



Beyond the silo: Intermediate phase teachers' experiences of integrated teaching in a selected school in the West Rand District of Gauteng, South Africa

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ABSTRACT

Integrated teaching is increasingly recognised as a necessary response to the demands of 21st-century education, yet its implementation remains uneven across contexts. This article explores the experiences of Intermediate Phase teachers who implement integrated lessons in a public school in the West Rand district of Gauteng, South Africa. Guided by a constructivist paradigm, the study employed a qualitative, exploratory case study design. Data were collected through semi-structured interviews and classroom observations and analysed using thematic analysis. Findings revealed that while teachers value the pedagogical benefits of integration—such as enhanced learner engagement and critical thinking—they also encounter significant barriers. These barriers include limited planning time, inadequate professional development, and challenges in aligning integration with existing assessment structures. Despite these challenges, teachers showed adaptability, collaboration, and a commitment to fostering meaningful learning. The study recommends that educational stakeholders invest in sustained, context-specific professional development and create collaborative spaces for planning and reflection. These measures can help bridge the gap between curriculum policy and classroom practice, thereby contributing to a more holistic and relevant learning environment for South African learners.

Keywords: Learner Engagement, Professional Development, Lesson Integration, Critical Thinking, Collaboration.

INTRODUCTION

What if the very structure of separating subjects in schools limits learners' ability to understand the world holistically? In a rapidly evolving global landscape, education systems must equip learners with critical thinking, collaborative problem-solving, and the ability to transfer knowledge across disciplines.¹ Traditional subject-based instruction no longer meets the demands of a 21st-century society defined by complexity, interconnection, and integrated knowledge systems.

Integrated teaching, also referred to as cross-curricular or subject-integrated learning, involves the deliberate blend of knowledge and skills from multiple subjects into a unified and holistic learning

¹ Karzan Wakıl et al., "Phenomenon-Based Learning for Teaching Ict Subject through Other Subjects in Primary Schools," *Journal of Computer and Education Research* 7, no. 13 (2019): 205–12.

experience.² This pedagogical approach reflects the interdisciplinary nature of real-world challenges and supports the development of key competencies, including learner agency, creativity, and critical engagement. It is increasingly recognised as a progressive model that aligns education with contemporary social and economic needs.

In South Africa, the Curriculum and Assessment Policy Statement (CAPS) promotes this integrative view of knowledge, calling for learners to "recognise that problem-solving contexts do not exist in isolation."³ While the curriculum encourages integration, its practical implementation remains fragmented, particularly within under-resourced public schools. Teachers often face multiple systemic barriers—such as rigid assessment structures, limited planning time, and a lack of professional development—when attempting to deliver integrated lessons.⁴

Globally, integrated approaches have gained traction through models like STEM education in countries such as the USA, UK, China, and Australia.⁵ These international cases underscore the importance of curriculum flexibility, institutional support, and teacher preparedness—elements that are inconsistently available in South African schools.

Despite the global discourse on integration, much of the research remains conceptual or policy-oriented, with limited empirical exploration of how integration is enacted in real classroom contexts. There is a gap in studies focusing on Intermediate Phase teachers, who occupy a unique space between foundational learning and subject specialisation. Their voices are essential to understanding how integrated teaching is interpreted and adapted in everyday school realities.

This study seeks to address this gap by exploring the experiences of Intermediate Phase teachers implementing integrated lessons in a public school in the West Rand district of Gauteng, South Africa. It investigates how these teachers interpret, navigate, and operationalise curriculum integration within their classrooms. Specifically, the study asks: How do teachers in the Intermediate Phase experience integrated lessons in the West Rand district of Gauteng?

The article begins with a discussion of the study's theoretical framework, followed by a review of relevant literature. The research methodology—guided by a qualitative case study design—is then presented, leading to the thematic analysis of findings. The paper concludes with implications for practice, recommendations for teacher support, and contributions to the broader discourse on curriculum integration in South African education.

LITERATURE REVIEW

Understanding Integrated Teaching

Integrated teaching, also referred to as subject-integrated or cross-curricular instruction, aims to bridge traditional subject boundaries by uniting multiple disciplines into cohesive learning experiences. According to Follong et al., integrated teaching enables learners to apply knowledge in real-life contexts, making learning more meaningful and holistic.⁶ Barnes articulates this succinctly by noting that "the world outside the classroom is cross-curricular," a statement that highlights the disconnect between real-world complexities and traditional compartmentalised schooling.⁷

Integrated lessons are not a new phenomenon; they have undergone significant evolution since their introduction in the 19th century. Historically, this pedagogical method was viewed as a progressive step towards a more humane and practical educational model—one that balances intellectual

² Virginie Timmerman, "Cross-Curricular Teaching: How Does It Work," URL: <http://Www.Ciep.Fr/Sites/Default/Files/Atoms/Files/Crosscut-Cross-Curricular-Teaching-How-Does-It-Work-Synthesis.Pdf> (Last Accessed: 12.03.2019), 2017.

