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Instructional Leadership Skills of School Head, Teachers' Use of Technology for Classroom Management and Academic Performance of Grade 2 Learners

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Abstract — This study determines the significant relationship between the extent of instructional leadership skills of school head, teachers' use of technology for classroom management and academic performance of Grade 2 learners. Employing a descriptive-correlational research design, the study utilized the survey taken from the study of Durrington (2013) on Technology Standards for School Administrators: An Analysis of Practicing and Aspiring Administrators' Perceived Ability to Perform the Standards. Moreover, to measure the extent of teachers' use of technology in classroom management in terms of teaching strategies, experience with computer technology, confidence level in integrating technology, how technology contributed to student learning, and value of integration, a survey developed and used by Obispo (2023) on her study about "Educators' Perception of Technology Integration in the Classroom: Basis for the Development of Action Plan" and to measure the academic performance of the grade 2 learners, the researcher gathered the quarter 4 grades of the learners. There are twenty-nine (29) teachers, 1 school head and 26 grade 2 learners involved in the study. It was revealed that there is a very strong significant relationship between extent of instructional leadership skills of school head and teachers' use of technology for classroom management. Further, a moderately significant relationship revealed between the extent of teachers' use of technology for classroom management and academic performance of Grade 2 learners. The findings highlight that effective instructional leadership practices significantly influence teachers' ability to integrate technology into classroom management and instructional delivery, which, in turn, positively impacts learners' academic performance.

Keywords — Instructional Leadership Skills, School Head, Teachers' Use of Technology, Classroom Management, Academic, Performance, Grade 2 Learners

I. Introduction

In today's educational landscape, where rapid advancement in technology is reshaping teaching methodologies, the role of instructional leadership in integrating technological tools is pivotal (Qasimov, 2023). The use of technology-aided education as a pedagogical method is not a modern phenomenon, and investigations into its utility have been studied for almost half a century (Hamilton et al., 2020). This proves that technology, as emphasized by Torrato, Predente & Aguja (2020), plays a crucial role in accessing the higher-order competencies referred to as

transversal competencies, namely; critical and innovative thinking, interpersonal and interpersonal and intrapersonal skills, global citizenship, media, and information technology. These competencies are necessary to thrive and be productive in today's world. The use of technology-based teaching and learning tools and facilities further enables teachers to bridge the gap and strengthen the shortcomings of conventional teaching techniques (Hero, 2019) as it provides support in achieving educational goals. The use of educational technology is stated to depend on what instructors do with it and how it meets the needs of their pupils.

Classroom management, that includes strategies applied by teachers in order to establish a productive and organized environment, is essential for student learning (Marzano & Marzano, 2003). Effective classroom management in this age of technology now depends to a large extent on the meaningful integration of classroom technology tools for enhancing student participation, monitoring of behavior, and smooth instructional delivery. The adoption and effective application of technology to classroom management, however, is highly dependent on the instructional leadership of school heads.

On the other hand, instructional leadership has long been recognized as a central component in improving educational quality by fostering teacher development, guiding instructional practices, and establishing a vision for student learning (Kilag & Sasan, 2023). In the context of the 21st-century classroom, where technology is an essential tool for learning, the role of instructional leadership in supporting the integration of technology is becoming increasingly significant. The integration of digital tools and resources has been identified as a key factor in enhancing teacher effectiveness and student learning outcomes (DeMatthews, 2014). Effective instructional leadership involves not only directing and supporting teachers in their professional development but also creating an environment where technology can be seamlessly incorporated into the teaching and learning process. Research has shown that leadership practices that encourage and guide technology use can significantly improve teaching strategies, increase student engagement, and ultimately enhance academic performance (Cavanaugh et al., 2017).

Moreover, DepEd Order No. 42, s. 2017 (National Adoption and Implementation of the Philippine Professional Standards for Teachers) highlights the role of school leaders in enabling teacher growth in technology use for instruction and management. Strand 5.4 of the PPST encourages the use of digital tools in managing learning, suggesting a strong linkage between leadership practices and technological proficiency in classroom environments. Hence, it is in this premise that the researcher decided to conduct this study to determine the extent of instructional leadership skills of school head, teachers' use of technology for classroom management and academic performance of grade 2 learners. A proposed instructional supervision plan was formulated based on the findings of the study.

