Journal of Basic Education Research
Vol. 7, No. 4, July 2026, pp. 351~359
ISSN: 2716-3725, DOI: 10.37251/jber.v7i4.3611

Problematics of Ict-Based Maharah Al-istima Learning in the Era of Society 5.0 in the Arabic Language Subject of Grade IV at MIS Mande

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Article Info

Article history:

Received Jun 2, 2026
Revised Jun 30, 2026
Accepted Jul 12, 2026
OnlineFirst Jul 31, 2026

Keywords:

Al-Istima' Skills
Arabic Language
Digital Technology
Learning Challenges
Society 5.0

ABSTRACT

Purpose of the study: This study aims to identify various challenges in the implementation of ICT-based *maharah al-istima teaching* for fourth-grade students of MIS Mande, Bima City and describe the impact of ICT application on the learning process.

Methodology: The study uses a qualitative method with a descriptive approach, where data is obtained through observation, interviews, and documentation, then analyzed through the stages of data reduction, data presentation, and drawing conclusions with validity tests using source and technique triangulation.

Main Findings: The results of the study indicate that the implementation of ICT-based maharah al-istima learning still faces various obstacles, including limited technological facilities and infrastructure, low student ability in understanding Arabic audio materials, and less than optimal teacher competence in integrating ICT into the learning process. On the other hand, the use of ICT has been proven to have a positive impact in the form of increased student learning motivation, easy access to learning resources, and the creation of a more active, interesting, interactive, and learner-centered learning process.

Novelty/Originality of this study: The novelty of this research lies in the analysis of the implementation of ICT-based maharah al-istima learning at the Madrasah Ibtidaiyah level in the context of the Society 5.0 era by simultaneously examining the implementation challenges and their impact on learning quality.

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1. INTRODUCTION

The development of the times has pushed the world of education into the phase of Society 5.0, where every learning process, especially Arabic language learning, also demands innovation in the educational process that utilizes the development of digital technology [1]-[3]. The era of Society 5.0 is a concept of society that places humans as the center with the support of intelligent technology in various aspects of life, including in the field of education [4], [5]. Therefore that , the learning process moment This No only method - oriented conventional , but also demanding utilization digital technology for increase effectiveness and quality learning [6], [7]. Change paradigm This encourage teachers to integrate technology in activity Study teaching for learning become more interactive, flexible, and contextual [8], [9]. Arabic has very high position important in Islamic education because is language used in source main Islamic teachings such as the Qur'an and hadith [10], [11]. In addition that, Arabic also plays a role as means communication scientific and development knowledge knowledge in the Islamic world. Therefore that , learning Arabic is necessary given in a way systematic since level education basis for students can

understand and use Language the with Good in various context learning. So that in learning Arabic is available four skills the main thing that must be mastered by participants educate , namely skills listening (maharah al-istima'), speaking (maharah al-kalam), reading (maharah al- qira'ah), and writing (maharah al- kitabah) [12].

In learning Arabic, especially in skills listening (maharah al- istima), still found a number of obstacles involving teachers, participants students, and the madrasah at MIS Mande, Bima City. From the teacher's perspective, the use of learning media based technology Still not optimal, so that presentation material listening Not yet fully varied and interesting as well as not enough support use authentic sources [13], [14]. From the other side, students too Still many have experienced difficulty in understand text oral speak Arabic, good Because limitations vocabulary, speed speech, as well as lack of intensity exercise listening in a way routine [15]. This is impact on low ability they in catch information from Language oral [16], [17]. As for from MIS Mande Madrasah, Bima City , facilities support learning based technology Not yet fully available in a way adequate . Condition the cause learning Arabic, especially skills listening, not yet walk optimally according to with demands development technology and needs learning modern century.

Utilization Technology Information and Communication (ICT) in learning Arabic , partly big Still focus on the effectiveness of learning media or improvement results . Implementation learning n maharah al- istima' ICT- based at the Madrasah Ibtidaiyah level in the context of the Society *5.0* era , especially in the material *vocabulary* and introduction member family , still relatively limited . Visible from optimally studies that connect teacher digital competence , readiness participant education , availability ICT facilities and infrastructure , as well as effectiveness utilization of audio-visual media as interrelated factors influence success learning . In class IV MIS Mande, Bima City , the implementation learning ICT- based still face various obstacles , including teachers ' mastery of applications and features technology that has not been maximum so that the use of digital media has not ongoing in a way consistent , limited facility supporters , as well as difficulty participant educate in understand vocabulary (mufradat) and material presented through audio and visual media. Based on condition said , the novelty study This lies in the presentation comprehensive analysis about implementation learning maharah al-istima' ICT -based with integrate aspect teacher digital competence , readiness participant educate, support infrastructure , and characteristics material learning Arabic in perspective Society 5.0 . especially on skills listening Class IV MIS Mande, Bima City (maharah al- istima).

