Implementation of Diagnostic Assessment in Learning *Mahārah Qirā'ah* Based on Technological Pedagogical and Content Knowledge Al-Kautsar Bintaro Middle School

Tatbīq Attaqwīm Attasykhīshī fī Ta'līmī Mahārah Qirāah alqāim 'ala Alma'rifat Attarbawiyyah Attiknulujiyyah wa Almuhtaawa Alma'ruf (TPACK) fī Madrasati Alkautsar Alibtidāiyyah Alislāmiyyah Bintaro

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Abstract

The development of ICT (Information, communication, & technology) requires teachers to innovate and align themselves with technological developments, diagnostic assessment is vital in identifying students initial abilities, strengths, and weaknesses in Arabic text reading skills. With the integration of TPACK, teachers can utilize technology to design assessment instruments that are more effective, interactive, and relevant to students needs, as well as develop pedagogical approaches that match the characteristics of the content. This research aims to provide a deeper understanding of how technology, if appropriately integrated with pedagogical and language content understanding, can effectively improve Arabic language teaching and learning, particularly in the diagnostic assessment of mahārah qirā'ah. The research method used is descriptive qualitative. The research data sources are divided into two sources: the first source of literary data and field data sources. Data were collected through classroom observations, interviews, and analysis of student assessment documents. The results showed that TPACK-based diagnostic assessment helped teachers map students abilities more thoroughly. Technology allows the presentation of more varied and exciting assessments, thus increasing student motivation in learning. In addition, integrating technology, pedagogy, and content makes it easier for teachers to design more targeted and practical knowledge.

Keywords: *Diagnostic Assessment, Mahārah Qirā'ah, TPACK*

ملخص

يتطلب تطور تكنولوجيا المعلومات والاتصالات والتكنولوجيا من المعلمين الابتكار والمواءمة مع التطورات التكنولوجية. يعتبر التقييم التشخيصي ضروريًا لتحديد القدرات الأولية للتلاميذ ونقاط القوة والضعف في مهارة

قراءة النص العربي. ويمكن للمعلمين من خلال إدماج التكنولوجيا في عملية التقييم التشخيصية (TPACK) الاستفادة من التكنولوجيا لتصميم أدوات تقييم أكثر فعالية وتفاعلية وملائمة لاحتياجات التلاميذ، بالإضافة إلى تطوير أساليب تربوية تتناسب مع خصائص المحتوى. تهدف هذه الدراسة إلى وصف تطبيق التقويم التشخيصي القائم على TPACK في تعليم مهارة القراءة في مدرسة الكوتسار بنتارو الإعدادية. منهج البحث المستخدم هو المنهج الوصفي النوعي. وتنقسم مصادر بيانات البحث إلى مصدرين: أولاً، مصادر البيانات الوثائق ومصادر البيانات المواقف. تم جمع البيانات من خلال الملاحظة، المقابلات وتحليل وثائق تقييم التلاميذ. وقد أظهرت النتائج أن التقييم التشخيصي القائم على تقنية (TPACK) يساعد المعلمين على تحديد قدرات التلاميذ بشكل أكثر شمولاً. تتيح التكنولوجيا تقديم تقييمات أكثر تنوعًا وإثارة للاهتمام، مما يزيد من دافعية التلاميذ للتعلم. وبالإضافة إلى ذلك، فإن دمج التكنولوجيا والتربية والمحتوى يسهل على المعلمين تصميم معارف أكثر استهدافًا وعملية.

الكلمات المفتاحية: التقويم التشخيصي، مهارة القراءة، المعرفة التكنولوجية التربوية والمحتوى المعرفي

Introduction

The development of the world is indeed inseparable from the development of globalization and digitalization. These developments significantly impact the world of education and technology, which are found in various human life activities. This is characterized by the emergence of different learning management system platforms and information technology-based learning media that can be used for learning effectiveness and efficiency.[1] The existence of big data that has millions of information and knowledge and is very easy to access through various personal devices such as mobile phones accessed through various personal devices such as cellphones, tablets, and laptops makes it easier for learners to be able to learn anywhere and anytime with a variety of material choices. Knowledge is no longer limited by space, time, and structured knowledge packages; learning is without limits according to interests (continuous learning).[2] The learning process no longer relies on teachers and textbooks as the only primary source because many digital

[1]Ryan A. Brown and Joshua W. Brown, "What Is Technology Education? A Review of the 'Official Curriculum,'" *The Clearing House: A Journal of Educational Strategies, Issues and Ideas* 83, no. 2 (2010): 49–53, https://doi.org/10.1080/00098650903505449.

[2]Laely Armiyati and Fachrurozi; Miftahul Habib, "Technological Pedagogical Content Knowledge (TPACK) Mahasiswa Calon Guru Di Tasikmalaya," *JIPSINDO (Jurnal Pendidikan Ilmu Pengetahuan Sosial Indonesia)* 09, no. 02 (2022): 164–76, https://journal.uny.ac.id/index.php/jipsindo/article/view/52050/pdf.

learning resources are easily accessible via the internet. Thus, teacher competence in integrating technology into their learning can help students achieve their learning needs, which is one of the impacts of 21st-century learning developments in education and technology.[3]

The curriculum implementation at Al-Kautsar Bintaro Middle School focuses on digital learning, using a blended learning strategy, and is committed to integrating technology into learning media appropriate for 21st-century learning. Learning at AKB Middle School is based on Google Workspace for Education, where teachers input learning and evaluation materials into Google Classroom. Nevertheless, applying TPACK-based diagnostic assessment in *mahārah qirā'ah* is open to various obstacles; one is the need for students to have the same technological skills, which can cause difficulties in assessment activities. This effort must still be made so teachers can classify learning strategies that suit students' character.

