

# บทบาทของเทคโนโลยีในการเตรียมสอบและบริหารการสอบภาษา THE ROLE OF TECHNOLOGY IN LANGUAGE EXAM PREPARATION AND ADMINISTRATION

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## บทคัดย่อ

บทความนี้สำรวจการใช้เทคโนโลยีที่เพิ่มจำนวนขึ้นในการเตรียมตัวสอบและการบริหารการสอบภาษา เนื่องด้วยการแพร่ระบาดของโรคติดเชื้อไวรัสโคโรนาสายพันธุ์ใหม่ 2019 นำมาซึ่งการเปลี่ยนแปลงไปสู่การเรียนการสอน และการสอบออนไลน์ เทคโนโลยีจึงก้าวเข้ามามีบทบาทสำคัญอย่างยิ่งที่ช่วยให้การสอบภาษามีความสะดวกรวดเร็ว และมีประสิทธิภาพมากขึ้น ในบทความนี้กล่าวถึงเทคโนโลยีในรูปแบบต่าง ๆ ที่ใช้ในการเตรียมตัวสอบ อาทิเช่น แอปพลิเคชัน และซอฟต์แวร์สำหรับเรียนรู้ภาษา วิดีโอและคลิปบทเรียนเพื่อการศึกษา และสภาพแวดล้อมเพื่อการเรียนรู้ภาษาออนไลน์ ทั้งนี้ผู้เขียน ได้อภิปรายประสิทธิภาพ ข้อดีและข้อเสียของเทคโนโลยีแต่ละประเภทจากการศึกษาที่เกี่ยวข้อง บทความนี้ยังกล่าวถึง การใช้เทคโนโลยีในการบริหารการสอบภาษา แพลตฟอร์มการสอบภาษาออนไลน์ เครื่องมือตรวจจับการคัดลอก ผลงานวิชาการและตัดเกรดอัตโนมัติ ตลอดจนระบบการจัดการและติดตามข้อมูลของผู้สอบ อีกทั้งยังกล่าวถึงปัญหาและ ข้อกังวลเกี่ยวกับการใช้เทคโนโลยีในการจัดการสอบด้วยเช่นกัน ในตอนท้าย บทความนี้แสดงทิศทางในอนาคตของ เทคโนโลยีในการเตรียมสอบและการบริหารการสอบภาษา รวมถึงเทคโนโลยีที่จะเกิดขึ้นใหม่และความท้าทายที่อาจ เป็นไปได้ในอนาคต โดยผู้เขียนได้สรุปประเด็นสำคัญจากบทความและอภิปรายผลกระทบโดยรวมของเทคโนโลยี ต่อการเตรียมสอบและการบริหารการสอบภาษา พร้อมทั้งให้ข้อเสนอแนะสำหรับนักการศึกษา ผู้สอน และสถาบัน การศึกษาเพื่อให้เกิดประโยชน์สูงสุดจากการใช้เทคโนโลยีต่าง ๆ เหล่านี้

**คำสำคัญ:** เทคโนโลยี, การสอบภาษา, การเตรียมตัวสอบ, การบริหารการสอบ

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**ABSTRACT**

This article explores the increasing use of technology in language exam preparation and administration. With the COVID-19 pandemic leading to a shift towards online learning and testing, technology has become increasingly important in making language exams more efficient and streamlined. The article addresses the various forms of technology used for exam preparation, such as language learning apps and software, educational videos and lesson clips, and online language learning environments. Each technology's advantages and disadvantages are discussed, along with pertinent studies on how effective they are. The article also discusses how technology is being used for language exam administration, including online language exam platforms, automatic grading and plagiarism detection tools, and data management and tracking systems. Concerns and issues surrounding the use of technology in exam administration are also addressed. Finally, the article explores the future of technology in exam preparation and administration, including emerging technologies and potential challenges. The conclusion summarises the key points and discusses the overall impact of technology on language exam preparation and administration, providing recommendations for educators, instructors, and institutions to maximise the benefits of these technologies.

**KEYWORDS:** Technology, Language Examinations, Exam Preparation, Exam Administration



## Introduction

Language proficiency is now crucial for communication, education, and career growth in today's globalised society. As a result, language tests have become more popular as a means of determining competency and certifying language abilities. But for institutions and organisations that serve a large number of students, planning for and carrying out language exams can be time-consuming and difficult.

