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Exploring the Impact of Script Marking on Teachers' Work Effectiveness in Secondary Schools: A Literature Review

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Abstract

This paper provided insights into higher education in terms of the levels and functions of the educational experiences offered, it highlights the aims of higher education in Nigeria as outlined by the Federal Republic of Nigeria (2004) section 8 (59), the paper discussed the challenges of funding Nigerian higher educational institutions, and highlighted the conventional sources of funding institutions of higher learning. It also discussed the way forward for attracting alternative sources of revenue for higher institutions. It was suggested that government and institutions must focus attention on funding and funding sources of higher education for the provision of adequate staffing to ensure quantity and quality; adequate resource inflow to support the fundamental functions of teaching/learning, research among others. The paper concludes that Government alone cannot provide free education at all levels, institutions and individuals should contribute to finance education.

Keywords: *Higher Education and Funding*

Introduction

Teacher

Teaching is a noble profession and an art, demanding dedicated efforts from committed teachers, rooted in essential knowledge for effective teaching grounded in the expansive fields of arts and sciences (Mohammed & Pitan, 2022). Teachers in the 21st century have evolved beyond simply possessing pedagogical skills to impart knowledge. They are pivotal figures who inspire, facilitate, and sustain the teaching and learning process. Modern teachers are adaptors, communicators, leaders, learners, visionaries, models, collaborators, and risk-takers (Chen & Smith, 2021). Teachers engage in multi-faceted roles, interpret and implement educational policies, and possess attributes that make them resourceful and productive within the school system (Konstantinou & Konstantinou, 2021). Research highlights the complexity of the teacher's role, which extends beyond instruction to include a range of responsibilities that contribute to the holistic development of students.

A teacher's toolkit includes knowledge bases and agency developed through continuous practice and reflection (Linda la, 2025). Teachers must have a deep understanding of the subjects they teach and must possess the pedagogical skills to convey this knowledge effectively (Ayantunji, Olatoye & Ileuma; 2024, Linda la, 2025). Modern pedagogy focuses on scaffolding learners' education by building on foundational knowledge, progressing to the use and application of skills, analyzing and evaluating processes and outcomes, and fostering the ability to create and innovate (Ayantunji, Olatoye, & Ileuma, 2024). Teachers facilitate learning and create environments that

cater to diverse learning styles and needs (EduCorpus, 2022). They are architects of intellectual development and character formation, possessing the knowledge, skills, and attitudes necessary to guide learners through intellectual and moral development (Lin, 2020). In this context, teachers are to inspire critical thinking, creativity, and problem-solving skills in students while fostering responsibility and citizenship (Pattnai & Bhoi, 2024; **Gangone, 2019**). However, in Nigeria, teachers often face infrastructural inadequacies, limited resources and work overload in the guise of script marking that militates against overall teachers' effectiveness (Orboh, 2023).

Concept of Effectiveness.

The concept of effectiveness refers to the efficient attainment of objectives, realization of intended outcomes, and efficient allocation of resources to achieve meaningful results (Gulluscio, 2023). Effectiveness denotes the successful attainment of desired outcomes. Therefore, an action, institution, or person is effective when the objectives are met. In organizational and educational research, effectiveness has become a central focus for understanding performance

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outcomes (Fernández & Martínez 2022). In education, effectiveness is the cornerstone of a successful learning environment, encompassing the degree to which educational institutions, programs, or practices meet specified objectives and successfully foster learning among students (Ihua, 2024). In educational settings, teacher effectiveness is crucial because it involves achieving desired objectives and contributing to institutional goals by delivering quality teaching, improving student learning outcomes, and fostering an environment conducive to academic excellence. Hence, teacher effectiveness is a multidimensional construct which includes instructional delivery, classroom management, student engagement, and professional collaboration (Opatunde, 2023).

Effectiveness in education also involves producing intended results while optimizing resources. Recent studies highlight that organizational culture, leadership style, and available resources significantly influence effectiveness in educational institutions (Mokadem, Arshad, & Saoula, 2024). Research in Nigerian secondary schools indicates that effectiveness must be studied within the broader context of school operations and management practices. Effectiveness in secondary education can be viewed through various lenses, including curriculum quality, teacher competence, student engagement, student assessment, and equitable access to resources (Gupta & Resear, 2021). Scholars suggest that effectiveness in secondary education refers to the ability of schools to achieve desired academic, social, and developmental outcomes for students, encompassing the extent to which a school achieves its goals in both academic and developmental outcomes (Bello, 2016).

Effective schools outperform others with similar resources when students excel in academic, personal and social development. These schools raise educational quality to international standards and help students develop positive attitudes, enabling them to cope with stressful environments and solve problems (Bashar & Yasin, 2020). This multidimensional concept includes academic performance and the development of critical thinking, socio-emotional well-being, and preparation for future societal roles (Tolcha & Mitiku, 2020). Effectiveness is also linked to measurable learning outcomes, serving as benchmarks for assessing whether students acquire the necessary knowledge and skills for societal and economic participation. Secondary schools are effective when they foster cognitive skills essential for students' success in higher education and the labour market (Adeyinka, Paulley & Agih, 2019). Additionally, effectiveness encompasses the development of non-academic competencies like collaboration, resilience, and ethical reasoning, which are increasingly valued in the 21st century (Tolcha & Mitiku, 2020; SCHOOLS2030 Assessment Handbook 3).

