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Research Paper

Instructional Praxis of Science Teachers Across Educational Levels in Kidapawan City Amidst Academic Apathy: A Multiple Case Study

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Abstract

This qualitative multiple-case study examined the instructional praxis of selected science teachers in Kidapawan City, Philippines, as they addressed students' academic apathy. Despite the growing concern about academic apathy, local studies remain limited, with existing research focusing on values education, student governance, and their relationship with motivation and academic performance, leaving science classrooms underexplored. Anchored in Schön's Reflective Practice Model, the study explored how science teachers adapted their instructional strategies, the challenges and opportunities they encountered, and the similarities and differences across the cases. Data were collected through in-depth interviews with five science teachers from selected public and private schools and analyzed using within-case thematic analysis and cross-case analysis. Findings revealed that sustaining student engagement required both teaching strategies and teacher flexibility, as teachers employed interactive questioning, gamification, technology integration, collaborative learning, and relationship-building practices. However, their effectiveness was affected by structural and contextual challenges, including limited resources, student fatigue, diverse learning needs, and institutional constraints. At the same time, opportunities such as professional development, collegial collaboration, and reflective practice help teachers improve their approaches and adapt accordingly. The study highlights that addressing academic apathy requires not only adaptive, student-centered teaching but also supportive institutional conditions, offering insights into science education from junior high school through college.

Keywords: *Academic Apathy, Instructional Praxis, Science Education, Teacher Reflective Practice, Qualitative Multiple Case Study, Kidapawan City*

INTRODUCTION

It is known that students exhibit a troubling lack of interest in schoolwork and related activities, as highlighted by Breisacher (2024). Juliani (2024) noted that this occurs when students appear to lack the motivation the teacher is attempting to foster in class, resulting in lower achievement. Matthew (2023) described a particular instance of academic apathy characterized by disengagement, as evidenced by a student's withdrawal from the discussion. A study by Pham et al. (2022) involving higher education students in Vietnam found that students often disengage from learning tasks when they intend to do so, highlighting a behavioral issue.

Demotivation among Filipino students may manifest into academic apathy, as Sabanal et al. (2023) found a positive correlation between motivation and academic performance in secondary science students. In addition, local research on academic apathy in the science classrooms is limited, leading to a partial understanding of the concept, with studies by Superales & Solomon (2025) focusing on values education teachers; Tiongzon et al. (2024) linking it to student governance; and Sabanal et al. (2023) focusing on motivation and academic performance.

Essentially, because previous literature lacked contextualization within the science context, there is a need to study how science teachers in Kidapawan City address academic apathy in Philippine classrooms. Furthermore, it is essential to shed light on teachers' instructional praxis in Philippine classrooms. This is particularly important, as published studies, including those by Kitooke & Mahon (2024) and Linley et al. (2025), primarily focus on developing praxis models in

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teacher education, while information on instructional praxis as a concept remains notably scarce. Finally, guiding the study throughout its completion are the following research questions:

1. How do science teachers describe their instructional praxis in responding to academic apathy among students?
2. What challenges and opportunities do the participants encounter in navigating academic apathy?
3. What explains the similarities and differences of each case?

LITERATURE REVIEW

Instructional Praxis

In this study, instructional praxis is understood as the active integration of pedagogy, decision-making, and reflective action in the classroom. Anchored in Donald Schön's reflective practice model, the term instructional praxis is evident in teachers who actively interpret classroom situations and adapt their approaches to address academic apathy.

The literature indicates that learner-centered instruction is foundational to instructional praxis amid academic apathy, with students' needs as the primary concern (Khalfaoui et al., 2021). In implementing such instruction, teachers opted for differentiation and inclusivity (Bibon, 2022). The use of these strategies helped teachers address academic apathy by ensuring that students are involved in the learning process.

Other strategies also included product-focused assessment, which provides meaningful feedback to students and promotes deeper understanding aligned with expected learning outcomes (Bibon, 2022), and formative and alternative assessments to reduce anxiety among students and increase their confidence in their learning (Andrade, 2019; Chand & Pillay, 2024; Schildkamp et al., 2020; Verdeflor et al., 2024). These helped students to be more confident in their academic performance, which also keeps them involved and actively participating. Furthermore, these strategies, especially formative assessment, align with Schon's reflection-on-action and reflection-in-action, as teachers can assess student engagement and adjust their instruction accordingly.

