



# Learning for early childhood using the IcanDO platform: Breakthroughs for golden age education in Arabic learning

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## Abstract

Early childhood is an age of children whose learning tendencies rely on games, therefore this study aims to describe the IcanDO platform for early childhood in learning Arabic. The research was conducted with a qualitative approach, the data sources were early childhood teachers. Data collected by observation techniques, interviews and documentation studies. The result of the research is that IcanDO as a learning platform is interesting for early childhood, with this platform they can play to learn Arabic. In accordance with the data, it was found that the IcanDO platform used can stimulate early childhood learning, stronger memory, personalized learning can be implemented, children's thinking skills can be trained and children's multilingual abilities are also growing. Researchers recommend that the use of various platforms that support the implementation of education in difficult conditions continue to be developed. The limitation of this research is that IcanDO and its effectiveness have not been studied comprehensively, therefore the aspects that have not been touched in this research can be the work of future researchers.

**Keywords** Early childhood · Education technology · IcanDO · Learning Arabic

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## 1 Introduction

Education for early childhood is a process of learning activities that rely on games. This is because early childhood has a tendency to play in each of their activities, Bento and Dias even emphasized that playing outdoors is a form of activity that will make students smarter and healthier (Bento & Dias, 2017), while Singer revealed that games for early childhood helps teachers to overcome the differences that exist in each student, and more than that student will avoid the burden of thought contained in the rules and discipline of each group (Singer, 2015). The findings of Zang prove support for research results that confirm the effect of physical activity on the development of motor skills and cognitive skills of early childhood (Zeng et al., 2017).

The role of play activities that are proven to have an impact on children's cognitive and motor. Therefore, learning Arabic to date at various levels of education is faced with a very serious problem. The problem occurs starting from the level of kindergarten education (Rakhlin et al., 2021); (Sokip, 2018), elementary school (Haris et al., 2021), middle school, senior high school and even college. Among the research results there are those who confirm that this reality can occur due to inaccuracies in choosing and using learning media that are in accordance with the material and level of students (Khaira et al., 2021), differences in learning time and learning conditions that have not been harmonized with the conditions of educators and students. students (Ritonga et al., 2021).

Whatever the problems that occur in learning Arabic as a foreign language, language learning for early childhood is the time to align media, models, strategies for learning models with their habits. This needs to be done considering that early childhood is the golden age (Almy, 1986; Rozi et al., 2022), therefore the experience and education they get should not interfere with their brighter future (Bakken et al., 2017; Hakim et al., 2020). The form of efforts to build the future of early childhood is to provide the best education for them (Cheng & Yu, 2022).

Researchers have conducted studies on various platforms and technological devices that can be used in learning in the digital era, Hardika and colleagues based on their findings confirm that the use of technology in learning causes various transformations for students, it can be seen from the changes in students, their experiences, creativity and maturity in learning (Hardika et al., 2020). Thakker and friends reveal that the use of learning platforms is a solution in difficult conditions such as the Covid-19 condition, however, the availability of a strong platform is a challenge for educational institutions (Thakker et al., 2021).

To make quality education for early childhood, experts have found various steps, such as integrating learning in the classroom with learning to play outside the classroom (Parker et al., 2022), games for early childhood learning (Chou, 2017). In subsequent developments, the use of games for children causes children to become addicted to games so that learning goals are not achieved and children's psychology changes (Farchakh et al., 2020). Other findings prove that children are not only consumers of the games they play, but they are also able to modify the games they want (Mertala & Meriläinen, 2019).

Some of the negatives of using games in education are a reality, however, technological progress is an inseparable part of education, the positive thing about using technology is that teachers and students are helped a lot in learning activities through technological devices (Hafniati et al., 2021); (Farchakh et al., 2020). In line with that, for early childhood learning there is a platform that can be specifically designed for early childhood, namely IcanDO, an application that contains various game media that can be adapted and modified according to the needs of every educational institution (Abdulrahman et al., 2020; Adel & Dayan, 2021).