Measuring Teachers' Effectiveness in Secondary Schools in Relation to Scripts Marking

The effectiveness of secondary education is influenced by various factors, among which teacher quality is paramount (Okebukola, Ibukunolu, Ademola, Onowugbeda, Oladejo, Gbeleyi, & Agbanimu, 2021). Research underscores that teaching qualifications and experience denote the quality of effective teachers (Okebukola et al, 2021). Effective teachers significantly enhance student outcomes through consistent exposure to high-quality teaching, thereby improving students' academic achievements. Within this context, effectiveness refers to providing significant learning experiences which ultimately determines the overall effectiveness of secondary education (Okebukola et al., 2021). Consequently, effective schools are those that not only achieve high outcomes but also minimize achievement gaps between different student groups (Cabral-Gouveia, Menezes & Neves, 2023; Haxhiu, 2022).

In addition, academic achievement captures the tangible results of a student's performance in a particular subject, showcasing how well they complete tasks and engage with their studies, acting as proof of the knowledge they have gained through various learning activities over a period and signifying the realization of educational goals within a school setting (Makinde & Pitan, 2024). Hence, the academic success of students serves as a key measure of the effectiveness of an educational institution, often evaluated through achievement tests administered at the end of a lesson, term, or session (Makinde & Pitan, 2024). This connotes that test scripts must be marked to measure a school's effectiveness.

Evaluating the efficacy of secondary schools through script marking is one of the ways to ensure that learning outcomes are in harmony with institutional objectives (Namuhisa, Ndiku & Achoka, 2022). Research highlights that measuring effectiveness is through academic achievements rooted in script marking (Joseph & Sivamani, (2024). Scholars have also suggested that integrating quantitative measures like standardized test scores provides a holistic understanding of educational effectiveness (Jimenez & Modaffari, 2021; *Paramole, & Adeoye, 2021).*

Other scholars propose that modern educational effectiveness should incorporate quantitative and qualitative metrics, including traditional academic outcomes, the development of 21st-century skills, social-emotional learning (SEL), and long-term success indicators (Poproski & Greene, 2018; Tolcha & Mitiku, 2020). School effectiveness could be assessed through multiple lenses using a comprehensive framework of process and outcome indicators (Ko, Chen, Lei & Maulana, 2023). These include script marking as part of the framework. In the Nigerian context, challenges arise due to the need for comprehensive quantitative dimensions, aside from standardized test scores offering a quantifiable measure of academic achievement.

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This literature review explores the complex and multifaceted relationships between script marking and teachers' work effectiveness. Although studies on script marking are few, there is a need for a comprehensive review of the literature on its relationship with teachers' work effectiveness. The quality of current evidence specifically addressing written marking is limited. There are few large-scale, robust studies on marking practices, with most existing research being small-scale or focused on higher education. This review will also examine the purposes and challenges of this critical aspect of educational assessment. Through a synthesis of existing research, the review seeks to provide a comprehensive understanding of the impact of script marking on teacher effectiveness, ultimately informing strategies to optimize script marking practices, promote teacher well-being, and enhance student learning outcomes.

Theoretical Framework

Sweller's Cognitive Load Theory (CLT), focuses on using cognitive resources during learning and task performance, emphasizing the limited capacity of human working memory. This theory identifies three types of cognitive load: intrinsic (inherent difficulty of the material), extraneous (inefficiencies in the task presentation), and germane (effort directed towards learning). Understanding and managing these loads will enable instructional designers and educators to optimize learning outcomes. Intrinsic cognitive load in script marking arises from the inherent complexity of tasks, such as assessing essays. Schools can manage this by providing clear rubrics and training. Extraneous cognitive load comes from poorly designed processes or distractions, leading to errors and fatigue. Streamlining marking processes and using digital tools can reduce this load. Germane cognitive load involves efforts to learn and create efficient mental frameworks. Encouraging reflective practices and professional development can enhance this load. Balancing these cognitive loads is essential for teacher effectiveness, preventing burnout, and improving overall work efficiency. These benefit the students and the educational system.

Applying Cognitive Load Theory (CLT) to script marking and workload management can significantly enhance both the quality of assessments and teacher well-being. By avoiding cognitive overload, teachers are less prone to burnout and mental fatigue, allowing them to provide high-quality feedback that supports student learning. As teachers gain proficiency and efficiency in their tasks, their overall work effectiveness improves, benefiting students and the educational system. Ultimately, CLT offers a valuable framework for managing the cognitive demands of assessment tasks, enabling schools to support teachers' professional practice, reduce unnecessary strain, and enhance educational outcomes.

Marking of Students' Scripts

The conceptual meaning of script marking in secondary education refers to evaluating and grading students' written responses to examination questions (Cambridge International Education, 2025). This process is crucial since it determines academic performance and students' progress, and also affects the overall effectiveness of teachers in secondary schools (Orboh, 2023). Scripts marking involves a systematic approach where teachers assess the quality of students' answers based on predetermined criteria and rubrics (Nott, 2016). This assessment is not just to assign grades but also to provide constructive feedback to help students improve their learning outcomes (Nott, 2016). The effectiveness of teachers is related to their ability to mark scripts accurately and consistently, as this impacts motivation, self-esteem, and future academic success (Orboh, 2023).