Engagement is also relational in that when students are given the room to explore, engage, and thrive holistically through a space that fosters trust, communication, empowerment, and belonging, it is vital, as these constitute a positive and inclusive learning environment (Korpershoek et al., 2020; Poling et al., 2022; Xie & Derakhshan, 2021).

Teachers are at the center of this initiative, as positive relationships with them encourage student involvement and participation, whereas negative relationships, characterized by eye contact avoidance and limited interactions with students, can lead to disengagement (Khalfaoui et al., 2021; Tran & Guzey, 2023). Ensuring a healthy and professional relationship between teacher and student links praxis to responsive teaching.

In today's age of technology, science teachers make use of technological tools such as learning management systems, interactive multimedia, augmented and virtual realities (AR and VR), artificial intelligence, and gamification, although tensions between their use and practicality concerns exist due to limitations in resources and teacher capabilities (Bumagat et al., 2023; Schindler et al., 2017). However, the use of these innovations, following careful consideration of student diversity, responsible use, and collaboration with stakeholders, has strong potential to advance education and is necessary for preparing students to succeed (Çelik & Baturay, 2024).

Opportunities to shape their learning and develop critical thinking and collaborative skills are provided through project-based learning, cooperative learning, and peer interactions (Bores-García et al., 2021; Casey & Goodyear, 2015; Zhang & Ma, 2023). Dongjin & Ashari (2024) agree with this, arguing that it would also enable teachers to structure learning experiences in ways that are more authentic and meaningful than traditional teaching methods. Using these strategies also

addresses academic apathy by encouraging students to work towards a collective goal and fostering a sense of belonging.

Challenges and Opportunities Encountered

Instructional praxis is significantly shaped by a variety of constraints that limit the full implementation of student-centered and inquiry-based instructional approaches. A common issue is the lack of adequate laboratory facilities, apparatuses, and physical infrastructure, and limited access to updated teaching materials, resources, and curriculum design, which leads to teachers resorting to reduced lesson planning and teaching in lectures that then led to poor learner engagement and reduced functionality (Dorsah et al., 2024; Mohanty et al., 2025; Maharaj & Chauke, 2025; Tiyiselani & Agnes, 2025).

Beyond that, student-related factors such as disinterest, uninvolved parenting, socioeconomic factors, negative perception, difficulty, and bulky coursework and requirements linked to science subjects, and large class sizes that led to teachers struggling to address academic apathy as effectively as expected (Çelik & Şahin, 2023; Lyons & Quinn, 2015; Rogayan Jr. et al., 2021; Mohanty et al., 2025). These indicate that addressing disengagement must also consider responding to diverse learner contexts.

Teacher morale and instructional quality are also often affected due to limitations in continuous professional development opportunities, administrative support, and resources (Mohanty et al., 2025). Addressed in an EdComII report, it was found that professional development programs enhance teachers' capacities in pedagogy, technology use, and effectiveness in teaching; however, the sustainability of these programs was found to be constrained due to concerns such as negative attitudes towards training and heavy teaching workloads (Prudente et al., 2024; Eroğlu & Donmus Kaya, 2021).

In contrast, it was also revealed that teaching performance is not directly affected by a lack of professional development opportunities, but rather by other factors such as school culture and individual characteristics (Guzman & Aguilar, 2025). This then underscores that teacher effectiveness, especially in addressing academic apathy, is complex and multifaceted.

Inconsistencies between teaching competencies and improved student outcomes are another challenge faced by teachers, despite their commitment, amid occupational stress, fatigue, and emotional exhaustion (Canuto et al., 2024; Ellovido & A. Quirap, 2024). There is also tension between teachers' aspirations to implement a well-rounded learning experience that calls for student engagement and systemic constraints that prioritize achievement measures, making it harder for teachers to provide meaningful and supportive learning opportunities for their students, especially in virtual classroom settings (Steele & Jeong, 2023; Junsay Jr. & Madrigal, 2021).