³ Department of Basic Education (DBE), "Curriculum and Assessment Policy Statement. Sesotho Home Language. Intermediate Phase." (Pretoria: South Africa: Government Printing works., 2011).

⁴ Samantha Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes," *South African Journal of Education* 38, no. Supplement 2 (2018): s1–12; Nicholas Spaul, "South Africa's Education Crisis: The Quality of Education in South Africa 1994–2011," *Johannesburg: Centre for Development and Enterprise* 21, no. 1 (2013): 1–65.

⁵ Zehui Zhan et al., "A Bibliometric Analysis of the Global Landscape on STEM Education (2004–2021): Towards Global Distribution, Subject Integration, and Research Trends," *Asia Pacific Journal of Innovation and Entrepreneurship* 16, no. 2 (December 12, 2022): 171–203, <https://doi.org/10.1108/APJIE-08-2022-0090>.

⁶ Berit M Follong et al., "An Exploratory Survey on Teaching Practices Integrating Nutrition and Mathematics in Australian Primary Schools," *International Journal of Research in Education and Science* 6, no. 1 (2020): 14–33.

⁷ Jonathan Barnes, "An Introduction to Cross-Curricular Learning," *The Primary Curriculum: A Creative Approach* 320 (2015).

development with real-world applicability. Follong et al. highlight how integrated teaching can make abstract concepts more tangible by incorporating everyday examples. For instance, using household recipes to teach mathematical concepts like volume and measurement not only improves learner engagement but also enhances understanding.⁸ The integration of digital tools, such as educational games, further supports this engagement. Despite these innovations, the actual implementation of integrated strategies remains uneven across schools.

Globally, the implementation of integrated teaching has varied depending on educational policy, school culture, and teacher agency. Savage found that within the English context, integrated teaching was applied inconsistently, often depending on individual school policies and the autonomy granted to teachers.⁹ Some schools adopted structured cross-curricular approaches, while others relied heavily on subject-specific instruction, leading to inconsistencies in learner experience and outcomes.

Similarly, in China, the implementation of integrated teaching in the context of STEM (Science, Technology, Engineering, and Mathematics) education has demonstrated both potential and inconsistency. Yang and Chen argue that while policy frameworks may advocate integration, successful adoption depends largely on teacher preparedness and existing curriculum structures.¹⁰ These international examples underscore the importance of school-level support, adequate training, and a shared understanding of what integration entails.

Challenges and Benefits of Integrated Teaching

Despite its pedagogical promise, integrated teaching presents several challenges. One key issue is the lack of a shared definition or practical framework for implementation. Teachers often interpret "integration" differently, resulting in fragmented approaches and inconsistent outcomes⁹. The absence of clear guidelines leaves educators unsure how to plan, assess, or reflect on integrated learning experiences.

In South Africa, these challenges are further compounded by systemic barriers such as overcrowded classrooms, a lack of resources, and curriculum overload. Spaull notes that many South African schools face basic infrastructural deficits that make the implementation of innovative teaching strategies difficult.¹¹ Even in more resourced environments, such as quintile 5 schools, teachers report being overwhelmed by the demands of covering extensive subject content within limited timeframes.

Furthermore, teachers often feel unsupported in their efforts to innovate. Govender found that while policies like the Curriculum and Assessment Policy Statement (CAPS) encourage integration, the accompanying professional development is often inadequate.¹² Teachers are expected to implement complex pedagogical changes without the training or time required to do so effectively. This disconnect between policy and practice limits the potential of integrated teaching to truly transform learner outcomes.

However, when implemented effectively, integrated teaching offers numerous benefits. It enhances learner engagement by making lessons more relevant and contextually grounded. By exploring real-world issues through multiple disciplinary lenses, learners develop critical thinking and problem-solving skills—both of which are essential to navigate the challenges of the 21st century.¹³ Integrated lessons also foster collaboration among learners and educators, cultivating an environment of shared inquiry and mutual learning.

In addition, integrated teaching can promote equity by making learning more accessible to diverse learners. By offering multiple entry points into the content, teachers can accommodate different

⁸ Follong et al., "An Exploratory Survey on Teaching Practices Integrating Nutrition and Mathematics in Australian Primary Schools."

⁹ James Savage, *Cross-Curricular Teaching and Learning in the Secondary School*, 1st ed. (London: Routledge, 2011).

¹⁰ Wanwei Yang and Lijuan Chen, "Research on the Theoretical Framework and Practical Countermeasures of Junior Middle School Mathematics Interdisciplinary Study Based on STEM," in *SHS Web of Conferences*, vol. 187 (EDP Sciences, 2024), 01009.

¹¹ Spaull, "South Africa's Education Crisis: The Quality of Education in South Africa 1994-2011."

¹² Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes."