Teachers' effectiveness is significantly influenced by the marking process. The additional workload requires time and effort to review each student's work thoroughly (Orboh, 2023). The pressure to maintain consistency and fairness in marking can be overwhelming, especially in large classes with diverse student abilities (Orboh, 2023). These can lead to stress and burnout, affecting their overall effectiveness in the classroom (Orboh, 2023). Moreover, the quality of marking scripts can affect the reliability and validity of assessment results (Ng'ang'a, 2014). Inconsistent or biased marking can undermine the credibility of the examination system and lead to unfair outcomes for students. Therefore, teachers must undergo regular training and calibration sessions to ensure the marking of scripts to the same standard (Cambridge International Education, 2025).

Influence of Script Marking on Teachers' Work Effectiveness

Script marking is a pivotal aspect of educational assessment, enabling teachers to evaluate student learning outcomes, identify knowledge gaps, and provide constructive feedback to foster academic growth (Nott, 2016; Haines, 2021). The marking of scripts in educational institutions plays a vital role in shaping teachers' work effectiveness, influencing their instructional practices, professional autonomy, confidence, and overall well-being (Fasasi & Amadi, 2015). Marking scripts provide teachers with invaluable insights into their students' learning, allowing them to pinpoint areas of strength and weakness and tailor instruction to meet diverse needs (Cambridge International Education, 2025). The information gleaned from this process informs teaching strategies, facilitates data-driven decision-making, and enables targeted support for students who require additional assistance (Wilcox, Fernandez Conde, & Kowbel, 2021; Hu, Pan, & Zhang, 2025; Doğan & Demirbolat, 2021). Leveraging this information can enhance teachers' ability to promote student learning outcomes, boost their sense of effectiveness and job satisfaction, and cultivate a positive teacher-student relationship built on mutual respect, trust, and a shared commitment to learning (Doğan & Demirbolat, 2021; Adanne, 2024).

Moreover, the reflective practice embedded in marking scripts fosters ongoing professional growth and development as teachers refine their craft, evaluate assessment methods, and make informed decisions to improve student learning. This reflective process enables teachers to identify areas for

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personal and professional development, aligning with the principles of lifelong learning and continuous professional development.

However, the marking of scripts can also impact teacher effectiveness, albeit negatively (Bhudia, 2022). The time-consuming and labour-intensive nature of marking scripts can divert attention away from other critical aspects of teaching, such as lesson planning, student support, and professional development (Bhudia, 2022). Furthermore, the emotional demands of marking scripts when dealing with struggling or underperforming learners can exact a toll on a teacher's mental health and well-being, creating stress and anxiety, limited feedback and other administrative, technological and logistical concerns (Henderson-Brooks, 2021; Smith, Sheridan, Duursma & Alonzo, 2025). If not managed judiciously, the burden of marking scripts can precipitate teacher burnout, impact the teacher-student relationship negatively, cause decreased motivation, reduced job satisfaction, and diminished effectiveness in the classroom.

Purpose of Marking Scripts

Evaluation plays a crucial role in the secondary education system, with the potential to either achieve or hinder its goals. Many policy documents point out the flaws in the current evaluation system, such as the lack of transparency in grading. Student evaluation often relies on effectively conducted examinations fundamental to the educational process. Hence, marks, used to report exam results, are essential. Marks are judgments by one person about another, offering both information and motivation and are seen as valid indicators of achievement (AbdulGafoor & Jisha, 2014). The grading system involves creating, recording, and communicating these marks.

1. **Assessment of Learning**: Marking scripts allow teachers to gauge students' progress and identify weak areas that need improvement. Consistent and fair marking practices ensure that students receive accurate feedback on their performance, which is crucial for their academic growth. This feedback helps teachers tailor their instruction to meet the diverse needs of their students, thereby enhancing their effectiveness in the classroom (Fasasi & Amadi, 2015).
2. **Providing Feedback**: Providing feedback is a critical component of the marking process. Effective feedback helps students understand their strengths and areas for improvement, fostering a growth mindset and encouraging continuous learning. Research highlights the importance of specific and timely feedback in enhancing student achievement (Education Endowment Foundation, 2021). When teachers provide meaningful feedback, they not only help students improve their performance but also build a positive teacher-student relationship, which can enhance their overall effectiveness (Pae & Wang, 2022).
3. **Evaluation of Instructional Strategies**: Evaluation of instructional strategies is closely related to the marking of scripts. By analyzing students' responses, teachers can assess the effectiveness of their teaching methods and make necessary adjustments. Scholars emphasize the importance of evidence-based practices and continuous assessment of teaching methods to improve student outcomes. This evaluation helps teachers refine their instructional strategies, enhances student performance and increases teacher effectiveness (Shane, Romela, Melanie, William Jnr, 2023; Abbas, 2024).
4. **Diagnosing Learning Difficulties:** Diagnosing learning difficulties is another crucial aspect of marking scripts. Identifying struggling students allows teachers to implement targeted interventions to support their learning. Early diagnosis of learning difficulties and timely intervention can significantly improve student outcomes. By diagnosing learning difficulties, teachers can provide the necessary support to help students succeed, thereby enhancing classroom effectiveness (Agbemuko, Okokpujie, Salami & Tartibu, 2024).
5. **Informing Curriculum Development:** Informing Curriculum Development is an essential outcome of the marking process. Teachers' insights from marking scripts can contribute to the development and refinement of the curriculum. Research suggests feedback can improve the curriculum and align the contents with students' needs and learning styles. This collaborative approach to curriculum development ensures they have the resources and support to teach effectively (Bordia, 2022).
6. **Inform Instructional Planning:** Marking scripts allow teachers to tailor their instructional planning to meet the specific needs of their students. Research affirms that teachers can use the data from marked scripts to identify areas where students are weak and adjust their teaching strategies accordingly. This targeted approach helps to address individual learning gaps and enhance overall student performance (Jerrim & Sims, 2022).
7. **Evaluating School Programs:** Evaluating school programs through the analysis of marked scripts provides a comprehensive understanding of the effectiveness of the curriculum and teaching methods. Research highlights that structured evaluation frameworks can help assess the relevance, efficiency, and impact of educational programmes. This evaluation is crucial for continuous improvement and ensuring programmes meet the desired educational outcomes (Jerrim & Sims, 2022).
8. **Providing Accountability:** Marking scripts plays a vital role in providing accountability. A study indicates that accountability systems, which include monitoring student performance through marked