Despite these constraints, the literature also identified enabling conditions that support effective instructional praxis. Professional growth and development opportunities such as Professional Learning Communities, coaching, and instructional support have been found to boost teacher confidence, autonomy, and collaborative problem-solving (Fakai et al., 2024; McPherson & Asghar, 2025; Sager et al., 2025). You et al. (2025) agree on the effectiveness of these activities, as sustaining them for more than three days, with continuous support in the following months, is most effective for science education.

Intentionally incorporating cultural and local contexts, placing students at the center of the learning experience, and relating science to environmental and social justice make the subject more interesting, engaging, and meaningful to students (Tran & Guzey, 2023; Gimpaya & Ligsanan, 2025; Bradford et al., 2023; Bowdon et al., 2025; Aina, 2025).

Similarly, using innovative teaching methods in the classroom, such as inquiry-based learning, virtual laboratories, and augmented and virtual realities, is an effective way for teachers

to address academic apathy, as these methods give students ample opportunities to develop critical thinking, communication, collaboration, and problem-solving skills (Siphukhanyo & Olawale, 2024; Jiwon et al., 2025; AlGerafi et al., 2023).

Finally, institutional and administrative support, through the provision of facilities, materials, and resources, infrastructure, and professional development opportunities, enables the better implementation of engaging and meaningful instruction (Dorsah et al., 2024; Deehan & MacDonald, 2024).

In addition, when schools provide support through collaborative environments, sufficient resource allocations and innovations, and the fostering of autonomy, teachers are motivated and committed to upholding their sworn duty to educate and engage with their students (Fakai et al., 2024; Chatmaneerungcharoen, 2024). Collectively, the literature suggests that while numerous factors constrain teachers' instructional praxis, it can be enhanced through a range of systemic and collaborative supports.

Theoretical Lens

This study was anchored in Schön's (1983) Reflective Practice Model, which posits professional practice as a dynamic process of reflection and action across various contexts. This process is classified into two distinct practices: 1) reflection-in-action, where practitioners “think on their feet” and adjust their actions on the spot; and 2) reflection-on-action, which involves deeply reflecting on what has occurred afterward.

In this study, the model was used to understand how science teachers describe their instructional praxis amid academic apathy in both reflective and adaptive ways. It guided the analysis of how they interpret various classroom scenarios and respond accordingly, and how they refined their practices based on prior experiences. In addition, this model was used to highlight the challenges and opportunities these teachers encounter, thereby allowing them to reflect on their praxis.

RESEARCH METHOD

Research Design

This study utilized a qualitative research design. Lim (2025) defines this research design as exploring the deep and rich meanings of human experience to understand complex phenomena and how people interpret them. Creswell & Poth (2018) define qualitative research as a systematic and emergent process of inquiry that seeks to understand meaning and context, constructs rich and nuanced descriptions of the phenomenon under study, and gains insights from participants' detailed perspectives in their natural settings.

Specifically, this study employed a multiple-case study approach. According to Coombs (2022), Creswell & Poth (2018), and Yin (2017), this "collective" approach uses multiple cases to understand a single phenomenon and identify patterns or similarities, yielding stronger results than single-case studies through comparison and replication.

Research Participants

Five science teachers from selected public and private schools in Kidapawan City served as the case study units. Participants had at least 1 to 2 years of teaching experience, worked in Kidapawan City schools, and had experienced academic apathy in their classrooms. They were selected using maximum variation sampling, which Nyimbili & Nyimbili (2024) define as collecting data from the widest possible range of perspectives. This sampling technique would allow the researcher to collect a wide range of instructional praxis responses amidst academic apathy across different school settings, teaching experiences, and resource conditions.

In addition to the case study units, two informants were selected for each case to provide supplementary perspectives. These informants have worked closely with the case study units, and their insights were used to triangulate the units' responses and corroborate their experiences. They did not serve as independent cases; rather, they enriched the data and enhanced the credibility of this study's findings. In total, fifteen individuals participated in this study's data collection.

Research Materials

In-depth interviews were used to collect data for this study, yielding rich, detailed accounts of participants' experiences (Dunwoodie et al., 2023). Institutional validators validated and approved the interview guide to ensure consistency across all interviews. This interview guide included open-ended questions aligned with this study's research questions, allowing participants to share their insights freely.