Fortunately, technology has produced creative answers to enhance language exam preparation and management. Technology is significantly changing the environment of language exams, from language learning apps to online testing platforms. Technology is being used more frequently in exam administration and preparation for a number of reasons. A study by Chen et al. (2020, p. 1780) found that technology helped students more accessibility, flexibility, and convenience. Learners can study at their own speed from any location in the world and on any device with the help of language learning apps and online learning platforms like Duolingo, Babbel, and Rosetta Stone (Ajisoko, 2020, p. 150; Mihaylova, Gorin, Reber, and Rothen, 2022, p. 252). Those with busy schedules or limited access to traditional classroom-based language learning programmes would especially benefit from this flexibility (Chen et al., 2020, p. 2). According to the research by Sedaghatkar (2017, p 231), technology makes learning more participatory and interesting for students. For instance, it has been demonstrated that the gamified method used by many language learning apps increases learners' motivation and engagement (Vathanaalooha, 2022, p. 832). Language learning has also been found to benefit from interactive instructional videos and lesson segments from websites like TED-Ed, YouTube, and Khan Academy (Grégis & Carvalho, 2019, p. 212). Lastly, technology has significantly improved

how language exams are administered. Candidates can now take exams from anywhere in the world thanks to online language exam systems like TOEFL, IELTS, and TOEIC, which do away with the requirement for physical testing facilities (Volz, 2023). Turnitin, Grammarly, and ProctorU are examples of automatic exam grading and plagiarism detection tools that have made the grading process simpler (Dousay & Hall, 2021, p. 328). PowerSchool, Blackboard, and Canvas are examples of data management and tracking systems for exam results that have made managing exam data more effective (Dumler, 2022, pp. 74–78).

The use of technology in the administration and preparation of language exams has received support from numerous research investigations. For instance, a study by Metruk (2021, pp. 6–7) discovered that Slovak students learning English dramatically increased their language competency through the usage of language learning applications. The use of interactive educational movies and lesson clips increased the language skills of students at Southeast European University, according to Ismaili (2013, p. 121). In terms of exam administration, a study by Yaacob et al. (2020, pp. 52–53) discovered that both applicants and examiners preferred the use of online language exam systems due to their ease and effectiveness.

The COVID-19 pandemic has simultaneously had a big impact on education, hastening the move to online instruction and testing. Several institutions have been forced to use online learning platforms and technologies in order to continue providing education to students while schools and colleges have closed or are functioning at reduced capacity (Economic Commission for Latin America and the Caribbean (ECLAC) and United Nations Educational, Scientific and Cultural Organization (UNESCO), 2020, p. 3). In order to comply with social distancing measures, language exams and assessments

have moved online, which has had an impact on language instruction as well.

The COVID-19 pandemic has boosted the use of technology in education, especially language acquisition, and highlighted the advantages of online study and testing. Language learning and assessment could be completely changed by technology's convenience, flexibility, engagement, and effectiveness. To guarantee that students get an effective education, institutions and instructors must handle some problems brought on by the shift to online learning. In this setting, it is now more crucial than ever to use technology for exam planning and administration. The next section will discuss in more detail how technology is used for exam preparation and administration, including its advantages and disadvantages.

### **Using Technology for Language Exam Preparation**

The use of technology to help students prepare for language tests has grown in popularity in recent years across all levels of education, including primary, secondary, and higher education. To meet the individual demands and proficiency levels of students at various phases of their academic journey, a broad selection of technology is currently being used into language exam preparation. Technology-assisted language exam preparation techniques include the use of applications and software for language learning, instructional videos and lesson clips, online language courses, virtual language tutors, online language communities, and online practise exams. These techniques include disadvantages in addition to their many advantages. The followings are some of the most popular technologies used for language exam preparation:

#### **Language learning apps and software:**

Language learning apps and software are two forms of technology that are employed to aid students in studying for language exams (Ikonta & Ugonna, 2015, p. 70). Interactive activities, games, and quizzes are available in language learning apps to aid students in learning vocabulary, grammar, and pronunciation. Additionally, they provide tracking of progress and individual learning strategies. The fact that these apps are simple to use and available at all times and locations is an advantage. However, the absence of practical communication practises and limited feedback are disadvantages. Language learning software offers a thorough language learning experience that includes interactive activities and assessments as well as vocabulary, grammar, and pronunciation exercises (Ikonta & Ugonna, 2015, p. 72). One of its advantages is the opportunity to monitor progress over time, but a disadvantage is the higher expense in comparison to other technology-assisted techniques for preparing for language exams and the potential for technical issues.