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scripts, align the goals of governments, parents, school leaders, and teachers. This alignment fosters a culture of responsibility and continuous improvement within schools (Jerrim & Sims, 2022).

9. **Supporting Student Reflection and Self-assessment:** Marking scripts support student reflection and self-assessment. When students receive constructive feedback on their work, they can reflect on their strengths and weaknesses, leading to better self-awareness and self-regulation. This process encourages students to take ownership of their learning and strive for continuous improvement (Tariq, Asif, & Nazirullah, 2023). Hence, teachers must develop their assessment skills.
10. **Enhancing Teacher Professional Development:** Enhancing teachers' professional development is a cornerstone for improving teachers' work effectiveness. Scholars affirm that professional development programs that link participation to career incentives, have a specific subject focus, incorporate lesson enactment, and include initial face-to-face training tend to show higher student learning gains. These programs also emphasize follow-up visits as among the most effective characteristics of professional development programs. This continuous learning process enables teachers to refine their teaching methods and enhance their ability to mark scripts accurately and constructively (Popova, Evans, Breeding, & Arancibia, 2022).

In summary, marking scripts are vital in secondary education, serving multiple purposes such as assessing student progress, providing feedback, tailoring instruction, and enhancing teacher effectiveness. The evaluation process often faces transparency issues, but impactful examinations and marking systems are crucial for reporting results and motivating students. Marking scripts help diagnose learning difficulties and inform curriculum development and instructional planning. Furthermore, they play a role in evaluating school programmes, providing accountability, supporting student reflection, and enhancing teacher professional development, ultimately contributing to improved educational outcomes.

Challenges and Solutions of Script Marking

The challenges of script marking in secondary education continue to gain traction in recent journals. Below are solutions to some key challenges:

a. **Consistency in Evaluation:** Ensuring that all assessments are marked fairly and consistently remains a concern. Differences in marking occasioned by halo, anchor or contrast effects can lead to disputes and affect student outcomes (Ciancanelli, 2022).
b. **Training and Calibration for Markers:** Ensuring that all markers are trained and calibrated is crucial for consistency, but organizing such training can be logistically challenging. All markers must be well-trained and calibrated to ensure consistency in grading. Schools should request funds for regular training sessions to familiarize markers with assessment criteria and rubrics. In addition, having multiple markers grade the same set of papers can help identify and resolve discrepancies in grading standards (Kadence, 2024). Calibration in script marking is a process that ensures consistency and fairness in assessing student work by having markers agree on standards and criteria. This helps reduce variability, standardize judgments, and increase markers' confidence in their assessments. Additionally, calibration improves the quality of feedback given to students, making the assessment process more accurate and fair.
c. **Use of Standardized Rubrics:** Implementing standardized rubrics can help maintain uniform grading standards, but creating and maintaining these rubrics can be time-consuming (Vercellotti, 2021). Rubrics are invaluable tools in script marking, as they provide clear criteria for assessment, ensuring consistency and fairness in grading. They help students and educators understand assignment expectations and standards. By clearly outlining the assessment criteria, rubrics simplify understanding for students and enable educators to provide consistent, and objective feedback. Additionally, rubrics offer detailed insights into areas of strength and areas for improvement, aiding students in enhancing their skills (Western Sydney University Learning Futures, 2020). Using rubrics can speed up the marking process by providing a structured framework for evaluation (University of Sussex Staff Hub, (2025).
d. **Large Class Sizes and High Volume of Assessments:** Marking scripts in large classes can be particularly challenging, as it requires significant time and effort from teachers. Institutions with large student populations often struggle with handling a high volume of assessments, which can strain resources and impact the timely delivery of results (Fasasi & Amadi).
e. **Feedback Mechanisms:** Developing effective feedback mechanisms that are both timely and constructive is essential but often difficult to achieve. The teacher must lay the foundations for effective feedback by delivering appropriately timed feedback that focuses on moving learning forward. They should also plan how students will receive and utilize this feedback (Education Endowment Foundation, 2021).
f. **Timeliness of Feedback:** Providing timely and constructive feedback from data gathered from script marking is essential for student development. However, managing this alongside a heavy marking load can be difficult (Newlands School, 2024)
g. **Feedback Templates:** Institutions can use templated comments for common issues and strengths to speed up the feedback process while ensuring that students receive consistent and valuable information (Kadence, 2024).

