

Teaching beyond disciplinary expertise: Classroom management and instructional practices of non-education graduate instructors

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Abstract

This study examined the classroom management and instructional practices of non-education graduate instructors in higher education. Specifically, it explored how instructors without formal pedagogical training navigate instructional delivery, learner engagement, classroom management, and inclusive teaching practices in science-related courses. The study employed a descriptive phenomenological research design involving twenty-five (25) non-education graduate instructors from the North Eastern Mindanao State University (NEMSU) campuses in Surigao del Sur, Philippines. Participants were selected through purposive sampling, and data were collected using semi-structured interviews. Thematic analysis guided by Colaizzi's Seven-Step Phenomenological Method was utilized in analyzing the data. Findings revealed that instructors primarily relied on experiential, contextualized, learner-centered, adaptive, and behavior-oriented teaching practices developed through professional experience and classroom exposure rather than formal pedagogical preparation. Participants employed hands-on and contextualized instruction, collaborative and interactive learning activities, differentiated and inclusive teaching approaches, relational teaching practices, and structured classroom management strategies to facilitate instruction and maintain classroom order. However, instructional implementation remained largely intuitive, situational, and experience-based due to limited pedagogical competence and insufficient formal training in teaching and classroom management. The study concludes that non-education graduate instructors demonstrate adaptability, resilience, and commitment in managing instructional responsibilities despite limited pedagogical preparation. Nevertheless, the findings highlight the necessity of sustained faculty development programs focusing on learner-centered pedagogy, differentiated instruction, classroom management, assessment literacy, and participatory teaching approaches to strengthen instructional effectiveness in higher education.

Keywords: Non-Education Graduate Instructors; Classroom Management; Instructional Practices; Higher Education; Faculty Development; Science Education

1. Introduction

Although there is no formal training in teacher preparation, higher education institutions have increasingly adopted the disciplinary-based approach and the use of instructors with graduate academic qualifications. The practice is known in the Philippines under CHED Memorandum Order No. 40, s. 2008, which offers flexibility to higher education institutions to hire faculty members mainly by academic preparation and expertise [1]. This type of instructors or teacher has a lot of content knowledge but teaching skills in higher education are not limited to content knowledge, but also encompass skills such as instructional planning, classroom management, student engagement, and pedagogical adaptability.

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Teachers' content knowledge is not a guaranteed indicator of effective instruction. There are many problems that non-education graduate instructors face when selecting instructional strategies, handling mixed classrooms, and facilitating meaningful interactions with the learners [2,3]. Research also shows that there is a continued need to use teacher-centered and traditional teaching methods by many instructors, especially in science settings, which can limit students' learning and engagement with them.

Classroom management is also a major issue for non-education graduate instructors. Studies show that teachers experience difficulties in classroom management, meeting students' needs, and creating functional learning environments, especially in technology-mediated and diverse environments [4,5]. Many teachers create adaptive strategies based on their own experience, self-directed learning, and collaboration with peers; however, without systematic pedagogical training, instructional consistency and learner engagement remain significantly affected. These concerns emphasize the complexity of the transition from disciplinary expert to effective classroom practitioner.

Theoretical perspectives also support the importance of pedagogical competence in higher education teaching. Shulman's Pedagogical Content Knowledge Theory suggests that teaching and learning involve transforming content expertise into pedagogical knowledge that makes concepts meaningful for learners [6]. Likewise, Vygotsky's Sociocultural Theory emphasizes learner interaction and participation in knowledge construction [7], while Kolb's Experiential Learning Theory explains how instructors modify teaching practices through experience and reflection [8]. Collectively, these perspectives indicate that effective teaching extends beyond disciplinary expertise and includes the ability to manage instructional situations and facilitate learner-centered environments.

Although there has been a significant amount of literature on higher education pedagogy, only a few studies have specifically examined the classroom management styles and instructional practices of non-education graduate instructors in higher education institutions. Previous studies have largely focused on general pedagogical concerns rather than how these instructors negotiate classroom dynamics and instructional decision-making without formal teacher education preparation. Thus, this study aims to analyze the classroom management and instructional practices of non-education graduate instructors and provide insights for faculty development programs and institutional support mechanisms in higher education institutions.

2. Materials and Method

2.1. Research Design

This study used a descriptive phenomenological research design to examine the classroom management and instructional practices of non-education graduate instructors in higher education. Descriptive phenomenology is appropriate for investigating lived experiences and understanding the meanings individuals attribute to a particular phenomenon [9,10]. The design enabled a comprehensive exploration of the experiences and instructional approaches of non-education graduate instructors as they navigated pedagogical expectations, classroom management, learner engagement, and instructional delivery in higher education settings. Phenomenological inquiry further allowed the identification of shared experiences, challenges, and adaptive practices within authentic classroom contexts.