#### **Educational videos and lesson clips:**

A number of instructional video clips from web platforms can be a helpful study aid for language exams. These platforms include a variety of films on numerous subjects, such as language instruction, that can assist students in gaining better comprehension, pronunciation, and vocabulary (Grégis & Carvalho, 2019, p. 216). One benefit of using educational videos in the classroom is that the visual and auditory stimulation they provide can aid students in improving memory retention. Also, for as many times as necessary to thoroughly comprehend the material, students can pause, fast-forward, and repeat videos. These videos are a practical and adaptable option for preparing for language exams because they can be viewed from anywhere with an internet connection. However, there are several

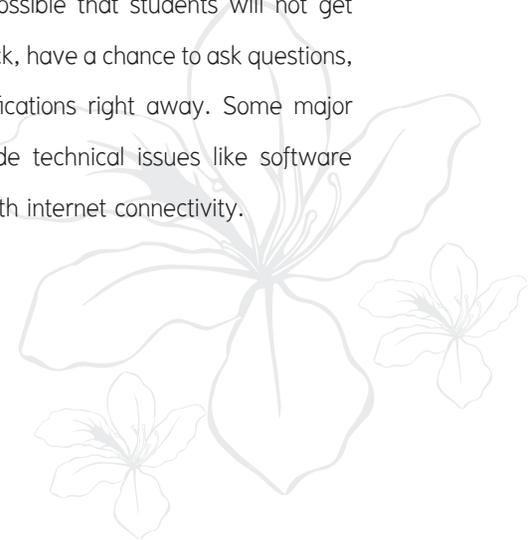
possible drawbacks, including the lack of customised input and the possibility of distractions. Students might not be able to recognise and correct their mistakes without an instructor or tutor to offer feedback. Additionally, students may be tempted to switch to unrelated videos or become distracted by comments and other features on the video-sharing platform.

**Online language courses:** Using learning management systems (LMSs), many universities provide online language instruction. These programmes provide a more organised method of learning a language and frequently include live or recorded lectures, assignments, and tests (Shcherbakova et al., 2023, p. 124). The ability to connect with other students and the instructor, as well as access a greater variety of materials, are advantages of online language training. However, students might not get the specialised attention they would in a face-to-face setting, and they can find it difficult to stay motivated and interested without routine in-person engagement. The learning process could also be frustrated by technical difficulties with the learning management system or internet connectivity.

**Virtual language tutors:** According to video conferencing tools, it is now feasible to have private lessons with a virtual language instructor. These tutors can offer individualised guidance, criticism, and conversation practise (Xia et al., 2022, p. 165). Individualised attention and scheduling flexibility are two advantages of using a virtual language tutor. Although some students might find the expense of employing a virtual instructor to be a drawback, other students might find the learning process interrupted by technical problems with the video conferencing software. Moreover, not all online teachers may be informed or skilled; therefore, it's crucial to thoroughly assess possible tutors and pick one who is qualified and capable of imparting education.

**Online language communities:** There are a number of online language communities where language learners can get in touch with native speakers for language exchange or practise in real-world settings (Wu et al., 2017, pp. 142–143). They give students the chance to develop their communication abilities in a practical setting. Online language communities have the advantage of typically being free or inexpensive, making them available to everyone with an internet connection. Furthermore, language learners frequently have the option of selecting an exchange partner who best matches their interests and objectives. However, the absence of organisation and quality assurance could be a disadvantage. Some language exchange partners may not be dependable or devoted to helping the learner develop their language skills, and language learners may not always receive correct feedback.

**Online practise tests:** These practise exams are completed online, frequently with software created especially for language learning and testing (Kucherova & Ushakova, 2022, p. 185). These tests replicate the actual language exam by frequently including multiple-choice questions. The benefit of taking practise examinations online is that students can obtain fast feedback on how they did and pinpoint their areas of weakness. As well, some online practise exams employ adaptive technology, which modifies the questions' degree of difficulty in response to the learner's performance, allowing students to concentrate on their weaker areas. However, a lack of one-on-one connection with a teacher could be a disadvantage. It's possible that students will not get personalised feedback, have a chance to ask questions, or get concept clarifications right away. Some major disadvantages include technical issues like software bugs or problems with internet connectivity.



