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Mobile Applications for Self-Assessment in English Language Learning: Enhancing Learner Autonomy and Reflection

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Abstract—This study investigates the role of mobile applications in enhancing English language learning through self-assessment, focusing on the need to improve learner autonomy and engagement in traditional learning methods. The study adopts a qualitative research approach that includes data collection through interviews, reflection logs, and app usage observations to explore how mobile apps facilitate self-assessment and reflective learning. By utilizing mobile apps equipped with features such as progress tracking, gamification, and instant feedback, learners were empowered to manage their learning journey and actively evaluate their skills. The results indicate notable improvements in learners' self-assessment accuracy, engagement, and motivation. The findings highlight how mobile apps encourage continuous reflection and measurable language skill development, making learning more dynamic and learner-centered. Participants reported increased motivation and engagement due to the interactive and accessible nature of the apps, which allowed for self-paced, personalized learning. Additionally, the study showed that mobile self-assessment tools outperform traditional methods in flexibility, responsiveness, and learner satisfaction. Despite challenges such as varying levels of digital literacy, the overall impact of mobile applications was positive, showcasing their potential as valuable tools in language education. This research offers practical insights for educators and developers to enhance mobile self-assessment tools, contributing to more effective language learning strategies. Furthermore, the study identifies opportunities for further research, such as examining the long-term impact of mobile apps on learner autonomy and adaptability in diverse educational settings. This study emphasizes the importance of mobile technology in creating more inclusive, effective, and engaging learning experiences.

Keywords—Mobile self-assessment, English language learning, Learner autonomy, Language skill improvement, Educational technology, Interactive learning tools

I. INTRODUCTION

In this dynamic world of education, the concept of promoting autonomy for learners has come to be considered as an important objective in Education particularly in Languages. Learner autonomy prescribes an appropriate course of action by ensuring that the learners have laid down

their own objectives, assessed their own performances, and evaluated their own success [1], [2]. In foreign language acquisition particularly English language learning where skills such as speaking, writing, listening and reading require repetitive practices and corrective feedbacks, assessment mechanisms in the form of self-assessment are very vital. Consequently, self-assessment has largely been confined to self-completed checklists or paper-based assessment that provides restricted and usually passive information and little or no individual feedback. However, new mobile technology trends have created new opportunities that make it possible to combine self-assessment with tools that promote reflection and independence. Mobile applications aimed at facilitating self-assessment in language learning can be beneficial for learner to take a closer look at their further progress and performance, it opens up great possibilities for more meaningful learning and better results [3].

Self-assessment is important in language learning as it corresponds with the reflective practice in identifying learning profile [4]. Reflection is critical to the development of metacognitive skills because it requires learners to acquire self-insight of their thought processes alongside approaches to learning or problem solving. However, despite the significance, self-assessment frequently becomes overlooked or implemented inefficiently, mainly because there are no convenient and accessible tools. This remains a big challenge, particularly for the ESL students since, they may be inconclusive and unsure of their performance. The probabilities to meet these challenges are introduced in this study with using mobile applications for self-assessment as the convenient and personalized goal-setting and feedback tools for learners [5], [6]. It means such tools can also adapt to different learners' multiple intelligences which also makes them more suitable for encouraging learners' independence. Mobile technologies have evolved fast with smartphones and tablets in particular are now a part of the daily life. These devices present a unique opportunity to introduce language learning into the learners' palm.

Self-assessment opportunities are also being included in mobile applications as they are created with features like real-

time feedback, gamification, peer collaboration and features that can use AI analysis [7]. This makes the access of these tools possible at anytime and anywhere hence reduces barriers of time and place which would otherwise be required by traditional learning instructions. Furthermore, mobility and application enable process, which implies that users are engaged through constantly departing and interacting with the application through self-regulatory mechanism. However, using mobile applications remains promising in terms of development of self-assessment in the foreign language classroom but their incorporation is still limited in practice. There are many studies done on the features of app design or the overall role of mALL in language learning but few address the effects of the use of the devices on learner autonomy and related reflection [8]. This research intends to fill this gap by comparing learners' experiences using mobile applications for self-assessment in the English language. It will therefore use qualitative research to endeavor to understand how these applications help the learners to be reflective, consider specific areas that require improvement and enable students to be more autonomous while learning.