Data Gathering Procedure

Prior to data collection, the researcher obtained approval from the institution's Dean of the Graduate School of Education and the local Department of Education (DepEd) Schools Division Office. Ethical clearance was also secured from the Research Ethics Committee to ensure that the study adhered to institutional ethical standards. School heads of the identified case study units were formally notified and served as institutional gatekeepers, granting permission for the researcher to invite the selected science teachers to participate. However, participation remained voluntary and required the teachers' informed consent.

Upon obtaining the signed informed consent forms, participants were asked about their availability and preferred method of responding to the interview guide. Data from primary case study units were collected through asynchronous written responses, allowing them to provide thorough responses without the added pressure of time constraints. In addition, corroborative interviews with the case study units' informants were conducted either face-to-face or via asynchronous written responses, depending on their preference. This freedom to select their preferred schedule and method ensured their comfort in their participation in this study.

Following data collection, the transcripts were analyzed using a thematic analysis framework guided by Colaizzi (1978) and cross-case comparison, as described by Lincoln et al. (1985). While Colaizzi's framework guided the initial handling of significant statements, the analysis and comparison of patterns across cases in identifying similarities and contextual differences in teachers' experiences was primarily aligned with case study procedures (Yin, 2018).

Data Analysis

First, the interview transcripts were consolidated and analyzed to describe science teachers' experiences and instructional praxis in addressing academic apathy. Verbatim transcription was used to preserve the authenticity of participants' statements and enhance data richness, consistent with Hameed (2024).

Next, during initial coding and categorization, meaning units that were relevant to the research questions were selected. An inductive approach was used to generate codes and organize them into categories, following Thomas's (2006) recommendations. The coding was also guided by Schon's reflective practice model, which facilitated the unveiling of teachers' practices in terms of reflection-in-action and reflection-on-action in addressing academic apathy.

Third was the within-case thematic analysis, where significant statements were identified, meanings were formulated, and themes were clustered to produce detailed case descriptions. Fourth, cross-case analysis using Lincoln and Guba's constant comparative method examined similarities and differences across cases. Through iterative comparison, categories were refined

and synthesized into a cross-case thematic framework that describes shared patterns and contextual variations in teachers' instructional praxis amid academic apathy.

Member checking and triangulation with informants were conducted to ensure credibility; a thick description was provided to ensure transferability; an audit trail was maintained to ensure dependability; and researcher reflexivity and grounding of interpretations in participants' narratives were practiced throughout the entire research endeavor to ensure confirmability.

FINDINGS AND DISCUSSION

This study focused on the personal experiences of science teachers in Kidapawan City as they navigated academic apathy in the classroom through their instructional praxis. The information in Table 1 shows that the participants' work backgrounds differ. It can then be implied that they deliver instruction at various academic levels and in different science disciplines.

Table 1. Profile of the Participants in In-depth Interviews

	CASE A: Emerging College Science Instructor	**CASE B: Adaptive Senior High School Teacher**	**CASE C: Supportive Senior High School Facilitator**	**CASE D: Nurturing Junior High School Science Educator**	**CASE E: Research-Centered Junior High School Teacher**
Age	25	36	27	43	45
Sex	Female	Male	Female	Female	Female
Educational Level	College Level	College Level	College Level	Master's Level	Master's Level
Teaching Experience	2 years	3 years	5 years	21 years	20 years
Type of Learners Taught	College	Senior High School	Senior High School	Junior High School	Junior High School
Science Subjects Taught	STS, Environmental Science	Physics and Research	Biology and Chemistry	Chemistry	Research

The five cases in this study were chosen because each had a unique trait that the researcher thought helped describe the phenomenon. Case A was chosen because she is new to teaching. Case B was chosen for his tech skills. Case C was chosen for her ability to mentor students and coordinate extracurricular activities in addition to teaching. Case D was chosen for her firmness and motherliness. Finally, Case E was chosen for her research experience. These traits helped them handle academic apathy in class.

Instructional Praxis of Science Teachers

Five major themes describe the instructional praxis of science teachers in addressing academic apathy, as presented in Table 2.