In the context of modern education, diagnostic assessments serve not only to evaluate students' initial abilities but also to understand the specific needs and challenges they face in the learning process. These assessments allow educators to obtain more comprehensive data on students' understanding of the material to design more effective learning that suits individual needs. The TPACK approach to diagnostic assessment is a framework that combines three main elements: technology, pedagogy, and content knowledge.[4] With the integration of the three, educators can design interactive, adaptive, and relevant assessments to technological developments and modern learning needs. Using technology, TPACK-based diagnostic assessment allows using apps or digital platforms to measure students' *mahārah qirā'ah* understanding and abilities. This includes their ability to comprehend text, recognize vocabulary, and improve reading fluency in Arabic.[5]

Technological developments have opened up new opportunities in the learning process, including *mahārah qirā'ah*. The use of digital media such as audio, video, and interactive multimedia can increase the attractiveness and involvement of students in

[3]Laili Mas Ulliyah Hasan, Muhammad Tareh Aziz, and Muhammad Rido'i, "Menyelami Integrasi Kurikulum Untuk Penerapan TPACK Dalam Pembelajaran Bahasa Arab," *Journal of Practice Learning and Educational Development* 4, no. 3 (2024): 143–50, https://doi.org/10.58737/jpled.v4i3.291.

[4]Yondri Ahmadi and dkk, "TPACK Approach to Improving HOTS in Arabic Language Learning: Strategies and Challenges," *Shaut Al-'Arabiyah* 12, no. 2 (2024): 360–70.

[5]Armiyati and Habib, "Technological Pedagogical Content Knowledge (TPACK) Mahasiswa Calon Guru Di Tasikmalaya."

learning in learning. This research is based on the understanding that *mahārah qirā'ah* does not only requires not only a deep knowledge of the structure of the Arabic language but also the ability of the students to practice and apply those skills in real situations.[6] *mahārah qirā'ah* is one of the essential basic competencies in Arabic language learning. This skill focuses on text comprehension and includes aspects of analysis, interpretation, and evaluation. Therefore, a diagnostic assessment is needed to evaluate students' abilities, including cognitive and affective elements.[7] *Mahārah qirā'ah* aims to enable students to read Arabic with *fashih* following *makharijul ḥuruf*. Reading is a complex activity that involves perception and thinking. Reading consists of two processes: 1) Word recognition, perceiving how written symbols interact with one's spoken language, and 2) Word comprehension, which is the process of understanding words, sentences, and connected texts.[8] Learning *mahārah qirā'ah* must be accompanied by the right approach so that students can read technically and understand the meaning, context, and nuances of the text being read. Using technology in the learning process can be one of the practical solutions to improve students' reading skills.[9]

This implementation is also relevant in Indonesia because of the rapid development of technology-based education. In the context of Arabic language learning in schools, especially at the junior high school level, TPACK-based diagnostic assessments can help students better understand Arabic texts and increase their motivation to learn through interactive and engaging methods. Thus, diagnostic TPACK-based evaluations are expected to effectively overcome challenges in learning *mahārah qirā'ah* and assist educators in creating a more responsive and needs-based learning environment.

Applying TPACK in diagnostic assessment helps teachers be more effective in teaching Arabic and encourages students to be more active in learning. First, the article written by Rifda Hanifa, in the results of her research, said that the implementation of

[6]Laili Mas Ulliyah Hasan Chalely, Siti Durotun Naseha, and Izzah Nur Hudzriyah Hasan, "Studi Implementasi Dan Efektivitas TPACK Dalam Pembelajaran Maharah Qiro'ah," *DAARUS TSAQOFAH Jurnal Pendidikan Pascasarjana Universitas Qomaruddin* 1, no. 2 (2024): 129–37, https://doi.org/10.62740/jppuqg.v1i2.144.

[7]Muhammad Sofi Anwar, "IMPLEMENTASI PEMBELAJARAN MAHARAH AL QIRO'AH AL ARABIYYAH BERBASIS LINGUISTIC INTELLIGENCES," 2021, 857–72, file:///C:/Users/USER/Downloads/1080-2085-1-SM (2).pdf.

[8]Halimatus Diah and Melvi Azizatun Ni'mah, "Metode Contextual Teaching And Learning Dalam Pembelajaran Maharah Qira'ah," *Revorma: Jurnal Pendidikan Dan Pemikiran* 3, no. 1 (2023): 26–41, https://doi.org/10.62825/revorma.v3i1.35.

[9]Ahmad Nurcholis, Syaikhu Ihsan Hidayatullah, and Muhamad Asngad Rudisunhaji, "Karakteristik Dan Fungsi Qira'ah Dalam Era Literasi Digital," *El-Tsaqafah: Jurnal Jurusan PBA* 18, no. 2 (2019): 131–46.