2.2. Research Key Informants

The study was conducted across the North Eastern Mindanao State University (NEMSU) campuses in Surigao del Sur, Philippines, specifically in Tandag, Cantilan, San Miguel, Lianga, Tagbina, and Bislig. Twenty-five (25) non-education graduate instructors teaching science-related subjects were selected through purposive sampling. Participants were regular faculty members with science-related undergraduate degrees who were currently teaching science courses and had less than five years of teaching experience. Their disciplinary backgrounds included Agriculture, Forestry, Fisheries, Biology, Chemistry, Environmental Science, Engineering, and Physics. Purposive sampling was employed to ensure that all informants possessed direct experiences relevant to the phenomenon under investigation [9,11].

2.3. Research Instrument

The primary research instrument was a researcher-developed semi-structured interview guide designed to gather rich and in-depth qualitative data regarding the instructional and classroom management experiences of non-education graduate instructors. The instrument included demographic questions and open-ended interview items aligned with the objectives of the study, particularly instructional strategies and classroom management practices. The interview guide underwent expert validation by specialists in qualitative research, science education, and higher education instruction to establish face and content validity. Revisions were incorporated based on expert recommendations to

improve clarity, alignment, and relevance of the instrument [12]. Audio-recorded interviews and verbatim transcription were utilized to ensure the accuracy and completeness of the collected data.

2.4. Data Analysis

The interview data were analyzed using thematic analysis guided by Colaizzi's Seven-Step Phenomenological Method [13]. The analytical process involved transcript familiarization, extraction of significant statements, formulation of meanings, clustering of themes, development of exhaustive descriptions, synthesis of the essential structure, and member checking to establish credibility and trustworthiness. NVivo software was utilized to facilitate coding, organization, thematic generation, and retrieval of qualitative data. Open, axial, and selective coding procedures were employed to identify patterns and relationships within participants' experiences. To strengthen analytical rigor and minimize researcher bias, thematic validation was reinforced through participant verification and consultation with a qualitative data analysis expert [14,15].

2.5. Ethical Considerations

The study adhered to ethical guidelines governing research involving human participants and was conducted in accordance with the principles of respect for persons, beneficence, and justice outlined in the Belmont Report [16]. Institutional approval and permission to conduct the study were secured from university authorities prior to data collection. All participants voluntarily provided informed consent after receiving full disclosure regarding the objectives, procedures, confidentiality measures, potential risks, and their right to withdraw from the study at any stage without penalty. Confidentiality and anonymity were ensured through the use of pseudonyms and participant codes, while interview recordings and research documents were securely stored in password-protected files accessible only to the researcher.

3. Results and Discussion

The thematic findings presented in table 1 reveal the participants' reliance on experiential, learner-centered, adaptive, and behavior-oriented approaches in facilitating instruction and maintaining classroom order. The themes demonstrate how instructors integrate practical exposure, collaborative learning, inclusive teaching, relational practices, and structured management strategies despite limited formal pedagogical preparation.

Table 1 Instructional Strategies and Classroom Management Practices of Non-Education Graduate Instructors

Category	Themes	Sub-Themes
Instructional Strategies	Experiential, Contextualized, and Blended Instructional Approaches	• Hands-on learning • Field-based learning • Practical application • Contextualized learning • Real-world exposure • Blended lecture-experiential instruction
	Student-Centered and Interactive Learning Approaches	• Group activities • Collaborative learning • Student reporting • Game-based instruction • Inquiry-based activities • Sensory engagement • Motivational activities
	Differentiated and Inclusive Teaching Approaches	• Adaptive instruction • Scaffolding • Inclusive teaching • Respect for diversity

	Holistic and Relational Teaching Practices	• Teacher-student relationships • Emotional responsiveness • Student support • Contextual awareness of learners
Classroom Management Practices	Structured and Behavior-Oriented Classroom Management	• Seating arrangement • Preventive discipline • Reinforcement systems • Classroom routines • Behavioral regulation

3.1. Experiential, Contextualized, and Blended Instructional Approaches

The results show that there is a strong preference for experiential and contextualized teaching methods among non-education teachers, which are based on hands-on activities, field-based learning, practical applications, and real-world experiences. The participants highlighted that students have better learning when learning is experienced than discussed. This was seen in KI13's response to:

“naa may laboratory. Example karun, nag lecture ko sa soil profile, after ana naa mi laboratory pagka next day. So, didto na dayun mi sa field. Magkabit gayud kami ng soil profile. Amo gyud gikuan ang profile, actual gyud.”