The existence of the IcanDO application as a learning platform for early childhood has not found many research results, therefore the existence of this platform is interesting to be analyzed in depth, so that its existence can be utilized and improved. In line with that, the problem of learning Arabic as described has not been found much, therefore IcanDO as a platform can be a solution for Arabic language teachers in learning for early childhood in the digital era. Thus, learning Arabic for early childhood becomes more varied and modern because it prioritizes technology as a mode of learning today.

## 2 Literature review

The limits used by the National Association for the Education of Young Children (NAEYC), and experts in general are: "Early childhood" early childhood is a child from birth to the age of 8 years (Copple & Bredekamp, 2009). So, from the time the child is born until he reaches the age of 6 he will be categorized as an early child. Some people call this phase or period the golden age because this period will determine what they will be like when they become adults both physically, mentally, and intelligently. While the nature of early childhood is a unique individual where he has a pattern of growth and development in the physical, cognitive, socio-emotional, creativity, language and communication aspects that are specific to the stages that the child is going through.

Early childhood education is the level of education prior to basic education which is a coaching effort aimed at children from birth up to the age of six. This education is carried out through the provision of educational stimuli to help growth enter further education, which is held in formal, non-formal and informal channels. One of the leaders of early childhood education, Maria Montessori defines early childhood education as a dynamic process in which children develop according to the provisions of their lives (Montessori, 2004), with their voluntary work when placed in an environment prepared to give them freedom of expression.

It is from this point of view that researchers try to examine how children in their golden years get Arabic language learning, which then greatly influences children's readiness to learn Arabic when they enter elementary school age. Therefore, learning Arabic really needs to be researched at this level of education so that parents and teachers will find it easier to direct children to various language skills at the next level of education and understand strategies that can be continuously developed to increase children's interest in Arabic (Huss-Keeler, 1997). In addition, instilling

Arabic language education from childhood will make it easier for children to recognize the language of the Qur'an from an early age.

However, the current digital era requires everyone to master many things in the process of learning Arabic. Starting from demands for understanding media, materials, strategies, methods, and language skills that must be mastered by students and teachers. The digital era offers the IcanDO platform as the latest Arabic language learning media for early childhood students, to deliver a fun and enjoyable learning process (Nur et al., 2021). The IcanDO platform is an educational application for early childhood that has a learning program that is in accordance with the latest educational curriculum that is developed comprehensively with hundreds of minigames that will increase early childhood learning motivation.

IcanDO is an application developed as an early childhood educational application. IcanDO has 3 main applications namely IcanDO, IcanDO for teacher and IcanDO for parents, children's features through the IcanDO application contain educational games according to thematics that are discussed in childhood education (PAUD) classes and content contains the habit of washing hands and brushing teeth. The IcanDO teacher feature contains administration and monitoring of students, while the IcanDO feature for parents contains monitoring of children's learning development achievements (Churiyah et al., 2020), interacting by providing challenges and appreciation as children's learning motivation, providing study time limits and getting the latest information from schools such as attendance lists, assignments and school notifications.

### 3 Research method

#### 3.1 Method

The approach used in this study is descriptive qualitative, namely a research approach that aims to describe data in the form of sentences not in the form of numbers (Nassaji, 2015). While the research method uses case studies to see the object of research as an integral part of the research process. That way, researchers can reveal the unique parts that are practiced in early childhood education institutions in Muara Bulian Regency, Indonesia.

#### 3.2 Population and sample

The sample for this study was taken from teachers at the Negeri Pembina Muara Bulian Kindergarten, especially those who taught Arabic children, totaling 5 people as primary sources. Meanwhile, secondary sources were taken from 30 early childhood students at the school who were divided into 3 classes, namely TK-A with 8 students, TK-B with 12 students, and TK-C with 10 students, where they are all language learners. Arabic in class. Researchers want to get data from teachers related to the planning process for using IcanDO, implementation, and

learning outcomes obtained. Meanwhile, from students, researchers will reveal information about their perceptions using the IcanDO platform in the process of learning Arabic (Fig. 1).