According to Furoidz in his writing , emphasized that ICT facilitates learning that is cross space and time. Concept This become runway strong for MIS Mande, Bima City For Keep going still operate approach communicative in learning Language Arab class IV. Based on observation beginning confirmed that for students of Class IV MIS Mande, Bima City , skills This become pillar the main thing is a little Lots require they own skills in use technology in learning Language Arab listening as well as determine success they in mastery and skills speaking, pronunciation as well as writing and reading This must There is will from self a student For develop self they [18], [19].

Based on search to some study previously found that a number of related articles with study This among others the first focused on implementation Computational Thinking (CT) through blended learning in learning maharah al- istima' in research This focus on effectiveness use of ICT in context learning at university tall especially in the eyes lesson studying Istima 'II with the blended learning model [20], [21]. And the second research focuses on the use of YouTube animated videos for increase skills listening to Arabic that focuses on effectiveness use of ICT media in increase results learn. Then the third research that examines strategy learning maharah al-istima' in Arabic language education in general [22], [23].

Whereas Study This in a way special study related problematic learning maharah al- istima' based Technology Information and Communication (ICT) in the Society 5.0 era in the eyes lesson Language Arabic in class IV MIS Mande, Bima City focus on constraints real faced in the learning process , including limitations ICT facilities and infrastructure , teacher competence in integrate technology , difficulties student in understand material vocabulary and introduction members family in Arabic audio form , as well the impact to effectiveness learning. Therefore that, research This offer novelty with give description empirical about challenge implementation learning maharah al- istima' ICT- based at the Madrasah Ibtidaiyah level in the context of the Society 5.0 era, which has not yet become focus main in research previously.

Implementation learning n maharah al- istima based Technology Information and Communication (ICT) in the Society 5.0 era No only determined by availability technology, but also by readiness source Power humans , in particular teachers' digital competence and participants' digital literacy education [24]. Findings study show that Not yet optimally utilization of interactive digital media , limitations variation use technology learning , as well as low ability student in access and understand Arabic audio-visual materials result in the learning process Not yet fully reflect characteristics learning 21st century centered on collaboration between humans and technology [25]. Therefore that , the implications practical study This emphasize the need improvement teacher competence through training sustainable about design and implementation learning ICT- based Arabic language , provision adequate digital facilities and infrastructure by the madrasah and government , as well as development of more learning media interactive , contextual , and appropriate with characteristics participant educate school basis . Implications his academic show that learning maharah al- istima need directed at strengthening skills

listening through integration technology that is not only functioning as a delivery medium material, but also as means For build ability think critical , communication , creativity , and digital literacy of participants educate in accordance with demands of the Society *5.0* era .

2. RESEARCH METHOD

This study uses a field research design with a descriptive qualitative approach to gain a deep understanding of the implementation of Information and Communication Technology (ICT)-based maharah al-istima learning for fourth-grade students of MIS Mande, Bima City. This approach was chosen because it is able to describe the learning phenomenon in its entirety based on real conditions that occur in the field through direct interaction between researchers and research subjects [26], [27]. Data sources consist of primary data obtained from Arabic language teachers and fourth-grade students involved in the learning process, as well as secondary data derived from supporting documents, such as learning devices, school archives, and documentation of learning activities [15]. The main research instrument is the researcher himself (human instrument) supported by observation guidelines, semi-structured interview guidelines, and documentation sheets. Data collection techniques are carried out through observations of the implementation of ICT-based maharah al-istima learning, in-depth interviews with teachers and several students regarding experiences, obstacles, and efforts in the learning process, and documentation as a complement to the data in the form of activity photos, learning media, and learning administration documents. The data obtained were analyzed using qualitative data analysis techniques modeled after Miles, Huberman, and Saldaña, which included data condensation, data presentation, and drawing and verifying conclusions to produce a systematic description of learning implementation. To ensure data credibility, the study implemented validity tests through source triangulation, technical triangulation, extended researcher participation in the field, and member checking with informants to ensure the data obtained had a high level of validity and trustworthiness.

3. RESULTS AND DISCUSSION

3.1 Problems of Language Learning

In language learning, the problems commonly encountered can be classified into two, namely linguistic problems and non-linguistic problems, including. Linguistic problems in Arabic language learning include various obstacles related to linguistic elements. These obstacles cover several aspects, including sound differences (*phonology*), word structure (*morphology*), grammar (*syntax*), vocabulary (*lexical*), and Arabic writing (*orthography*). Meanwhile, Non-Linguistic Problems are obstacles that originate from external factors or outside the language system, including teacher competency factors, student interest and background factors, learning methods used, learning media and facilities, language environment and allocation of learning time .

In theory, technology-based learning can support the improvement of listening skills (maharah al-istima) through approaches such as Artificial Intelligence in Education (AIEd) which emphasizes technology-based adaptive learning, Blended Learning which combines face-to-face and online learning to provide flexibility, and Multimedia Learning (Mayer) which emphasizes that the combination of text, audio, and visuals can strengthen students' understanding. In addition, the Connectivism theory (Siemens) also explains that learning process in the digital era 5.0 takes place through an interconnected network of information and technology [28].

