment (King, 2013). Finally, students have very limited English exposure outside classroom in Bangladesh's Bengali speaking environment (Hamid & Erling, 2016).

TELL offers solutions through mobile apps, online platforms and speech recognition software that provide speaking practice beyond classroom time (Chapelle, 2001; Warschauer, 2013). Technology can help students practice technical presentation, reduce anxiety through private practice and connect with global communities. However, despite available technology including computer labs, WiFi and wider spread smartphones, MBSTU has not used TELL systematically for English speaking skills. This study examines how TELL can effectively develop English speaking skills among MBSTU students by measuring technology's impact, understanding student and teacher views, identifying implementation factors and providing practical recommendations.

Objectives of the Study

The main objectives of this study is to investigate the impact of Technology-Enhanced Language Learning (TELL) on developing English speaking skills among undergraduate students at MBSTU. The specific objectives are as follows:

1. To assess the current use of technology for English speaking instruction at MBSTU.
2. To examine the Technology-Enhanced Language Learning (TELL) on students' speaking fluency, accuracy, pronunciation and confidence.
3. To explore students' perceptions and experiences of technology-mediated speaking practice.

4. To investigating the challenges students and teachers face in implementing TELL for English speaking practice at MBSTU.

Research Questions

This study seeks to answer the following research questions:

1. How does Technology-Enhanced Language Learning (TELL) influence undergraduate students' English speaking skills?
2. What are the advantages and limitations of using Technology-Enhanced Language Learning (TELL) for developing English speaking skills among undergraduate students at MBSTU?
3. What are students' perceptions, attitudes and experiences regarding the use of TELL for developing English speaking skills?
4. What challenges do students and teachers face in implementing TELL for English speaking practice at MBSTU?

LITERATURE REVIEW

Concepts of Technology-Enhanced Language Learning (TELL)

The term technology is derived from the Greek word "techno" which means the willingness skills, knowledge of the ways, rules, tools and "logos" means science, word, learning and mental state (Stosic, 2015). Technology-Enhanced Language Learning (TELL) refers to the use of systems that depend on computer chips, digital application and networks in all of their forms. Technology is not limited to desktop or laptop computer only. TELL is an innovative learning approach. Unlike traditional instructor-based classroom, TELL encourages learner-centered environments where students actively participate in language learning through mobile apps, smart boards, online platforms, video conferencing, and AI-based tools. According to Chapelle (2001), TELL encourages language learning by integrating digital technologies to support appropriate communication. Beatty (2013) further states that TELL incorporates digital tools and technological resources to create interactive, students-centered and rea-life communicative language learning environments.

Role of TELL in English Speaking Skills Development

Technology plays an important role in improving speaking skills for learners in EFL contexts. It serves several fundamental roles in language education, serving as resources, a delivery system, or a tool for productivity. According to Ghanizadeh et al. (2015), technology has a positive effect on language learning outcomes by increasing engagement and motivation. TELL supports computer-mediated communication which contributes to the development of learners' competence in the target of foreign language (Kranthi, 2017). Self-directed learning forms a crucial step when learners learn English through multimedia technology (Yang & Chen, 2007).

TELL in Higher Education

At the university level, students need advanced English language proficiency for seminars, presentations and discussions that traditional instruction fails to provide. According to Bates (2015), technology promotes flexible educational environment in higher education by enabling learners to have ongoing access to instructional resources. Technology also fosters learner autonomy and it allows students to select activities, manage their own progress and take their responsibility for their learning (Dornyei, 2001). However, challenges such as overreliance on technology which reduce learners' critical thinking, inadequate technological competence and generational gaps in digital literacy have also been identified (Syathroh et al., 2021)

Empirical Studies and Research Gaps

Many empirical studies demonstrate the effectiveness of TELL in learners' English speaking skills. Ghanizadeh et al. (2015) conducted a study on the effectiveness of TELL in the EFL context and found that technology-mediated learning improved learners' speaking performance, motivation and confidence. Ahmadi (2018)

reported that a true integration of technology in language learning enhanced learners' motivation and engagement which helps in better speaking performance. However, most research originates from developed or East Asian contexts, leaving limited understanding for resource-constrained South Asian Contexts like MBSTU. This study addresses this gap by providing context-specific evidence from a Bangladeshi public university.