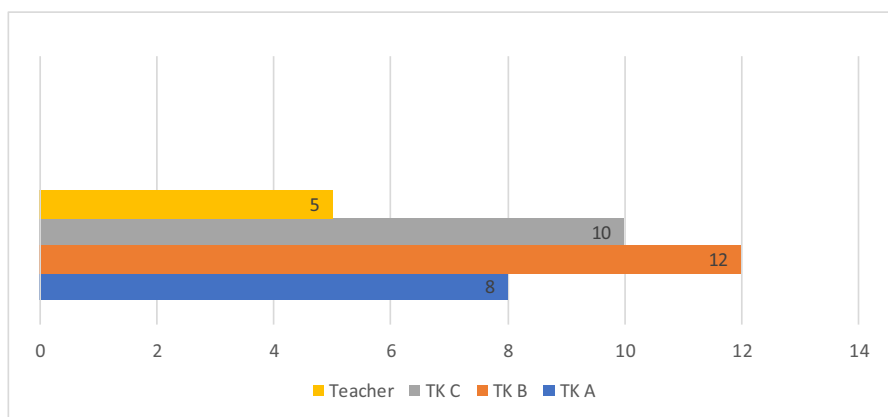
Researchers used ANOVA (Analysis of Variance) as a tool to measure the diversity of the total study population according to research needs based on early childhood groups. Of the 30 early childhood students, they can be classified of beginner and advanced students. The beginner group is those who have just learned Arabic since entering kindergarten, while the advanced group is students who already know the Arabic alphabet and know basic Arabic words.

### 3.3 Place of research

This research was conducted at Pembina Muara Bulian Public Kindergarten, this institution was used as a research location due to its position as a pilot institution for early childhood education in Muara Bulian Regency, Indonesia. Researchers see the opportunity for the development of this educational institution to be very progressive from a learning process based on improving early childhood life skills.

### 3.4 Time of research

The research was conducted from November 2020 to November 2021. This twelve-month period is intended to complete all research processes, from research planning, implementation to writing reports and research outputs. Researchers see that 1 year can be maximized to reveal the uniqueness that appears in the object of this research.



**Fig. 1** Population and sample

### 3.5 Interview material

The researcher wanted to reveal 3 important things in research activities, namely: starting from planning, implementing, to the results of learning Arabic that were obtained using the IcanDO platform. This is because the IcanDO platform in this study is associated with game-based Arabic language learning. The data to be obtained from the informants is in accordance with the research objectives, namely as in Table 1 below:

Three focuses of research described in Table 1 above the data were collected through observation, interviews and documentation studies. Researchers make observations in terms of planning, implementation to the results obtained. The type of observation used is observation participant, namely collecting data by making observations and being directly involved in the object being studied (McGrath & Laliberte Rudman, 2019), this type of observation is considered appropriate to use considering that one of the research members is a teacher at the institution. The interviews were used to obtain data related to how the teacher planned, how the teacher carried out and how the results were obtained using the IcanDO platform. The type of interview used is free interview (Lobe et al., 2020), the use of free interview type is intended to avoid misunderstandings from informants. Documentation studies are used to obtain data related to the use of IcanDO as contained in the related documents.

### 3.6 Data analysis

Research data was analyzed using interactive techniques, namely data analysis techniques that have been carried out since the implementation of the research began. This technique was chosen so that research data collected at different times is confirmed at different times, data obtained through certain techniques can be verified by data obtained through different techniques. Thus, the accuracy of this research data can be tested.

## 4 Results and discussion

Education for early childhood has many basic differences with education for elementary school, junior high school and senior high school. The differences exist in various aspects, especially in terms of its implementation in learning. Based on the results of the study, teachers at the State Kindergarten Pembina Muara Bulian must relearn related to the continuity of early childhood education during the Covid-19 period. Therefore, teachers make plans that are deemed appropriate and can be used during the Covid-19 period, the availability of the IcanDO platform is an asset for teachers to maintain the continuity of early childhood education.

