Communication technology: The use of computer assisted learning on teaching language skills to young learners

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Abstract
This study aims to information communication technology in teaching language skills to young learners. It is done at Universitas Kristen Indonesia from September 2021 to January 2022. The research method used by researchers is a type of library research. The type of data used in this study is qualitative data, which describes some opinions, concepts or theories that describe or present problems related to the topic of this study. Research data is taken from sources in books, journals, and articles both offline and offline. The data of the study gained are analyzed through content analysis. The steps of analysis of research data are as follows: a) Research data is clarified following the problems in the research; b) Clarification results and further systematized; and c) The data that has been systematized is then analyzed to be used as a basis in concluding. The result of the study is that Teaching literacy skills need to be given attention to ensure that young learners master the skills of listening, pre-speaking, speaking, pre-reading, reading, pre-writing, writing, and communication. For groups of children who are relatively slow to master the language, they need to be given exposure to various literacy skills activities. The learning approach through play is widely used to attract young learners to learn the language.

Keywords: communication technology; computer-assisted learning; language skills; young learners

Introduction

The learning process will be more enjoyable if young learners can understand the lesson's content more quickly through their experience using communication technology. Teaching materials with language elements are meaningful to children at an early age because they have already begun to learn through observation and authentic experience. The content contained in teaching materials featuring communication technology such as simulation and interactive multimedia should be relevant to the curriculum adopted in early childhood education programs. In this way, the teaching and learning process can be implemented more effectively because the interaction between children, lesson content and educators coincides.

Recently, Teachers' roles from teaching shifted to facilitators and promoters when conducting learning. Communication technology provides many advantages, and one of the most notable advantages is that these teaching materials can be used repeatedly. This factor is because pedagogical agents have taken over the role of the teacher, and the process of self-teaching and learning can be done with the guidance of more knowledgeable individuals [1]. Through learning that uses teaching materials characterized by communication technology, it is easier for children to understand the lesson's content, and they can also learn according to their own time. The learning activities provided can also be used actively, no matter where they are.

A study conducted on children who showed poor responses to reading interventions, and this study aimed to improve their language skills. A reading intervention was conducted for nine weeks using reading and grammar exercises. Although literacy increased among the study participants, they still needed constant help when learning language skills. A study of 555 dyslexic children in Portugal was conducted, and the study results found that dyslexic children need more time learning to read, and everyday words are appropriate [2]. A three-year longitudinal study of 176 students found that failure to provide early interventions made students unable to read and write. The findings also show that more intensive follow-up services are needed for low-achieving children [3]. The World Declaration on Education for All sees "that every individual should benefit from educational opportunities designed to achieve basic learning needs such as literacy, verbal expression, problem-solving, and enhanced knowledge, skills, and values attitudes" [4]. Learning language skills is one of the agendas in the World Declaration on Education for All so that all children can communicate well by taking into account the act, play environment, appropriate assistance, intervention services, and time for activities. Then follow-up services from interactive learning materials show that the level of child development occurs more comprehensively if communication technology is integrated with education. It suggests that the development and use of communication technology, particularly in education, can change the way children learn the language.

Early childhood spans range from infants to eight-year-olds, where this period is a time of critical change and development for a child to achieve physical and mental skills that will be used for the rest of his or her life. Children learn language or literacy skills that were once known to many as reading, writing and arithmetic skills,

consciously or otherwise. In today's world, literacy is no longer an option but a necessity. Thus, the early childhood education curriculum should place the development of language, communication, and early literacy as one of the six areas of learning. According to their developmental stage, children need to be exposed to literacy experiences as early as their age. Elements of representation can be applied through pictures, scribbles, and writing the alphabet, and in turn, children will gradually learn spelling skills. Their environment and culture also influence the level of language development of children [5].

Through literacy experiences, cultural diversity covering a wide range of forms, including differences in race, language, religion, abilities, sexual orientation and gender, can be taught indirectly to children. The three main dimensions related to teaching culture to children at an early age are the classroom environment, teaching strategies and curriculum development. A learning environment for children needs to be provided to learn every nation's literacy and cultural skills. In line with this desire, educators must be prepared and able to implement appropriate teaching strategies to meet the needs of each child.

Various theories of teaching reading and language can be learned as early as their age and can occur either at home or school. Failure to master language skills is a factor that will cause children to show low achievement in lessons. There are five main components when teaching reading is identified, such as: understanding the principles of the alphabet, phonemic awareness, oral reading fluency, and understanding of vocabulary and comprehension [6]. These five components can be acquired when children learn in an environment rich in a diversity of cultural practices.