However, the implementation of these various approaches in learning *(*maharah al-istima) in the field has not been optimally implemented . In practice, the use of multimedia-based learning media such as video, audio, animation, and various learning applications has not been used optimally and consistently in the madrasah itself. This condition causes students to be unfamiliar with interactive, varied, and contextual listening learning (maharah al-istima), so that their listening skills *(*maharah al-istima) still need to be improved. In addition, limited supporting facilities, low student digital literacy, and a lack of variety in learning methods also contribute to the emergence of these problems .

Furthermore, although learning in the Society 5.0 era demands the integration of technology into the educational process, a humanistic approach still needs to be maintained to avoid eliminating the human aspect of learning. However, in its implementation, the balance between the use of technology and emotional interactions between teachers and students is still not optimal. Thus, it can be concluded that the problems in learning listening skills (maharah al-istima) are not only related to the technological aspect, but also include the imbalance in pedagogical approaches, the use of digital media, and student learning motivation in Arabic learning in the Society 5.0 era.

3.2. Maharah al-istima learning at Elementary Madrasah

The Maharah al-istima learning process at Madrasah Ibtidaiyah (Islamic elementary school) is essentially geared toward utilizing digital technologies such as audio, video, and YouTube applications to improve students'

listening skills. This learning process is also supported by the Input Hypothesis *(*Krashen*)* theory, which emphasizes the importance of exposure to comprehensible language *so* students can grasp the meaning of the language they hear. Furthermore, Constructivism theory explains that students actively construct their knowledge through interactions with learning media.

Multimedia Learning theory developed by Mayer explains that the learning process will be more optimal if information is delivered through a combination of audio and visual media. The use of this theory is in accordance with the research focus on maharah al-istima learning , considering that listening skills are highly dependent on students' ability to receive and understand the information heard. Therefore, the presentation of mufradat material and introduction to family members through audio-visual media is expected to help fourth-grade students at Madrasah Ibtidaiyah understand the material more easily and increase concentration during the learning process.

This theory uses the Technological Pedagogical Content Knowledge (TPACK) approach. This approach was chosen because it emphasizes the importance of integration between technology utilization, the application of learning strategies, and mastery of teaching materials. This theory is relevant to the research because the media used not only utilizes technology as an aid but is also designed according to the characteristics of the maharah al-istima material and the learning needs of fourth-grade students at Madrasah Ibtidaiyah.

Maharah al-istima learning is adapted to the characteristics of elementary students who require an interesting, fun, and interactive learning atmosphere. Therefore, the use of media such as simple audio, Arabic songs, language games, vocabulary greatly helps students in understanding the material on vocabulary and introduction to family members. This is also in line with the theory of Behaviorism (BF Skinner) which states that language acquisition can occur through repeated stimuli and responses, so that the habit of listening and imitating Arabic can help students understand the meaning gradually .

However, in practice, learning Maharah al-Istima in Madrasah Ibtidaiyah still encounters various obstacles. So what the researcher did in class IV at Madrasah Ibtidaiyah, which was then strengthened through preliminary interviews with Arabic teachers, identified several obstacles in the learning of Maharah al-Istima . This is indicated by the still limited use of technology-based learning media in the learning process, the suboptimal use of ICT by Arabic teachers, and the variation in students' abilities in capturing and understanding oral information through audio media, namely some who understand quickly and some who are less quick to understand, so that there is a layout of the variation in the differences. This condition has an impact on the less than optimal listening learning process so that the expected learning objectives have not been achieved effectively. optimal due to the limited technology-based learning media available, the less than optimal ability of Arabic language teachers to utilize ICT in learning, and the differences in students' abilities in understanding oral information delivered through audio media .

Maharah al-istima learning essentially requires students to actively engage in constructing understanding from the information they hear. This aligns with constructivism theory , which emphasizes that knowledge is formed through meaningful learning experiences and active student participation. Therefore, this theory serves as a foundation for viewing the learning process as student-centered. In reality, students at Madrasah Ibtidaiyah still tend to be less active in the learning process. This situation is influenced by the limited variety of learning methods and media used by Arabic language teachers. This indicates that the implementation of Maharah al-istima learning relies not only on a theoretical foundation but also requires teacher preparedness, the availability of facilities, and students' ability to adapt to technology to ensure more effective learning in line with the demands of 21st-century learning.

3.3. Maharah al-istima learning in the Society 5.0 Era

Based Maharah al-istima learning in the Society 5.0 era in grade IV of Madrasah Ibtidaiyah (MI) are an important aspect in strengthening Arabic language skills, because listening skills are the foundation for other skills such as speaking (kalam), reading (qira'ah), and writing (kitabah). In this era, the learning process is no longer only based on direct listening activities, but also utilizes digital technologies such as audio, video, learning applications, and interactive online media that help students understand the meaning of Arabic utterances through vocabulary, simple conversations, and instructions, both digitally and through teacher guidance. However, in its implementation, obstacles are still encountered such as limited digital literacy skills of students and the perception that Arabic is a difficult and less interesting subject.