TPACK in each teacher is different; the more the teacher maximizes in exploring and increasing his abilities related to Arabic and TPACK, the better the teaching. TPACK integration is not just a matter of technology; it also involves expanding teacher competence in delivering Arabic content creatively and effectively using digital tools.[10] Second, research written by Apri Wardana Ritonga shows that TPACK can be implemented based on HOTS in Arabic language learning, which is very relevant in the midst of digital development through various online media. Meanwhile, the challenges that arise for HOTS-based Arabic learning come from three main factors: teachers' knowledge and skills about HOTS, students' Arabic language skills, and teaching materials that do not emphasize HOTS aspects.[11] Third, research written by Hani'atul Khoiroh, in the results of his study, said that the TPACK model is considered a good and effective model used in learning *mahārah qirā'ah* especially in criticizing texts.[12] These studies show that integrating TPACK into Arabic language learning is highly effective for developing students' Arabic language skills. However, successful implementation depends on teachers' competence in mastering technology and pedagogical strategies and the readiness of teaching materials. Thus, the researcher investigated how implementing TPACK (Technological Pedagogical and Content Knowledge) based diagnostic assessment in learning *mahārah qirā'ah* (reading skills) through an approach combining technology, pedagogy, and Arabic content.

In the context of diagnostic assessment, this approach allows teachers to make optimal use of technology in designing assessment instruments that are more innovative, effective, and adaptive to students' needs. This research aims to provide a deeper understanding of how technology, if appropriately integrated with pedagogical and language content understanding, can effectively improve Arabic language teaching and learning, particularly in the diagnostic assessment of *mahārah qirā'ah*. The results of this study are expected to provide a clear picture of how the application of TPACK in supporting

[10]Rifda Haniefa and Mohamad Samsudin, "Penerapan Technological Pedagogical and Content Knowledge (TPACK) Dalam Pengajaran Keterampilan Berbahasa Arab," *Ta'limi | Journal of Arabic Education and Arabic Studies* 2, no. 1 (2023): 61–72, https://doi.org/10.53038/tlmi.v2i1.62.

[11]Apri Wardana Ritonga, "Implementasi HOTS Dalam Pembelajaran Bahasa Arab: Peluang Dan Tantangannya Di Era Digital," *Pinba Xiii 2021*, 2021, 274–87.

[12]Hani'atul Khoiroh, "Implementasi Model Technological Pedagogical and Content Knowledge (TPACK) Dalam Pebelajaran Maharah Qira'ah (Keterampilan Membaca)," *JALIE: Journal of Applied Linguistics and Islamic Education* 6, no. 1 (2022): 145–64, https://ejournal.unkafa.ac.id/index.php/jalie-unkafa/article/view/616.

the diagnostic assessment process can improve students' *mahārah qirā'ah* skills effectively and efficiently.

This study uses descriptive qualitative research through a case study approach to explore the application of diagnostic assessment in Arabic language learning at Al-Kautsar Bintaro Middle School. Case study research is a research strategy in which researchers investigate and examine a problem, plan, event, or group of individuals and particular institutions thoroughly and study them carefully. [13] This case study was conducted with 22 students in class VII of Al-Kautsar Bintaro Middle School. Data was collected through observation, interviews, and documentation.

The research uses non-test methods in direct and indirect observation to confirm the learning outcomes of *mahārah qirā'ah*. The source of the research data, namely observation, was carried out to observe the process of learning activities by looking at indicators of achieving appropriate learning objectives. Data were analyzed thematically using the Miles and Huberman model, which involves data reduction, data presentation, and conclusion drawing.

Results and Discussion

1. Diagnostic Assessment

   Assessment is an inseparable part of the learning process, a learning facility, and a means of procuring information as a whole, as feedback for educators, students, and parents/guardians to guide them in formulating the learning strategy used at the next stage. One of the assessments in the independent curriculum is diagnostic assessment. Diagnostic assessment aims to identify learners' deficiencies, strengths, knowledge, skills, and characteristics over a certain period.[14]

   Through diagnostic assessment, we can analyze whether students have mastered the learning so that teachers can decide on students' understanding and what needs improvement. This assessment is one of the most critical components of the independent curriculum approach, which focuses on learning according to students' developmental

[13]John.W Creswell, *RESEARCH DESIGN PENDEKATAN METODE KUALITATIF KUANTITATIF DAN CAMPURAN*, 4th ed. (Pustaka Belajar, 2018).

[14]Adek Cerah Kurnia Azis and Siti Khodijah Lubis, "ASESMEN DIAGNOSTIK SEBAGAI PENILAIAN PEMBELAJARAN DALAM KURIKULUM MERDEKA DI SEKOLAH DASAR," *Pena Anda: Jurnal Pendidikan Sekolah Dasar* 1, no. 2 (October 31, 2023): 20–29, https://doi.org/10.33830/penaanda.v1i2.6202.

levels and individual needs.[15] By understanding students' needs, teachers can provide relevant learning and support individual development more optimally. This assessment also facilitates students' active involvement in education, where they can develop according to their capacity. Conducting diagnostic assessments provides several benefits:[16]

a. Help direct learning outcomes with goals and objectives by desired learning outcomes.
b. Obtaining substantial data to design an effective curriculum to improve learning.
c. Making the teaching and learning process more efficient by focusing on material that needs to be studied more deeply.
d. Creating a friendly learning environment for teachers and learners.
e. Helping teachers to map out an efficient and meaningful learning plan during the set learning time.
f. This can be the basis for summative assessment at the end of learning. Teachers can compare learners' knowledge levels at the beginning of learning.
g. It helps teachers divide instruction. Diagnostic assessment data helps teachers identify learners who need additional guidance in certain subjects.

