

THE ROLE OF MOBILE APPLICATIONS IN AIDING ESL LEARNERS WITH LEARNING DISABILITIES

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Abstract

Awareness about learners with learning disabilities is being created rapidly in recent times. Educational institutions have extended their interests in gradually understanding the importance of setting up inclusive classrooms. They are found to be in search of inclusive teaching and learning methodologies. Meanwhile, with the massive growth of Information and Communication Technology (ICT), researches are being done on using it as a learning platform for learners with learning disabilities. This is due to its unique, inexhaustible and unbiased features that would assist learners with learning disabilities by breaking the existing boundaries in teaching and learning processes. Its highly customizable features and wide range of choices help the learners with learning disability feel comfortable. Thus, by providing infinite resources according to the need of every individual learner, ICT becomes an effective source of aiding. This paper focuses on introducing mobile applications as assistive tool to aid ESL learners with learning disabilities to learn English. It also attempts to create awareness about the resources required to satisfy the needs of learners with Learning disability in learning English and that how ICT can play a vital role to help meet their needs. This is followed by a brief description of the introduction and implementation of select mobile applications, specifically designed for learners with learning disabilities and a short note on the possible outcome. Thus, this paper intends to explore and prove the role of mobile applications in aiding ESL learners with learning disabilities to learn English.

Key Words: Inclusive classrooms, ESL learner, Learning disabilities, ICT, Mobile learning

Introduction

Recent advancements in the educational sectors have led to numerous developments in the field of teaching and learning second language. Learner centered educational practices have become predominant and individual learner needs are being given utmost importance. Due to this transition, classrooms that accommodate learners by addressing every individual needs have become mandatory. In order to make this possible, teachers and trainers are emerging with various teaching and learning methods. One of the most effective methods is to incorporate Information and communication technology for teaching and learning purposes. The unique, inexhaustible and unbiased features of ICT would effortlessly aid learners with unique and additional needs. It breaks the existing boundaries in teaching and learning processes as it is highly customizable and offers wide range of choices to help the learners meet their needs. With parallel advancements in the field of Information and communication technology and education, measures to link both the fields for an effective outcome is swiftly being done.

A regular classroom in the ESL context consists of learners with unique individual needs. Their learning process would not be the same as they require individualized way of teaching and learning to meet their needs. Each classroom will definitely consist of learners with learning difficulties. “The term ‘learning difficulties’ is used in reference to a heterogeneous group of students who are seen to have significant difficulties in the acquisition of literacy and numeracy skills. Other terms sometimes used in this context are ‘learning disabilities’ and ‘special needs’” (Adam & Tatnall, 2010. p. 1). Hence, creating a classroom to accommodate and include learners with different needs, unique learning processes and most importantly, learners with difficulty in language learning is essential in every ESL classroom in order to witness effective outcome. Thus, this research aims to highlight the role of ICT in aiding ESL learners with language learning disabilities by suggesting the use of select language learning mobile applications.

ESL Learners with Learning Disabilities

There are certain learning disabilities seen among some ESL learners with regards to difficulty in attention, cognition, comprehension, sequencing, motor control, memory, Listening, Speaking, Reading and Writing (LSRW) skills, etc. Some of the difficulties are Auditory Processing disorder (APD), Dyslexia, Language Processing disorder, Non-Verbal Learning

Disability, Dysgraphia, etc. Hence, it is essential for every ESL teacher to be aware of these problems and be able to identify, accommodate and aid these learners. In spite of the availability of screening processes, it is difficult to identify all the learners with language learning difficulties as learners with marginal level problems are often left unidentified and unaided. The lack of additional assistance required by them in a regular classroom would demotivate them by affecting their interest. This would therefore lead to their slow and poor performance. Most of the educational institutions are now beginning to understand that the regular teaching methods are insufficient and that these learners require individual attention to satisfy their needs to cope up to the level of regular learners. Thus, it is essential and important to create teaching and learning environment and practices that are inclusive of all types of learners with learning disabilities.

Inclusive Classrooms

“Inclusive classroom is one which gives special needs students the opportunity to learn alongside the peers in age appropriate, general educational classrooms” (Captivoice.com, 2019). In an inclusive classroom, learners with or without learning disabilities are clubbed together. For better understanding, it can be seen as the opposite of special education classroom where only learners with disabilities are put together and a curriculum suited for them is framed accordingly.

The fundamental principle of the inclusive school is that all children should learn together, wherever possible, regardless of any difficulties or differences they may have. Inclusive schools must recognize and respond to the diverse needs of their students, accommodating both different styles and rates of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use and partnership with their communities. There should be a continuum of support and services to match the continuum of special needs encountered in every school.

(UNESCO & MES, 1994. p. 11)

Here, the main focus is shifted to the learning objective, using assessments that are designed to address the individual needs of the students. There are variety of teaching and learning methods and strategies to create a productive and a working inclusive classroom. In order to attain a

successful inclusive classroom, three key things must be sorted. They are, formulating an inclusive pedagogy, creating a strong content and choosing effective teaching tools. This research focuses on how ICT can be used to effortlessly sort the required elements and be used as an aiding element to help ESL learners in an inclusive classroom.