Maharah al-istima learning, based on Information and Communication Technology (ICT), emphasizes the use of digital technology as a supporting medium in the learning process. Its characteristics are evident in the use of various tools such as audio, video, interactive multimedia, learning applications, and the internet to help students understand Arabic vocabulary and expressions. In this approach, technology acts as a tool to facilitate the delivery of material, making listening activities more engaging, effective, and easier for students to understand.

Maharah al-istima learning in the Society 5.0 era focuses not only on the use of technology as a medium, but also on the integration of human-oriented intelligent technology. The characteristics of the Society 5.0 era include the use of artificial intelligence , adaptive learning systems, personalized materials according to student needs, and digital-based collaboration. This approach also emphasizes the development of 21st-century skills, such

as critical thinking, creativity, communication, and collaboration. Thus, technology not only functions as a learning tool, but also as a supporter in creating a more flexible, interactive, and tailored learning experience to the needs of students.

Fundamentally, the difference between ICT-based learning and Society 5.0 lies in the role of technology in the learning process. In ICT-based learning, technology is used as a tool to enhance learning effectiveness. Meanwhile, in the Society 5.0 approach, technology acts as an intelligent system integrated with human activities to support more personalized, innovative, and competency-focused learning. This is in line with Piaget's Cognitive Development Theory which explains that elementary school-aged students are at the concrete operational stage, so ICT-based learning needs to be presented through concrete, visual, simple media, and close to students' experiences to make it easier to understand. In addition, the Input Hypothesis Theory (Stephen Krashen) also supports this because it emphasizes the importance of comprehensible input that can be delivered through digital audio-visual media so that the language acquisition process is more effective. Meanwhile, Sociocultural Theory (Vygotsky) emphasizes that language development occurs through social interaction and teacher support (scaffolding), which in the context of Society 5.0 can be strengthened through the use of interactive and collaborative technology in Maharah al-istima learning .

So the characteristics of ICT-based Maharah al-istima learning can be identified through several indicators, including: use of digital media such as audio, video, and to support Arabic listening activities, utilization of technological devices such as computers, laptops and smartphones in the learning process, as well as presentation of material that is visual and concrete to make it easier for students to understand. In addition, this characteristic is also reflected in utilization of internet-based learning resources , creating interactions between students and digital learning media , developing basic digital literacy skills , and the realization of more effective, efficient and flexible learning Through these various indicators, technology functions as a tool that helps improve the quality and attractiveness of Arabic listening learning.

And the characteristics of Maharah al-istima learning in the Society 5.0 era are shown through indicators in the form of student-centered learning (human-centered learning) , use of smart technology to support learning activities , adjustment of learning materials and methods according to students' needs and abilities (personalized learning) , and implementation of digital collaboration This approach involves interaction between teachers and students, as well as between students. Furthermore, this approach is also characterized by the development of 21st-century skills. which includes critical thinking skills, creativity, communication, and collaboration, strengthening problem-solving skills , implementing adaptive and flexible learning , integrating digital activities with real life , providing rapid and continuous feedback , and developing digital literacy, data literacy, and technological literacy . These various indicators show that technology in Society 5.0 is not only used as a learning tool, but also as a means to create a more innovative, collaborative, and student-centered learning experience.

Therefore, in line with the implementation of the Independent Curriculum in the Society 5.0 era, ICT-based Maharah al-istima learning in Madrasah Ibtidaiyah is directed to be more student-centered, flexible, and based on competency strengthening with technological support. Teachers play a role in developing and integrating digital media according to the conditions and environment of students, including the local context at Madrasah Ibtidaiyah, so that learning becomes more meaningful and contextual. However, this learning characteristic still faces various obstacles, such as limited ICT facilities, differences in student abilities in utilizing technology, and the less than optimal use of digital media sustainably in the learning process.

In its implementation, listening activities can be developed through learning videos, audio, YouTube applications, and digital-based instructions that encourage active student involvement. Maharah al-Istima material in grade IV in the Independent Curriculum, such as the introduction of family members (at-ta'āruf bi afrād al-usrah), pronunciation of family member vocabulary (nuṭq mufradāt afrād al-usrah), and simple conversations between students and teachers about the family (ḥiwār 'an afrād al-usrah), can be packaged in the form of interactive digital media to be more interesting, easy to understand, and in accordance with the demands of 21st century learning in the Society 5.0 era . So, among the specific materials that are usually discussed in the Maharah al-istima learning material in the Independent Curriculum in Madrasah Ibtidaiyah, namely , (Semester I, a. Introduction of Family Members (at-ta'āruf bi afrād al-usrah),(Reciting the mufradat of family members (nuṭq mufradāt afrād al-usrah), (Dialogue about family members (ḥiwār 'an afrād al-usrah) .