There are two parts of diagnostic assessment, namely non-cognitive and cognitive diagnostic assessments, where both are distinguished in terms of purpose. The objectives of each evaluation are:[17]

Table 1. Diagnostic Assessment Objective

Diagnostic Assessment Objectives	
Non-Cognitive	**Cognitive**

[15]Nurul Aini and Itsnaini Muslimati Alwi, "Implementasi Asesmen Diagnostik Mata Pelajaran Bahasa Arab Kelas X MAN 1 Cilacap Tahun Pelajaran 2023/2024," *Shibghoh: Prosiding Ilmu Kependidikan UNIDA Gontor* 2, no. 2 (2023): 199–211, file:///C:/Users/USER/Downloads/10994-Article Text-31419-1-10-20231024.pdf.

[16]Kezia Novrina Natasari and Budi Tri Cahyono, "IMPLEMENTATION OF DIAGNOSTIC ASSESSMENT AS ONE OF THE STEPS TO IMPROVE LEARNING IN THE IMPLEMENTATION OF THE INDEPENDENT CURRICULUM" 9, no. 1 (2023): 15–25, https://journal.unj.ac.id/unj/index.php/jisae/article/view/32714/14448.

[17]Yetty Okta Viani and Ahmad Ripai, "Implementasi Asesmen Diagnostik Non-Kognitif Gaya Belajar Dengan Media Google Form Di Smk Kota Semarang," *Jurnal Edukasi Khatulistiwa Pembelajaran Bahasa Dan Sastra Indonesia* 7, no. 1 (2024): 56–64, https://doi.org/10.26418/ekha.v7i1.78559.

Obtain information related to the psychological and socio-emotional conditions of students	Identify learners' ability achievements
Knowing students' activities while teaching at home	Adapt classroom learning to learners' general abilities
Knowing students' learning conditions	There are remedial classes or additional lessons for learners whose competence is below average
Know the learners' family conditions	
Know the social background of students.	
Obtain information about learning styles, personalities, and student interest in learning.	

Table 1 shows that non-cognitive diagnostic assessment aims to provide an overview of learners' profiles in the form of background and initial competencies to formulate learning tailored to learners' interests, talents, learning styles, and daily circumstances. These objectives focus on learners' psychological, social, and personal aspects. Cognitive diagnostic assessment aims to overview learners' initial abilities in a subject topic. This assessment can be done routinely at the beginning, when the teacher will introduce a new learning topic, at the end, when the teacher has finished explaining and reviewing the entire topic, and at other times in a semester. The results of cognitive diagnostic assessment are beneficial for teachers in informing learning, giving feedback, and facilitating remedial teaching at a later stage. These objectives focus on aspects of learners' academic or cognitive abilities. Overall, this table illustrates how diagnostic assessments can include non-cognitive elements to support a deeper understanding of learners' personal, social, and mental elements to assess their academic ability. This aims to help teachers tailor learning approaches to be more effective.

2. Technological, Pedagogical, And Content Knowledge

TPACK stands for Technological Pedagogical Content Knowledge. It can be interpreted as knowledge synthesizing three foundations: technological, pedagogical, and content.[18] The TPACK (Technological Pedagogical Content Knowledge) concept line was

[18]Eka Fajriatul Janah, "Konsep Dan Implementasi TPACK Pada Pembelajaran Di Sekolah Dasar," *Kalam Cendekia: Jurnal Ilmiah Kependidikan* 10, no. 2 (2022): 348, https://doi.org/10.20961/jkc.v10i2.65655.

first introduced by Koehler & Mishra. Koehler and Mishra developed the TPACK framework based on Shulman's idea of PCK (Pedagogical Content Knowledge). Technology was introduced to the PCK context to support and enhance the strategies used in the classroom. In TPACK, there are seven main components, namely TK (Technological knowledge), PK (Pedagogical knowledge), CK (Content knowledge), TPK (Technological Pedagogical knowledge), TCK (Technological Content knowledge), PCK (Pedagogical Content Knowledge), and TPACK (Technological Pedagogical and Content Knowledge).[19]

Professional teachers must have adequate TPACK competencies because TPACK is within the realm of a teacher's four main competencies: pedagogical competence, personality competence, social competence, and professional competence. Integrating TPACK can increase teachers' confidence and improve their content, pedagogical, and technological competencies in designing learning.[20] Therefore, developing teacher competencies with TPACK is a suitable way to ensure the implementation of learning by the demands and changes that occur. TPACK includes the interaction of these three elements so teachers can optimally utilize technology in the teaching process, considering relevant pedagogical and content strategies.

Technological Pedagogical Content Knowledge (TPACK) has an impact on teachers. This is because of the inherent relationship between technology, pedagogy, and content. Teachers, therefore, face a huge challenge in today's changing technology, pedagogy, subject matter, and classroom context. Teachers should become more active curriculum designers. Besides impacting teachers, Technological Pedagogical Content Knowledge (TPACK) also impacts teacher educators. Among the various learning approaches, a teacher educator should emphasize how teachers integrate technology in their teaching practice rather than emphasizing what teachers integrate in their teaching practice. Integrate in their teaching practice. Possible approaches include learning technology by design and learning technology by activity types. Technological

[19]Elya Umi Hanik et al., "Integrasi Pendekatan TPACK (Technological, Pedagogical, Content Knowledge) Guru Sekolah Dasar SIKL Dalam Melaksanakan Pembelajaran Era Digital," *JEID: Journal of Educational Integration and Development* 2, no. 1 (2022): 15–27, https://doi.org/10.55868/jeid.v2i1.97.