**Table 1** Summary of Technology–Assisted Language Exam Preparation Methods

Technology	Advantages	Disadvantages
Language learning apps and software	<ul style="list-style-type: none"> <li>• Easily accessible</li> <li>• Personalized learning plans</li> <li>• Progress tracking</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of real–life communication practice</li> <li>• Limited feedback</li> <li>• Higher cost</li> <li>• Potential technical issues</li> </ul>
Educational videos and lesson clips	<ul style="list-style-type: none"> <li>• Visual and auditory stimulation</li> <li>• Convenient and flexible</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of personalized feedback</li> <li>• Potential for distractions</li> </ul>
Online language courses	<ul style="list-style-type: none"> <li>• Structured approach</li> <li>• Access to a wider range of materials</li> <li>• Ability to interact with other students and instructor</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of individualized attention</li> <li>• Struggle to stay motivated and engaged without regular in–person interaction</li> <li>• Potential technical issues</li> </ul>
Virtual language tutors	<ul style="list-style-type: none"> <li>• Personalized instruction, feedback, and conversation practice</li> <li>• Individualized attention</li> <li>• Flexibility in scheduling</li> </ul>	<ul style="list-style-type: none"> <li>• Higher cost</li> <li>• Potential technical issues</li> <li>• Not all tutors may be qualified or experienced</li> </ul>
Online language communities	<ul style="list-style-type: none"> <li>• Free or low–cost</li> <li>• Opportunity to practice communication skills with native speakers</li> <li>• Choice of language exchange partner</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of structure and quality control</li> <li>• Inaccurate feedback</li> <li>• Unreliable or uncommitted language exchange partners</li> </ul>
Online practice tests	<ul style="list-style-type: none"> <li>• Immediate feedback</li> <li>• Identification of areas needing improvement</li> <li>• Use of adaptive technology</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of personal interaction with an instructor</li> <li>• Potential technical difficulties</li> </ul>

In summary, approaches for preparing for language exams with the help of technology provide a number of advantages, including flexibility, accessibility, and convenience; however, they do have some disadvantages. As a result, the best strategy for studying for language exams may involve a mix of several techniques, including technology–assisted techniques and conventional techniques.

### Using Technology for Exam Administration

In language exam administration, integrating competency standards like CEFR in language exam

administration ensures standardized and fair assessments of candidates' language abilities. Proficiency tests accurately measure language skills, making them accessible to anyone, regardless of their language learning experiences or competency levels. (Cox, Malone, & Winke, 2018, p. 112). Language tests can be aligned with internationally recognised skill levels by leveraging technology–driven platforms, providing consistent evaluations across different testing methodologies. This integration promotes effective communication among learners, educators, and employers, as well as the ability for individuals to define realistic language learning

goals (Nguyen, 2021, p. 933). To ensure the integrity of language assessments, technology and competency standards collaborate to produce reliable and authentic assessments of language proficiency on a worldwide scale.

The use of technology has brought about significant changes in the administration of language exams, making them more convenient and accessible for candidates globally. Additionally, technology has played a crucial role in revolutionising the methods of exam conduct and grading. Technological advancements have enabled language exam administration to be conducted in more efficient and convenient ways. Online language exam systems, automatic exam grading and plagiarism detection tools, and data management and tracking systems are some examples of such technology-assisted methods. However, despite their advantages, these systems also have their limitations. Some of the most common technologies used for language exam administration include:

**Online language exam platforms:** These instruments are becoming more and more popular since they provide various advantages over conventional testing procedures. Firstly, Computer-based testing is one of these approaches, and it entails giving the exam via a computer interface (Ockey, 2009, p. 836). Exams can be given remotely using this technology, which also speeds up scoring and lowers administrative costs. Yet, since the exam style could be different from a conventional paper-based exam, there is a risk that it will not accurately reflect the test-language taker's proficiency.

Secondly, using speech recognition software is another way to evaluate a language learner's listening and speaking skills (Jiang et al., 2021, p. 110). Using

algorithms, this device records test-takers' speech and scores their answers. The advantages of voice recognition technology include the capacity to deliver more realistic language assignments, increased impartiality in grading, and quicker outcomes. The technology may not always successfully recognise a test-taker's speech, which could result in score problems.

Thirdly, online proctoring is a technique for remotely watching test takers while they are taking the exam. This may entail employing software to keep an eye on the test-computer taker's usage or using webcams to watch how they act and behave (Han et al., 2022, p. 6). Improved test security and the flexibility to conduct exams remotely are two advantages of online proctoring; nonetheless, it has the potential to be intrusive and pose privacy issues.

Fourthly, computer-adaptive testing is a method that involves using algorithms to adjust the difficulty level of the exam questions based on the test-taker's responses. This method allows for increased efficiency and improved precision in measuring language abilities, as well as the ability to provide a personalised exam experience (Khoshsima & Toroujeni, 2017, p. 16). However, a drawback is that it may be more difficult to compare scores across different exams or test-takers. Lastly, remote testing is a method that involves administering language exams remotely, often using videoconferencing technology or even a telephone to connect the test-taker with a proctor (Farmer et al., 2020, p. 480; Liinasuo et al., 2023, p. 298). The benefits of remote testing include increased flexibility and the ability to administer exams to test-takers in remote or underserved areas. However, a drawback is that technical difficulties may disrupt the testing experience, and the reliability and quality of the remote proctoring may vary.