METHODOLOGY

Research Design

This research follows a mixed-method research design combining both quantitative and qualitative approaches. According to Creswell & Creswell (2017), mixed-method research is a research design or methodology in which the researcher collects, analyzes and mixes both qualitative and quantitative data in a single study or multiphase program of inquiry. Primary data were collected directly from participants for authenticity and relevance to the study's goals.

Research Setting and Participants

This research was conducted at Mawlana Bhashani Science and Technology University (MBSTU), Bangladesh. This university offers several kinds of undergraduate programs in different departments where English is used as a medium of instruction. A total of 130 participants were involved in data collection. 100 undergraduate students from several departments of MBSTU participated in the survey questionnaire. For qualitative data, 24 students from disciplines such as Mathematics, Physics, Chemistry, Statistics, Accounting, ICT, CSE etc. and 6 teachers from English department of MBSTU took part in the semi-structured interviews. All the participants were selected using a convenience sampling process.

Instrumentation and Data Collection

For quantitative data collection survey questionnaire was made using a 6 point Likert scale including 15 questions and data were gathered from MBSTU undergraduate students who are the users of TELL. These questions evaluate students' perception regarding the effectiveness and the limitations of TELL. Twenty-six interviews were taken in person (face-to-face) and four interviews were conducted online via whatsApps audio calls and both types of interviews were recorded.

Data Analysis

Quantitative data were analyzed using descriptive statistics while qualitative interviews data were analyzed to identify themes, patterns and issues indicated by both teachers and students. All ethical considerations such as informed consent, confidentiality, anonymity and voluntary participation were strictly maintained throughout the research process.

FINDINGS

Quantitative Findings: Student Survey

All 100 survey participants submitted their questionnaires. The findings show positive perception of TELL among undergraduate students at MBSTU.

Overall Effectiveness of TELL: Figure 1 illustrates students' responses to the effectiveness of TELL for improving English speaking skills. Among 100 respondents, 88% agreed and 12% strongly agreed with the statement indicating that students perceive TELL positively. This results indicate that most of the students consider TELL an effective tool for improving their English speaking skills which reflects students' positive attitude toward TELL.

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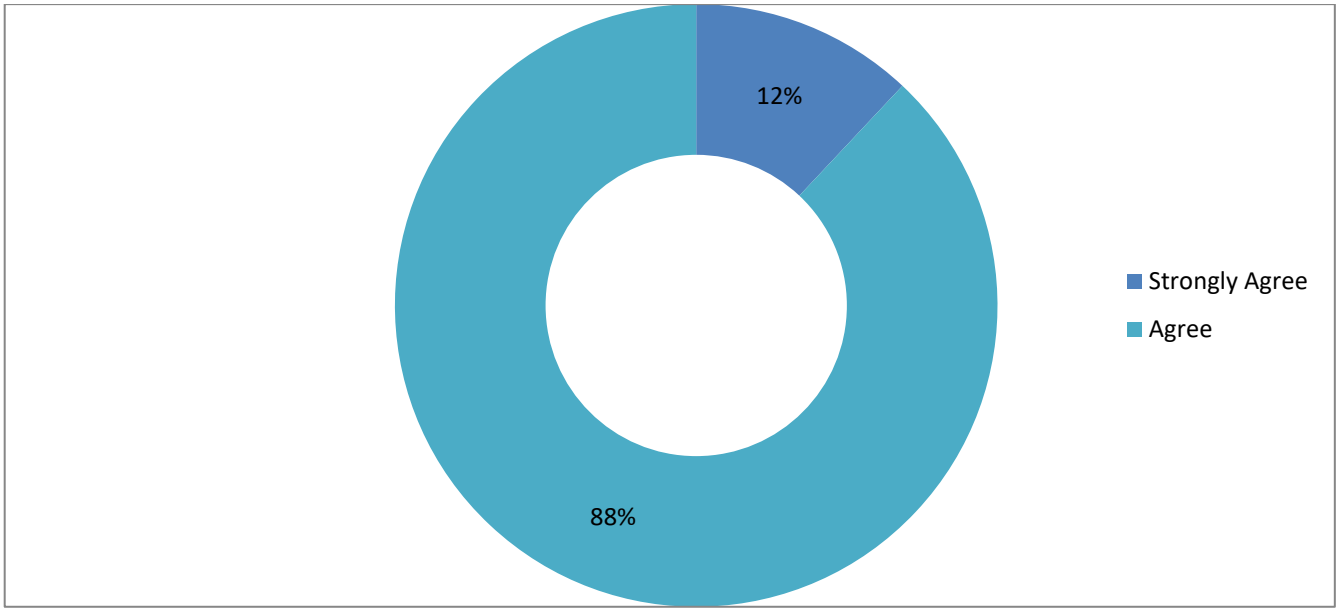