**Table 1** Materials and research objectives

No	Objectives	Techniques for obtaining Data
1	Planning for the Use of IcanDO in Teaching Arabic for Early Childhood	<ul style="list-style-type: none"><li>• Observations</li><li>• Interviews</li><li>• Documentation Studies</li></ul>
2	Implementation of Arabic Learning for Early Childhood Using the IcanDO Platform	<ul style="list-style-type: none"><li>• Observation</li><li>• Interview</li><li>• Documentation Study</li></ul>
3	Learning Outcomes of Arabic using the IcanDO Platform for Early Childhood	<ul style="list-style-type: none"><li>• Observation</li><li>• Interview</li><li>• Documentation Study The</li></ul>

In accordance with the data obtained, specifically for the covid-19 period, the teacher at the Pembina Muara Bulian State Kindergarten provides a variety of learning tools specifically, while the tools that have been prepared are as shown in Fig. 2 below:

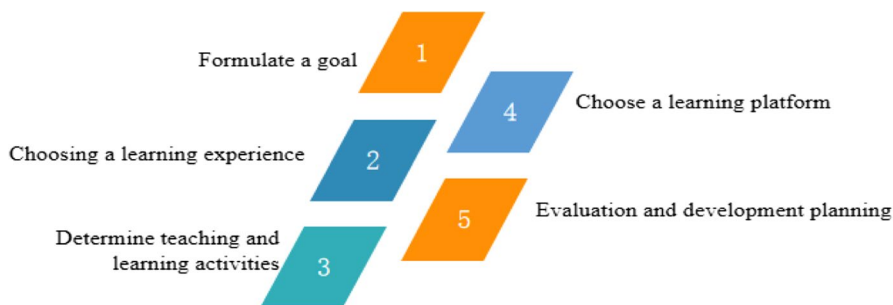
In accordance with the data in Fig. 2 above, there are 5 components that teachers should prepare for early childhood learning, this was also confirmed by the informant that teachers must prepare various learning tools (Informant, Interview, 2020). However, according to the focus of the research, an important aspect to reveal is related to choosing the right platform, from the data it was found that the presence of the Covid-19 pandemic disaster on the one hand brought blessings to teachers, because in difficult conditions the teachers returned to learning so they had skills in using the platform.

Teachers are important for reformulating learning plans according to conditions. The planning carried out by the teacher in integrating Arabic material on the IcanDO platform is micro planning, namely a plan that is intended for one week, from the daily planning is broken down again. To make weekly plans, the teacher compiles it by considering the achievements that must be achieved by students.

In accordance with the characteristics and principles of learning for early childhood that rely on game patterns (Teichmann et al., 2020), teachers plan learning by thinking about the form of games that will be given to students. In accordance with the learning pattern contained in the IcanDO application which aims to hone communication skills, develop critical and creative thinking skills, form students who are able to collaborate, Arabic learning plans using this platform are arranged in aspects of Basic Competence, learning objectives, learning steps by using the IcanDO platform and compiling a form of planning.

From the data described above, it can be explained that the IcanDO platform has a clear learning direction, especially for early childhood. In relation to learning Arabic for early childhood, teachers are required to be able to combine several types of games contained in the IcanDO platform.

From the data described above, it can be emphasized that learning planning for early childhood is part of the steps taken by teachers in carrying out learning. The steps in using the IcanDO platform as in the Pembina Muara Bulian State Kindergarten are in accordance with the opinions of experts who assert that learning



**Fig. 2** Learning tools for young children early



requires planning (Samuelsson & Carlsson, 2008). Moreover, learning during the Covid-19 era is faced with problems, parents also need to receive training regarding the platform to be used, because parents who accompany children in online learning will be in vain when they are not skilled to use it (Dong et al., 2020).