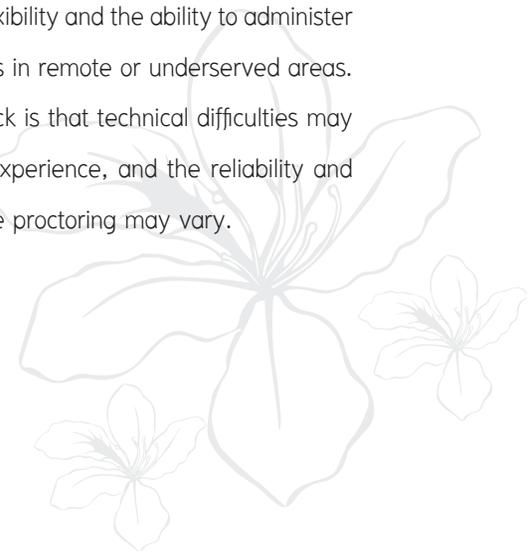


Table 2 Summary of Online Language Exam Methods

Method	Advantages	Disadvantages
Computer-based testing	<ul style="list-style-type: none"> <li>• Faster scoring and reduced administrative costs</li> <li>• Ability to administer exams remotely</li> </ul>	<ul style="list-style-type: none"> <li>• May not accurately reflect test-taker's language abilities</li> </ul>
Speech recognition technology	<ul style="list-style-type: none"> <li>• Improved objectivity in scoring</li> <li>• Faster results</li> <li>• Ability to provide more authentic language tasks</li> </ul>	<ul style="list-style-type: none"> <li>• May not accurately recognize test-taker's speech</li> </ul>
Online proctoring	<ul style="list-style-type: none"> <li>• Improved test security</li> <li>• Ability to administer exams remotely</li> </ul>	<ul style="list-style-type: none"> <li>• May be intrusive and raise concerns about privacy</li> </ul>
Computer-adaptive testing	<ul style="list-style-type: none"> <li>• Increased efficiency and improved precision in measuring language abilities</li> <li>• Ability to provide a personalized exam experience</li> </ul>	<ul style="list-style-type: none"> <li>• May be more difficult to compare scores across different exams or test-takers</li> </ul>
Remote testing	<ul style="list-style-type: none"> <li>• Increased flexibility</li> <li>• Ability to administer exams to remote or underserved areas</li> </ul>	<ul style="list-style-type: none"> <li>• Technical difficulties may disrupt the testing experience</li> <li>• Reliability and quality of remote proctoring may vary</li> </ul>

The availability of language testing has been substantially increased, and candidates can now take exams more easily, thanks to online language exam platforms; however, there are also possible disadvantages. There are pros and cons to each option, so it is crucial to carefully assess which is best for a particular language exam. Notwithstanding these reservations, online language tests have a number of advantages, such as ease and on-demand assessment, and it is probable that they will continue to gain popularity and become even more readily available to applicants throughout the world as technology develops.

**Automatic exam grading and plagiarism detection tools:** These tools have simplified the grading process and detected plagiarism, making language testing more efficient and streamlined for exam administrators. Automatic exam grading systems use machine learning

algorithms to automatically grade exams based on pre-defined scoring criteria, such as correct answers or point values assigned to specific responses. Multiple-choice, fill-in-the-blank, and short-answer questions can all be graded using automatic methods (Prasain & Bajaj, 2020, pp. 1–10). Similarly, a plagiarism detection tool uses machine learning algorithms to analyse exam responses and detect potential plagiarism by comparing the candidate's work to a vast database of previously submitted work (Foltýnek et al., 2020, p. 2). In addition, an online grammar checking tool uses artificial intelligence to analyse the candidate's written work for grammar, punctuation, and spelling errors.

Increased efficiency, precision, and fairness in the grading process are some potential advantages of automatic exam grading and plagiarism detection programmes. Automatic grading systems are capable

of providing consistent and fair grading, free from the possibility of human bias or error, by using pre-defined scoring criteria and machine learning algorithms. This not only helps exam organisers save time and money, but it also guarantees a fair and consistent marking system for all applicants. Similar to this, plagiarism detection techniques support the integrity of language testing by preventing academic dishonesty. These tools can identify instances of plagiarism, even if they occur across multiple exams or institutions. This helps maintain the validity and reliability of the language exam, ensuring that candidates are evaluated based on their own skills and knowledge rather than plagiarised work. Finally, online grammar checking tools can improve the quality of written responses and help candidates identify and correct errors in their work. By analysing grammar, punctuation, and spelling errors, these tools provide feedback that can help candidates improve their writing skills and better prepare for future language exams or academic writing assignments.