[20]Joko Suyamto, Mohammad Masykuri, and Sarwanto Sarwanto, "Analisis Kemampuan Tpack (Technolgical, Pedagogical, and Content, Knowledge) Guru Biologi Sma Dalam Menyusun Perangkat Pembelajaran Materi Sistem Peredaran Darah," *INKUIRI: Jurnal Pendidikan IPA* 9, no. 1 (2020): 46, https://doi.org/10.20961/inkuiri.v9i1.41381.

Pedagogical Content Knowledge (TPACK) development should start with various known simple technologies and gradually increase to more sophisticated ones.[21]

3. Definition and purpose of *Mahārah Qirā'ah*

Etymologically, the word *mahārah qirā'ah* comes from Arabic from the word maharah, which means clever or proficient. Terminologically, *mahārah q*refers to language learning proficiency or skill that must be developed. The word *qirā'ah* means reading. Reading is seeing and understanding the contents of what is written by speaking or in the heart of a writing.[22] *mahārah qirā'ah* is a language ability that a person has to see and understand the meaning contained in writing skillfully, precisely, and fluently so that the message that the author wants to convey through his writing can be captured and understood by the reader properly and precisely.[23]

Reading competence is a linguistic talent that enables a person to see and understand the meaning of written materials with skill, accuracy, and fluency so that the reader can understand the author's intended message correctly and precisely. When teaching Arabic, a teacher must consider the ability to understand the text.[24] In general, the purpose of learning *qirā'ah* is for students to read Arabic texts correctly and understand what has been read.[25]

4. Evaluation of *Mahārah Qirā'ah*

The main target of the *mahārah qirā'ah* test is the student's ability to understand the reading content and to measure students' cognitive ability to understand written discourse.[26] One of the steps that teachers must take in measuring their students' abilities is through assessment. So is the examination or test of *mahārah qirā'ah*. This test is

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[21]Audi Yundayani, "Technological Pedagogical and Content Knowledge : Konsep Analisis Kebutuhan Dalam Pengembangan Pembelajaran," *Prosiding Seminar Nasional Pendidikan STKIP Kusuma Negara* 1, no. 1 (2019): 1–6.

[22]Ahmad Rathomi, "Pembelajaran Bahasa Arab Maharah Qira'Ah Melalui Pendekatan Saintifik," *Ta'dib: Jurnal Pendidikan Islam* 8, no. 1 (2019): 558–65, https://doi.org/10.29313/tjpi.v8i1.4315.

[23]Dina Mustika Ishak, Efi Nur Fitriyanti, and Imroatul Azizah, "Pengaruh Pembelajaran Bahasa Arab Maharah Qira'ah Untuk Siswa Madrasah Aliyah Terhadap Pemahaman Budaya Arab," *Prosiding Semnasbama IV UM JILID 1*, no. 1 (2020): 62–67.

[24]Ahmad Fuad Effendy, *Metodologi Pengajaran Bahasa Arab* (Malang: Misykat, 2017), h.127.

[25]Young Ju et al., "Factors Influencing Preservice Teachers' Intention to Use Technology: TPACK, Teacher Self-Efficacy, and Technology Acceptance Mode," *International Forum of Educational Technology & Society Factors* 21, no. 3 (2018): 48–59.

[26]Acep Hermawan, *Metodologi Pembelajaran Bahasa Arab*, Ke-4 (Bandung: RemajaRosdakarya, 2014),h.150 .

intended to determine the level of *mahārah qirā'ah*, measure reading ability, and assess learning outcomes if the *mahārah istimā'* test is related to verbal language or sound articulation. In contrast, the *mahārah qirā'ah* test is based on non-verbal language or written symbols.[27]

Learning *mahārah qirā'ah* is divided into three levels: the *mubtadʾ*, *mutawassiṭ*, and *mutaqaddim*. The specific purpose of learning *mahārah qirā'ah* for the beginner level is for students to recognize symbols with appropriate punctuation marks, recognize words and sentences, and understand the meaning of sentences. The specific objectives of learning *mahārah qirā'ah* for the intermediate level are so that students can find the main idea and sentence, understand the relationship between ideas, and retell the contents of the Reading briefly. At the advanced level, which is an advanced level that is proficient in understanding the content of Reading, the learning objectives of *mahārah qirā'ah* at this level are for students to be able to find the main idea and explanatory sentences, interpret the contents of the Reading, make a digest of the Reading, and be able to retell what has been read.[28]

To measure the ability to understand Arabic reading texts is called *al-qirā'ah al-ṣamitah*, and to measure the truth in Reading is called *al-qirā'ah jahriyyah*. Here are the types of *qirā'ah* learning activities:[29]

a. Reading aloud (*al-qirā'ah al-jahriyyah*)

   Here, students are asked to read Arabic reading texts selected and selected at their ability level.

b. Reading in the heart (*al-qirā'ah as-samitah*)

   The opposite of reading aloud is reading by avoiding vocalization, although only moving the lips and focusing on eye movements as a repetition of Reading.

c. Spead Reading (*al-qirā'ah as-sariʾah*)

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[27]Asiva Noor Rachmayani, "PENGEMBANGAN INSTRUMEN TES MAHıRAH QIRı'AH UNTUK MAHASISWA BAHASA ARAB BERBASIS KOMPUTER MENGGUNAKAN SOFTWARE LECTORA INSPIRE," 2015, 6.

[28]Siti Nurilngin, "Discovery Learning Model in Learning Maharah Qira'ah in Senior High School/ Model Discovery Learning Pada Pembelajaran Maharah Qira'ah Di Sekolah Menengah Atas," *ATHLA : Journal of Arabic Teaching, Linguistic and Literature* 3, no. 1 (2022): 88–106, https://doi.org/10.22515/athla.v3i1.5125.