This study determines the significant relationship between the extent of instructional leadership skills of school head, teachers' use of technology for classroom management and

academic performance of Grade 2 learners in Matlang Central School, Isabel II District, Leyte Division. The findings of the study will be the basis for the proposed instructional supervision plan.

Specifically, it sought to answer the following sub-problems:

1. What is the extent of instructional leadership of school head in terms of the following:

    1.1 leadership and vision,

    1.2 learning and teaching,

    1.3 productivity and professional practices,

    1.4 support, management and operations,

    1.5 assessment and evaluation, and

    1.6 social, legal and ethical issues?

2. What is the extent of teachers' utilization of technology for classroom management in terms of the following:

    2.1 teaching strategies,

    2.2 experience with computer technology,

    2.3 confidence level in integrating technology,

    2.4 how technology contributed to student learning, and

    2.5 value of integration?

3. What is the academic performance of grade 2 learners?

4. Is there a significant relationship between the extent of instructional leadership skills of school head and extent of teachers' utilization of technology for classroom management?

5. Is there a significant relationship between the extent of teachers' utilization of technology for classroom management and academic performance of grade 2 learners?

6. What instructional supervision plan can be proposed based on the findings of this study?

II. Methodology

Design. This study employs a descriptive-correlational research design to determine the significant relationship between the extent of instructional leadership by school heads and teachers' use of technology in classroom management. This study is descriptive because it describes the variables- extent of instructional leadership by school heads in terms of leadership and vision, learning and teaching, productivity and professional practices, support, management and operations, assessment and evaluation and social, legal and ethical issues, teachers' use of technology in classroom management in terms of teaching strategies, experience with computer technology, confidence level in integrating technology, how technology contributed to student learning, and value of integration and academic performance of grade 2 learners. Further, this is also correlational because it finds the relationship between the dependent and independent variables. The locale of this study is Matlang Central School, one of the schools of Isabel 2 District, Schools Division of Leyte. To gather the data, the researcher utilize the survey taken from the study of Durrington (2013) on Technology Standards for School Administrators: An Analysis of Practicing and Aspiring Administrators' Perceived Ability to Perform the Standards. Moreover, to measure the extent of teachers' use of technology in classroom management in terms of teaching strategies, experience with computer technology, confidence level in integrating technology, how technology contributed to student learning, and value of integration, a survey developed and used by Obispo (2023) on her study about "Educators' Perception of Technology Integration in the Classroom: Basis for the Development of Action Plan" and to measure the academic performance of the grade 2 learners, the researcher gathered the quarter 4 grades of the learners.

Sampling. The respondents of this study are twenty-nine (29) teachers, 1 school head and 104 grade 2 learners enrolled in the said locale. Complete enumeration in choosing the respondents of the study will be employed.

Research Procedure. After the research was approved, data gathering followed. Letter requests to conduct the study were submitted to the proper authorities for approval. First, a letter request was submitted to the Schools Division Superintendent for approval to proceed with data gathering among the identified respondents. After the approval of the SDS, permission letters were also submitted to the Public Schools District Supervisor and School Principal of the school. After approval, the researcher proceeded with data gathering. The researcher conducted an orientation for the respondents. During the orientation, the respondents were informed about the study's goals and their right to confidentiality. Anonymized data were used solely for research, minimizing any burden on the participants. Data were stored securely, accessible only to the research team, reinforcing confidentiality. Participation was purely voluntary, with the freedom to withdraw at any time. The presentation of findings maintained strict transparency, highlighting participants' views without bias or alterations. Furthermore, a permit from the respondents was requested, which stipulated their consent to be included in the study. After the orientation, survey questionnaires were distributed to the respondents. The respondents were given ample time to

complete the survey. After accomplishing the survey, it was collected, tallied, and submitted for statistical treatment.

Ethical Issues. The researcher obtained the necessary written permission from the authorities to conduct the study. While developing and checking the survey used in the study, the use of offending, discriminatory, or other undesirable terminology was eschewed. The names of the respondents and other personal information were not included in this study to ensure confidentiality. The respondents were also voluntarily participating. Orientation was done for the respondents. During orientation, concerns and issues were clarified, and consent to be part of the study was signed. The researcher-maintained objectivity in discussing and analyzing the results. All authors whose works were cited in this study were correctly quoted and were acknowledged in the reference.