ICT in Inclusive Classrooms

Incorporating ICT in an Inclusive classroom for formulating pedagogy, developing creative content and to carry out teaching and learning process, will increase the effectiveness and speed of language learning. It enables learners with disability to receive equitable education and become a productive member in the society. A well-organized implementation of ICT in an inclusive classroom will help these learners by addressing their needs and providing them with unbiased learning experience. It would aid them by enabling communication with teachers and peer learners, provide access to a variety of learning resources, help in completing their assignments and sometimes examinations. There are three major types of ICTs that can be utilized based on the requirements. They are:

1. Mainstream technologies: those which have inbuilt accessibility features to serve this purpose.
2. Alternate formats: Hypertext Markup Language (HTML), Digital Accessible Information System books (DAIS), etc.
3. Assistive technologies: hearing aids, adaptive keyboards, screen readers, etc.

Teachers must be aware of the requirements of the inclusive classroom handled, as they are given the role of choosing the available and the most effective ICT tools in order to produce a successful outcome.

According to UNESCO, there are three major roles of ICT in an inclusive classroom. They are:

- Compensation uses: Technical assistance that enables the active participation in traditional educational activities such as reading or writing.

- Didactic uses: The general process of using ICTs to transform approaches to education. Many ICTs can be used as a didactical tool to enable a more inclusive environment
- Communication uses: Technologies that can enable communication often refer to as alternative and argumentative communication devices and strategies (p. 94).

The above uses of ICT prove its flexible and inexhaustible nature with regards to teaching and learning processes. Using its potential to the fullest in a well planned manner would definitely lead to effective outcome among learners with disability in an inclusive classroom.

Mobile Applications in Inclusive Classrooms

The rapid development of 'app technology' has made English learning apps popular among language teaching and learning situations. These applications "...have capability to integrate different media, for example, text, picture, animation, audio and video can be integrated in order to create a multimedia instructional material, as well as prompt students' interest in studying" (Shih, 2011). It appears to be a boon for learners who are in need of additional support as the available resources through applications are infinite and user friendly. These learners can identify their needs, with the help of the trainers, and search for applications that would best serve their needs. This allows them to directly address their individual needs effectively and without much delay. In an inclusive classroom set up, the use of language learning applications, which is an integration of all the existing media, creates a multisensory platform that consists of content that would appeal to all the senses of the learners. This breaks the boundary of traditional classrooms as it makes possible the impossible by addressing every individual need at the same time. It also results in providing effective results effortlessly. By incorporating ICT, especially mobile applications for teaching and learning purposes, the idea of inclusive classroom will be pushed to the next level as it addresses all the learners' needs without any prejudice of their learning abilities.

There are several English language learning mobile applications that would help learners with learning disabilities. They can be implemented by the teachers in the classroom and also

suggested for individual learning purposes outside classroom to help learners cope with their difficulties. Some of them are:

- *Letter Reflex Overcoming Letter Reversals & Backward Writing in Early Childhood Development & Dyslexic Children*: This app helps learners to differentiate between p, b and d, 3, 6 and 9, etc., by swiping them up down and sideways. This would be an effective therapy which enables the learners to understand the structure of the alphabets and also retain memory of the letters through repetition. This can be applicable for learners with dyslexia, dysgraphia, etc.
- *First Words Deluxe*: This app provides the learners with objects or words to spell. The learners have to drag and drop letters in to the right slots. When the word is complete, an auto generated voice spells and pronounces the word followed by the next word to be spelled. There are several other options available and the app can be customized according to the level and need of the learners.
- *Word Bingo*: Learners are made to practice identifying right words in the form of Bingo. Trainers or learners can choose the level and select the game or spelling practice mode based of their needs. Learners with dyslexia, cognitive disabilities and intellectual disabilities can be benefited.
- *OG Card Deck*: This app uses the multisensory approach to teach phonetic sounds of English. By this, it helps learners who face difficulty in reading and writing. The visual representation of letter combinations allows the learners to see the literal movement of the mouth and recreate it.
- *Sentence Maker*: This customizable app allows learners to learn the basics of word pairing and sentence structure. It helps the learners to improve their spoken and written expressions.

- *HOMER Reading: Learn to Read*: This app employs voice recognition and interactive animation techniques. It helps learners with sequential learning and early phonetics. This would develop their cognitive and intellectual skills.
- *Auditory Memory Ride*: This app is specifically designed for learners with Auditory Processing Disorder. It consists of 1000 stimuli with pre-recorded audio and the ability to introduce background noise. It provides both recognition and recall tasks with the ability to delay the presentation of the stimuli. Its customizable features enable the learners to assess according to their levels.
- *News to You*: This current-events app uses symbols and sounds to aid learners with difficulty in reading. Engaging games and comprehension quizzes reinforce learning among the learners. It helps learners with autism and cognitive disabilities.