Maharah al-istima learning semester I in class IV MIS Madrasah Ibtidaiyah, learning activities are carried out in stages and interactively between teachers and students with material at-ta'āruf bi afrād al-usrah (introduction of family members), nuṭq mufradāt afrād al-usrah (pronunciation of family members' vocabulary), as well as ḥiwār 'an afrād al-usrah (dialogue about members family) and the stages in between. In the initial stage, the teacher begins learning by providing an introduction that links the material to students' daily lives, such as asking family members in Indonesian, then slowly introduces relevant Arabic vocabulary.

In the core stage, the teacher presents listening material through audio or video media containing Arabic vocabulary and expressions about family members. Students are asked to listen attentively and then imitate the pronunciation repeatedly under the teacher's guidance. Throughout this process, the teacher acts as a model for correct pronunciation while also providing guidance and correction for any pronunciation errors.

Next, the teacher guides students through a simple dialogue about family members. The teacher first demonstrates the conversation, then students follow along by listening and imitating the dialogue in pairs or small groups. To aid comprehension, the teacher uses pictures, movements, or simple explanations to help students grasp the meaning of the dialogue they hear.

At the end of the lesson, the teacher provides reinforcement by reviewing the vocabulary and dialogues learned and conducting a simple evaluation through oral question-and-answer sessions or listening exercises. Students are also given the opportunity to name their family members in Arabic. Thus, the lesson proceeds systematically, from vocabulary introduction and pronunciation to simple dialogues, emphasizing active listening skills between the teacher and students.

Arabic language learning takes place in the fourth grade at MIS Mande, Bima City. Based on observations and interviews with the Arabic language teacher, learning is conducted in accordance with the madrasah's curriculum. In the process, teachers try to integrate the use of technology as a learning medium to support students' understanding of Arabic language material, especially listening skills (Maharah Al-Istima). The media used is audio and video displayed via technological devices such as laptops. In addition to utilizing digital media, teachers also provide direct explanations, repeat material in certain parts, and use images or illustrations to help students understand the content of the material being studied.

Despite efforts to utilize technology, the implementation of ICT-based learning at Maharah Al-Istima still faces various obstacles. An interview with an Arabic language teacher (KH) revealed that one of the main challenges is the limited facilities and infrastructure available at the school. This situation has prevented the use of technology in learning from being fully implemented. Furthermore, the use of learning applications remains limited and has not become a routine part of the learning process. Teachers also revealed that the materials available in some applications often do not fully align with the curriculum implemented at the madrasah, making it difficult to adapt learning materials.

Another obstacle is the unstable internet connection quality, which often disrupts the use of audio and video media during learning. As a result, student concentration is disturbed and the learning atmosphere is less conducive, so that the learning objectives of listening are not optimally achieved. This condition also shows that the application of technology in learning is still not in line with the demands of the Society 5.0 era, which emphasizes the integration of technology in various aspects of education. In fact, listening skills really need the support of clear, high-quality, and diverse audio media. Therefore, it is necessary to improve teacher competence in the use of technology and provide adequate facilities so that ICT-based learning can be implemented effectively. Therefore, the above findings are in line with the Multimedia Learning theory (Richard Mayer) , which states that learning will be more effective if presented through a combination of various media that support each other so that the use of digital media not only improves understanding but also makes learning more interesting and less monotonous .

Based on the results of interviews with several fourth-grade students of MIS Mande, Bima City, a number of obstacles were found that affected the Arabic language learning process . A student with the initials (F) said that he felt more interested in learning using media such as family member pictures and animated videos of different Arabic vocabulary displayed on a laptop so that learning became more interesting and not boring. However, he often had difficulty understanding the vocabulary and introduction of family members in Arabic presented, because the speed of the material about vocabulary and introduction of family members was considered too fast. When he was still trying to understand one Arabic sentence introducing family members or vocabulary, the next material was already played. In addition, unclear sound quality was also a factor that hindered his understanding of the material he listened to.

Meanwhile, a student with the initials (R) said that the learning process in the Arabic Language subject was sometimes disrupted due to an unstable internet connection so that the playback of learning videos about vocabulary and introduction to family members was less smooth. According to him, understanding the vocabulary and introduction to family members would be easier to obtain if the teacher explained directly and provided examples through movements and expressions that supported the content of the vocabulary and introduction to family members during the delivery. In addition, he also found it difficult when finding new vocabulary that had never been studied before about vocabulary and family members themselves, because in vocabulary and introduction to family members, according to him, the meanings changed a lot from how to pronounce vocabulary and introduction to family members themselves.

Furthermore, a student with the initials (H) stated that the facilities used in learning were still less supportive. The video display was not bright enough and the low volume caused students at the back of the class to have difficulty listening to the vocabulary and introduction of family members properly and correctly [29]. He also expressed his desire to practice listening related to the vocabulary and introduction of family members more intensively, but the limited technological devices he had at home made it an obstacle for him not to continue practicing independently [30]. In addition, the vocabulary and introduction of family members material presented in a fairly long duration often made him lose focus so that attention was easily distracted by the surrounding conditions. The findings above indicate that students experience vocabulary difficulties due to the speed of delivery

of the material and the unclear audio quality. And this condition is in line with the Cognitive Load Theory proposed by (John Sweller), which explains that students' working memory capacity has a limited capacity. Delivering information that is too fast and unclear can increase cognitive load, thus inhibiting the process of understanding and storing new information .