¹³ Wakil et al., "Phenomenon-Based Learning for Teaching Ict Subject through Other Subjects in Primary Schools."

learning styles, cultural backgrounds, and levels of prior knowledge. This aligns with South Africa's goal of providing inclusive and transformative education that reflects the diversity of its learners.¹⁴

Teachers' Professional Development

Effective professional development is essential to equip teachers with the skills and confidence needed to implement integrated teaching. However, in many contexts—including South Africa—such support is lacking. Govender reports that professional development sessions offered by the Department of Basic Education often focus on administrative compliance rather than meaningful pedagogical training.¹⁵ Workshops tend to be generic and disconnected from the realities of specific classroom contexts.

Phase meetings and in-service training opportunities, which should provide collaborative spaces for professional growth, are often dominated by bureaucratic tasks. Teachers often report feeling that these sessions are a "tick-box" exercise rather than a genuine opportunity for development. This lack of support contributes to teacher frustration and resistance, particularly when they are held accountable for implementing strategies for which they have not received adequate training.

Furthermore, the aftermath of apartheid continues to shape professional development inequalities. Schools in historically disadvantaged communities continue to experience higher student-teacher ratios, limited access to teaching materials, and fewer opportunities for teacher training.¹⁶ These structural inequalities make it challenging to implement complex teaching approaches, such as integration, in under-resourced settings.

Despite these barriers, teachers who have received targeted support often report greater confidence and success in using integrated approaches. Contextualised, practice-based professional development—where teachers co-plan, observe peers, and reflect collaboratively—has shown promise in some schools. Christie emphasises the importance of school leadership in creating an environment where professional learning can flourish.¹⁷ Schools with a strong culture of collaboration, peer support, and leadership engagement tend to be more successful in sustaining integrated teaching practices over time.

Implementation of Integrated Lessons in South Africa

South Africa's Curriculum and Assessment Policy Statement (CAPS) explicitly encourages integrated learning. It states that learners should be able to "recognise that problem-solving contexts do not exist in isolation."¹⁸ This aligns well with the core principles of integrated teaching. However, as with many curriculum reforms, implementation remains a major challenge.

Although CAPS supports the idea of integration, it does not provide detailed guidance on how to achieve it. Teachers are left to interpret the policy on their own, often without sufficient planning time or resources to implement integration meaningfully. This gap between curriculum intention and classroom reality is one of the key problems this study addresses.

Christie found that the success of integration efforts varies significantly in different school contexts.¹⁹ Schools with greater access to resources, better infrastructure, and supportive leadership tend to report more positive experiences with integration. On the contrary, schools in less affluent areas often struggle to move beyond the demands of basic curriculum coverage.

Govender echoes this concern, arguing that the Department of Basic Education must do more to support practical implementation.²⁰ Without sustained, context-specific support, integration will remain a policy ideal rather than a classroom reality. Teachers require not only knowledge and skills but also time, planning tools, and opportunities to collaborate.

¹⁴ Gregg Alexander, "Reflections on the State of Multicultural Education in Historically White South African Schools," *International Journal of Educational Sciences* 13, no. 1 (2016): 118–28.

¹⁵ Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes."

¹⁶ Alexander, "Reflections on the State of Multicultural Education in Historically White South African Schools."

¹⁷ Pam Christie, "The Complexity of Human Rights in Global Times: The Case of the Right to Education in South Africa," *International Journal of Educational Development* 30, no. 1 (January 2010): 3–11, <https://doi.org/10.1016/j.ijedudev.2009.06.006>.

¹⁸ DBE. Department of Basic Education, "Curriculum and Assessment Policy Statement (CAPS): Natural Sciences and Technology, Grades 4–6 – Intermediate Phase, page 5 (Pretoria: Department of Basic Education, 2011)

¹⁹ Christie, "The Complexity of Human Rights in Global Times: The Case of the Right to Education in South Africa."

²⁰ Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes."

Despite these challenges, the South African context also presents opportunities. Many teachers demonstrate resilience, creativity, and a strong commitment to learner success. By leveraging existing strengths—such as peer collaboration and a willingness to innovate—schools can begin to build more sustainable models for integrated teaching. This requires a shift from top-down mandates to teacher-informed strategies grounded in the lived realities of classrooms.

THEORETICAL FRAMEWORK

This study is grounded in the constructivist paradigm, which views knowledge not as something transmitted from teacher to learner but as something actively constructed by individuals through interaction with their environment, previous experiences, and social relationships.²¹ This paradigm shifts educational focus from teacher-centred instruction to learner-centred engagement, and assumes that understanding emerges through meaning-making rather than passive absorption.

Two foundational theorists—Jean Piaget and Lev Vygotsky—provide key insights that shape constructivist thinking. Piaget emphasised individual cognitive development, where learners progress through stages by interacting with their environment and assimilating new information.²² Vygotsky, on the other hand, introduced the importance of social interaction and the concept of the Zone of Proximal Development (ZPD), suggesting that learning is most effective when scaffolded by more knowledgeable others.²³ In both cases, knowledge construction is dynamic and contextual.