Language test administrators can greatly profit from automatic exam grading and plagiarism detection programmes, but there are also potential downsides and restrictions. One limitation is that automatic grading systems typically only provide a final score or grade

and do not offer detailed feedback on why an answer was marked incorrect, which may hinder a candidate's ability to learn from their mistakes. Additionally, these tools may not be able to assess the quality or creativity of a candidate's work, as they typically only evaluate objective criteria such as correct answers or matching text. Automatic grading systems may not be suitable for all types of questions, such as open-ended or essay questions, which require subjective evaluation and cannot be easily graded by a machine. While tools for detecting plagiarism can be effective at finding similarities to previously published work in their database, they might not be able to find every instance of plagiarism because some cases might not be in their database or might need human interpretation to determine whether they are actually plagiarised. The efficiency of these tools may also be constrained by technical problems like system crashes, network challenges, or compatibility problems with particular hardware or software. Moreover, these tools could be subject to biases or inaccuracies that result in erroneous results or unfairly penalise candidates. Last but not least, putting automatic grading and plagiarism detection techniques in place can be expensive, particularly for smaller language testing companies or schools.

**Table 3** Advantages and Disadvantages of Using Automatic Exam Grading and Plagiarism Detection Tools

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>● Increased efficiency and accuracy</li> <li>● Objectivity and fairness</li> <li>● Saves time and resources</li> <li>● Prevention of academic dishonesty</li> <li>● Identifies instances of plagiarism</li> <li>● Maintains the validity and reliability</li> <li>● Improvement in writing skills</li> </ul>	<ul style="list-style-type: none"> <li>● Limited feedback on incorrect answers</li> <li>● Inability to assess quality or creativity</li> <li>● Unsuitability for subjective evaluation</li> <li>● Inability to detect all instances of plagiarism</li> <li>● Technical issues and limitations</li> <li>● Potential errors and biases</li> <li>● Expensive implementation for smaller organizations</li> </ul>

Machine learning algorithms are used by automatic exam grading and plagiarism detection technologies to speed up exam grading and identify plagiarism in language tests. Administrators can take advantage of their greater effectiveness, precision, and impartiality, among other advantages. However, they do have several limitations, such as the inability to give specific comments, judge creativity, ask open-ended questions, or catch all cases of plagiarism. Their usefulness may also be restricted by technical problems, mistakes, and biases, and their implementation may be expensive for smaller firms. The advantages and disadvantages of utilising such tools must be carefully considered by exam administrators, who must also make sure that the proper precautions are taken. These issues could be resolved, and these systems could become more useful in administering language exams with more study and development.

**Data management and tracking systems:**

These software platforms are designed to help language testing administrators manage the data generated by language exams. Administrators can use these systems to manage and maintain test results, track candidate progress over time, and generate reports and analytics on exam performance.

Data management systems can assist language test administrators in a variety of ways. First and foremost, they simplify the management and archiving of huge amounts of information, which may be laborious and prone to error when done manually. These systems minimise the possibility of data errors and make sure that data is accurately and securely saved by automating the data management process (Dumler, 2022, pp. 74–78). Data management solutions also give managers the ability to monitor the advancement of candidates over time. This can give students information about their areas of strength and weakness as well as general patterns in exam performance. These data can be

utilised to improve the overall standard of the language testing programme as well as target interventions and candidate assistance. Data management systems also make it easier to generate reports and analyse on exam performance. This may include summaries of test results as well as more in-depth analyses of particular question types or test sections. Administrators can use these reports to evaluate the success of any adjustments or interventions that have been made as well as to identify exam-related areas for improvement. Data management programmes can also enhance applicant and administrator communication. These systems can make it simpler for applicants to access their exam results and receive feedback on their performance by offering a single platform for exchanging results and feedback. This can increase candidate involvement and satisfaction with the language testing programme and offer insightful information about candidate requirements and preferences.

Whereas data management and tracking systems can have many advantages, there may also be downsides and restrictions that need to be taken into account. One drawback is the potential need for substantial financial outlay and technological know-how for the implementation and upkeep of these systems. This may be difficult for universities with fewer resources or smaller language testing companies. Furthermore, these systems could be susceptible to technical concerns, such as network failures or system crashes, which can result in data loss or corruption. Another potential problem with these systems is that they might heavily rely on quantitative data and fail to adequately capture qualitative data, such as candidate comments or contextual information regarding exam performance. This may make it more difficult for administrators to completely comprehend the factors influencing exam success or to pinpoint areas in need of improvement. Additionally, data management and tracking systems may rely on

limited or biased assumptions about what success or progress looks like. Finally, data security and privacy issues may be raised by data management and tracking systems. These systems could hold sensitive information about applicants, like their personal information or exam

results, which needs to be secured from unwanted access or disclosure. Administrators are responsible for making sure that the necessary security measures are in place to protect candidate data and that they adhere to all applicable data protection laws.