(There is a laboratory component. For example, currently, I lecture on the soil profile, and after that, we have a laboratory session the following day. Then we proceed to the field where we actually dig and examine the soil profile. It is truly hands-on. KI13)

The answer is an example of how the teacher's attitudes are leaning towards real life learning experiences and experiences in the real world where the student comes into real contact with the science concepts. Participants also did experiential activities along with lectures-based discussions at the same time as highlighted in KI11:

“Kung pure science kay lecture sya. Pure lecture first, then, pag humana mi sa isa ka chapter kay mo proceed dayun mi sa laboratory. Pero, ang sa laboratory, kay dili man gyud sya tanan kadtong fully naa tanan ang gamit, so we have to improvise nga kanang pwede lang e perform.”

(If it is pure science, it is lecture-based. First is pure lecture, then after finishing a chapter, we proceed to the laboratory. However, in the laboratory, not all materials are fully available, so we have to improvise activities that can still be performed.)

reflecting a hybridized lecture experiential teaching mode in line with the classroom situation and resource availability. These suggest that teachers appreciate the importance of applying and being context-relevant to building deeper understanding of concepts. The results also suggest, however, that instruction is not always formalized through pedagogical training, but rather learned in the classroom and from experience. Limited resources also affected how the laboratory and contextualized activities were implemented; teachers had to adapt the materials and approaches they were provided with.

The results corroborate the Experiential Learning Theory that states that learning is meaningful when it is experienced, reflected, and engaged. Rahmi and Miller et al. stated that experiential learning is important for reinforcing conceptual learning because it connects theory with real practice [17,18]. Likewise, Sutherland et al. found that many teachers who do not have formal pedagogical training often mix practical activities with traditional lectures to maintain delivery and management of content in the classroom [19].

3.2. Student-Centered and Interactive Learning Approaches

The findings also showed that teachers in non-education fields do use student-centered and interactive learning method by using group activity and collaborative learning, student reporting, inquiry-based activity, motivational activity, and game. The participants acknowledged that their involvement enhances learners' engagement and interaction in the classroom. As shared by KI15:

"Ako usually ma observe, mo participate lang gyud sila once nga nag enjoy sila sa klase. Para ma manage nako, naga pangita kog ways na ma catch ila attention. Pag game-based kay interested gyud kaayo sila, maka learn gani."

(I usually observe that students participate once they are enjoying the class. To manage them, I look for ways to capture their attention. If it is game-based, they are very interested and learn more. KI15)

Similarly, KI13 stated

"Magpa activity ko. Kibali magpa grouping ko. Tong estudyante nako tong mas bagtik sya magtubag tubag, sya puy mag discuss. E discuss niya tas general, iya na dayun iingon sa ako."

(I conduct activities. I usually group them. The student who is more active in answering also becomes the one who discusses. They discuss it generally and then report it back to me. KI13)

The answers show how teachers purposefully design participative and collaborative learning environments in order to maintain attention, engagement and interaction. Sensory engagement, inquiry and motivational techniques were also used to create meaningful, stimulating lessons. Results also indicate, however, that teachers sometimes resort to teacher-led dialogues when participation decreases or when cooperative activities are challenging to maintain. This implies that learner-centred practices are still happening in an ad hoc manner because of poor pedagogic training and facilitation skills on part of the teacher.

The results are consistent with the view of learners as agents of construction and constructivist learning that puts focus on the activity, collaboration, and interaction of learners in constructing knowledge. Based on the findings of Hillmayr et al. and Schweiker and Levonis, interactive and multisensory strategies were found to have a significant impact on student motivation and engagement [20,21]. Shavelson and Intasingh, however, noted that teachers who have not received formal pedagogical training frequently have weak collaborative teaching abilities and are inclined to turn to teacher-centered approaches when student participation declines [22,29].

3.3. Differentiated and Inclusive Teaching Approaches

The results show that non-education instructors implement differentiated and inclusive teaching by using the method of adaptive instruction, scaffolding and dealing with learners' diversity. Participants showed an understanding that students have different levels of understanding as well as abilities and learning needs, and that adjustments are necessary in how instruction is delivered. KI12 explained:

"Pero there are some cases man gud na murag di nila makuan ang strategy na ing ato, so nag adjust ko sakong strategy wherein ma grasp nila ang knowledge kay usahay man gud kay murag lisuran sila so nag adjust ko for the level na murag masabtan nila."