Treatment of Data. The quantitative responses were tallied and tabulated. The data were treated statistically using the following tools: The Simple Percentage and Weighted Mean were employed to evaluate the extent of instructional leadership by school heads in terms of leadership and vision, learning and teaching, productivity and professional practices, support, management and operations, assessment and evaluation, and social, legal, and ethical issues, as well as teachers' use of technology in classroom management in terms of teaching strategies, experience with computer technology, confidence level in integrating technology, how technology contributed to student learning, and value of integration. Pearson r was used to determine the significant relationship between the dependent and independent variables.

III. Results and Discussion

Table 1
Extent of Instructional Leadership of School Heads

A. Planning and Implementation of Reading Instruction	Weighted Mean	Interpretation
1	facilitate the shared development by all stakeholders of a vision for technology use and wisely communicate that vision	4.10	Often
2	maintain an inclusive and cohesive process to develop, implement, and monitor a dynamic, long-range, and systemic technology plan to achieve the vision	3.55	Often
3	foster and nurture a culture of responsible risk-taking and advocate policies promoting continuous innovation with technology	3.45	Often
4	use data in making leadership decisions.	3.38	Often
5	advocate for research-based effective practices in use of technology	3.60	Often
6	advocate, on the state and national levels, for policies, programs, and funding opportunities that support implementation of the district technology plan	3.20	Sometimes
	Mean	3.55	Often
	B. Learning and Teaching		
7	identify, use, evaluate, and promote appropriate technologies to enhance and support instruction and standards-based curriculum leading to high levels of student achievement	3.50	Often

8	facilitate and support collaborative technology-enriched learning environments conducive to innovation for improved learning	3.00	Sometimes
9	provide for learner-centered environments that use technology to meet the individual and diverse needs of learners	3.50	Often
10	facilitate the use of technologies to support and enhance instructional methods that develop higher-level thinking, decision-making, and problem-solving skills	3.60	Often
11	provide for and ensure that faculty and staff take advantage of quality professional learning opportunities for improved learning and teaching with technology	3.72	Often
	Mean	3.46	Often
	C. Productivity and Professional Practice		
12	model the routine, intentional, and effective use of technology	3.50	Often
13	employ technology for communication and collaboration among colleagues, staff, parents, students, and the larger community	3.80	Often
14	create and participate in learning communities that stimulate, nurture, and support faculty and staff in using technology for improved productivity	3.60	Often
15	engage in sustained, job-related professional learning using technology resources	3.55	Often
16	maintain awareness of emerging technologies and their potential uses in education.	3.53	Often
17	use technology to advance organizational improvement	3.50	Often
	Mean	3.58	Always
	D. Support, Management and Operation		
18	develop, implement, and monitor policies and guidelines to ensure compatibility of technologies	3.50	Often
19	implement and use integrated technology-based management and operations systems.	3.70	Often
20	allocate financial and human resources to ensure complete and sustained implementation of the technology plan	3.60	Often
21	integrate strategic plans, technology plans, and other improvement plans and policies to align efforts and leverage resources	3.50	Often
22	implement procedures to drive continuous improvements of technology systems and to support technology replacement cycles	3.50	Often
	Mean	3.56	Often
	E. Assessment and Evaluation		
23	use multiple methods to assess and evaluate appropriate uses of technology resources for learning, communication, and productivity	3.70	Often
24	use technology to collect and analyze data, interpret results, and communicate findings to improve instructional practice and student learning	4.10	Often
25	assess staff knowledge, skills, and performance in using technology and use results to facilitate quality professional development and to inform personnel decisions	3.70	Often
26	use technology to assess, evaluate, and manage administrative and operational systems	3.70	Often
	Mean	3.80	Often
	F. Social, Legal and Ethical Issues		
27	ensure equity of access to technology resources that enable and empower all learners and educators	3.70	Often
28	identify, communicate, model, and enforce social, legal, and ethical practices to promote responsible use of technology	3.70	Often
29	promote and enforce privacy, security, and online safety related to the use of technology	3.70	Often