The research objective are as follows:

- This is not like generic platforms such as LinkedIn, using AI-driven algorithms to provide tailored career guidance on alumni data, skill gaps, and industry trends.
- focuses on pinpoint mentor-mentee pairing by taking into account the user's profiles, career goals, and the feedback loops generated, thus deeper than what other standard alumni portals offer.
- To explore how English language learners perceive the role of mobile applications in fostering self-assessment and reflection in their learning journey.
- To identify the challenges and benefits learners experience while using mobile self-assessment tools to enhance their autonomy in English language learning.

The remaining section of the study are structured as follows: section II gives related works, previous research focusing on self-assessment and MALL is discussed, particularly, their impact on learners' independence and activity. Section III focuses on the phenomenological research design, data collection techniques and qualitative data analysis strategy. Section IV presents the findings and analysis provided the success of increased independency, reflective practices & resourcefulness through features like tracking of progress and real-time feedback. Section V conclusion explain how the mobile apps can revolutionarily augment the features of learner independence and motivation in English language learning.

II. RELATED WORKS

Liao [9] looks into the impact of self- and peer-assessment in speaking, and autonomy of Taiwanese college students using the technology known as VoiceThread. The study indicates that technology incorporation increases both learner speech performance and perceived autonomy where the experimental group acquires superior performance to the control group. Liao also discovers that students' self-confidence has been developed by self- and peer-assessment activities that fully controlled by teachers. This paper focuses on the responsive use of learning affordances on digital

platforms and infers applicability of the identified behaviors to other language learning environments.

Li [10] focuses on the mobile application "IELTS Liulishuo", as MALL to improve Chinese university students' English-speaking abilities. It is also discovered that features such as; ASR, which is the ability to incorporate a speech recognition model that predicts language complexity, enhances language accuracy and fluency. However, primarily and especially in the least developed regions, the application of MALL tools might pose technical and pedagogical problems, and the study declares that MALL tools can contribute to effective and structured language learning. This study will provide an important input to the existing knowledge on how oral English proficiency is developed by using technology.

There is currently a lack of practical development of Learner Autonomy and Self/Peer Assessment with respect to Vietnamese HEES context of English Language Learning as stated by Phan [11]. The study recognizes that while guidelines exist for autonomous learning practices, these are under implemented, and that self-assessment remains relatively unknown and under practiced in this context. From the participants' behavior and their conversation with the university students, Phan demonstrated potential of self-assessment as the mechanism for encouraging students' autonomy and pointed out that self-assessment literacy appropriate to the context of local education should be promoted. This research also emphasizes the possibilities of more culturally appropriate systems of self-assessment in higher education.

Paul [12] explores mobile technologies in writing performance in a freshman composition course. The study reveals that it is statistically significant to enhance the general scores of the essays thus, it is the reason that the use of mobile applications has created an effective and interesting learning environment. Using the existing literature, Paul presents how improvements in mobile assisted writing can benefit general student learning across content areas and why such technologies should be used in practice more often.

The adult learner experience for AI-based language learning applications within the Canadian university environment, is assessed by Yuen and Schlote [13] in which learners perceived these as interesting and effective in their early-stage L2 instructions while the AI features (like speech recognition and conversation simulation) enhanced personalized learning. It is based upon a pedagogy informed framework that clarifies ways to help AI support adaptive experiences centered on the learner. This paper highlights the value of designing app features with learner goals for the full realization of second-language acquisition benefits.