Children learn language through effective reading strategies. Children learn to read fluently through strategies related to actions, goals and drills [7]. Appropriate language skills teaching strategies need to be practised because teaching practices are closely linked to providing opportunities for children to read, write, speak and listen using their mother tongue or second language. To achieve this goal, educators need to know the background and be sensitive to the interests and abilities of children.

Since children have been exposed to technology from an early age, educators should provide a cross-cultural learning environment. It can be done quickly through communication technology so that children can better understand the various cultures in Indonesia and the lifestyle of its people. When children use interactive teaching materials, the learning activities can be repeated until they master the expected skills. Young learners also engage in social interactions when children play [8]. The play and pedagogy models used show that children become more responsible and understand what will happen in the future through in-depth analysis [9]. They not only play but are given a role in any activity performed so that their language development continues to evolve in line with the experience. Thus, play activities in the learning process can be done in various ways. There is nothing wrong with educators using rigid picture cards to teach language, but children are now more vulnerable to modern gadgets due to current changes. Children's developmental levels and their respective cultural backgrounds greatly influence their playing behaviour. While playing, children engage themselves actively, are intrinsically motivated, and their attention is focused on the process rather than the product. Their behaviour does not necessarily involve literal rules.

Methods

The research method used by researchers is a type of library research. A library study can be defined as obtaining information from previous research that must be done, regardless of whether a study uses primary data or secondary data, whether the study uses field research, a laboratory, or a museum. The type of data used in this study is qualitative data, which describes some opinions, concepts, or theories that describe or present problems related to the topic of this study. Research data is taken from sources in books, journals, and articles both offline and offline. Data in this study was collected through a literature study, namely by recording, reading, studying, reviewing, or analyzing materials that suggest the use of communication technology in learning. Analysis of research data was done through content analysis. The steps of analysis of research data are as follows: a) Research data is clarified following the problems in the research; b) Clarification results and further systematized; and c) The data that has been systematized is then analyzed to be used as a basis in concluding.

Results and Discussion

Teachers have a role in developing the curriculum. The users of the curriculum themselves should design the curriculum. Curriculum development involves many decision-making needs to achieve educational goals, such as subjects, selection of lesson content, learning experiences, teaching objectives, forms of assessment, and the overall adopted curriculum. Content and learning experiences need to be structured to achieve educational objectives. Furthermore, not all individuals learn effectively using the same methods, activities, and media types. They need a different arrangement of activities according to their level of development. Thus, an effective way for multi-ability groups is to choose learning methods according to students' needs, understanding, and abilities [10]. Curriculum development involves many decision-making needs to achieve educational goals, such as subjects, selection of lesson content, learning experiences, teaching objectives, forms of assessment, and the overall adopted curriculum. Content and learning experiences need to be structured to achieve educational objectives [11, 12, 13].

Furthermore, not all individuals learn effectively using the same methods, activities, and media types. They need a different arrangement of activities according to their level of development. The selection of teaching activities should be according to children's needs, understanding, and abilities [14, 15]. The eight inquiry steps suggested

have been used as a platform when a teacher plans activities in the teaching and learning process [16]. Since students with learning difficulties have problems in various aspects, then teachers should think of ways to be taken to a) diagnose needs by analyzing to identify problems, situations and difficulties in planning a unit; b) formulate specific objectives covering concepts, development of attitudes, sensitivities and feelings, enrichment, emphasis on thinking and skills; c) select content; d) manage content; e) choose a learning experience; f) manage the learning experience; g) assessment of learning, and h) review as well as in sequence [17].

When planning a learning activity, educators need to choose teaching materials wisely. Teaching requires change, and educators should see change as a positive [18, 19]. If children learned the language through big books read by educators once upon a time, perhaps children now prefer to listen to stories through audiobooks or watch YouTube. Behavioural change in social learning also involves family, peers, schools, communities and more knowledgeable people. Children need support and guidance in their developmental process at a young age.

Planning language teaching activities can be expanded when using communication technology. Young learners are given exposure to the use of computers when learning a language. Once educators have planned to educate and nurture children at young learners using communication technology, they need to understand the appropriate teaching approaches. With the availability of support and guidance services, children are given additional help to master language skills. The teaching aids and support provided in teaching the language skills carry the same meaning as scaffolding teaching [20, 21, 22], i.e. a teaching approach relating children's existing knowledge to future learning. Teaching aids and support enable educators to help children meet their individual needs by providing help from more competent or knowledgeable people.