Figure 1: Students' perceptions of TELL Effectiveness for English speaking Skills (n=100)

Practice Opportunities Outside the classroom: As shown in figure 2, Students agreement level of using technology provides more opportunities to practice speaking English outside the classroom. Out of 100 participants, 60% agreed, 25% strongly agreed and 15% slightly agreed with the statement. The complete absence of disagreement indicates strong positive attitude toward TELL. These findings show that students believe technology provides more opportunities for improving their English speaking skills outside the classroom.

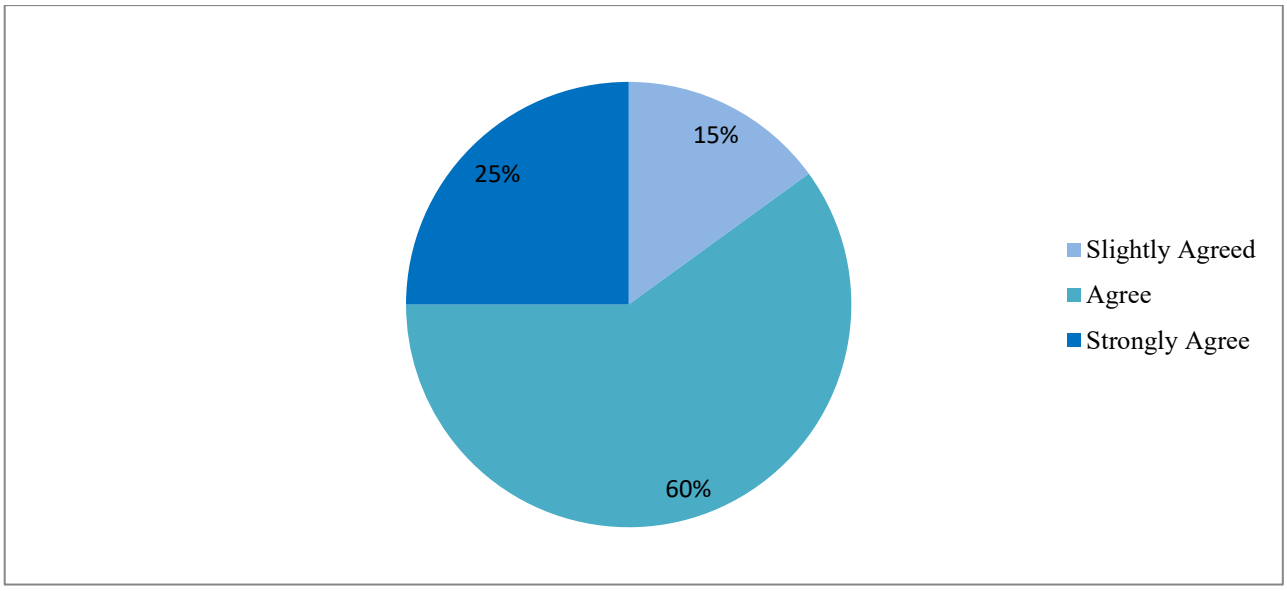


Figure 2: Technology provides more opportunities for speaking practice outside the classroom (n=100)

Confidence Building and Anxiety Reduction: Figure 3 presents students' perceptions regarding the psychological impact of technology on speaking practice. Technology increases confidence in speaking English. Students' responses show strong agreement with this proposition. The majority of the participants, 52% agreed, 28% strongly agreed and 15% slightly disagreed. Overall, 95% of respondents expressed positive views about confidence built through technology. Conversely, only 5% slightly disagreed and no students selected disagree or strongly disagree. Regarding anxiety reduction while speaking English, 63% agreed, 19% strongly agreed and 8% slightly agreed which indicates 90% positive responses. In contrast, 6% selected disagreed and 4% slightly disagreed. Together, these findings show that technology creates a stress-free environment that supports students to practice English without fear of mistakes.