Applied to curriculum design, constructivism supports approaches like integrated teaching, where learning reflects the complexity of real-world contexts. Instead of teaching isolated facts, teachers are encouraged to design activities that help learners make connections between subjects, engage with problems that mirror life beyond the classroom, and critically reflect on their understanding. These are key goals of the Curriculum and Assessment Policy Statement (CAPS), which explicitly calls for learners to “recognise that problem-solving contexts do not exist in isolation.”²⁴

Constructivism also extends to the professional learning of teachers themselves. Teachers are not merely implementers of policy but active participants in shaping and interpreting curriculum within their specific school contexts. This understanding is particularly relevant in environments where official guidance on integrated teaching is limited. In such cases, teacher agency, reflection, and collaboration become central mechanisms for developing effective practice.²⁵ Teachers become learners in their own right—constructing knowledge through their classroom experiences, through shared planning with colleagues, and through reflective engagement with learners.

This theoretical framework was instrumental in shaping both the design and interpretation of the research. It guided the use of qualitative methods, which are well-suited to exploring the complex, contextual, and evolving understandings that teachers hold. By adopting a constructivist stance, the study recognises that there is no single “correct” approach to integration; rather, teachers interpret and adapt integration in ways that make sense within their environments, based on their learners’ needs, subject requirements, and available resources.

Moreover, the constructivist emphasis on context is particularly pertinent in South Africa, where disparities in infrastructure, training, and support significantly influence teaching practice. The framework enabled the research to focus not only on what integration looks like in practice but also on how teachers make sense of it, cope with systemic barriers, and draw on their professional judgement to implement meaningful learning experiences.

By viewing teacher experiences through this theoretical lens, the study goes beyond merely documenting practice—it uncovers the cognitive and reflective processes that underpin teacher decision-making. In doing so, it highlights the critical role of teacher voice and agency in shaping curriculum

²¹ Alexander Riegler, “Constructivism,” in *Paradigms in Theory Construction* (Springer, 2011), 235–55.

²² Jean Piaget and Barbel Inhelder, *The Psychology of the Child* (Basic books, 2008).

²³ Lev S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, vol. 86 (Harvard university press, 1978).

²⁴ Department of Basic Education (DBE), *Curriculum and Assessment Policy Statement: Natural Sciences and Technology, Grades 4–6 – Intermediate Phase*.

²⁵ Hanan AbdulRab, “Teacher Professional Development in the 21st Century,” *African Journal of Education and Practice* 9, no. 4 (December 11, 2023): 39–50, <https://doi.org/10.47604/ajep.2237>.

reform and contributes to a deeper understanding of how integrated lessons are lived and experienced within real classrooms.

METHODOLOGY

Research Design and Setting

A qualitative, exploratory, and descriptive case study design was adopted. This design was selected because it allows an in-depth investigation of a specific phenomenon—in this case, integrated teaching—within a bounded system.²⁶ The case focused on a single, public, quintile 5 primary school located in the West Rand district of Gauteng, South Africa. The school was chosen through purposive sampling due to its reputation for implementing integrated lessons in the Intermediate Phase. The school's layout supported integration through interlinked classrooms, which enabled collaborative teaching and co-planning. The school's culture also fostered shared decision-making among staff, creating an environment that allowed team-based instruction.

Participants and Sampling

Four Grade 4 teachers participated in the study. All participants were selected using purposive sampling, a non-probability sampling technique that enables the researcher to select individuals who are especially knowledgeable about or experienced with the topic under investigation. Each teacher had at least two years of experience with integrated teaching and was involved in regular co-planning sessions. Participants willingly volunteered and were briefed on the study's aims and ethical protocols of the study. This sampling approach ensured that the data collected were rich, relevant, and specific to the research question.

Data Collection Methods

Data were collected using two qualitative methods to ensure depth and triangulation: Semi-structured interviews were conducted with the four teachers and the school principal. These interviews allowed for flexibility in responses while maintaining consistency in the core questions. Follow-up prompts encouraged elaboration, allowing the researcher to probe deeper into teachers' understandings, motivations, and challenges related to integration. Furthermore, non-participant classroom observations were conducted during integrated lessons. A structured observation checklist and field notes were used to capture how integration manifested in practice—specifically in teaching strategies, learner participation, and subject blending. This dual approach allowed the researcher to gain both reported and observed insights into teachers' experiences.

Data Analysis

The data were analysed thematically, following the six-phase model proposed by Braun and Clarke.²⁷ Transcripts were read and re-read to gain familiarity, after which initial codes were generated. These codes were reviewed and organised into themes that represented key patterns in the data. Themes were then defined and refined before writing up the findings. Participant quotes were used to support interpretation and were linked to both the literature and the study's conceptual framework.