Table 2. Instructional Praxis of Science Teachers

Essential Theme	**Core Ideas**
Pedagogical Approaches	Language flexibility (Taglish/Bisaya) to increase accessibility
	Humor and light banter to reduce tension

	Shift from lecture to interactive strategies.
	Contextualization through real-life anchoring
	Inquiry-based and adaptive teaching
	Mid-lesson adjustments in response to apathy
	Short games and movement-based activities
Assessment Strategies	Formative, bite-sized assessments
	Game-based quizzes and recitation incentives
	Performance-based and group tasks
	Classroom observation to detect disengagement
	Immediate, targeted feedback
Relationship and Environment Building	Intentional visibility (eye contact, name recall)
	Private check-ins and individual conversations
	Teacher as "second parent" orientation
	Empathy, patience, and emotional validation
	Creating psychological safety and belongingness
	Intentional visibility (eye contact, name recall)
Technological Innovations	Use of presentation and engagement tools (PPT, Slido, randomizers)
	Gamified platforms (Kahoot, Quizizz)
	Integration of videos and online platforms (e.g., Khan Academy)
	Digital game adaptations of lessons
Collaborative Learning	Frequent partner and group activities
	Role-based mini-investigations
	Project-oriented, output-based tasks
	Peer support and belongingness structures
	Flexible grouping (choice of groupmates)

In all cases, *pedagogical approaches* were essential. When disengagement occurred, teachers switched from lecture-based to interactive and contextualized methods. Storytelling, real-life examples, and inquiry-based discussions helped students relate abstract scientific concepts to their lives. This finding aligns with Bradford et al. (2023), who emphasized the importance of contextualized instruction in helping students relate to complex scientific ideas. Case B noted that:

> *"When I feel that students are starting to lose interest in the middle of my discussion [...] I immediately shift my teaching style. I convert the discussion into storytelling and connect it to real-life examples so they can relate."*

Shifting to interactive methods works by making the lesson seem relatable to their personal experiences. Through this, academic apathy is lessened, as students become more interested in the lesson being discussed.

Assessment strategies that maintained engagement, such as quizzes, recitations, and performance tasks, were common formative assessments. These assessments encouraged participation, monitored disengagement, and measured learning outcomes. This practice aligns with Chand & Pillay's (2024) explanation that formative assessment enables teachers to provide timely feedback and intervention when students begin to disengage.

The use of assessment tools helps teachers monitor students' performance during lessons, allowing them to adapt as needed. It works because it ensures that all students are accounted for, not just those who seem involved.

Instructional praxis also relied on *relationship- and environment-building*. Empathy, individual interaction, and emotional support were key to building trust and rapport for most participants. Relational strategies create psychologically safe, participatory learning environments. These findings support those of Tran & Guzey (2023), which show that strong teacher–student relationships boost classroom engagement.

Building strong, healthy relationships with students helps teachers ensure their students feel they belong in the classroom. Practicing this works because it allows students to express themselves freely, thereby preventing disengagement.

Technology innovations were also used to engage. Gamification, multimedia, and digital learning tools increased interactivity, according to participants. Some teachers used competitive gamification, while others used video-based instruction or digital learning platforms. Technology integration reflects educational changes in which digital tools reshape teaching methods (Schindler et al., 2017). At the same time, the varied depth of integration supports Çelik & Baturay's (2024) assertion that effective technology use requires a balance between technological tools and pedagogical intent. This was highlighted from Case A's sharing:

> *"So when I use Slido, they become competitive and engaged in the classroom activity being conducted. […] Also, I used online randomizer tools to pick out names for oral recitations, such as Duck Race and Claw Crane Machine. It really made the usual oral recitations more exciting."*

Using technological innovations ensures that science is taught engagingly. When teachers use videos, engagement tools, and learning platforms, students experience learning the subject in a more exciting way that goes beyond chalk-and-board discussions. It works because students today are more inclined to use digital tools to enhance their learning experience.

Finally, *collaborative learning* was a key engagement strategy. Teachers used group tasks, peer-learning, and role-based investigations to distribute student participation. Collaboration promotes shared responsibility and reduces pressure on disengaged students. This observation aligns with Bores-García et al. (2021), who noted that collaborative learning structures promote active participation and collective problem solving.

Collaborative activities have been found to enhance student involvement in the learning process, and their use ensures that all students work together towards a collective goal. Collectively, these practices are a product of practicing Schon's reflection-in-action, where teachers assess their current situation and adapt accordingly, as evident in the case of shifting from lecture to engaging instruction; and reflection-on-action, where teachers improve their practices after taking the time to reflect on them, such as in the case of using technological tools after assessing their effectiveness in enhancing engagement.