[29]Siti Khotiah, "Peningkatan Kompetensi Membaca Teks Berbahasa Arab Melalui Metode Qiraah Mata Pelajaran Bahasa Arab Di MTs Negeri 8 Karangmojo," *Jurnal Pendidikan Madrasah* 5, no. 2 (2020), https://ejournal.uin-suka.ac.id/tarbiyah/JPM/article/view/52-09/1894.

Reading aims to train students to dare to read faster than their habits.

d. Recreational Reading (*al-qirā'ah al-istimta'iyyah*)

Reading aims to train students to read quickly and enjoy what they read, which can foster their interest in Reading.

e. Analytical Reading (*al-qirā'ah at-taḥliyyah*)

Reading aims to train students to find information in written material and draw conclusions from what they have read.

f. Understanding the content of the reading text (*faḥm al-maqru'*)

To measure the ability to understand Arabic reading texts, several forms of tests can be used, among others: *al-ikhtiyar min muta'addid* (multiple choice), *shawab wa khata'* (true or false), *mil'u al-farag* (short form), *muzawwajah* (matching).

5. Application of TPACK-based Diagnostic Assessment in Learning *Mahārah Qirā'ah*

Implementing TPACK-based cognitive diagnostic assessment aims to evaluate students' needs and abilities before starting the learning process, considering the integration of technology, pedagogy, and content knowledge. The following are the steps in its implementation:[30]

a. Diagnostic Assessment Planning

1) Determination of *Mahārah Qirā'ah*

Teachers determine the essential competencies to be achieved in learning *mahārah qirā'ah*, such as understanding simple texts, recognizing vocabulary, and mastering basic grammar.

2) Student needs analysis

Teachers analyze students' initial abilities in reading skills, including vocabulary mastery and ability to read Arabic texts. This aspect can be obtained through initial interviews or pre-assessment tasks.

b. Development of TPACK-based Assessment Instrument

Content Knowledge (CK): The instrument focused on aspects of Arabic text comprehension, vocabulary, sentence structure, and context of use in the text.

[30]Abdul Rosyid, "Technological Pedagogical Content Knowledge: Sebuah Kerangka Pengetahuan Bagi Guru Indonesia Di Era MEA," *Prosiding Seminar Nasional Inovasi Pendidikan Inovasi Pembelajaran Berbasis Karakter Dalam Menghadapi Masyarakat Ekonomi ASEAN*, 2016, 446–54.

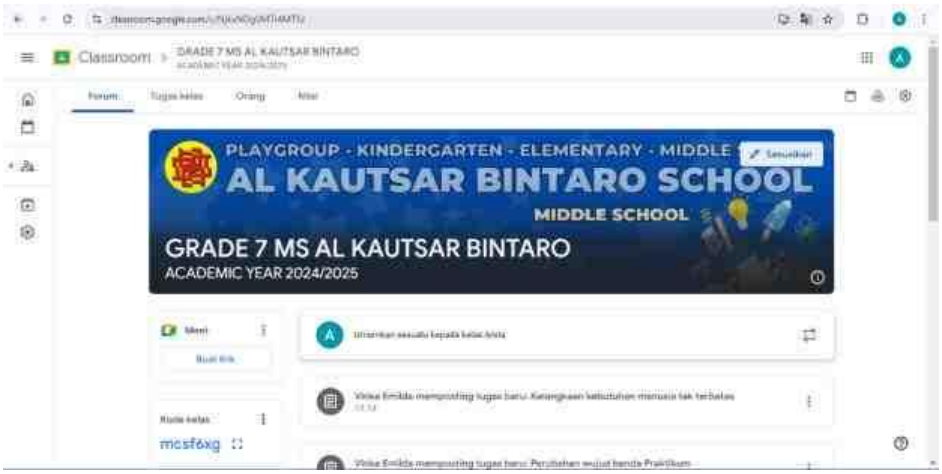
Pedagogical Knowledge (PK): The approach includes interactive learning methods or differentiated learning that accommodate students' different needs, interests, abilities, and learning styles.

Technological Knowledge (TK): Teachers use tools such as Google Forms, Quizizz, or other digital learning platforms to develop quizzes or questions that assess students' ability to understand *qirā'ah* texts.

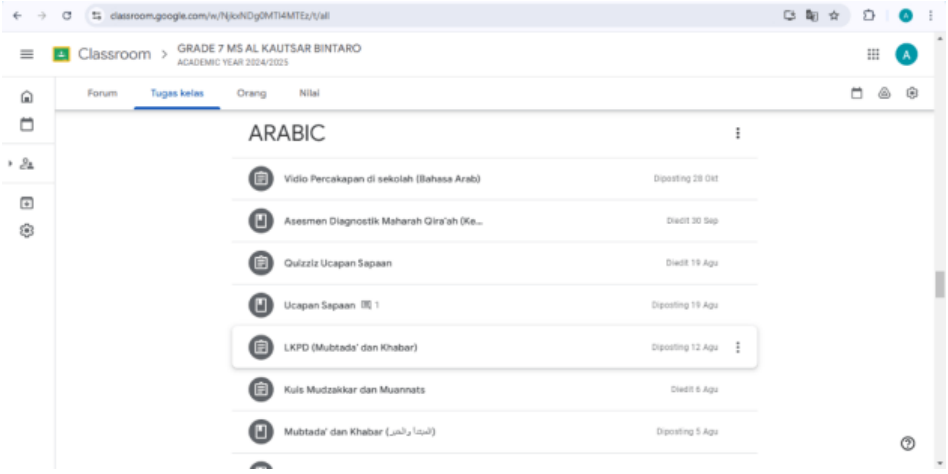
c. Implementation of Diagnostic Assessment

1) Task assignment and data collection

Students are given questions related to the text that has been studied. Digital platforms allow teachers to monitor and collect data on student work in real-time, for example, based on Google Workspace for Education/Google Classroom.