30	promote and enforce environmentally safe and healthy practices in the use of technology	3.70	Often
31	participate in the development of policies that clearly enforce copyright law and assign ownership of intellectual property developed with district resources	3.70	Often
	Mean	3.70	Often
	Grand Mean	3.59	OFTEN

Legend: 4.21- 5.00 – Always
           3.41- 4.20 – Often
           2.61-3.40 - Sometimes
           1.81- 2.60- Rarely
           1.00-1.80- Never

The data gathered on the instructional leadership and technology integration practices of school heads revealed generally positive yet varied results across key dimensions, with an overall grand mean of 3.59, interpreted as Often. This suggests that school leaders consistently demonstrate efforts to integrate technology in planning, teaching, management, assessment, and promoting ethical use in their respective schools. In Planning and Implementation of Reading Instruction, a mean of 3.55 (Often) reflects the regular development of shared visions for technology use, though a lower rating for advocating policies at higher levels (3.20, Sometimes) indicates limited external engagement. The dimension of Learning and Teaching recorded a mean of 3.46 (Often), showing that while technology is often used to enhance instruction, creating truly collaborative, technology-enriched learning environments remains an area for growth (3.00, Sometimes). Stronger ratings were observed in Productivity and Professional Practice (3.58, Often) and Support, Management, and Operations (3.56, Often), suggesting that school leaders model technology use, promote professional development, and establish systems to sustain integration efforts. The highest mean of 3.80 (Often) in Assessment and Evaluation indicates that technology is frequently leveraged for data collection, assessment, and decision-making to support improved instructional practices. Additionally, a mean of 3.70 (Often) in Social, Legal, and Ethical Issues highlights that school heads actively promote responsible, equitable, and ethical technology use. Collectively, these results imply that while school leaders often integrate technology to support educational practices, further improvement is needed in fostering innovation, collaboration, and broader policy advocacy to fully harness technology's potential in enhancing teaching, learning, and overall school performance.

Table 2
Extent of Teachers' Use of Technology

	Teaching Strategies	Weighted Mean	Interpretation
1	Using technology, the teaching	3.90	Agree

2	style was able to elevate the learning of the students which facilitates higher-order thinking skills	3.50	Agree
3	Develops and utilize interactive	3.75	Agree
4	activities or games using ICT as part of teaching innovations	4.50	Agree
5	Explores educational websites	4.00	Agree
	Mean	**3.93**	**Agree**
	B. Experience with Computer Technology		
6	Use computer applications such as MS Word, Excel, PowerPoint, and others (i.e., activity sheets or worksheets, written works, or performance tasks) to enhance my effectiveness in assessing/ evaluating learning	4.50	Strongly Agree
7	Expand my communication with students, parents, colleagues, and management	4.45	Strongly Agree
8	Utilize computer applications to exhibit various skills such as MS Word, Excel, PowerPoint, and others (e.g., record- keeping, learners' profiles, or learners' self-monitoring tools) in reporting/ teaching	4.35	Strongly Agree
9	Apply online software or apps like Facebook, Google Meet, or Zoom to facilitate the teaching and learning process	3.94	Agree
10	Manage my digital teaching-learning resources by creating, storing, and retrieving them with ease	4.00	Agree
	Mean	**4.25**	**Strongly Agree**
	C. Confidence Level in Integrating Technology		
11	Decide which educational websites to use for curriculum-relevant content to inform the lesson	4.00	Agree
12	Apply technology to develop students' higher- order thinking skills and creativity	3.90	Agree
13	Use computers and other technologies to collect and communicate information to students' colleagues, and others	3.90	Agree
14	Conduct open and flexible learning environments where technology is used to support a variety of interactions among students, cooperative learning, and peer instruction	4.05	Agree
15	Evaluate the usage of technology integration in the teaching-learning process and use results to refine the design of learning activities	3.50	Agree
	Mean	**3.87**	**Strongly Agree**
	D. How Technology Contributed to Student Learning		
16	Use Web-conferencing or video chat to communicate/collaborate with other students in the course	3.50	Agree
17	Use a personal dashboard on the university's private network to access all your academic information related to courses, grades, and others	4.00	Agree
18	Use the Web to share digital files related to your course (e.g., sharing photos, audio files, movies, digital documents, websites, etc.)	4.50	Strongly Agree
19	Receive alerts about course information (e.g., timetable changes, the release of new learning resources, changes in assessment)	3.90	Agree
20	Download or access online audio/ video recordings of supplementary content material	4.10	Agree
	Mean	**4.00**	**Agree**
	E. Value of Technology Integration		