Based on an interview with the Arabic language teacher (KH), several improvement measures have been designed based on the results of the previous learning evaluation. One of the efforts will be selecting audio and video materials with good pronunciation quality and a speaking speed appropriate to the students' abilities. Furthermore, the learning materials will be supplemented with supporting text and images to facilitate students' understanding of the content. The teacher also plans to play the material in stages and repeat sections deemed difficult to give students a greater opportunity to grasp the content.

Furthermore, students will be provided with basic Arabic vocabulary before engaging in listening activities. This step aims to help them better understand the material [31], [32]. Teachers will also combine the use of digital media with direct explanations so that students can observe the teacher's lip movements, facial expressions, and body language to support understanding. Furthermore, the quality of learning materials will be given greater attention, particularly regarding sound clarity and visual quality, so that all students can optimally absorb the material. Teachers will also regulate the duration of the material so that it is not too long to maintain student concentration throughout the learning process. Furthermore, learning activities will be designed to direct students' attention to the content of the message being heard, not just the visuals presented [31]. As a form of additional support, teachers will also strive to provide simple and easily accessible learning materials so that students can review the learning independently as needed.

It can be concluded from the entire discussion above that the learning problems (maharah al-istima) at MIS Mande, Bima City have not been fully implemented optimally. The problems found include linguistic and non-linguistic factors. From a linguistic perspective, students still experience difficulties in understanding new vocabulary (mufradat), understanding Arabic conversations delivered at too high a speed, and capturing pronunciation due to unclear audio quality. These conditions make it difficult for students to understand the content of the mufradat material and recognize family members in optimal listening.

Meanwhile, from a non-linguistic perspective, learning is still hampered by limited facilities, such as dim video displays, low sound volume, unstable internet connection, limited technological devices for independent practice at home, the duration of material on vocabulary and introduction of family members is too long, which reduces student concentration, and the use of learning methods that are not varied enough [33]. These various problems indicate that the success of learning listening skills is not only influenced by students' language abilities, but also by the quality of infrastructure, the learning methods used by the teacher, and students' habits in practicing listening. Therefore, teacher creativity in utilizing learning media, supported by the provision of adequate school facilities and the allocation of special time for maharah al-istima' learning , is an important factor in improving students' listening skills at MIS Mande, Bima City.

So in line with the theory of Behaviorism (BF . Skinner) which emphasizes that language learning can be obtained through a process of stimulus and response that is done repeatedly . While the theory of Language Acquisition (Language Acquisition) proposed by (Stephen Krashen), especially the concept of input hypothesis, this theory also explains that students will more easily acquire language if they get understandable input (Comprehensible Input). And according to the theory of Artificial Intelligence in Education (AIEd) also emphasizes the importance of personalization in technology-based learning, besides that, the use of blended learning models is one of the approaches widely used in learning Arabic in the era of Society 5.0.

4. CONCLUSION

Based on the research results, it can be concluded that the implementation of Information and Communication Technology (ICT)-based maharah al-istima learning in Arabic subjects in grade IV of MIS Mande, Bima City has made a positive contribution to increasing students' motivation, participation, and learning experience, but its implementation still faces various challenges originating from linguistic and non-linguistic aspects. Linguistic problems include limited mastery of Arabic vocabulary, difficulty understanding pronunciation (makhraj) and native speaker speech, and low student ability to capture the meaning of audio materials, while non-linguistic problems include low motivation and concentration in learning, differences in student abilities, limited ICT facilities and infrastructure, and internet network and learning device constraints. This study aims to identify various challenges in implementing ICT-based maharah al-istima learning while describing its impact on the learning process, and the results of the study indicate that learning success is not only determined by the use of technology, but also by the teacher's pedagogical and digital competence, student readiness, and adequate support for facilities and infrastructure. Therefore, the implications for policy are the need to increase government and educational institution investment in providing ICT infrastructure, strengthening teachers' digital competencies through ongoing training, and developing technology-based Arabic language learning models that suit the characteristics of students in the Society 5.0 era. Further research is recommended to develop more innovative

technology-based maharah al-istima learning models or media, involving a wider range of schools, and combining qualitative and quantitative approaches to obtain a more comprehensive picture of the effectiveness of ICT-based Arabic language learning.

ACKNOWLEDGEMENTS

The author extends their gratitude to all those who provided support and contributed to the conduct of the research and the completion of this article.

REFERENCES

[1] M. Taufiqurrahman, "Pembelajaran abad 21 berbasis kompetensi 4C di perguruan tinggi," *PROGRESSA J. Islam. Relig. Instr.*, vol. 7, no. 1, pp. 78–90, 2023, doi: 10.32616/pgr.v7.1.441.78-90.