Challenges Encountered

Four major themes describe the challenges science teachers face in navigating academic apathy, as presented in Table 3.

Resource and infrastructure constraints were frequently identified as barriers to engagement-oriented instruction. Participants reported limitations in laboratory materials, internet access, and classroom facilities. These structural limitations constrained teachers' ability to implement interactive or student-centered strategies. Similar challenges have been documented in prior studies, which indicate that inadequate infrastructure can restrict innovative instructional practices (Dorsah et al., 2024; Mohanty et al., 2025).

Table 3. Challenges Encountered

Essential Theme	Core Ideas
Resource and Infrastructure Constraints	Limited laboratory tools and materials
	Unstable or limited internet access
	Shared or insufficient instructional equipment
	Inadequate classroom facilities and flexible spaces
Student-Related and Contextual Challenges	Language barriers in technical subjects
	Student fatigue and perceived irrelevance
	Motivation gaps and absenteeism
	Wide academic ability differences
	Resistance to collaborative or new strategies
	Social anxiety and timidity
Professional and Systemic Constraints	English-speaking institutional expectations
	Pacing guides and rigid competency timelines
	Assessment-driven performance pressures
	Heavy documentation and workload demands
	Tension between intervention and curriculum coverage
Teacher Capacity and Occupational Factors	Workload-related fatigue
	Emotional labor in addressing disengagement
	Time constraints limit personalization.
	Limited technological integration skills
	Self-regulation and boundary-setting for burnout prevention
	Disappointment when interventions show minimal gains

Student-related and contextual challenges also contributed to the manifestation of academic apathy. Teachers described patterns such as low motivation, absenteeism, fatigue, and resistance to collaborative activities. These behavioral indicators reflect broader patterns of disengagement identified in previous studies linking motivation deficits to declining academic participation (Breisacher, 2024; Chipchase et al., 2017).

Professional and systemic constraints were also prominent. Participants described tensions between implementing engagement-oriented interventions and meeting institutional expectations, including curriculum pacing, administrative responsibilities, and assessment requirements. Such pressures reflect broader systemic conditions where institutional priorities emphasize performance outcomes and curriculum coverage over engagement-oriented instruction (Steele & Jeong, 2023). Case E reflected on this challenge, sharing that:

> *"One thing that restricts me in addressing disengagement among identified students is a sort of conflict between looking into interventions to help concerned students and the duty to stick to the schedule of completing competencies within the specified period."*

Another challenge involved *teacher capacity and occupational factors*. Participants described experiencing emotional strain, fatigue, and limited time to personalize instruction when responding to disengaged students. These findings resonate with Ellovido & A. Quirap (2024), who emphasized that navigating student disengagement often involves emotional labor that contributes to teacher stress and burnout. To cope, Case C shared:

"Dealing with everything positively. Time management and self-reflection helped me manage the stress and maintain my motivation in life."

Table 4. Opportunities That Came Their Way

Essential Theme	Core Ideas
Professional Development and Collaborative Learning Communities	INSETs, trainings, and capacity-building programs
	Learning Action Cell (LAC) engagement
	Sharing of strategies amongst colleagues
	Post-class reflective discussions with co-teachers
	Institutional promotion of learner-centered practices
Justice-Oriented and Culturally Sustaining Pedagogy	Use of local language and community experiences
	Cultural contextualization of lessons
	Relationship-centered teaching stance
	Inclusive and welcoming classroom climate
	Ethical and lived-experience integration in instruction
Innovative Instructional Methods	Experimentation with new tools and techniques
	Expansion of active learning strategies
	Resourcefulness despite constraints
	Recognition of learner-specific responses to apathy
Structural and Systemic Support	Conducive infrastructure (internet, ventilation, equipment)
	Student access to guidance counseling services

Opportunities that Came Their Way

Four major themes highlight the opportunities that arose for science teachers as they addressed academic apathy, as presented in Table 4.

Professional development and collaborative learning communities were recognized across all cases as key support mechanisms. Teachers reported that trainings, faculty discussions, and collaborative reflection helped them acquire new strategies and improve classroom engagement practices. This finding is consistent with studies indicating that collaborative professional development enhances teacher confidence and instructional effectiveness (Fakai et al., 2024; Sager et al., 2025).