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h. **Quality of Feedback:** Balancing efficient marking practices with meaningful feedback is challenging. Feedback could be verbal feedback during mid-lesson, one-on-one learning conferences or group discussions. Additionally, developmental marking provides incisive feedback on students' attainment and success, requiring responses from students to accelerate and deepen their learning. Self-assessment and peer assessment are also employed to evaluate the success of a piece of work, ensuring a consistent and impactful approach to effective marking and feedback on student work. Teachers must ensure that feedback is manageable and motivating for themselves and their students (Newlands School, 2024; Bordia, 2022).

i. **Digital Solutions:** While technology offers innovative solutions for managing marking and assessment challenges, integrating these digital tools could be a hurdle (Kadence, 2024). Open AI's ChatGPT has been widely considered a turning point for assessment in higher education (Hassoulas, Powell, Roberts, Umla-Runge, Gray, & Coffey, 2023). Integrating digital tools for managing marking and assessment challenges can indeed be a hurdle, despite the innovative solutions they offer. For instance, the e-Assessment Association highlights that advancements in AI and handwriting recognition technology can transform assessment processes, making them more accurate and equitable (e-Assessment Association, 2025). However, the transition to digital assessment requires educators to develop new technological skills and cope with increased workloads (Jurane-Bremane, 2021). Additionally, adopting digital solutions, such as exam marking software, can enhance the efficiency of the marking process, but it also demands proper training and calibration for markers (Kadence, 2024). The challenge is that the government makes minimal effort to provide professional development for teachers to enhance their competencies. Conversely, teachers contribute to this issue by relying solely on the government for their professional development, neglecting personal efforts for improvement (Mohammed & Pitan, 2022).

j. **Peer and Self-Assessment:** Encouraging peer and self-assessment can alleviate some marking burden, but it requires careful implementation and monitoring. Integrating peer and self-assessment into the evaluation process can reduce some of the marking burden on educators. These methods promote critical engagement among students with their peers' work, leading to a deeper understanding of the assessment criteria. However, clear guidelines and training are essential to ensure these assessments are meaningful and constructive (Kadence, 2024).

Conclusion

Script marking remains a vital component of educational assessment, with profound implications for both teacher effectiveness and student learning outcomes. This review highlights the multifaceted impact of script marking on teachers' professional practice, instructional planning, and well-being. While the process supports key functions like assessing student progress, providing feedback, diagnosing learning difficulties, and informing curriculum development, it also presents significant challenges, such as workload management, consistency in grading, and emotional strain. Cognitive Load Theory (CLT) provides a theoretical lens for understanding and addressing these challenges by optimizing cognitive resources, improving efficiency, and reducing teacher burnout.

Implementing standardized rubrics, leveraging digital tools, and incorporating peer and self-assessment can mitigate the burden of script marking while maintaining the quality and fairness of assessments. However, these solutions require institutional support, professional development, and strategic planning. Addressing these challenges would enhance teacher effectiveness, foster a culture of accountability, and improve overall educational outcomes.

The Way Forward

Globalization and the rapid evolution of the 4th Industrial Revolution (4IR) makes it challenging to foresee the impact of technology and its attendant disruption on the landscape of education (Pitan & Muller, 2023). Hence, the futuristic determination of the effectiveness of secondary schools through script marking would be no different because the future of script marking will be significantly driven by technological advancements and evolving educational paradigms.

For instance, digital technologies and Artificial Intelligence (AI) and Machine Learning tools will soon effectively digitize handwritten scripts with high accuracy, converting them into typed text (e-Assessment Association, 2025; Instabase, 2025). This technology mitigates the bias and inconsistencies associated with human interpretation of handwriting, ensuring that students are evaluated based on their ideas and knowledge rather than their penmanship. Electronic marking systems and AI-powered solutions will automate the marking process, significantly reduce the time required for marking and improve the consistency of grades, thereby increasing efficiency and accuracy. These technologies will reduce the workload of educators, eliminate the stress associated with large-scale marking, enhance fairness and transparency in assessments, and facilitate the timely release of results. As educational institutions embrace these innovations, script marking will evolve towards a more equitable and effective assessment system.

References

1. Abbas, A., (2024). Enhancing Teacher Education: Strategies for Effective Instruction and Professional Development. https://www.researchgate.net/publication/378100832
2. Abdul Gafoor, K., & Jisha, P. A. (2015). Study of Reliability of Marking and Absolute Grading In

*Corresponding Author: Kayode Olaitan KALEJAIYE
This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

Secondary Schools, *Journal of Behavioural and Social Sciences*, 2(2), ISSN 2320-9038