Trustworthiness

Trustworthiness was ensured through several strategies. The member verification was carried out by sharing interview transcripts and preliminary interpretations with the participants for validation. Triangulation across interviews and observations improved dependability, while an audit trail of decisions supported confirmability. Transferability was strengthened through a detailed description of the school context, participant characteristics, and teaching practices. These strategies helped ensure that the findings were credible and grounded in participants' lived realities.

²⁶ Robert K. Yin, *Case Study Research and Applications*, vol. 6 (Sage Thousand Oaks, CA, 2018).

²⁷ Virginia Braun and Victoria Clarke, "Reflecting on Reflexive Thematic Analysis, *Qualitative Research in Sport, Exercise and Health*, 11: 4, 589-597."

Ethical Considerations

Ethical clearance was obtained from the university's ethics review committee. All participants signed informed consent forms and were assured of confidentiality, voluntary participation, and the right to withdraw at any time. Pseudonyms were used for both the school and the teachers to protect their identities. All data was stored securely in compliance with institutional data protection policies.

PRESENTATION OF RESULTS /FINDINGS

Participant Profile

This study focused on four Intermediate Phase teachers at a quintile 5 public school in the West Rand district of Gauteng, South Africa. All participants were actively teaching Grade 4 and had more than two years of experience implementing integrated lessons. The school was selected for its collaborative teaching culture and its ongoing efforts to embed integrated teaching into daily practice. The physical layout of the school—interlinked classrooms with shared spaces—facilitated co-teaching and encouraged a strong sense of professional collegiality.

To ensure confidentiality, the teachers were referred to as T1, T2, T3, and T4. A semi-structured interview was also conducted with the school principal to provide additional insight into leadership support, school culture, and the enabling conditions for integration.

Thematic analysis of interviews and classroom observations revealed five dominant themes:

1. Collaborative Planning and Co-Teaching Practices
2. Learner Engagement and Critical Thinking
3. Challenges and Barriers to Integration
4. Professional Development and Teacher Growth
5. Teacher Reflections on Learner Outcomes

Theme 1: Collaborative Planning and Co-Teaching Practices

All four participants identified collaborative planning as a key enabler of effective integration. Weekly planning meetings were used to co-design lessons that merged subject content, aligned assessment goals, and allowed each teacher to bring their subject-specific strengths into the process.

"We plan together every week, and it's a team effort. One of us is stronger in Maths, the other in Life Skills. We combine it and make one big lesson out of it." (T1)

Teachers described this planning process as both creative and challenging. It required alignment not only of content but of teaching style, pacing, and assessment strategy. Digital tools such as Google Classroom and shared planning folders were used to coordinate ideas. Classroom observations showed that co-teaching flowed organically from this collaborative planning. In one observed lesson, a Life Skills activity about community roles was enhanced by a Maths teacher introducing basic data interpretation skills through a learner-led survey. The subject boundaries became invisible.

"We don't walk into the classroom thinking about subjects. We walk in thinking about what story or problem we're exploring today." (T4)

Constructivist theory supports this approach, viewing learning as an active, social process. Teachers were not delivering isolated content but co-constructing knowledge with learners—and with each other. This shared teaching experience created continuity in lessons, reduced repetition, and helped learners connect prior knowledge across subjects. Despite its benefits, this collaboration required a significant investment of time and energy.

"People think integration saves time, but it doesn't. It takes more—more planning, more coordination. But it's worth it because the teaching is better." (T2)

Teachers often worked outside school hours and expressed concern about burnout, especially during exam periods. They felt that while the integrated approach improved teaching quality, it was not officially recognised or supported by departmental structures.

Theme 2: Learner Engagement and Critical Thinking

Teachers agreed that learners were more engaged and motivated during integrated lessons. Engagement was not limited to attentiveness; learners showed increased participation, curiosity, and a willingness to take risks in their thinking.

“They don’t just sit and wait for answers anymore. They want to explore. They bring up examples from other subjects or their lives.” (T3)

Field notes confirmed this: learners asked open-ended questions, referred to previous lessons from other subjects, and took ownership of their learning. One learner linked a Social Sciences topic about local governance to a Life Skills lesson on responsibilities and rights. In another lesson, learners connected geometric shapes to urban planning while building model townships in groups. Teachers noticed that integrated lessons allowed learners to see the bigger picture.

“They understand that learning isn’t about subjects—it’s about understanding how things fit together. That’s when real thinking happens.” (T1)

Learners also demonstrated more transferable skills. For example, when writing a report in English, learners referred to Science content to explain a water purification experiment. This supports the constructivist view that knowledge is contextual and that understanding deepens through interconnected learning experiences. Some learners initially found the change challenging. Teachers reported that higher-achieving learners, accustomed to traditional methods, sometimes struggled with open-ended tasks.