**Table 4** Advantages and Disadvantages of Using Data Management and Tracking Systems

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>● Easier management and storage of large amounts of data</li> <li>● Reduces the risk of data errors and ensures secure and accurate data storage</li> <li>● Ability to track candidate progress over time</li> <li>● Generates reports and analytics on exam performance</li> <li>● Improves communication between administrators and candidates</li> </ul>	<ul style="list-style-type: none"> <li>● Significant financial investment and technical expertise required to implement and maintain</li> <li>● Vulnerability to technical issues leading to data loss or corruption</li> <li>● May not capture qualitative information</li> <li>● Relies on assumptions about what constitutes success or progress</li> <li>● Raises concerns about data privacy and security</li> </ul>

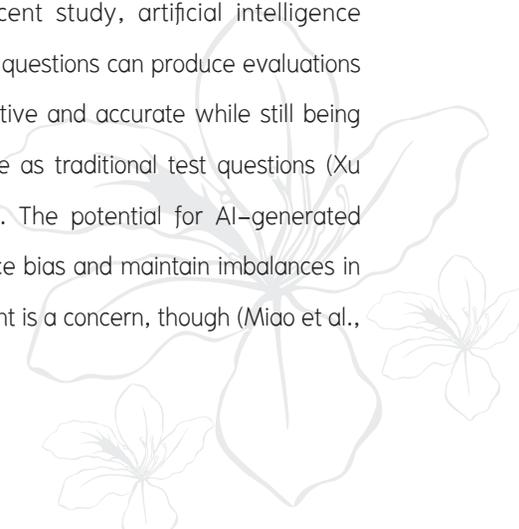
In conclusion, data management and tracking systems have become an essential element of the administration of language exams, allowing for more efficient exam data storage, management, and analysis. The benefits of these systems make them an important tool for improving language education, although there may be privacy, accuracy, and cost concerns.

### The Future of Technology in Language Exam Preparation and Administration

When new technologies develop, they give language learners and educators additional chances to enhance the learning process overall and to better prepare for and administer exams. In this section, we will go over some of the ways that technology is expected to influence the future of language exam preparation and administration, such as the potential for AI technology to produce practise exams and exam questions that are more difficult to answer, the use of AR and VR technology in language exam preparation and administration, and the influence of technology

on language learning and assessment. We will also explore some of these developing technologies' possible disadvantages and challenges.

**Artificial intelligence (AI):** This innovation has the power to completely transform how practise tests and exam questions are developed. Artificial intelligence (AI) systems have the capacity to analyse enormous volumes of data, find trends, and provide questions that are more sophisticated and nuanced than those found in traditional tests. Furthermore, the taker's AI may be used to tailor the exam experience for each individual by altering the difficulty of the questions in response to each test performance (Dwivedi et al., 2021, p. 57). According to a recent study, artificial intelligence (AI)-generated test questions can produce evaluations that are more effective and accurate while still being as valid and reliable as traditional test questions (Xu et al., 2021, p. 5). The potential for AI-generated questions to reinforce bias and maintain imbalances in language assessment is a concern, though (Miao et al., 2021, p. 25).



### **Augmented reality (AR) and virtual reality**

**(VR):** The administration and preparation of language exams will also be transformed by these technologies. Test takers can practise language skills in a more engaging and productive manner with the use of AR and VR, which can offer immersive language learning experiences that imitate real-world circumstances (Bonner & Reinders, 2018, p. 33). Moreover, the creation of virtual testing environments using AR and VR can be used to increase accessibility to language tests by displacing the need for actual testing facilities. There are still some issues that need to be resolved, although AR and VR hold a lot of promise for positive outcomes. For instance, certain groups of learners may not be able to use AR and VR programmes due to their high development costs. Research is also required to determine the efficiency of AR and VR for language instruction and evaluation (Huang et al., 2021, p. 1).

The use of technology is significantly impacting language learning and assessment, and this trend is expected to continue in the future. Personalised learning algorithms, gaming, and online language learning platforms are just a few examples of how technology is altering how languages are taught and evaluated. Particularly, the application of technology to language assessment has the potential to deliver more accurate and comprehensive assessments of language abilities. For instance, computerised adaptive testing (CAT) can modify the level of difficulty of the questions in accordance with the test taker's performance, producing a more accurate evaluation of language competency (Collares & Cecilio-Fernandes, 2019, p. 116). In addition, natural language processing (NLP) technology aims to help computers understand human language input in the form of text or speech and provide more detailed information about a candidate's language abilities (Chowdhary & Chowdhary, 2020, p. 603). However, there may be some issues with the expanding use of technology in

language learning and assessment. Equity and access are major issues, as some students might not have access to the required technology or an internet connection. Furthermore, there may be issues with the validity and dependability of technologically based language examinations, particularly when assessing complicated language abilities. The value placed on interpersonal communication and human contact may decline as a result of an overreliance on technology (Nigam, n.d., p. 23). There is also a chance that bias will be present in the creation and application of technology for language learning and assessment, for example, in the choice of training data for NLP models or the creation of algorithms for individualised instruction.