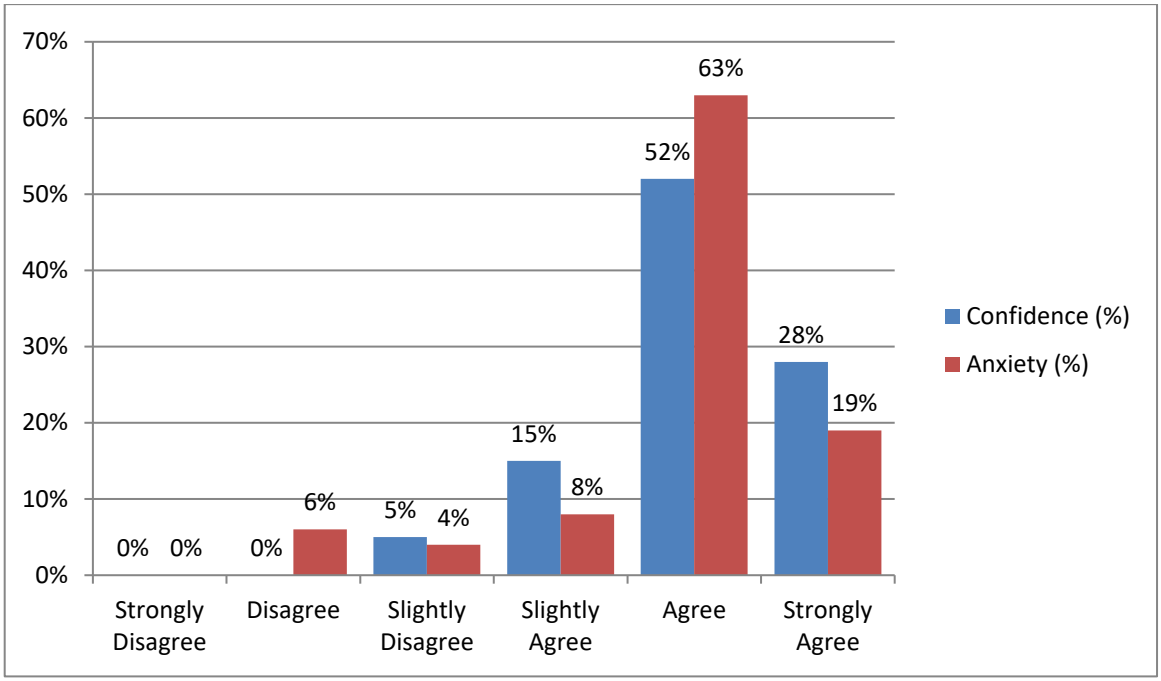


Figure 3: Students' Responses on Technology Increasing Confidence and Reducing Anxiety in speaking English (n=100)

Implementation Challenges (Internet Access and Technical Problems): Figure 4 illustrates students' responses regarding two key implementation challenges. In the statement that limited internet access is not a barrier to using technology for English speaking, a total of 73% disagreed, 17% strongly disagreed and 10% slightly disagreed with the assertion. In contrast, none of the participants selected any of the agreement options. Similarly, in the statement that technical problems do not disturb English speaking practice all participants disagreed with it; 85% disagreed and 15% strongly disagreed. These findings indicate that internet access and technical problems are two of the major issues in English speaking practice.