3. Adanne, E. F. (2024). A Meta-Analysis of Data-Driven School Leaders and School Effectiveness in the 21st Century. *Journal of Human Resource and Sustainability Studies*, 12, 204-225. https://doi.org/10.4236/ jhrss.2024.121011
4. Adeyinka, A. A., Paulley, F. G., & Agih, M. A. (2019), Indicators of Teaching Effectiveness: A Conceptual Review, *Benin Journal of Educational Studies*, 25(1&2), 2019, 165-180,
5. Agbemuko, D. I., Okokpujie, I. P., Salami, M. J. E. L., & Tartibu, K. (2024). Automated Data Extraction and Character Recognition for Handwritten Test Scripts Using Image Processing and Convolutional Neural Networks, *Nigerian Journal of Technological Development*, 21 (4), 2024, https://journal.njtd. com.ng › index.php › njtd › article › ... · PDF file
6. Ayantunji, M. M., Olatoye; G. O. & Ileuma, S. (2024), 21st-Century Pedagogies for Sustainable Education: Implications on the Learners, *GEN-Multidisciplinary Journal of Sustainable Development*, 2 (2), 2024, https://gmjsd.org/journal/ index.php/gmjsd/ index, www.gmjsd. org
7. Bashar, S. I., & Yasin, M. A., (2020). Review of Public Secondary Schools Effectiveness in Nigeria: Challenges and Managing Strategies, *International Journal of Psychosocial Rehabilitation*, 24(05), ISSN: 1475-7192
8. Bello, S. O., (2016). School Effectiveness: Concepts, Indicators and Dimensions. *Benin Journal of Educational Studies*. 24(1 & 2), 173-181
9. Bhudia, B., (2022). Workload-Smart Strategies for Faster and More Effective Marking, Teachwire, https://www.teachwire.net/news/teacher-workload-smart-strategies-for-faster-and-more-effective-marking/?form=MG0AV
10. Bordia, D., (2022). Importance of Feedback in Education, https://blog.teachmint.com/ importance -of-feedback-in-education
11. Cambridge International Education, (2025). https://www.cambridgeinternational.org/exam-administration/results/marking-and-grading/?form=MG0AV3
12. Cambridge International Education, (2025). https://www.cambridgeinternational.org/exam-administration/results/results-analysis/?form=MG0AV3
13. Cabral-Gouveia, C., Menezes. I., & Neves, T., (2023). Educational Strategies to Reduce the Achievement Gap: A Systematic Review, *Front Educ*. 8, https://doi.org/10.3389/ feduc.2023.1155741
14. Chen, Y., & Smith, M. (2021). Innovative Pedagogies in the 21st Century Classroom: A Systematic Review, *Journal of Educational Technology*, 10(2), 75-89.
15. Ciancanelli, B., & Riley, S. (2022) Addressing Bias in Assessment. https://otl.du.edu/ addressing-bias-in-assessment/
16. Deep Professional, (2024). Measuring What Matters: Identifying Essential Metrics in Education: https://www.deepprofessional.com/thinking/measuring-what-matters-identifying-essential-metrics-in-education?form=MG0AV3
17. Doğan, E., Demirbolat, A. O., (2021). Data-driven Decision-Making in Schools Scale: A Study of Validity and Reliability. *International Journal of Curriculum and Instruction* 13(1), 507–523
18. E-Assessment Association, (2025). Embracing the Future of Assessment- Handwriting, Technology and the Real World. https://www.e-assessment.com/news/embracing-the-future-of-assessment-handwriting-technology-and-the-real-world/?form=MG0AV3
19. Education Endowment Foundation, (2021). Feedback to Improve Learning. https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/feedback? form=MG0AV3
20. EduCorpus (2025). The Role of Teachers as Facilitators: A Transformative Shift in Education, The Role of Teacher as a Facilitator in Modern Education. https://educorpus.com/role-of-teachers-as-facilitators/
21. Ezemba, E. U., Okeke, N. L., & P. C. Ogbuanya, (2023). Measures for Promoting Greater Performance of Teaching Staff in Public Secondary Schools in Awka North Local Government Areas of Anambra State, *Unizik Journal of Educational Management and Policy*, 5 (1)
22. Fasasi, K. A., & Amadi G., (2015). The Problems of Teaching and Marking English Language Essays in Large Classes in Nigerian Secondary Schools: Some Panaceas, *IOSR Journal of Humanities and Social Science*, 20(7), PP 31-36 e-ISSN: 2279-0837, p-ISSN: 2279-0845. DOI: 10.9790/0837-20723136
23. Fernández, M. P., Martínez, J. F. (2022). Evaluating Teacher Performance and Teaching Effectiveness: Conceptual and Methodological Considerations. In: Manzi, J., Sun, Y., García, M.R. (eds). *Teacher Evaluation Around the World. Teacher Education, Learning Innovation and Accountability. Springer, Cham.* https://doi.org/10.1007/978-3-031-13639-9_3
24. **Gangone, L. M. (2019).** Educators and Social Responsibility: What This Means to Informed Citizenry, https://aacte.org/2019/08/educators-and-social-responsibility-what-this-means-to-informed-citizenry/?form=MG0AV3
25. Gulluscio, C. (2023). Effectiveness. In: Idowu, S. O., Schmidpeter, R., Capaldi, N., Zu, L., Del Baldo, M., Abreu, R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. https://doi.org/10.1007/978-3-031-25984-5_264

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26. Gupta, M. & Resear, G. V. (2021). Teaching Effectiveness of School Teachers: A Theoretical Perspective, *International Journal of Creative Research Thoughts*, 9(10), ISSN: 2320-2882, https://www.researchgate.net/publication/357449617