[2] S. A. Anggita, M. A. Mahboob, and S. S. Bin Hussein, "Celebrating the prophet's birthday: a manifestation of the character of cooperation in islamic education," *J. Pendidik. Agama Islam Indones.*, vol. 5, no. 1, pp. 22–29, 2024, doi: 10.37251/jpaii.v5i1.907.

[3] K. Ahsan, S. Akhtar, and M. A. Shareea, "Nulturing local culture: social education values in fida' activities in tingkir tengah subdistrict, Salatiga City," *J. Pendidik. Agama Islam Indones.*, vol. 5, no. 2, pp. 36–42, 2024, doi: 10.37251/jpaii.v5i2.869.

[4] I. Isdiana, M. A. Zaid, and S. Akhtar, "Satu suro ceremony tradition: Tahlilan in the perspective of islamic religious education," *J. Pendidik. Agama Islam Indones.*, vol. 5, no. 1, pp. 13–21, 2024, doi: 10.37251/jpaii.v5i1.906.

[5] Y. Yusof, C. C. Chan, A. H. Hillaluddin, F. Z. Ahmad Ramli, and Z. Mat Saad, "Improving inclusion of students with disabilities in Malaysian higher education," *Disabil. Soc.*, vol. 35, no. 7, pp. 1145–1170, 2020, doi: 10.1080/09687599.2019.1667304.

[6] A. Munsch, "Millennial and generation Z digital marketing communication and advertising effectiveness: A qualitative exploration," *J. Glob. Sch. Mark. Sci.*, vol. 31, no. 1, pp. 10–29, 2021, doi: 10.1080/21639159.2020.1808812.

[7] M. Sat, F. Ilhan, and E. Yukselturk, "Comparison and evaluation of augmented reality technologies for designing interactive materials," *Educ. Inf. Technol.*, vol. 28, no. 9, pp. 11545–11567, 2023, doi: 10.1007/s10639-023-11646-3.

[8] M. K. Asamoah, "Sturdiness and scuffle in deploying educational technologies for teaching and learning in a low-technology context: Students' experience in a developing society," *African J. Sci. Technol. Innov. Dev.*, vol. 0, no. 0, pp. 1–18, 2020, doi: 10.1080/20421338.2020.1773604.

[9] T. Vervust, G. Buyle, F. Bossuyt, and J. Vanfleteren, "Integration of stretchable and washable electronic modules for smart textile applications," *J. Text. Inst.*, vol. 103, no. 10, pp. 1127–1138, 2012, doi: 10.1080/00405000.2012.664866.

[10] D. P. Oktari and A. Kosasih, "Pendidikan Karakter Religius dan Mandiri di Pesantren," *J. Pendidik. Ilmu Sos.*, vol. 28, no. 1, p. 42, 2019, doi: 10.17509/jpis.v28i1.14985.

[11] S. Susbiyanto *et al.*, "Perception of citizen science project in ecology courses using rasch measurement model," *KnE Soc. Sci.*, vol. 2024, pp. 1159–1169, 2024, doi: 10.18502/kss.v9i13.16057.

[12] A. G. Ningsih, V. Indriyani, and E. Kurniawati, "Views of students and lecturers on module development in learning listening skills in higher education," *JMKSP (Jurnal Manajemen, Kepemimpinan, dan Supervisi Pendidikan)*, vol. 9, no. 1, pp. 15–29, 2024, doi: 10.31851/jmksp.v9i1.13696.

[13] T. Taqqiyyuddin, S. Barzegar, and M. S. Islam, "Use of crossword media to increase the arabic vocabulary of higher class in elementary school," *J. Basic Educ. Res.*, vol. 5, no. 1, pp. 28–33, 2024, doi: 10.37251/jber.v5i1.829.

[14] R. D. Nira and Y. Fauziyah, "Development of arabic curriculum in improving pedagogic competence of lecturer ma'had umar bin al-khattab," *Nazhruna J. Pendidik. Islam*, vol. 4, no. 2, pp. 294–309, 2021, doi: 10.31538/nzh.v4i2.1480.

[15] D. N. Djou, A. Ntelu, and E. Hinta, "Analysis of code-mixing in marriage proposals among gorontalo people in Indonesia," *Eurasian J. Appl. Linguist.*, vol. 9, no. 1, pp. 48–58, 2023, doi: 10.32601/ejal.901005.

[16] Rizki Fitriani and Nadella Lesmana, "Pengaruh penggunaan teknologi terhadap perkembangan kemampuan berbahasa indonesia pada generasi milenial," *Blaz. J. Bhs. dan Sastra dalam Pendidik. Linguist. dan Pengembangan*, vol. 2, no. 2, pp. 148–156, 2024, doi: 10.59841/blaze.v2i2.1206.

[17] F. Amila and J. Ostadmohamadi, "Implementation of the islamic religious education learning model for deaf students: Empirical study in salatiga state special middle schools," *J. Pendidik. Agama Islam Indones.*, vol. 5, no. 2, pp. 56–64, 2024, doi: 10.37251/jpaii.v5i2.994.