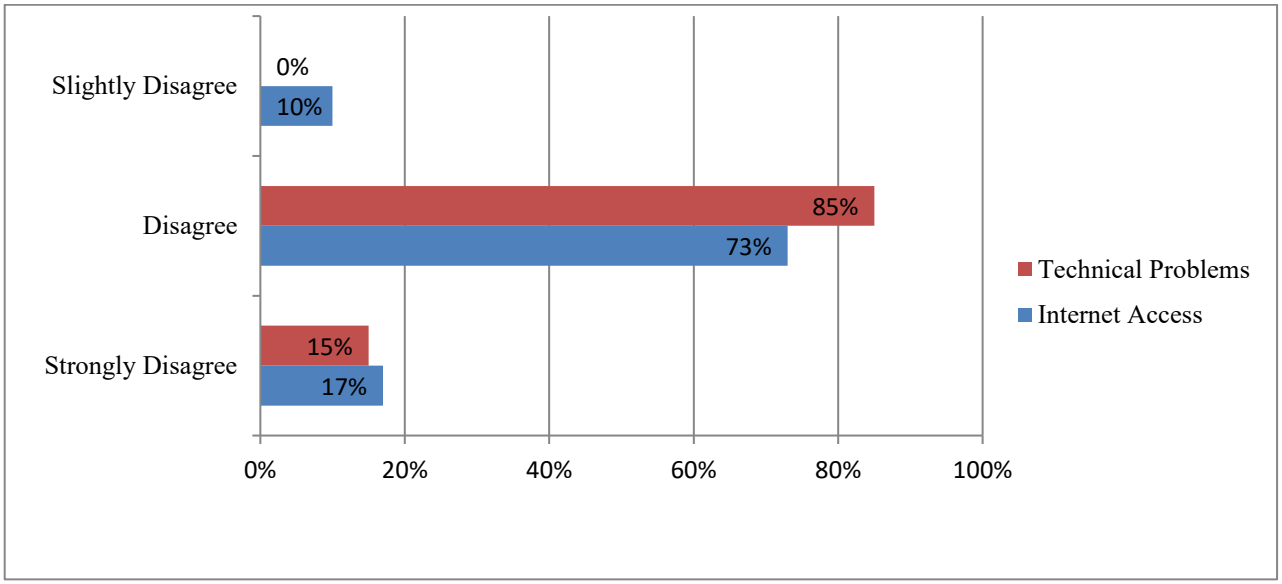


Figure 4: Students' responses on Implementation Challenges -Internet Access &Technical problems (n=100)

Beyond the items presented in the figures above additional survey findings further confirm TELL's positive impact. Technology was recognized as helpful for improving speaking fluency by 94% of students, punctuation by 90%, grammar accuracy by 95% and vocabulary development by 100% of respondents. Besides, all the students agreed that technology enables self-paced speaking practice. 88% of participants supported that technology provides instant feedback for improving speaking performance.

Qualitative Findings: Students interview

All 24 student participants provided detailed insights into their perceptions and experiences regarding TELL for English speaking development. The majority of students mentioned that they have regular access to the internet connection for learning English. However, some students reported that the internet connection is unstable because of network speed or limited mobile data. All students agreed that technology is a useful tool for improving speaking fluency and pronunciation. ChatGPT, Duolingo and YouTube emerged as the most widely used tools. Students reported that ChatGPT helped them improve their fluency independently. Several students mentioned that YouTube videos are helpful to practice English speaking by listening to native speakers and repeating sentences to improve pronunciation.

A large number of students believed that technology helped increase their confidence and reduce anxiety during speaking practice. Students reported that regular practice through language learning apps and English videos made them more confident. For instance, students stated that technology helps them practice speaking every day at home using YouTube and ChatGPT .All 24 students agreed that technology provides more opportunities to practice speaking outside the classroom. Several students mentioned poor internet connection and connectivity problem as the most common challenge that impeded their speaking practice sessions. A few numbers of students highlighted hardware limitations and general technical problems as barriers to using technology properly for English speaking practice.

Qualitative Findings: Teacher Interviews

All 6 English language teachers at MBSTU participated in the interview session. The teacher interview data provided valuable insights into the pedagogical aspects of TELL implementation at MBSTU. Teachers highlighted that TELL creates more opportunities for speaking practice, reduces anxiety and gives instant feedback. One teacher noted that technology creates a stress-free environment that builds students' confidence to practice English speaking without fear of mistakes.

Teachers recommended AI tools such as ChatGPT, Gemini and ELSA Speak because these tools are very much helpful for students. These tools evaluate students' speech and provide feedback for different accents such as British, American and Australian English. One teacher observed that TELL helps students self-monitor their progress. By using online recording and playback tools, learners can compare their speech with native models. These tools identify errors and correct them independently. This practice develops accuracy and pronunciation. It also builds learners' confidence in speaking English.