Picture 1. Google Classroom page for Grade 7 MS Al-Kautsar Bintaro



Picture 2. Grade 7 Arabic Class Assignments in Google Classroom

2) Observation

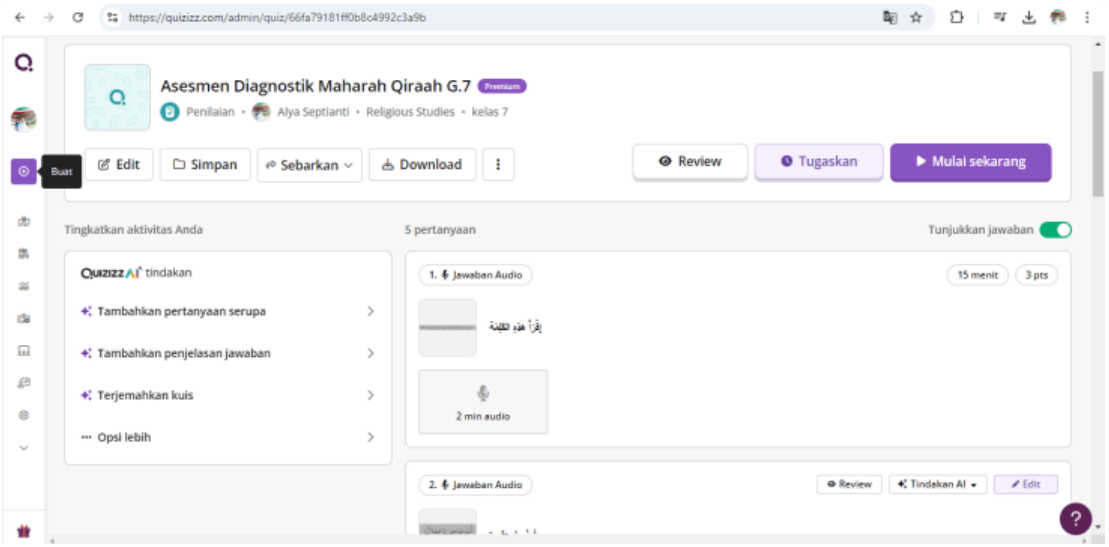
Teachers can see from looking at the results achieved by students as a whole whether many students do well or most students face common difficulties. Furthermore, teachers can adjust the observation results with learning adjustments based on the assessment results. These learning adjustments can also include diagnostic assessments that help teachers understand students' needs and readiness before learning. The learning strategy implemented at Al-Kautsar Bintaro Middle School is Differentiated learning, which aims to provide learning experiences based on students' abilities, interests, and learning styles. With observation results, teachers can identify students who need additional support, students who need further challenges, or students who have unique ways of learning. With learning adjustments based on the assessment results. Based on the assessment, teachers can make some adjustments, such as:[31]

a) Content: Provide materials with varying difficulty levels according to students' abilities. For example, more able students can be given more complex materials or additional projects, while students who are still struggling are given more basic guidance.
b) Process: Using varied learning methods, such as group discussions, educational games, or individual assignments, according to students' learning styles.
c) Product: Providing options for assignments or projects so students can demonstrate their understanding in ways that suit their interests and abilities, such as presentations, written reports, or visual projects.

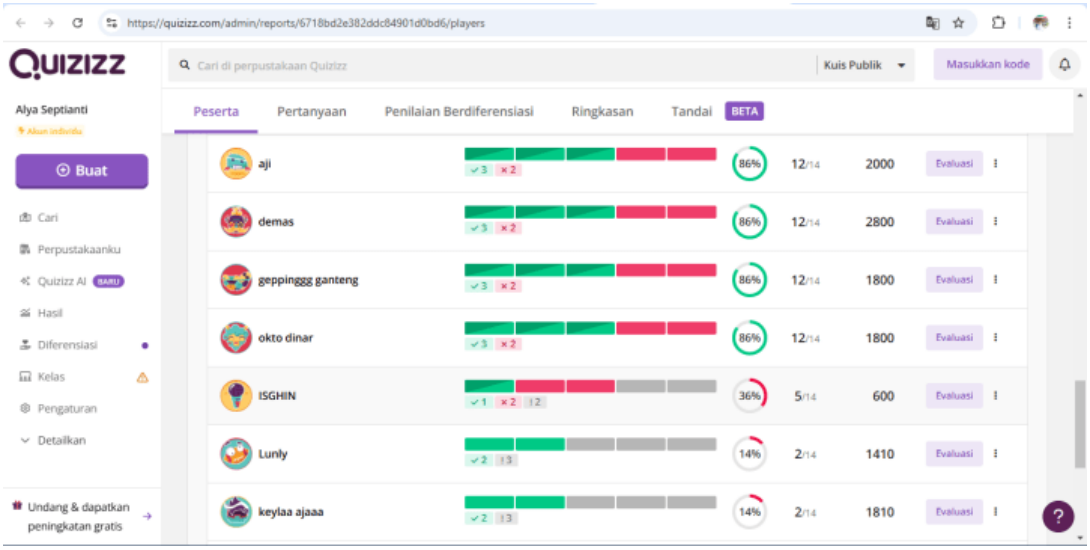
6. Instrument Diagnostic Assessment for *Mahārah Qirā'ah*

Here is an example of developing a Quizziz-based diagnostic assessment instrument:

[31]Kudubakti Andajani, "Pembelajaran Berdiferensiasi," *Jurnal Ilmiah Pedagogy* 2 (2022).