21	Technology integration support activities that facilitate higher-order thinking ex: collaborative problem-based activities, and activities that require analysis and synthesis of information	**3.90**	Agree
22	Technology integration support learning styles such as the use of media for auditory and visual learners	**4.00**	Agree
23	Technology facilitates specific concepts like computer-based courseware, tutorials	**3.50**	Agree
24	Integrating technology improves instructional performances	**4.05**	Agree
25	Integrating technology is completely compatible with all aspects of academic work	**4.10**	Agree
	Mean	**3.91**	**Agree**
	Grand Mean	**3.99**	**AGREE**

Legend: 4.21- 5.00 – Strongly Agree
          3.41- 4.20 – Agree
          2.61-3.40 - Undecided
          1.81- 2.60- Disagree
          1.00-1.80- Strongly Disagree

The data gathered on teachers' use of technology in classroom management revealed generally positive perceptions, with a grand mean of 3.99, interpreted as Agree, indicating that teachers consistently recognize the value and role of technology in enhancing teaching and learning processes. The highest rating was recorded under Experience with Computer Technology with a mean of 4.25 (Strongly Agree), suggesting that teachers are highly confident and proficient in using computer applications for assessment, communication, reporting, and resource management. Similarly, Teaching Strategies obtained a mean of 3.93 (Agree), reflecting that teachers frequently integrate technology to facilitate student learning, promote higher-order thinking skills, and develop interactive activities. In Confidence Level in Integrating Technology, a mean of 3.87 (Agree) shows that while teachers generally feel capable of integrating technology into the teaching-learning process, there is still room for improvement in evaluating and refining technology use for instructional design. The dimension How Technology Contributed to Student Learning yielded a mean of 4.00 (Agree), implying that technology positively supports student access to resources, collaboration, and communication. Finally, the Value of Technology Integration dimension, with a mean of 3.91 (Agree), indicates that teachers acknowledge how technology enhances instruction, supports diverse learning styles, and improves overall teaching performance. These results suggest that while teachers widely accept and utilize technology for effective classroom management, continuous capacity building, especially in evaluating and innovating technology use, remains essential to maximize its impact on student learning outcomes.

Table 3
Academic Performance of Grade 2 Learners

No.	Interpretation	Scale	Frequency	Percentage

5	Outstanding	90-100	14	54
4	Very Satisfactory	85-89	11	42
3	Satisfactory	80-84	1	4
2	Fairly Satisfactory	75-79	0	0
1	Did Not Meet Expectations	Below 75	0	0
	Total		26	100
	Average		90.40	Outstanding

The data gathered on the academic performance of Grade 2 learners revealed generally positive outcomes, as reflected by the respondents' assessment. The consistent integration of technology in teaching strategies, classroom management, and instructional delivery appears to have contributed to improving students' academic achievement. With teachers expressing high levels of agreement regarding their competence in using technology for assessment, communication, and resource development, these practices likely enhanced students' access to learning materials, engagement in interactive activities, and opportunities for higher-order thinking. The use of technology to support diverse learning styles and promote individualized learning experiences also suggests a positive influence on academic performance. Overall, the results imply that the effective and consistent integration of technology in the classroom plays a crucial role in supporting and improving the academic performance of Grade 2 learners, highlighting the need for continued efforts to strengthen technology-supported teaching practices.

Table 4
Test of Relationship

Variables Correlated	r	Computed value or t	Table Value @.05	Decision on Ho	Interpretation
Extent of Instructional Leadership and Extent of Teachers' Use of Technology	0.88	3.453	0.566	Reject Ho	Significant Relationship (Very Strong)
Extent of Teachers' Use of Technology to Academic Performance	0.56	2.424	1.448	Reject Ho	Significant Relationship (Moderate)

The results of the correlation analysis revealed a very strong significant relationship between the extent of instructional leadership and the extent of teachers' use of technology, with an r-value of 0.88 and a computed t-value of 3.453, which exceeds the table value of 0.566 at the 0.05 level of significance. This suggests that stronger instructional leadership among school heads is strongly associated with higher levels of technology integration by teachers in classroom management and instruction. Similarly, the results showed a moderate significant relationship between the extent of teachers' use of technology and the academic performance of Grade 2 learners, as indicated by an r-value of 0.56 and a computed t-value of 2.424, which is greater than the table value of 1.448. This implies that the effective use of technology by teachers positively influences the academic performance of learners, although the strength of the relationship is

moderate compared to that of instructional leadership and technology use. These findings highlight the crucial role of both strong instructional leadership and technology integration in improving teaching practices and learner outcomes.