27. Haines, C. (2021). Assessing Students' Written Work: Marking Essays and Reports (2nd ed.). Routledge. https://doi.org/10.4324/9780429329593
28. Hassoulas, A., Powell, N., Roberts, L., Umla-Runge, K., Gray, L., & Coffey, M. J., (2023). Investigating Marker Accuracy in Differentiating between University Scripts Written by Students and Those Produced Using ChatGPT. 6(2), https://doi.org/10.37074/jalt.2023. 6. 2 .13
29. Hu, Y., Pan, J., Zhang, Z. (2025). Innovative Application of Teaching and Learning: Data-Driven Teaching. In: Zeng, H., Hu, Y., Hao, J., Zhang, Z. (eds) Leading Smart Education. Lecture Notes in Educational Technology. Springer, Singapore. https://doi.org/10.1007/978-981-97-8148-5_36
30. Ihua, B. (2024). Innovative Teacher Education: A Panacea for Teachers' Effectiveness in Nigeria, *International Journal of Scientific Research in Education*, 17(1), 96-110, ISSN: 1117-3259
31. Instabase, (2024). Handwriting Recognition: Benefits, Challenges, and the Role of AI. https://instabase.com/blog/handwriting-recognition-ai/?form=MG0AV3
32. Jerrim, J., & Sims, S., (2022). School Accountability and Teacher Stress: International Evidence from the OECD TALIS study. *Educational Assessment, Evaluation and Accountability*, 34, 5–32. https://doi.org/10.1007/s11092-021-09360-0
33. Jimenez, L. & Modaffari, J. (2021). Effective and Equitable Assessment Systems, https://files.eric.ed.gov/fulltext/ED617053.pdf?form=MG0AV3
34. Joseph, R., & Sivamani, S. (2024). Exploring the Impact of Teacher Feedback on Academic Performance: A Quantitative Analysis with a Focus on Timely Grading and Expectations, *International Journal of Multidisciplinary and Current Educational Research*. 6(1), 44-57, ISSN: 2581-7027, www.ijmcer.com
35. Jurane-Bremane, A., (2021). The Digital Transformation of Assessment: Challenges and Opportunities. DOI: 10.22364/htqe.2021.25, https://www.researchgate.net/publication/355889697
36. Kadence, (2024). Strategies for Handling Marking and Assessment Challenges. https://socialtalky.com/marking-and-assessment-challenges/?form=MG0AV3#5_Streamlining_Feedback_Processes.
37. Ko, J., Chen, Z., Lei, J. C., & Maulana, R., (2023). Teacher Effectiveness in Multiple Lenses: Secondary Analysis Lessons in the Measures of Effective Teaching Project. In: Maulana, R., Helms-Lorenz, M., Klassen, R.M. (Eds), Effective Teaching Around the World. Springer, Cham. https://doi.org/10.1007/978-3-031-31678-4_16
38. Konstantinou, C. I. & Konstantinou, I. Ch. (2021). Determinants of Teacher Effectiveness: Pedagogical and Didactic Training, *Open Journal for Educational Research*, 5(1), 11-24, ISSN (Online) 2560-5313
39. Linda la, V. (2025). A Current Concern of teacher education researchers: the knowledge-agency connexion. *Journal of Education for Teaching*, 1–5. https://doi.org/10.1080/02607476. 2025.2449753
40. Lin, R. J. (2020). Teachers as Transformative Intellectuals. In: Peters, M. (eds). Encyclopedia of Teacher Education. Springer, Singapore. https://doi.org/10.1007/978-981-13-1179-6_268-1
41. Makinde, S. A. & Pitan O. S., (2024) School Resources and Senior Secondary School Students' Academic Achievement in Agricultural Science in Ibadan Metropolis. *LASU International Journal of Arts and Social Science Education*. 2(1), Print-ISSN: 2992-4979 Online-ISSN: 2992-4987 http://www.lijassed.org
42. Mohammed, A. O., & Pitan, O. S., (2022). Innovation and Renewal of Economics Curriculum in Nigerian Secondary Schools: Approaches, Problems, and Strategies, *Journal of Economics and Environmental Education*. 6(1), ISSN: 2315-6821
43. Mokadem, M. E. A., Arshad, D., & Saoula, O. (2024). Organizational Culture and its Impact on Effectiveness in Algerian Higher Education Institutions. *Multidisciplinary Reviews*, *8*(4), 2025129. https://doi.org/10.31893/multirev.2025129
44. Namuhisa, V. O., Ndiku, J., & Achoka, J., (2022). Effectiveness of Schools' Examination Practices on KCSE Performance in Public Secondary Schools in Kakamega County, Kenya. *International Journal of Education and Research*, 10(12), ISSN: 2411-5681
45. Newlands School, (2024). Marking and Feedback Policy.https://www.newlandsschool.ae/public/files/policy/Marking%20and%20%20Policy.pdf?form=MG0AVhttps://socialtalky.com/marking-and-assessment challenges/?form=MG0AV3#5Streamlining_Feedback_Proc esses
46. Ng'ang'a, P. M., (2014), Effect of Marking Scheme on the Consistency of Scoring Mathematics Examinations, A Research Project Submitted in Partial Fulfillment of the Requirements for the Award of Degree of Master Education in Measurement and Evaluation to the Department of Psychology, University of Nairobi, https://erepository.uonbi.ac.ke/bitstream/handle/11295/76912/