“It’s strange, but the ones who used to get top marks found it hard to cope with the flexibility. They want clear right and wrong answers.” (T2)

To support all learners, teachers implemented structured scaffolding: using sentence starters, mind maps, integrated rubrics, and reflection journals. Over time, even reluctant learners began contributing more confidently.

Theme 3: Challenges and Barriers to Integration

Despite their commitment to integration, participants highlighted serious institutional and systemic barriers that limited implementation. The absence of departmental support was the most frequently cited concern. Teachers noted that while CAPS encourages integration, it provides little guidance on how to achieve it.

“They tell us to integrate, but they don’t show us how. There are no resources, no training, no follow-up. We had to figure it out ourselves.” (T3)

This aligns with literature indicating a gap between curriculum policy and classroom reality.²⁸ The teachers in this study had to rely on self-directed learning, peer mentoring, and online resources to develop integration strategies.

Another barrier was the misalignment between the expectations of integrated teaching and assessment. CAPS-aligned assessments often reinforce content silos, requiring learners to demonstrate knowledge in isolation.

“We teach them to think in connections, and then the exam asks them to list five bullet points about soil erosion. It’s a clash.” (T4)

As a result, some teachers reverted to traditional subject-specific teaching before assessments, creating a disjoint between pedagogy and testing. Teachers expressed the need for assessment reform that accommodates project-based, interdisciplinary learning. Time constraints were another major issue. Planning integrated lessons required more time than was officially allocated, and collaboration often happened informally or after hours.

²⁸ Govender, “South African Teachers’ Perspectives on Support Received in Implementing Curriculum Changes.”

"We get one period a week to plan as a phase, but it's not enough. Integration takes deep thought—it's not just combining topics. It's designing new ways of teaching." (T1)

Some teachers also noted a lack of buy-in from other grades or departments. Although the Grade 4 team was cohesive, others viewed integration as "optional" or "extra work," which limited the consistency of the approach across the school.

Theme 4: Professional Development and Teacher Growth

Ironically, the very absence of formal training created conditions for rich peer learning and professional growth. Teachers described how collaboration fostered a space for mutual mentorship, reflection, and innovation.

"We've become our own development programme. I've learned more from my colleagues than from any official workshop." (T2)

Teachers reflected on how integration made them more conscious of their practice. They discussed curriculum pacing, concept sequencing, and learner engagement in greater depth than before.

"You can't just follow the textbook. You have to think: How does this topic link to others? What's the bigger idea?" (T3)

These experiences reflect the constructivist view of teacher learning—as a social, reflective, and contextual process. Teachers were not passive recipients of policy, but active interpreters and adapters of curriculum.

Additionally, teachers demonstrated adaptive expertise, experimenting with new resources (e.g., Wolkskool, Pinterest, interactive games) and integrating local knowledge and learner experiences into lessons. This agency contributed to their professional identity and job satisfaction.

Leadership played a critical role. The principal empowered teachers by trusting their judgment and encouraging innovation.

"Our principal always says, 'Try it and see.' She doesn't micromanage, and that gives us confidence." (T4)

Such supportive leadership enabled risk-taking and helped build a professional culture where collaboration was the norm, not the exception.

Theme 5: Teacher Reflections on Learner Outcomes

Teachers shared thoughtful reflections on how integration had impacted learners—beyond grades or test scores. They spoke of learners becoming more confident, more curious, and more collaborative.

"They now see that knowledge is not just in a textbook. It's something they can build and use in real life." (T1)

Learners were observed to take greater initiative during lessons. Some created posters, brought in newspaper clippings, or linked class topics to home life. One group of learners even suggested a class recycling campaign after a Natural Sciences and Life Skills project.

"Their thinking is different now. They're not just learning to pass. They want to understand." (T3)

Teachers believed that integration enhanced long-term retention. Concepts were revisited across subjects, allowing for deeper understanding. For example, environmental themes introduced in Life Skills were reinforced in Social Sciences and applied in Natural Sciences experiments.

Despite these successes, standardised assessments remained a source of tension. Learners who excelled at integrated tasks sometimes underperformed in tests that required isolated recall.

"They might understand the water cycle deeply, but if the test wants a label-and-define answer, they don't always shine." (T2)

To address this, some teachers used alternative assessments, including oral presentations, group projects, and portfolios. These provided a fuller picture of learner growth but had to be balanced with CAPS requirements.