In the plans prepared by the teacher for learning Arabic for early childhood using the IcanDO platform, parental involvement was found. According to the information obtained, this is needed considering that learning during the COVID-19 period requires strong collaboration between parents and teachers, early childhood who are in the golden age position have not been able to filter what they see, if parents just let their young children access the learning platform used, then the negative the game has the potential to damage their future (Blumberg et al., 2019; Lai et al., 2018). However, with the planning carried out by the teacher at the Pembina Muara Bulian State Kindergarten, there is a form of parent involvement as a child mentor in participating in learning using the IcanDO platform.

#### 4.1 Implementation of Arabic learning for early childhood using the IcanDO platform

Online or online learning in Indonesia has been carried out by all education personnel since the end of March 2020. Since educational activities at all levels have been carried out online, more and more applications or platforms have emerged. sophisticated platform that can be used to support distance learning activities. The platforms that have actually existed so far, but not many people know about their functions and uses, because in Indonesia learning through advanced technology is still very minimal, so that when forced to know and always co-exist with technology in learning, not a few are rigid and confused about how to use it so that they can become Watch out for the achievement of educational and learning goals that have only been carried out in the classroom.

Especially for early childhood learning which is dominated by games, coloring, and other light fun activities. In essence, early childhood learning is learning while playing, the important thing is that children are happy and comfortable and want to socialize with their peers and also establish good communication with their teachers. This data is in accordance with the statement (Larivière-Bastien et al., 2022; Skjæveland, 2017) that the essence of learning for early childhood is learning while playing.

However, technological sophistication that is developing rapidly in the 4.0 era has been able to present a suitable platform to facilitate learning activities for early childhood remotely (Wang et al., 2010). Among the platforms used for learning for early childhood, especially in Indonesia, is IcanDO, a game-based platform launched in 2018 by Syaiful Lokan (Hasanah & Akhlak, 2021). This platform is designed with the *discovery learning* which aims to enable children to actively manage and extract information and practice independently, not just being listeners and recipients. IcanDO wants to create a generation that is capable of 4C (*Collaboration, Communication, Critical Thinking, and Creativity*) and capable of technological literacy in the digital era.

IcanDO can not only be used by children, but also by institutions or schools for administrative management, and access for parents to monitor their child's learning progress. Because education will not be realized without solid integration between the three parties, education will not succeed without the full support of these three parties (School, Children, and Parents). In using IcanDO, children will be faced with educational game activities that are specifically designed to achieve the goals of implementing education and learning in early childhood. The content of the games on the IcanDO platform is adapted to the adaptation of the Indonesian national curriculum.

Interestingly, this game based education can be obtained for free on the google play store (Syaiful Lokan, in Beritasatu.com), making it easier for anyone to download it to be used in online teaching and learning activities. According to data from IcanDO.co.id, this platform has been downloaded more than 100,000 times with more than 2,500 users/day. Seeing this reality, the author is interested in conducting research on the use of the IcanDO platform to motivate early childhood in learning. with the aim of seeing the extent to which the IcanDO platform can provide motivation for early childhood in learning activities.

In the implementation of Arabic learning using the IcanDO platform, users can take advantage of various types of games that can stimulate and develop the psychomotor development of early childhood (Fig. 3).

Learning Arabic with games is relevant to early childhood habits. Because early childhood as emphasized by Hanifah is a golden age whose development can be assisted by learning activities that do not burden their minds such as playing and singing (Hanifah, 2021). Arabic games with all the variations that exist can be developed through the use of the IcanDO platform. Experts have also conducted various experiments to find forms of games that can be used in learning Arabic for early childhood (Fig. 4).

Based on the data and opinions of experts described above, it is known that the implementation of Arabic learning for early childhood using the IcanDO platform can be improved in quality by exploring the various types and variations of games contained on the platform. In implementing learning using the IcanDO platform or other platforms, the presence of parents to accompany early childhood is a must. This is because early childhood in their golden age is very risky with the surrounding influences, so learning using online platforms that are not accompanied by parents will cause them to switch to activities that are not related to learning.