*Corresponding Author: Kayode Olaitan KALEJAIYE
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47. Nott, D., (2016). Marking Students' Written Work: Principles and Practice, https://web-archive.southampton.ac.uk/www.llas.ac.uk/resources/gpg/2956.html?form=MG0AV3
48. Okebukola, P. A., Ademola, I. A., Onowugbeda, F. U., Oladejo, I. A., & Gbeleyi, O. A., & Agbanimu, D., (2021). Teachers' Qualifications' and Teaching Experience: Impact on Quality Assurance in Nigeria Secondary Education, *NOUN Journal of Management and International Development.* 6(1), ISSN: 978-978-928-241-0
49. Opatunde, F. A., (2023). Principal Leadership Styles, Decision-making Skills and Communication Forms as Determinants of Public Senior Secondary Schools Administrative Effectiveness in Oyo State. Doctoral Thesis Lead City University, Ibadan, Oyo State, Nigeria
50. Orboh, E. S., (2023). Workload and Teachers' Effectiveness in Nigerian Secondary Schools: Emergent Issues in Perspectives. *American Journal of Science Education Research*, ISSN: 2835-6764, DOI: 10.47991/2835-6764/AJSER-134
51. Pae, H. K., & Wang, M. (2022). The effects of Writing Systems and Scripts on Cognition and Beyond: An Introduction. *Reading and Writing*, 35 1315-1321, https://doi.org/10.1007/s11 145-022-10289-z
52. *Paramole, O. C., & Adeoye, M. A., (2024).* Reassessing Standardized Tests: Evaluating Their Effectiveness In School Performance Measurement. 3(2), e-ISSN: 2830-7917, p-ISSN: 2964-7339
53. Pattnai, A., & Bhoi, C., (2024). Enhancing Teacher Education: Cultivating the Architects of Tomorrow's Mind. *International Journal for Multidisciplinary Research* 6, (1), E-ISSN: 2582-2160, www.ijfmr.com
54. Phillips, E., (2023). Critical Thinking in the Classroom: A Guide for Teachers Pedagogy, https://willtoteach.com/ critical-thinking-in-the-classroom/?form=MG0AV3
55. Pitan, O. S. and Muller, C. (2023). Assessment of Strategies for Preparing Graduates for the Disruptive Workplace: Evidence from Nigeria and South Africa. *Journal of Teaching and Learning for Graduate Employability*. 14(1), 15–30.
56. Popova, A., Evans, D. K., Breeding, M. E., & Arancibia, V., (2022). Teacher Professional Development around the World: The Gap between Evidence and Practice. *The World Bank Research Observer*, 37 (1), 107–136, https://doi.org/10.1093/wbro/lkab006
57. Poproski, R., & Greene, R., (2018). Metrics and Measures of Teaching Effectiveness, https://ctl.gatech.edu/sites/default/files/documents/poproski_greene_2018_metrics_and_measures_of_teaching_effectiveness.pdf?form=MG0AV3
58. SCHOOLS2030 Designing Learning Assessments, (2022). Handbook 3: Measuring Non-Academic Skills.https://schools2030.org/wp-content/uploads/2021/12/Handbook-03-Measuring-Non-Academic-Learning93.pdf
59. Shane, L., Romela, P. T., Melanie, M. O., William Jnr. G., (2023). Strategy Evaluation in Teaching Strategies: A Systematic Literature Review, *International Journal of Scientific and Research Publications*, 13(5), 2023, ISSN: 2250: 3153, http://dx.doi.org/ 10.29322/ IJSRP.13.05.2023.p13739
60. Smith, K., Sheridan, L., Duursma, E. & Alonzo, D., (2025). Teachers' Emotional Labour: The Joys, Demands, and Constraints, Teachers and Teaching, DOI: 10.1080/13540602.2025.2466560
61. Sweller, J. (1988). Cognitive Load During Problem Solving: Effects on Learning. *Cognitive Science*, *12*(2), 257-285.
62. Tariq, E., Asif, A., & Nazirullah, (2023). Assessment Practices and Assessment Skills of Teachers at Secondary School Level: Factorability and Associative. *Perspective*. *Journal of Peace, Development and Communication*, 07(01), 101–116. https://doi.org/ 10.3 6968/ JPDC-V07-I01-10
63. Tolcha E. R., & Mitiku B. G., (2020), Analyzing the Landscape of School Effectiveness: A Literature Review, *International Journal of Humanities, Education, and Social Sciences*, e-ISSN: 3026-0892, p-ISSN: 3026-1422, https://doi.org/10.58578/ IJHESS. v3i1.43
64. University of Sussex Staff Hub, (2025). Efficient and Consistent Marking and Moderation https://staff.sussex.ac.uk/teaching/enhancement/support/assessment-design/marking-and-moderation?form=MG0AV3
65. Vercellotti, M., (2021). Beyond the Rubric: Classroom Assessment Tools and Assessment Practice *The Electronic Journal for English as a Second Language.* 25(3)
66. Western Sydney University Learning Futures (2020). Writing Marking Schemes (Rubics). https://www.westernsydney.edu.au/__data/assets/pdf_file/0009/1745883/Writing_Marking_Schemes_Rubrics.pdf?form=MG0AV3
67. Wilcox, G., Fernandez-Conde, C., & Kowbel, A., (2021). Using Evidence-Based Practice and Data-Based Decision Making in Inclusive Education. *Educ. Sci.* 11, 129, https://doi.org/10.3390/educsci11030

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