DISCUSSION

The findings of this study present a layered understanding of integrated teaching in the Intermediate Phase, revealing both its potential and its limitations within the South African public school context. These insights align with existing literature that recognises integration not as a technique, but as a pedagogical orientation that reshapes teaching, learning, and professional identity.²⁹

Collaborative planning and co-teaching emerged as foundational to effective integration. Teachers engaged in weekly planning sessions, drawing on their individual strengths to co-design interdisciplinary lessons. This collaborative process reflects constructivist theory, which views learning as a social and contextual process.³⁰ It also confirms the findings of Savage, Yang & Chen, who noted that teacher agency and collaboration are essential to successful integration.³¹ However, as in the international contexts described by Savage, this teacher-led innovation often occurred without systemic support, relying on informal structures and personal commitment.³²

Teachers also reported high levels of learner engagement and critical thinking, consistent with the work of Wakil et al., who argued that integrated learning fosters problem-solving and deeper understanding.³³ Learners made connections between subjects and applied knowledge to real-life scenarios, echoing the CAPS documents' goal that learners should recognise that "problem-solving contexts do not exist in isolation."³⁴ This reinforces the idea that integration supports both cognitive and emotional engagement, allowing learners to construct more meaningful and lasting understandings.³⁵

At the same time, the study identified persistent barriers, especially around assessment and time. As Govender³⁶ found, while CAPS encourages integration, it provides little practical guidance, leaving teachers to "figure it out themselves."³⁷ This disjuncture between policy and practice echoes the systemic issues identified by Christie, particularly the tension between progressive curriculum ideals and rigid, isolated assessments.³⁸ Teachers' frustration with standardised tests that do not capture interdisciplinary understanding aligns with international concerns about assessment misalignment.³⁹

Despite these challenges, integration served as a catalyst for professional growth. Teachers developed adaptive expertise by experimenting with new resources and approaches, supporting Donoghue and Hattie's view that innovation often emerges from practice-based learning.⁴⁰ The findings also support AbdulRab's emphasis on the need for contextualised, reflective professional development rooted in teacher agency.⁴¹ Teachers in this study described becoming their "own development programme," reinforcing the idea that professional growth is most effective when grounded in collaboration and real-world classroom demands.

²⁹ Barnes, "An Introduction to Cross-Curricular Learning"; Follong et al., "An Exploratory Survey on Teaching Practices Integrating Nutrition and Mathematics in Australian Primary Schools."

³⁰ Savage, *Cross-Curricular Teaching and Learning in the Secondary School*.

³¹ Savage, *Cross-Curricular Teaching and Learning in the Secondary School*; Yang and Chen, "Research on the Theoretical Framework and Practical Countermeasures of Junior Middle School Mathematics Interdisciplinary Study Based on STEM."

³² Savage, *Cross-Curricular Teaching and Learning in the Secondary School*.

³³ Wakil et al., "Phenomenon-Based Learning for Teaching Ict Subject through Other Subjects in Primary Schools."

³⁴ Department of Basic Education (DBE), *Curriculum and Assessment Policy Statement: Natural Sciences and Technology, Grades 4–6 – Intermediate Phase*.

³⁵ John Hattie, Flaviu A. Hodis, and Sean H.K. Kang, "Theories of Motivation: Integration and Ways Forward," *Contemporary Educational Psychology* 61 (April 2020): 101865, <https://doi.org/10.1016/j.cedpsych.2020.101865>.

³⁶ S. Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes," *South African Journal of Education* 38, suppl. 2 (2018): 1–10, <https://doi.org/10.15700/saje.v38ns2a1484>.

³⁷ Govender, "South African Teachers' Perspectives on Support Received in Implementing Curriculum Changes."

³⁸ Christie, "The Complexity of Human Rights in Global Times: The Case of the Right to Education in South Africa."

³⁹ Manu Kapur et al., "Fail, Flip, Fix, and Feed – Rethinking Flipped Learning: A Review of Meta-Analyses and a Subsequent Meta-Analysis," *Frontiers in Education* 7 (September 26, 2022), <https://doi.org/10.3389/educ.2022.956416>.

⁴⁰ Gregory M. Donoghue and John A. C. Hattie, "A Meta-Analysis of Ten Learning Techniques," *Frontiers in Education* 6 (March 31, 2021), <https://doi.org/10.3389/educ.2021.581216>.

⁴¹ A. AbdulRab, "Professional Development Activities for Teachers in Developing Nations: A Case Study," *Journal of Education Policy* 25, no. 3 (2023): 356–69.

Finally, teachers' reflections on learner outcomes suggested that integrated teaching promotes more holistic development—intellectually, socially, and emotionally. Learners were not only more confident and engaged, but also more capable of transferring knowledge across contexts. This aligns with research on the benefits of interdisciplinary learning in developing 21st-century competencies.⁴² However, as several teachers noted, this growth is not always reflected in traditional assessments—highlighting the need for more flexible, formative assessment tools that align with integrated pedagogies.

The findings confirm that integration, when done well, offers significant benefits for both learners and teachers. However, systemic recognition and support are essential. As the literature consistently emphasises, integration cannot be sustained on goodwill alone.⁴³ For it to move beyond isolated examples of innovation, it must be embedded in policy, supported through professional development, and reflected in assessment practices.