However, teachers recognized some limitations of TELL. Technology cannot fully replace real communication. Actually, real interaction is needed for developing natural speaking ability. Even, over-dependence on technology may hinder students' critical and problem solving abilities. Regarding implementation at MBSTU, all teachers indicated that poor classroom infrastructure and lack of teacher training as the most critical barriers.

DISCUSSION

Impact of TELL on English Speaking Skills

The findings of this study strongly confirm that TELL has a positive impact on developing English speaking skills among undergraduate students at MBSTU. All 24 interviewed students unanimously agreed with the positive perceptions regarding TELL's effectiveness learning improved speaking performance, motivation and confidence in EFL contexts. All students considered that technology is useful for pronunciation improvement. This result is consistent with Kranthi (2017) who argued that TELL encourages computer-mediated communication that contributes to target language competence development.

Advantages of TELL

Authentic practice and instant feedback: The student consensus that technology provides instant and effective feedback is supported by teacher data which indicates that AI tools such as ChatGPT, Gemini and ELSA Speak

evaluate student speech in real time. This aligns with Chapelle (2001), who emphasized that TELL support appropriate communication through digital technology integration.

Stress-free, learner-centered environment**:** Both student interviews and teacher observations showed positive responses regarding confidence building and anxiety reduction. Teachers noted that digital platforms provide a low-anxiety environment which is beneficial for hesitant and shy students. This finding matches with Ghanizadeh et al. (2015) who argued that technology reduces speaking anxiety and increases motivation. Vocabulary, grammar and self-paced learning: All 100% of students gave positive responses about vocabulary development and self-paced learning. This finding aligns with Yang and Chen (2007) who identified self-directed learning through multimedia technology as a crucial component of language acquisition.

Limitations of TELL

Despite its advantages, the study identified some limitations of TELL. Technology cannot fully replace real communication. Actually, real interaction is needed for developing natural speaking ability. Even, over-dependence on technology may hinder students' critical and problem solving abilities). A large number of students mentioned limited digital skills as a barrier to TELL's implementation. This result matches with (Syathroh et al., 2021) who said that insufficient digital literacy hinders effective technology use by both instructors and learners.

Implementation Challenges at MBSTU

The study found that Poor infrastructure, limited internet access and technical problems are the major challenges to TELL implementation at MBSTU. These findings align with Rahman et al. (2019) who mentioned infrastructural limitations and unreliable connectivity as significant challenges for TELL in Bangladeshi universities. Teacher data also highlighted the problems of inadequate training, traditional classroom that are inappropriate for technology-based learning. The absence of institutional provision for premium tools is a compounding factor that collectively hinders effective TELL integration at MBSTU.

CONCLUSION

The study shows that TELL has a positive impact on developing English speaking skills among undergraduate students at MBSTU. Students and teachers confirmed that TELL develops fluency, accuracy, pronunciation and confidence. Technological tools like ChatGPT, Duolingo and YouTube provide authentic practice opportunities, instant feedback and a stress-free environment that traditional classroom methods cannot offer. However, its effective implementation requires addressing some challenges are related to infrastructure, teacher training, internet access and institutional support. This research presents empirical evidence from a resource-constrained South Asian context that has been largely absent from the existing TELL literature. It provides valuable insights for policymakers, educators and university administrators seeking to improve English speaking instruction through technology. Classrooms should be well equipped with modern technological facilities such as computers, projectors and audio-visual systems. Every department should have a well-furnished computer lab with high-speed internet connection. Conducting a pilot study before large scale implementation may help identify specific infrastructural needs and ensure effective utilization of resources.

The university should give regular teacher training and professional development opportunities for teachers so that they can integrate technology properly into their teaching practices. Training programs should focus not only on the use of technological tools but also on the pedagogical strategies for integrating these tools effectively into language teaching.

Bangladeshi government should take the initiative to promote the use of technology in education. Authorities should improve poor infrastructure and introduce technology-oriented classrooms in the university level education. The government should ensure enough funding to develop university infrastructure. Future research should investigate the longitudinal impact of specific TELL tools such as ChatGPT, Duolingo and YouTube on speaking skills development in Bangladesh. Comparative studies should be conducted to examine the

effectiveness of TELL in different university contexts across Bangladesh. Future research should explore the perspectives of university administrators and policymakers on TELL implementation.

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