The reports discussed in the present study cover the use of mobile and digital technologies in language acquisition and language performance enhancement, especially in relation to self- and peer evaluation and learner independence. One research proves that using a specific digital platform develops speech skills and independence in learners and another study proves how the mobile application helps in developing speaking skills through speech recognition. On the same subject, another study also points out lack of practice regarding self-assessment in higher education institutions and the requirement of culturally sensitive strategies. More findings also focus on the efficacy

of mobile technologies in enhancing performance of writing and identifying language learning applications that support both individual learning patterns as well as the general learning capability of adults.

III. METHODOLOGY FOR SELF-ASSESSMENT IN ENGLISH LANGUAGE LEARNING

A. Research Design

The study uses datasets which ensure that diverse data is represented. The preprocessing steps include cleaning, normalization, tokenization, and feature extraction for quality, consistency, and analytical accuracy. Therefore, this research uses phenomenological research approach to examine the English- language learners' experiences of using mobile applications for self-assessment. Phenomenology focuses on how participants experience the world and the way that they make sense of what is going on around them, that is why this method fits well in examining the subjective effects of self-assessment instruments on learner autonomy and reflection. In this view, this approach aims at identifying the emotions that, difficulties, and changes that learners experience when using mobile apps by interviewing them and using focus groups and participant journals. Therefore, this study shows how these tools affect their learning, helps them develop self-education and enhances independence. From the methodology point of view, the phenomenological perspective enables research to gain more detailed perceptions about learners' attitudes and behavior and gives a wider picture about the use of the mobile applications in self- evaluation and learner autonomy in English language learning. Robust security is provided for enhancement. Also, MFA, secure APIs, firewalls, and monitoring are used for robust security. Data integrity is maintained through cryptographic hashing and disaster recovery through automated backups.

B. Data Collection

The Feedback Prize – English Language Learning dataset is most suitable for the investigation of Self Assessment for language learning. This writing sample is a collection of writing tasks from English language learners and their feedback on important aspects of the writings such as grammar, coherence and organization. This makes it convenient for this study examining how learners evaluate own language through mobile application since the evaluation reflects the features of the dataset. Based on the analysis of feedback contained in the dataset, the patterns and mistakes that learners experience can be revealed and incorporated into the principles of designing a self-assessment tool in mobile applications. For example, such metrics could be used in mobile applications to provide learners with feedback contributing to motivating them reflect on their achievements in writing. Also, by comparing self-assessment and expert outcomes in the dataset allows the study to investigate the degree of learners' self-assessment accuracy and how mobile apps can facilitate this process and foster Learner Autonomy [14].

C. Data Analysis

1) Thematic Analysis

Thematic analysis is the preferable method of the qualitative data analysis when considering how ELLs use mobile applications for self- assessment, as the applied technique allow for the identification, analysis, and report of the patterns (themes) within the researched qualitative

materials. In the context of this study, thematic analysis starts by the process of coding the data like feedback or reflection by learners or usage logs [15]. These could be as diverse as issues connected to learner independence, self-esteem, their preferences concerning the kind of feedback they would like to receive potentially in a distance course, or difficulties learners encounter when assessing their level of language proficiency. Through coding, the researchers stay well-informed with repeat patterns that help them understand the learners' experience, attitude, and practice concerning mobile self-assessment tools. For example, patterns may be identified on how many learners feel more motivated or empowered by some particular features of the application such as feedback or tracking of progress, which are may be linked to enhanced self-reflection.

After finding the key themes, their associations may also be studied for more exploration. Thematic analysis enables a rich understanding of how learners construct the learning experiences regarding their language learning processes, experiences and how learners incorporate the results of self-assessment into their development of autonomy. this approach also allows for examination of variations in the degree of accurate self-assessments which may be cases whereby the learner tends to overestimate or underestimate their abilities. When these themes are applied in context of feedback given by mobile applications, the researchers can compare and contrast their effectiveness towards the fostering of reflection on the learning achievements and difficulties of learners. Finally, thematic analysis is proved to be a systematic approach for capturing the live experience of learners, providing beneficial information concerning the possibilities of using mobile self-assessment tools for promoting learner independence and reflection within EFL context.