Description of the Implementation of Mobile Applications

The teachers of inclusive classrooms have the responsibility to learn the individual needs of the students, analyze them, and identify the difficulties faced by them. Once a thorough study is carried out, the teacher can either implement these applications in classrooms or suggest applications according to the learner needs that can be carried out by them outside the classroom. In the Indian ESL context, most often mobile phones are restricted within the classroom premises. Hence, this research focuses on the implementation of suggested applications outside the classroom for learners with disabilities in inclusive classrooms. These applications can be suggested in general to the learners. It would interest the regular learners as well as cover up the additional needs of the learners with learning disabilities.

For example, learners with dyslexia and dysgraphia, who suffer from word reversals and mirror imaging, can be aided by the teachers by suggesting the class to use *Letter Reflex Overcoming Letter Reversals & Backward Writing in Early Childhood Development & Dyslexic Children* app. During the initial stages of second language acquisition, it is difficult to differentiate between regular learners from learners with language learning disabilities as their features might overlap with the features of the initial stage of second language learning.

Here, problems such as word reversals, backward writing and mirror imaging will be found common among ESL learners. In such situations, teachers can introduce such an aiding app to the classroom in general and encourage the learners to use them. They can formulate creative activities for the learners using the application. This would help the regular learners practice and get better with their initial difficulties with reversals. Most importantly, it would be an effective tool for the learners with learning difficulties like dyslexia, dysgraphia, etc. It would help them to learn the differences in the letter structures by continuous reinforcement which would gradually get stored in their memory and lead to error rectification.

In order to assist learners with cognitive difficulties, language learning difficulties, etc, teachers can insist the learners to install apps that have been specifically designed to aid such ESL learners. For instance, *News to You* app can be used as a base to carry out creative activities in and outside the classrooms. They can engage the learners with poor cognitive levels and other language learning difficulties and also equally engage regular learners in an inclusive classroom. The features of this app as described earlier are specifically designed for learners struggling with cognitive difficulties and language learning difficulties. The implementation of this app will make the tedious process of teaching and learning language simple and effective. It does not require the effort of extracting learners with difficulties and planning a special teaching technique and finding resources. It easily provides the necessary requirements for all, irrespective of their differences. Thus, it is evident that the possibilities of the use of mobile applications in inclusive classrooms are endless.

Likewise, in the case of Auditory Processing Disorder, Language Processing Disorder, Non-Verbal Learning Disability, apps such as OG Card Deck, Sentence Maker, HOMER Reading: Learn to Read, Auditory Memory Ride, etc., can be implemented accordingly in order to bring out effective outcomes. In such a combined set up, the regular learners will be interested and kept engaged while learners with needs and learning disabilities would benefit and meet their level of requirements. Identifying the appropriate applications and customizing them according to the needs of the learners with learning disabilities would lead to effective learning outcome. The teachers should guide the learners to utilize the applications to the fullest by creating activities accordingly. Thus, the disabilities found among ESL learners can be effortlessly addressed and rectified using appropriate mobile applications.

Limitations

The expense of setting up an inclusive classroom is 2 to 3 times higher than a regular classroom. Teachers should be technologically sound in order to use ICT tools for teaching and learning purposes in an inclusive classroom. Further, in the Indian ESL context, some of the ICT tools are restricted within the classroom premises; this would limit the choices available. In this research only the features and implementation of select mobile applications are listed and explained. Also, this research is limited to Indian ESL classroom settings. These are some of the limitations of the study.

Suggestions for Further Research

Some of the essential extensions worth of research would be the exploration of other existing ICT tools that can be implemented in inclusive classrooms. Mobile applications that can be implemented based on the requirements of different target groups. Experimentation on different combinations of ICT tools, which can be suggested and implemented among ESL learners. Also, a specific language learning disability can be focused and ICT tools could be suggested and implemented to assist it.

Conclusion

Inclusive classrooms work better with the use of ICT as it breaks the traditional barriers and create interesting and engaging classroom setup. Recent researches focus on the potential of mobile applications in the field of education. Its flexible, inexhaustible, customizable and unbiased features effortlessly lead to effective outcome. It addresses the needs of both regular learners and learners with difficulties based on their requirements, thus becoming the ideal aiding tool for inclusive classrooms. Further, it simply cuts down the tiring effort of the teachers in identifying and helping learners with difficulty, as they have to physically formulate special teaching and learning techniques and materials, and provide inexhaustible possibilities for testing. The features of available mobile applications are found to be attractive and engaging thus making the tedious process of learning simple for ESL learners with learning difficulties. Thus, this research explored the role of ICT, especially mobile applications in aiding and

supporting ESL learners with learning difficulties in inclusive classrooms by presenting a brief description of the possibilities of implementation for effective second language learning outcome.

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