Teaching aids and support mean that more knowledgeable individuals will provide a temporary framework to facilitate the development of students in remembering new knowledge [23, 24]. Teaching aids and support should be provided at the child's level of knowledge. Educators and individuals with skills and knowledge assist, i.e. temporary frameworks, such as construction workers' construction. As a child's abilities increase, help and support should be released gradually until, eventually, the child can complete tasks or understand concepts independently [25].

"At the motor-sensory stage (0 to two years), infants learn through interaction with surrounding objects, and cognitive abilities develop" [26]. "Once babies practice, their movements become more active, and while playing, they become more imaginative" [27]. "Through play, toddlers hone these skills and these skills are further developed through more challenging activities as they grow into adulthood" [28]. To encourage children's sensory development in line with their age and cognitive development, they need observation activities to understand better the concept of space, environment, and relationship with each other. This activity can be better held using interactive teaching materials. In addition to learning to use existing objects, communication technology helps children understand the concepts learned because technology allows the content of lessons to be translated better, planned and attractive [29, 30].
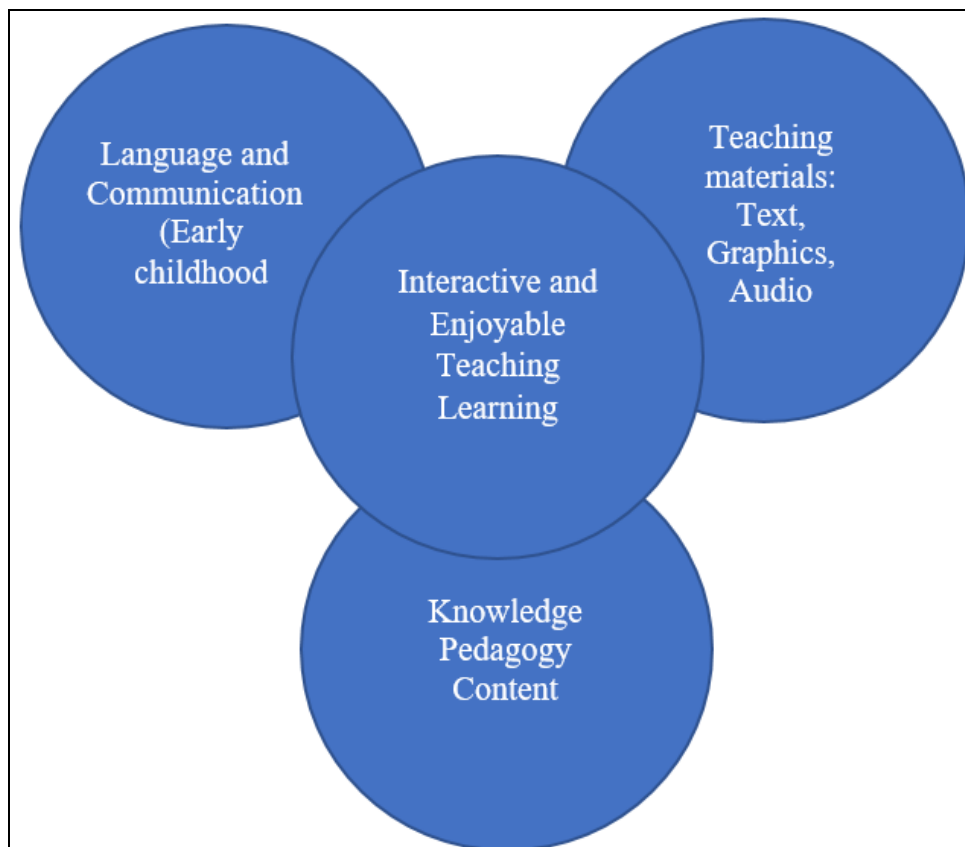

Fig 1: Interactive and Enjoyable Computer Assisted Teaching and Learning

The use of communication technology can stimulate and motivate children to learn more effectively at an early age. "The use of pictures, animations and sounds can help children learn more fun about new knowledge domains. The figure shows three elements, namely text, graphics and audio, that can be applied in teaching, and text is an essential multimedia element that is widely used to convey information. The text provides information that cannot be explained in detail by graphics" [31]. "The text explains the concepts and ideas in a multimedia presentation to clarify the message to the target. Since most young learners are not yet ready for reading, then multimedia and creative text in various forms can attract children's attention through multi-colours and writing sizes" [32]. The most widely used element in multimedia is graphics. The word graphic comes from the Greek word *graphiko*, which means drawing. "A graphic is a material drawn as a visual composition. Graphic material can be in pictures, animations, diagrams and sketches" [33]. In order to produce attractive graphic presentation materials, some graphic principles in the construction of materials need to be considered and discussed, such as unity, emphasis, movement, balance, contrast and harmony. Graphics are essential in capturing children's attention.