### **Conclusion**

With the development of online resources, language learning apps, computer-based testing, and data management systems, technology has profoundly changed how language tests are created, given, and evaluated. This section summarise the key concepts discussed in this part and make recommendations for how educators and institutions could use these resources to raise student performance.

Key Points:

- The administration and preparation of language exams have greatly benefited from technology in terms of accessibility, practicality, and effectiveness.
- However, there are also possible negatives, including a lack of individualised feedback, few opportunities for practise in actual communication situations, technical issues, and a high cost.
- A combination of technology-assisted methods and traditional methods may be the most effective approach to language exam preparation and administration.
- Online language exam systems have greatly expanded access to language testing and made it more convenient for candidates to take exams.

- Different methods, including computer-based testing, speech recognition technology, online proctoring, computer-adaptive testing, and remote testing, have their own advantages and disadvantages.
- Automatic exam grading and plagiarism detection tools offer benefits such as increased efficiency, accuracy, and fairness, but they also have limitations and potential biases.
- Data management and tracking systems have become an integral part of language exam administration. They provide more efficient storage, management, and analysis of exam data.
- The possibilities for improving language learning and assessment through the use of AI-generated questions, AR/VR technology, and personalised learning algorithms are limitless.
- Educational institutions, instructors, and educators should carefully consider the potential benefits and drawbacks of technology in language assessment and take steps to mitigate potential biases and ensure equitable access for all learners.

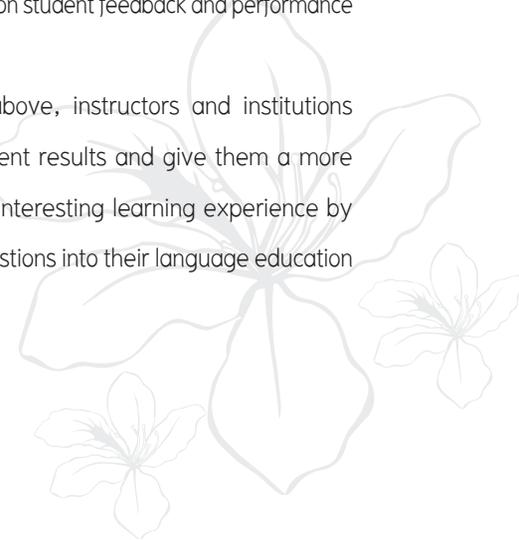
In conclusion, technology has generally had a substantial impact on the administration and preparation of language exams, providing many advantages but also raising difficulties and constraints. The development of technology will probably continue to influence how languages are taught in the future. Therefore, it is crucial for educational institutions and instructors to carefully weigh the possible advantages and disadvantages of technology in order to improve language learning outcomes and offer more accurate and thorough evaluations of language skills.

In addition, it is essential that instructors and educational institutions use these tools for the improvement of student outcomes as technology continues to change the environment of language teaching. Instructors can create a more balanced and productive learning environment for language learners by combining traditional methods with

technology-assisted ones, focusing on detail, providing feedback, minimising accessibility issues, and minimising potential biases. Here are some particular tips on how to use technology to improve language learning results.

- Emphasise the integration of technology in language education to improve student engagement and motivation.
- Provide students with access to a variety of technology-assisted language learning tools to cater to different learning styles and needs.
- Offer training and support for both educators and students to effectively use technology in language education.
- Foster a collaborative learning environment that encourages students to work together using online communication tools.
- Use technology to provide students with personalised feedback and track their progress over time to help identify areas where they need improvement.
- Utilise technology for language exam administration to improve the accuracy, efficiency, and fairness of exams.
- Encourage the use of automatic grading and plagiarism detection tools to streamline the grading process and detect plagiarism in language testing.
- Make sure that all students, regardless of socioeconomic level or background, can access any technology utilised for language teaching.
- Evaluate the effectiveness of technology-assisted language learning regularly and make necessary adjustments based on student feedback and performance data.

From the above, instructors and institutions can improve all student results and give them a more comprehensive and interesting learning experience by adopting these suggestions into their language education programmes.



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