RECOMMENDATIONS

The findings of this study highlight both the pedagogical value of integrated teaching and the systemic challenges that hinder its widespread implementation. Based on participants' experiences and the broader literature, several recommendations are proposed to strengthen integration in the Intermediate Phase.

At the school level, institutions are recommended to formalise peer mentorship structures. Teachers in this study identified the informal collaboration and support of colleagues as critical to their growth and confidence in teaching integrated lessons. Schools can enhance this dynamic by appointing experienced educators as integration mentors or “coaches” who guide their peers in co-planning, curriculum interpretation, and reflective teaching. This approach aligns with constructivist learning theory, which emphasises the role of social interaction and guided support in professional growth.

Another important recommendation is the allocation of protected, dedicated time within the school timetable for collaborative planning. Teachers reported that meaningful integration requires deep thinking, cross-subject alignment, and thoughtful sequencing—activities that cannot be achieved during brief or fragmented meetings. Restructuring timetables to include regular, uninterrupted planning sessions would improve the quality of integrated lessons, reduce after-hours workload, and promote more sustainable collaborative teaching practices.

Reflective practice emerged as a key element in sustaining integrated teaching. Weekly reflection meetings allowed teachers to revise lessons, share successes and failures, and collectively solve problems. School leaders should embed this reflective cycle into the institutional culture by formally recognising its role in professional development and linking it to school improvement goals.

Finally, it is necessary for schools to engage more actively with parents and caregivers about the nature and benefits of integrated teaching. Some participants noted that parents misunderstood integration as a weakening of academic rigour. Schools can address this through parent information evenings, classroom demonstrations, and newsletters that explain how integration enhances real-world thinking, collaboration, and critical engagement. Increased transparency and communication will help build support and trust among families.

At the policy level, several systemic interventions are needed to enable sustainable integration. The Department of Basic Education (DBE) should revise national assessment frameworks to better align with integrated pedagogies. Teachers in this study expressed frustration with assessment structures that remained rigidly subject-specific, undermining their efforts to promote cross-disciplinary learning. Introducing project-based, outcomes-driven assessments that reward synthesis and application of

⁴² Zhan et al., “A Bibliometric Analysis of the Global Landscape on STEM Education (2004-2021): Towards Global Distribution, Subject Integration, and Research Trends”; Thomas Delahunty, Mark Prendergast, and Máire Ní Ríordáin, “Teachers’ Perspectives on Achieving an Integrated Curricular Model of Primary STEM Education in Ireland: Authentic or Utopian Ideology?,” *Frontiers in Education* 6 (April 27, 2021), <https://doi.org/10.3389/educ.2021.666608>.

⁴³ Govender, “South African Teachers’ Perspectives on Support Received in Implementing Curriculum Changes”; Christie, “The Complexity of Human Rights in Global Times: The Case of the Right to Education in South Africa”; Savage, *Cross-Curricular Teaching and Learning in the Secondary School*.

knowledge would provide more authentic measures of learner understanding and support the goals of CAPS.

Professional development is another critical area of reform. Teachers consistently indicated a lack of training opportunities focused on practical, context-specific strategies for integration. The DBE should fund and implement development programmes that go beyond theory to include demonstrations of integrated lessons, co-teaching strategies, and examples of interdisciplinary assessment. This training should be experiential, ongoing, and responsive to the unique challenges of South African classrooms.

Finally, there is a need for national awareness campaigns that advocate for the value of integrated teaching. Misconceptions about integration persist among parents and even some educators. Public engagement initiatives—such as toolkits, community workshops, and media messaging—can help shift perceptions and build collective understanding of how integrated teaching prepares learners for complex, real-world challenges. These efforts are essential to securing broader buy-in and embedding integration as a valued and supported approach across the education system.

CONCLUSION

This study explored how Intermediate Phase teachers experience integrated lessons in a public primary school in the West Rand district of Gauteng, using a constructivist lens to understand their practices and perspectives. The findings revealed that integration, in this context, was not a fixed technique but a dynamic, professional orientation that reshaped how teachers planned, taught, and reflected. Through collaborative planning and co-teaching, teachers fostered learner engagement, critical thinking, and cross-curricular understanding—demonstrating the potential of integrated teaching to support deeper, more meaningful learning.

At the same time, the study identified several systemic barriers, including limited professional development, insufficient planning time, and misaligned assessment structures. These challenges reflect the wider gap between curriculum policy and classroom practice noted in the existing literature. Despite these constraints, teachers showed considerable agency, adaptability, and commitment, positioning themselves as active curriculum negotiators within their school contexts.

While the scope of the study was limited to one school and a small group of participants, the insights contribute to ongoing conversations about curriculum reform in South Africa. They suggest that, with appropriate support, integrated teaching can serve as a powerful pedagogical approach to prepare learners to navigate an increasingly interconnected world. However, realising this potential depends on enabling conditions that empower teachers as central agents of educational change.

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