Justice-oriented and culturally sustaining pedagogy also emerged as a meaningful opportunity. Teachers described contextualizing lessons through local experiences, language adaptation, and culturally responsive instruction. These practices enable students to connect classroom content with their social and cultural contexts, which has been shown to enhance engagement and inclusivity (Tran & Guzey, 2023; Bradford et al., 2023). Case D expressed that using contextualization significantly helped students feel that the lesson was important:

"By giving real-life scenarios as examples to the different concepts presented, I gave students opportunities to relate to the topic, which led to making learning meaningful to them."

Innovative instructional methods also played an important role in addressing academic apathy. Teachers experimented with gamified activities, project-based tasks, and contextualized learning approaches to encourage participation. The use of such innovative strategies reflects broader educational shifts toward interactive, learner-centered instructional models, supported by studies on digital engagement and gamification (Jiwon et al., 2025).

Table 5. Similarities and Differences in the Instructional Praxis of Science Teachers

Themes	Case Unit		Remarks
	Similar	Different	
Instructional Praxis			
Pedagogical Approaches	B, C, E		B, C, and E emphasized shifting from lecture mode to real-life contextual discussion and questioning.
		A	A highlighted shifting of languages during discussions.
		D	D restructured activities to group work or hands-on tasks when students disengage.
Assessment Strategies	A, C, D		A, C, and D used lesson-anchored and teacher-guided formative assessments to re-engage students.
		B	B uniquely used student-regulated assessments.
		E	E framed assessments as a tool to determine forms of apathy.
Relationship and Environment Building	A, B, D, E		A, B, D, and E emphasized connecting with students through personalized and/or individualized interactions and empathy.
		C	C framed rapport through a parental lens, positioned self as a "second parent".
Technological Innovations	A, B		A and B presented the use of more diversified and advanced gamification tools.
	C, D		C and D used technology more conventionally.
		E	E uses a digital learning platform (Khan Academy) for self-paced, structured learning.
Collaborative Learning	A, C, D		A, C, and D used common group- and peer-learning strategies such as Think-Pair-Share and problem-solving.
		B	B used role assignments to conduct a mini-investigation activity.
		E	E expressed allowing students to form student-selected, long-term triad groupings for research projects.
Challenges Encountered			
Resource and Infrastructure Constraints	B, C, D, E		B, C, D, and E emphasized limitations in terms of facilities, resources, equipment, and digital accessibility (e.g., internet connectivity).
		A	A emphasized classroom acoustics as a primary constraint.
Student-Related and Contextual Challenges	B, C, D, E		B, C, D, and E recognized student behaviors such as low motivation, absenteeism, timidity, resistance to change, and preference for solo work that lead to disengagement.
		A	A highlighted language barrier contributes to disengagement.
Professional	B, C, D, E		B, C, D, and E noted being constrained due to

and Systemic Constraints			deadlines, administrative tasks, and lesson pacing.
		A	A distinctly expressed being constrained by the English-only policy.
Teacher Capacity and Occupational Factors.	A, B, C		A, B, and C employed personal coping strategies to adapt to factors affecting how they address academic apathy.
		D	D integrates instructional restructuring as a coping mechanism.
		E	E expressed emotional drain and disappointment over limited improvement despite extensive interventions.
Opportunities that Came their Way			
Professional Development and Collaborative Learning Communities	A, B, C, D, E		All cases identified collegial collaboration and institutional professional development as key enabling supports in addressing disengagement.
Justice-Oriented and Culturally Sustaining Pedagogy	A, B, C, E		A, B, C, and E expressed the use of language, local and cultural responsiveness, contextualization, and inclusivity in their classrooms.
		D	D utilized real-life examples in their classroom, without a strong cultural emphasis.
Innovative Instructional Methods	A, B, D		A, B, and D used gamified or contest-based strategies to engage with technology.
		C	C emphasized the use of project-based and performance-centered innovation methods.
		E	E highlighted contextualization as a primary innovation within their teaching practice.
Structural and Systemic Support	A, B, C, D		A, B, C, and D reported institutional support structures.
		E	E noted that they can address apathy by ensuring students have equal access to guidance services.