Picture 3. Quizizz Diagnostics Assessment of *Mahārah Qirā'ah*



Picture 4. Results of Diagnostic Assessment of *Mahārah Qirā'ah*

Table 2 shows that this diagnostic assessment provides a clear picture of the importance of mastering Arabic text reading skills and measures students' basic abilities in reading comprehension. By understanding the results of this assessment, teachers can design more effective learning and help students achieve the expected learning objectives. This assessment focuses on the cognitive aspect of cognitive C3 (application), indicating that students are not only expected to understand the theory about reading Arabic text but also be able to apply it in practice by reading it. There are 2 questions at the cognitive level of understanding (C2), which requires students to understand the meaning of the text as a whole.

Table 2. Diagnostic Assessment Grid of *Mahārah Qirā'ah*

No	Type of Assessment	Elements	Learning goals	Assessment Instrument	Problem Shape	Question No.	Question Score	Cognitive Domain
1	Diagnostic Assessment	*Mahārah Qirā'ah*	Learners can pronounce the symbols written in Arabic script correctly, which Arabic language users can accept.	Students are asked to read Arabic sentences that complete sentences with a loud voice and correct intonation voice and correct intonation	Audio	1	3	C3
2			Learners can pronounce the symbols written in Arabic script correctly, which Arabic language users can accept.	Students are asked to read Arabic sentences that complete sentences with a loud voice and correct intonation voice and correct intonation	Audio	2	4	C3
3			Learners can read Arabic texts aloud with correct pronunciation and intonation.	Students are asked to read Arabic text that text with the correct voice and intonation voice and correct intonation	Audio	3	5	C3
4			Learners can understand the text and find the connection with the exercise questions.	Students answer questions from the text provided	PG	4	1	C2
5			Learners can understand the text and find the connection with the exercise questions.	Students answer questions from the text provided	PG	5	1	C2

7. The Impact of TPACK-based Diagnostics Assessment in Learning *Mahārah Qirā'ah*

Through classroom observations, it was found that applying TPACK-based diagnostic assessment significantly impacts learning *mahārah qirā'ah*. Students who can master the text well can be given learning strategies that suit their abilities so that the teaching and learning process becomes more effective and personalized. Students who have difficulty understanding the text will get more specific guidance, such as re-explanation of sentence structure, vocabulary, or context of the text read. However, this impact is also influenced by internal factors, namely student interest and motivation to learn. Students interested in and motivated to learn Arabic can master the text well.

Arabic teachers at AKB Middle School also noted improved students' reading skills after implementing TPACK-based diagnostic assessments. Students began to get used to reading Arabic texts more confidently in identifying essential points in the Reading. For example, students can quickly answer questions from the Arabic text and can decipher the content of the text. This shows that diagnostic assessment serves as a

measuring tool for teachers to adjust teaching methods and learning materials according to student's needs, thus creating a more effective and comprehensive learning experience.

8. Obstacles and Solutions in the Implementation of TPACK-based Diagnostic Assessment in Learning *Maharah Qira'ah*

Some of the obstacles in the implementation of TPACK-based diagnostic assessments found in this study include:

a. Students need to gain proficiency in the same technological skills to avoid difficulties in assessment.
b. More time is needed in the learning schedule to implement the assessment thoroughly.
c. Teachers need help designing relevant instruments, especially when measuring digital aspects of text comprehension, vocabulary, and grammar.

To overcome this obstacle, some possible solutions are:

a. Provide training to students on the use of the technology used.
b. Planning and preparing a more flexible schedule at the beginning of each learning theme allows teachers to diagnose each student's ability according to the learning objectives.
c. Incentivizing training for teachers in developing digital-based assessment instruments. Teachers must be briefed on effectively integrating digital-based diagnostic assessments in the independent curriculum.

Conclusion

From the discussion above, implementing TPACK-based diagnostic assessment in learning *mahārah qirā'ah* at Al-Kautsar Bintaro Middle School significantly improves students reading ability. It provides teachers insight into designing learning that is more aligned with students needs. This finding implies the importance of applying technology in assessment as a tool that can optimize Arabic language teaching and increase the effectiveness of students' understanding of Arabic texts. Teachers can apply the results of this study to develop more appropriate and relevant assessment instruments and design student-centered learning strategies. Teachers can use this approach to improve their skills in utilizing TPACK and designing technology-based assessments. However, this study has limitations regarding the specific context and sample size, so the results need to be more generalizable to other contexts. A suggestion for future research is to conduct further studies involving more schools and different variables to gain a broader understanding of the effectiveness of

TPACK-based diagnostic assessments in various educational settings. Overall, the TPACK-based diagnostic assessment has successfully increased the effectiveness of *mahārah qirā'ah* learning at Al-Kautsar Bintaro Middle School. However, achers' skills in developing more complex assessment instruments still need to be improved. By continuing to build and enhance this approach, the quality of Arabic language learning can be further improved, improving students' ability to understand Arabic texts.

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