[18] N. A. Sjafirah, S. S. Indriani, A. Yanto, D. W. Sjuchro, and N. Viannisa, "Indonesian sundanese local wisdom as an ethical reference in digital media," *Rev. Gestão Soc. e Ambient.*, vol. 18, no. 7, pp. 73–84, Apr. 2024, doi: 10.24857/rgsa.v18n7-056.

[19] S. Eroglu, "A study of vocabulary in oral expressions of Indonesian students learning Turkish as a foreign language in terms of diverse variables," *African Educ. Res. J.*, vol. 10, no. 1, pp. 38–45, 2022, doi: 10.30918/aerj.101.22.010.

[20] F. Dwidarti, Zamzani, and M. Prabowo, "Multimedia-based dance learning in elementary school," *J. Educ. Learn.*, vol. 19, no. 1, pp. 515–521, 2025, doi: 10.11591/edulearn.v19i1.21795.

[21] M. Csernoch, P. Biró, J. Máth, and K. Abari, "Testing algorithmic skills in traditional and non-traditional programming environments," *Informatics Educ.*, vol. 14, no. 2, pp. 175–197, 2015, doi: 10.15388/infedu.2015.11.

[22] L. Kano, E. W. K. Tsang, and H. W. chung Yeung, "Global value chains: A review of the multi-disciplinary literature," *J. Int. Bus. Stud.*, vol. 51, no. 4, pp. 577–622, 2020, doi: 10.1057/s41267-020-00304-2.

[23] A. G. Spatioti, I. Kazanidis, and J. Pange, "A comparative study of the ADDIE instructional design model in distance education," *Inf.*, vol. 13, no. 9, pp. 1–20, 2022, doi: 10.3390/info13090402.

[24] T. Mulyaningsih, H. Hendratno, and H. Subrata, "Literature review: Development of google sites – based multimedia to improve elementary school students' reading literacy," *Int. J. Emerg. Res. Rev.*, vol. 1, no. 4, p. 000045, 2023, doi: 10.56707/ijoerar.v1i4.45.

[25] R. J. Robillos, "Impact of loiloonote digital mapping on university students' oral presentation skills and critical thinking dispositions," *Int. J. Instr.*, vol. 15, no. 2, pp. 501–518, 2022, doi: 10.29333/iji.2022.15228a.
[26] F. Daryanes, D. Darmadi, K. Fikri, I. Sayuti, M. A. Rusandi, and D. D. B. Situmorang, "The development of articulate storyline interactive learning media based on case methods to train student's problem-solving ability," *Heliyon*, vol. 9, no. 4, p. e15082, 2023, doi: 10.1016/j.heliyon.2023.e15082.
[27] N. G. Karepesina, V. Kayadoe, and K. Marasabessy, "Application of scramble learning model to learning outcomes of colloidal system materials for eleventh-grade natural science class at state senior high school 2 Haruku Island," *AIP Conf. Proc.*, vol. 2642, no. January, 2023, doi: 10.1063/5.0110618.
[28] A. Gunawardana, F. R. Arooz, A. Peramunugamage, and R. U. Halwatura, "Critical analysis of lecturer's perception on integrating concepts of sustainability in university curricular," *Integr. Sci. Educ. J.*, vol. 1, no. 3, pp. 109–121, 2020, doi: 10.37251/isej.v1i3.105.
[29] M. Cohen, "From killing trees to executing bits: A survey of computer-enabled reading enhancements for evolving literacy," *Proc. 2014 Int. Conf. Virtual Syst. Multimedia, VSMM 2014*, pp. 69–76, 2014, doi: 10.1109/VSMM.2014.7136686.
[30] E. Crawley, A. Hosoi, G. Long, T. Kassis, W. Dickson, and A. Mitra, "Moving forward with the new engineering education transformation (neet) program at mit-building community, developing projects, and connecting with industry," in *2019 ASEE Annual Conference & Exposition Proceedings*, ASEE Conferences, 2019. doi: 10.18260/1-2--33124.
[31] G. G. Gizaw and S. S. Sota, "Improving science process skills of students: A review of literature," *Sci. Educ. Int.*, vol. 34, no. 3, pp. 216–224, 2023, doi: 10.33828/sei.v34.i3.5.
[32] M. S. Kahar, R. Syahputra, R. Bin Arsyad, N. Nursetiawan, and M. Mujiarto, "Design of student worksheets oriented to higher order thinking skills (HOTS) in physics learning," *Eurasian J. Educ. Res.*, vol. 2021, no. 96, pp. 14–29, 2021, doi: 10.14689/ejer.2021.96.2.
[33] L. Sauvé, A. Fortin, C. Viger, and F. Landry, "Ineffective learning strategies: A significant barrier to post-secondary perseverance," *J. Furth. High. Educ.*, vol. 42, no. 2, pp. 205–222, 2018, doi: 10.1080/0309877X.2016.1224329.