**Fig. 3** Examples of Arabic games (Putria et al., 2021)



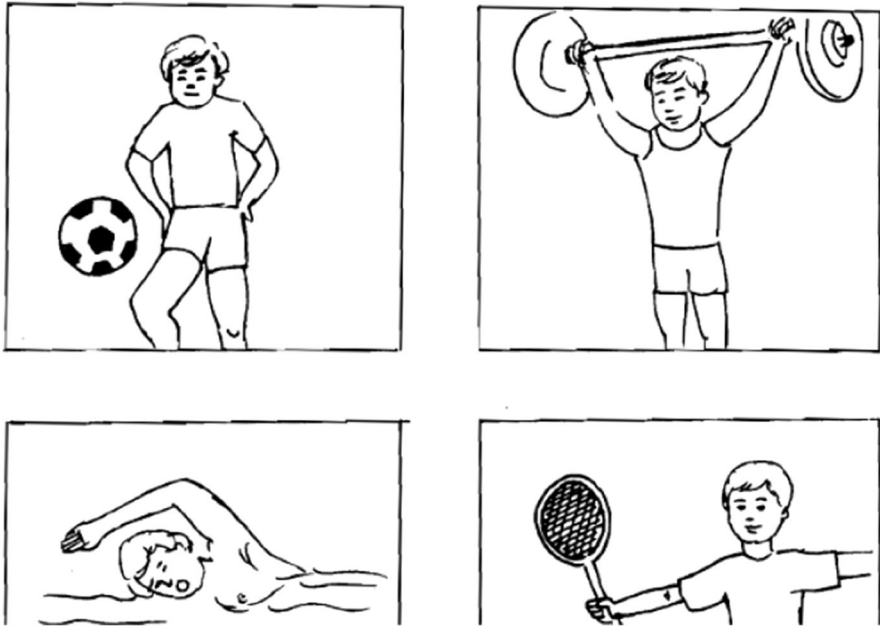


Fig. 4 Examples of language games (Fadhlullah, 2005)

## 4.2 Evaluation of the use of IcanDO as a platform for early childhood

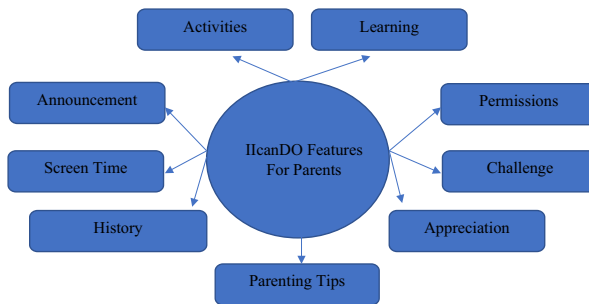
The presence of technology for education and learning has both positive and negative impacts. Technology has great benefits when its existence is used properly for the continuity and ease of implementation of learning. On the other hand, technology will have a negative impact on children's development when children are left alone to operate technological devices without any assistance or supervision from their parents. The statement above is in accordance with the conclusion of Serdyukov who emphasized that technology does not always have a good impact on education (Serdyukov, 2017), Ritonga et al. also emphasized that parents are the first school for children (Ritonga et al., 2022), Elvina et al. also confirmed that participation active parents will make children successful in their education (Elvina et al., 2021).

In accordance with the data found regarding the use of the IcanDO platform in learning Arabic for early childhood, there are several things that need to be evaluated in order to increase the usefulness of IcanDO in learning Arabic (Fig. 5).