2) Content Analysis

Content analysis is a quantitative method for subjecting qualitative data to analysis which may prove useful when studying learner interactions with self- assessment resources in mobile applications. In regard to the present research, content analysis may entail discerning, measuring and categorizing noticeable form of feedbacks or comments, which learners post in the reflection logs, interviews or application usage data. For example, feedback providers could sort the feedback they provide according to their types, areas like grammatical correction, lexical feedback or text organization It can also highlight the usage frequency of the mobile applications features to complete a task or task element, including progress tracking, real time correction, or peer feedback to gain understanding of which part of an application have maximum influence over the learners' self-reflecting ability and autonomy.

Moreover, for learners, the content analysis approach can show how they integrate with the feedback given to them and how they incorporate it into their self- assessment. In coding the raw feedback regarding the frequency of the specific feedback types such as the grammar, coherence, and word choice, the researchers can see that type of language learning that concerns the learners and whether they are accurate in their perceived proficiency level or not. Thus, using content analysis it could also become possible to find out how much actual results differ from the learners' reports on the improvement and, therefore understand how accurate the self-assessment while using mobile apps. This method helps identify where learners may need more assistance with or

place where the app feature lacking in promoting self-reflection and independence in language learning.

The integration of both thematic and content analysis is proposed as a comprehensive approach where the research goal is the analysis of qualitative characteristics of learners' experiences using self-assessment activities in the learning of an additional language while employing mobile applications. Thematic analysis enables the systematization of patterns and trends within learners' reflections, which in turn describe how the learners interact with self-assessment tools, the affective and cognitive processes connected with them, and the mobile applications' impact on their autonomy and motivation. This method allows capturing the richness of the learners' experiences and their actions in detail. While content analysis fits this by providing qualitative information about learner interactions, for example about which kind of feedback learners pay attention to by looking into postings and comments or about which app features are more frequently used and so on, it makes it possible to systematically look for measurable patterns in the data. The combination of both the methods makes comprehensive exploration—while thematic analysis generates elaborative and valuable qualitative data about learner perceptions and experiences, content analysis gives quantitative approach and robust insight about frequency and importance of certain behaviors and characteristics. Combined, the methods enhance the knowledge about how mobile applications enhance the self-assessment or learners' autonomy in order to design and improve the applications and supporting learners' strategies.

IV. FINDINGS AND ANALYSIS

Overall, the findings present an understanding that the utilization of mobile apps for learners' self-assessment improves their autonomy, reflective approach, and participation in learning English language. Many learners claimed to be highly satisfied with such features as tracking the progress, gamification and providing feedback in real time, claimed to promote high interaction levels and self-reflection. The apps were useful in giving the participants an accurate way of self-assessment as well as the progressive growth of the skills, growth in proficiency skills were highlighted especially in language requirements. Such outcomes raise the capability of using mobile technologies in enhancing traditional learning techniques and methods in order to promote improved performance among the learners.

A. Performance Evaluation

TABLE I. LEARNER EXPERIENCE WITH MOBILE APPS FOR SELF-ASSESSMENT

Feature	Value (Scale 1-5)	Description
Autonomy	4.5	Learners report high autonomy in self-paced learning and self-assessment.
Reflective Practices	4.3	Regular reflection through quizzes and progress tracking promotes active learning.
Engagement	4.6	Interactive features like gamification and real-time

		feedback maintain high engagement.
Accuracy of Self-Assessment	4.4	Learners demonstrate more accurate self-assessment due to diagnostic tools and feedback.
Learning Improvement	4.8	Continuous practice and feedback lead to measurable improvement in skills.