Lastly, *structural and systemic support* within schools facilitated teachers' engagement efforts. Participants noted that institutional support structures, such as conducive classroom environments, guidance counseling services, and administrative support, strengthened their ability to address disengagement. Prior research similarly emphasizes that supportive institutional environments contribute significantly to effective teaching practices (Deehan & MacDonald, 2024; Fakai et al., 2024).

Similarities and Differences Across Cases

Table 5 presents the comprehensive matrix of the similarities and differences in the instructional praxis of science teachers.

While several experiences were shared across cases, variations emerged in how teachers enacted engagement strategies. In terms of pedagogical approaches, most participants shifted away from lecture-based instruction once disengagement became visible. However, the specific

responses differed. Some teachers emphasized contextualized discussion and storytelling, while others prioritized linguistic flexibility or activity-based learning. This showed that instructional praxis is contextual and heavily dependent on how teachers reflect during and after the learning process, and therefore is not a one-size-fits-all approach.

Variations were also evident in the degree of learner autonomy embedded within engagement strategies. Some participants relied on teacher-guided formative assessments and structured group work, whereas others implemented role-based investigations or self-paced digital learning platforms. These differences reflect varying interpretations of learner-centered education and the distribution of responsibility between teacher and student.

Differences also emerged in relational framing. While most teachers emphasized empathy and individualized attention, one participant framed the teacher–student relationship through a caregiving lens, positioning herself as a "second parent." This variation suggests that relational strategies may be grounded in different professional identities and pedagogical philosophies. Such framing can also be explained by teachers' reflections on their experiences with diverse students, which led to adjustments in how they engaged with them.

Similarly, variations were observed in the types of challenges and opportunities teachers experienced. Although most participants shared common structural constraints such as limited resources and workload pressures, some highlighted unique factors such as classroom acoustics or institutional language policies. Differences also emerged in how teachers responded to these constraints, ranging from emotional self-regulation to instructional restructuring.

CONCLUSIONS

This study examined the experiences of science teachers on their instructional praxis in navigating academic apathy among their students. The findings revealed that teachers' Instructional praxis is adaptive and context-dependent; the challenges they faced are systemic and student-based, and the opportunities they encountered have helped them improve their praxis; and that while similarities surfaced across all cases, the differences lie in the specific manifestations.

The findings of this study suggest that teachers engage in the two components of Schon's Reflective Practice Model: reflection-in-action and reflection-on-action. Through careful reflection, participants employed interactive strategies, collaborative learning, technological tools, and relational support to re-engage students in the learning process.

These experiences emphasize that addressing academic apathy requires not only instructional innovation but also adaptability and supportive institutional conditions. Ultimately, the study highlights the important role of reflective, student-centered instructional praxis in fostering meaningful engagement in science education.

LIMITATION & FURTHER RESEARCH

Although maximum variation purposive sampling was employed to capture diverse instructional contexts, the cases were limited to science teachers from Kidapawan City. As such, the findings are context-specific and may not be generalizable to science teachers in other cities, municipalities, or regions. This limitation affects the interpretation of results, as it focuses only on the context of Kidapawan City and therefore should be understood in terms of its transferability.

In terms of credibility, the study examined only teachers' experiences, which, while in-depth, is limited to a single dimension of a multidimensional teaching and learning process that includes students, administrators, and other stakeholders. Finally, as a multiple-case study conducted at a specific point in time, this research captured how science teachers addressed academic apathy during the data collection period. This affects the interpretation of results in terms of their interpretive scope, as that scope is bounded by the study's temporal and methodological

parameters.

This study examined the instructional practices of science teachers in Kidapawan City amid academic apathy. Future studies may examine instructional praxis in different contexts, such as public and private schools or urban and rural settings, within Cotabato Province or the broader SOCCSKSARGEN Region, to further advance the understanding of this phenomenon.

Further, to better study instructional praxis in academic apathy, future research may use longitudinal, exploratory mixed-methods approaches. Researchers can examine teachers' lived experiences and measurable academic outcomes related to engagement strategies by using qualitative and quantitative data.

Future studies may also include perspectives from students, school administrators, and parents to understand academic apathy in the classroom better. A different methodological approach may improve transferability, deepen insights into academic apathy in classrooms, and allow researchers to study the long-term effects of instructional strategies and teachers' practices.

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