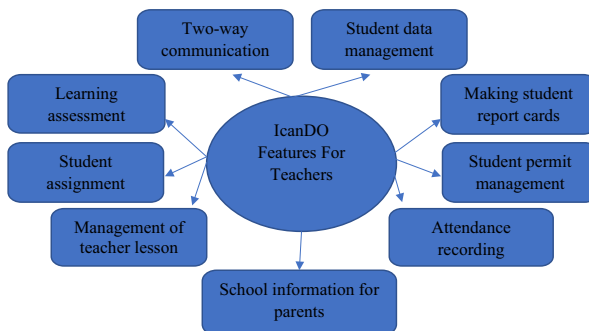
Figure 5 above shows that the use of IcanDO requires cooperation between teachers and parents. Especially for its use in learning Arabic for early childhood, parents must be able to receive encouragement, information related to Arabic from each of the features contained in the IcanDO platform. The learning model using IcanDO for learning Arabic for early childhood in the future is as follows (Figs. 6, 7):

Figures 6 and 7 above emphasized that the pattern of learning Arabic using the IcanDO platform provides a great opportunity for teachers and parents to collaborate

**Fig. 5** Overview of the use of IcanDO (<https://IcanDO.co.id/about-kami>, 2022)



**Fig. 6** IcanDO platform features for parents



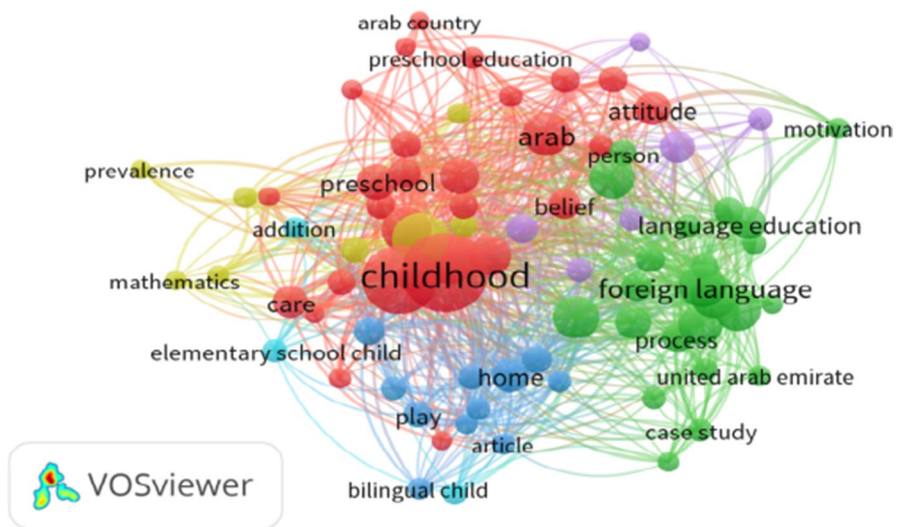
**Fig. 7** IcanDO platform features for teachers

in education for students at home and at school. The platform distinguishes various features that can be accessed by teachers and special features that can be accessed by parents. This is very interesting for early childhood learning (Churiyah et al., 2020), because IcanDO content focuses on equipping children with reading, writing, arithmetic skills (Havukainen et al., 2020), and manners that are in line with the 2013

Curriculum. and developed with the latest technology, such as voice recognition and hand-written recognition (Karpov & Yusupov, 2018) (Fig. 8).

The use of technology as a teaching medium in learning Arabic for children is very helpful in achieving learning objectives. Arabic learning media for children at this age which is quite effective and efficient is used in various learning models such as vocabulary recognition, choosing sentence structures, and using the right words (Yang & Piantadosi, 2022). The patterns can be placed in the corners of the room or on the wall as a display if they can read, including their names or the name of the object under each picture or artificial object (Giesel & Gegenfurtner, 2010). It can also be presented through a song whose tone or rhythm is left to the teacher or child, so learning is really fun. Learning Arabic that is introduced through singing will be easier for children to remember so that it will help children enrich their mastery of vocabulary and Arabic itself (Hanifah, 2021). Learning Arabic itself can be packaged using online media such as television, VCD recorders, computers, and social media so that children can reopen lessons anytime and anywhere.