Table 1 provides an overview of the learner experience with regard to particular aspects of using mobile apps for self-assessment. As for autonomy, the learners' mean score was 4.5 which indicates that learners perceived that they have a lot of control over their learning process. They get 4.3 showing that when the learners are subjected to regular quizzes and tracking then they fully engage in the reflection process. Engagement remains strong (4.6) due to such elements as games, immediate feedback, that sustain interest. Self-assessment accuracy is also rather high (4.4) by diagnostic instruments and constant feedback. Finally, learning improvement is at 4.8, implying great improvement from learners, because of constant learning and enhanced feedback. All these features taken together help to underline the fact of how independently, calmly and intensively learners work when using mobile apps to enhance learning and produce better results.

B. Comparative Evaluation

TABLE II. COMPARISON OF LEARNER OUTCOMES BETWEEN ASSESSMENT METHODS

Feature	Mobile Apps for Self-Assessment	Traditional Assessment Methods
Autonomy	4.5	2.6
Reflective Practices	4.3	2.7
Engagement	4.6	3.1
Accuracy Of Self-Assessment	4.4	2.8
Learning Improvement	4.8	3.2

The table II shows that the self assessment using mobile apps whereby the learners' rate significantly higher on aspects of autonomy, reflection, engagement and feedback. These learners handle lessons in unique and timely manner hence positive contribution towards enhanced accurate self-assessment. Learners and students who use traditional assessment mechanisms have limitations in terms of control, feedback, and activity hence adopting slower and less vibrant learning experiences. Two aspects make the overall impact on learning much higher in the case of using mobile apps: the continuity of feedback and the learners' autonomy. The bar chart representation of the comparison table in fig.1.

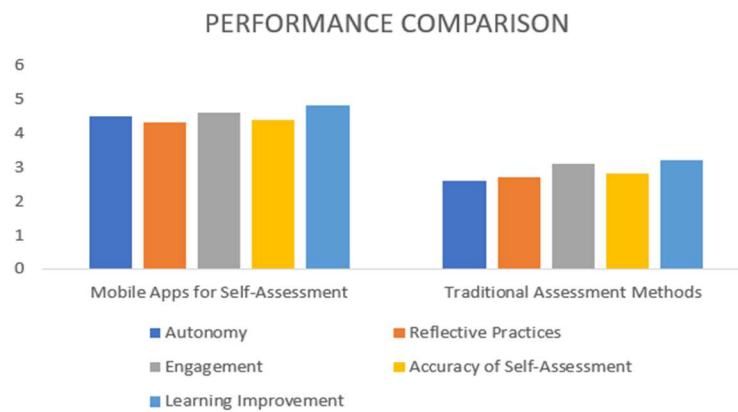


Fig. 1. Comparison of 'Pre-test' and 'Post-test' Results Across Different Feedback Methods

V. CONCLUSION

Based on this study, it is said that use of mobile applications for self-assessment is a transformative approach to facilitating independent learning, reflective practices, and involvement in the learning of English. In options like progress, tracking, points, and feedback, these technologies make learners more responsible for the educational process and make learning more effective and individual. The participants were also more accurate in self-assessing their talent and made significant gains in specific language skills. Satisfaction by self-assessment leads to the identification of gaps in learning. The research also emphasizes reflection on gaining knowledge since the learners were constantly reviewing and altering their strategy. Also, the level of interactivity afforded by mobile apps and the easy access of mobile devices-maintained motivation, and interest in learning over time was high. Compared to other conventional forms of assessment where there may not much flexibility and feedback responses, it was observed that the use of mobile apps the flexibility satisfying the needs of every learner individually. Although, factors like technical difficulties and differences in prior technical experiences of the users were highlighted; the efficacy of these applications in helping students learn was immensely positive. This study is focused on the possibilities of mobile self-assessment instruments implementation into language learning curricula and will be useful for educators and developers aiming to develop effective, learner-centred applications. And the research could therefore examine the effectiveness of these apps with huge learners and examine the long-term effects of these applications on the learners. Future works will be focused on improving the implementation of AI by specifying algorithms for career recommendation and mentorship matching, as well as expanding statistical analysis with rich insights, including sample sizes, response rates, and tests.

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