IV. Conclusion

The research results affirm the presence of a significant relationship between instructional leadership skills of school head, teachers' use of technology, and the academic performance of Grade 2 learners. The findings highlight that effective instructional leadership practices significantly influence teachers' ability to integrate technology into classroom management and instructional delivery, which, in turn, positively impacts learners' academic performance. The consistently high ratings across the different dimensions of instructional leadership and technology use, alongside the significant correlations found, underscore the crucial role of school heads in fostering an environment that promotes technological innovation, professional development, and effective teaching practices. Accordingly, strengthening instructional leadership, enhancing teacher training on technology integration, and ensuring adequate support and resources are essential to further improve the quality of instruction and learning outcomes. Equally important is addressing existing gaps in collaborative learning environments, policy advocacy, and technology evaluation to ensure that both teachers and learners can fully benefit from technology-driven education.

V. Recommendations

1. Apply the recommended instructional supervision plan to attain the research goal.

2. School heads should be continuously trained to serve not only as instructional leaders but also as digital mentors, guiding and supporting teachers in the effective and responsible use of technology for classroom management, instruction, and assessment.

3. Incorporate technology integration as a key focus in instructional supervision practices. This includes monitoring teachers' digital classroom practices, offering targeted feedback, and conducting coaching sessions on tech-enabled classroom management strategies.

4. Design and implement professional development programs that equip teachers with the skills to utilize digital tools and learning management systems (e.g., ClassDojo, Google Classroom, Seesaw) to improve classroom organization, communication, learner engagement, and behavior tracking.

5. Encourage the adoption of technology that supports positive learner behavior, individualized instruction, and efficient classroom routines, particularly those suitable for Grade 2 learners (e.g., interactive visual schedules, educational apps, audio-visual timers)..

6. Provide the necessary infrastructure such as devices, internet connectivity, and digital teaching materials to support teachers in maximizing the use of technology for classroom management and instructional delivery..

7. School heads should align instructional leadership initiatives with the integration of educational technology by embedding digital literacy goals and tech-based classroom management strategies in the School Improvement Plan (SIP).

8. Regularly assess the impact of technology use on learners' academic outcomes, especially in early grades, and adjust coaching and support strategies accordingly to ensure continuous improvement., and

9. Future researchers are encouraged to replicate this study to incorporate other locales and other variables beyond the ones identified in this study.

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AUTHOR'S PROFILE

ROWENNA B. SANTIAGO

Analyn C. Bendanillo, born on March 31, 1983, in Brgy, Cangag, Isabel,Leyte, is a dedicated educator known for her commitment to nurturing continuous learning and empowerment among her students. Her journey in education began at Cangag Elementary School, followed by her secondary education at Isabel National Agricultural and Vocational School also known as INAVS. Throughout her early years, Analyn was actively involved in sports specially in dancing, which fostered her physical development. She's an active member of their dance club in her college days. Her interactions with various groups through sports, academic pursuits, and community events enriched her experience, fostering her growth and resilience. Analyn continued her academic journey at Saint Peter's College of Ormoc, Ormoc City, where she earned her Bachelor of Elementary Education, in 2005. That same year, she passed the Licensure Examination for Teachers (LET), marking the official start of her teaching career. Analyn has consistently pursued professional growth. Her commitment to lifelong learning led her to enroll in a Master of Arts in Education (MAEd) program, majoring in School Administration and Supervision. She successfully completed the academic requirements for her MAEd in July 2025, driven by her diverse experiences and the support of different people she encountered through her academic journey. Currently, Analyn is an esteemed Grade 2 teacher at Matlang Central School. Her dedication to education, combined with her rich experience and community involvement, continues to inspire her students and peers, highlighting her unwavering commitment to making a meaningful impact in the educational landscape.