Indeed, early childhood language development is still far from perfect. However, teachers can develop children's language potential through reading stimulation or often communicating directly with children using good and correct language (Xu et al., 2021). Children's language skills can be grown in various ways, including singing, listening to songs, reading stories or news, playing guessing words or pictures, storytelling with props or media, as well as making questions that must be answered by children (Mujahidah et al., 2021). This is the reason why these skills should be instilled in children from an early age, in the sensitive period of learning so that when they grow up, children are more active and develop faster (Junaidah et al., 2020). Children's language growth will be balanced with other physical growth.



**Fig. 8** Arabic learning cycle for early childhood

There is no denying that children have a stronger drive to learn languages. This shows that directing children to learn language is a light thing (Charlesworth et al., 2021). On the other hand, the teacher will face problems in conditioning children when learning a language where the character of the child chooses to play (Laranjeiro, 2021). By looking at these characteristics, teachers are required to be able to package methods that are suitable for learning so that learning can run as expected (Nielson, 2011), so that the jargon "play while learning" appears for early childhood (Cheng, 2012). For example, when the teacher wants to provide material about simple dialogues, the teacher can present learning through stories and children must listen to the stories conveyed by the teacher. When the teacher wants to provide material about vocabulary, the teacher can invite children to sing along while mentioning the vocabulary included in the material. When the teacher wants to teach about characters, the teacher can invite children to draw the character on a piece of paper using each child's creativity and imagination.

## 5 Conclusion

Online learning platforms such as IcanDO make it easier for early childhood learners and other users to access and discuss Arabic subject matter without space and time limits. This research has implications for the IcanDO Platform, which is especially relevant for learning basic Arabic for early childhood learners because IcanDO starts teaching material from the alphabet to new vocabulary using pictures and visuals and is very familiar to young children. However, the IcanDO platform still needs to develop excellent Arabic-language products for beginners, early childhood, or even advanced Arabic learners. In fact, the developer of the IcanDO platform needs to add Arabic language games to increase the interest and power of learning foreign languages for young children.

The IcanDO platform opens opportunities for Arabic learners to learn a foreign language at a second and can even learn a new foreign language. This research wants to encourage future researchers to develop the IcanDO platform, especially in aspects of Arabic language elements, in terms of vocabulary, sentence structure, and language skills, including listening, speaking, reading, and writing. That way this digital platform will be more helpful in preserving the Arabic language around the world through the IcanDO online platform. Because the facts reveal that IcanDO can make early childhood students learn Arabic more fun and enjoyable and they can learn Arabic without calling an external tutor.

In another perspective, IcanDO allows students to select a number of modules to complete over time at their choice, with each module providing a variety of resources to choose from based on their learning preferences, as well as the option to decide how and when to receive an evaluation on each. each selected material. However, maintaining the competitiveness of educational quality is increasing worldwide and the identification and retention of education management will become increasingly complex over the next decade. Future short to medium term impacts for the three main stakeholders include:

- i. Students: taking greater responsibility for their learning and selecting and utilizing learning technologies that can enhance their knowledge with guidance from their teachers.
- ii. Teachers: identify opportunities for flexibility in knowledge transfer, with increased focus on controlling the learning process instead of being the main supplier of learning materials. Especially in learning Arabic as a foreign language that requires full attention to be taught to early childhood students.
- iii. Institution: allows a flexible system, where students can register and choose learning options. The simplification of the bureaucracy of educational institutions to provide flexible learning mechanisms and structures is the demand of modernity throughout the world which must be followed by all educational institution stakeholders.

Given the importance and influence of utilizing the IcanDO platform on teaching and learning Arabic in the classroom, the researchers propose that schools at a high-level offer instructor the option of receiving training to know how to properly use digital learning media in schools. There are many different types of online platforms that can be used in teaching and learning, which must be presented by the instructor. It might also make it simpler and more enjoyable for students to learn Arabic. In addition to theory, such as learning materials and systematic learning assessment, Arabic teachers also need to be introduced to the IcanDO platform which can be applied in the process of learning Arabic for young children.

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