Background music, songs and sounds in a multimedia recording is essential because they can complete a multimedia presentation. Audio or sound effects are one of the compelling attractions to attract a person's attention. Audio refers to sound recordings, background sounds, music, special effects, and audio. "Audio elements help the presentation process be more robust and effective. In addition, audio can also increase motivation among users to follow a process of information delivery. In addition, audio elements are also said to be able to create a more exciting atmosphere and will produce more focus on what is to be presented" [34]. The figure also shows the function of specialized teaching materials as an alternative to various teaching and learning methods for early childhood children. "By using communication technology, the task of educators can be eased because teaching can be repeated according to the needs of children" [35]. The function of a multimedia system is that three to four-year-old children can perform interactively developed matching, comparison, and puzzle activities well. In a multimedia system, educators can guide children's learning, and the multimedia elements in the system will motivate children to learn because it is natural for children to like something interactive and exciting.

Communication technology "can help children learn through social support by bringing teachers back to the children's homes to help children learn" [36]. Social support can be defined "as an individual's perception that he or she can be helped through the guidance or assistance of others" [37]. Children are quicker to master a description because they have pictures, movements and voices than a purely written or oral description. However, Zhao, Pugh and Sheldon found that although technology is becoming more sophisticated, teacher education programs still have not yet integrated technology into the teaching and learning process. Although many individuals use technology for personal use, this does not mean they know how to use technology for teaching purposes [38].

Communication technology is also used in social activities, and social networks often help users communicate with family and friends [39]. Through technology development, children have been exposed to computers and smartphones early. This facility is no longer considered a prestige but has become a norm in modern families. Children are increasingly fond of gadgets and interactive materials. Thus, the teaching of language skills should change according to the current scenario and not be limited to books or picture cards.

The value of play in culture now needs to change to computer-assisted or virtual learning, even at an early age. This cultivation needs to be coordinated with the way educators plan teaching activities so that children can continue their interest in learning in the classroom. Interactive play also involves communicative activities where when children play using interactive materials, and they automatically learn to understand the rules and guidelines of use. The involvement of parents and guardians will add value to the language learning process, that is, through casual conversation and praise. Learning using interactive teaching materials makes it easier for parents and educators to guide children because the teaching materials are ready for use. The Internet, for example, affects the daily lives of individuals and social relationships are also established, and even the development of information and communication technology has attracted many educators to use it in education [40]. It can be concluded that interactive teaching materials and communication technology should be part of the teaching and learning process as children have become accustomed to using smartphones and various communication gadgets.

Content knowledge and pedagogical knowledge are put forward where teachers need to understand the relevant content of each subject taught [41]. Pedagogical content knowledge emphasises the importance of teachers learning various ways to convey content knowledge to children. Although it is not focused on technological knowledge, technology and media offer opportunities to learn more effectively in the early childhood environment. "Screen media can expose children to animals, objects and people, landscapes, activities and places they have never visited" [42]. "Technology can also help children save, document, review and share their real-life experiences through images, stories and sounds" [43].

"Technological devices that include a variety of digital devices such as computers, tablets, Multitouch screens, interactive whiteboards, mobile devices, cameras, DVD and music players, audio recorders, VCRs, VHS tape recorders and cassette players, light tables, projectors and microscopes are suitable for use in teaching and learning processes" [44]. Thus, communication technology should be part of the teaching and learning process. Cultivating communication technology in the classroom should be intensified through courses, providing computer facilities and communication technology integration in the adopted curriculum. "Interactive media that

refer to digital materials, including software programs, television programming, e-books, the Internet and others, are also increasingly widely used in education" [45]. All these tools make it easier for children to learn language skills, and today's children also grow up in a textual landscape where they have a variety of ways to interact and play actively in environments created through digital technology such as computer games and mobile phones virtual worlds.

Conclusion
When babies and children interact with games or specialized materials, they are free to explore, manipulate and test things in their environment with the guidance of people close to them. These positive interactions can be created through various methods, and one of them is through games using communication technologies. Teaching literacy skills needs to be given attention to ensure that young learners master the skills of listening, pre-speaking, speaking, pre-reading, reading, pre-writing, writing, and communication. For groups of children who are relatively slow to master the language, they need to be given exposure to various literacy skills activities. The learning approach through play is widely used to attract young learners to learn the language. Moreover, computer-assisted learning is not a new thing in pedagogical practice in the classroom. The use of communication technology is beneficial for early childhood to learn language because the combination of text, graphics, video and sound elements can increase their interest in learning and make it easier for them to understand concepts.

Acknowledgements

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