(However, there were cases where students could not grasp that strategy, so I adjusted my approach to match their level of understanding. KI12)

Likewise, KI5 emphasized:

"Because as a teacher, I believe that no one should be left behind."

(Because as a teacher, I believe that no one should be left behind. KI5)

These are samples of the answers that instructors prepared when asked about their vision of inclusivity, accessibility and equitable learning opportunities. They bend over backwards to adjust the way they teach, showing empathy and responding to the learning difficulties. The results also indicate that teachers try to scaffold students' learning and make accommodations for their students, even though they may lack pedagogical preparation. In many cases, however, differentiated practices would be based on one's intuition, observation, and experience as a teacher, rather than on systematic pedagogical conceptions.

The results are in line with inclusive education principles which focus on being responsive to learner diversity and equitable participation. Abdalla and Moussa and Wu et al. emphasized the need for flexible instructional strategies to meet the needs of diverse learners in effective inclusive instruction [23,24]. Similarly, Hidayatullah et al. reported that teachers without pedagogical knowledge often use intuition and experience to practice differentiated instruction [25].

3.4. Holistic and Relational Teaching Practices

The results also show that non-education teachers use holistic and relational teaching methods by focusing on teacher-student relationships, emotional responsiveness, learner support, and a sense of the context of learners' life experiences. For participants, teaching was something more than the imparting of content and was related to caring for the emotions and being sensitive to relationships. KI1 shared:

"pag naa sila i-concern, maminaw lang sa ilahang concern, then i-address dayun ilahang concern."

(when they have concerns, I simply listen to them and then address those concerns right away. KI1)

Similarly, KI4 stated:

"Naa man gud koy na encounter before nga students nga at first grabi sya ka participative, then later on, dili na sya naga participate. Naa na diay problema sa ilaha balay."

(I once encountered a student who was very participative at first but later stopped participating, and it turned out there were problems at home. KI14)

The responses show the teachers' understanding of how emotional, personal and family contexts influence students' engagement in learning and participation within school contexts. Results indicate that emotional support, attentiveness, psychological safety are key components of meaningful education. Their practices also demonstrate empathy and relational awareness, suggesting that good teaching goes beyond academics to understanding students' lives and their emotions.

The results are consistent with the literature that highlights the significance of teacher-student relationships in engagement and learning achievement. Bucio et al. and Genosas et al. identified that emotionally supportive classrooms positively influence participation, motivation, and learner confidence [26,27]. The results are also consistent with learner-centered approaches that emphasize emotional sensitivity and relational trust as essential components of quality teaching.

3.5. Structured and Behavior-Oriented Classroom Management

The results indicate that non-education instructors use structured and behavior-oriented classroom management approaches in the aspects of seating arrangement, preventing discipline, reinforcement system, routine, and behavior regulation. Participants stressed the need for order, discipline and stability in the classroom to help with effective teaching. KI23 stated:

"Usually naa koy dala na bell."

(Usually, I bring a bell. KI23)

Meanwhile, KI25 explained:

"Gabuhat kog seating arrangements bitaw para dali ra nako sila mailhan."

(I make seating arrangements so that I can easily recognize them. KI25)

Similarly, KI5 shared:

"And if they do not, then I deduct points. Then I conduct quizzes like that. Para mag-behave sila."

(And if they do not, then I deduct points. Then I conduct quizzes like that so they will behave. KI5)

The responses suggest that teachers rely on routines, cues, monitoring, and reinforcement to control classroom behavior and to reduce disruption. Their strategies are oriented to structured and compliance-based management practices, emphasizing instructional control and classroom organization. The findings indicate that these approaches might be due to a lack of exposure to restorative and participative classroom management approaches and that reliance on behaviorist approaches are considered to be more practical and manageable by the instructors.

The results corroborate behaviorist classroom management theory, which focuses on routines, reinforcement, and behavioral regulation to ensure classroom order. Trudel et al. noted that structured routines and clear expectations are important factors in maintaining instructional efficiency and classroom stability [28]. However, Babasoro and Cabrillas pointed out that such strategies are often preferred by non-education instructors because they may not have received adequate pedagogical preparation in classroom management approaches that encourage student autonomy and participatory discipline [2].

Overall, the results suggest that non-education graduate teachers use a variety of teaching and classroom management strategies that are based primarily upon experiential knowledge, professional intuition, and exposure in the classroom. Participants are seen as being adaptable, creative and responsive in their facilitation of learning, although many pedagogical practices are still not developed formally because of the lack of formal training on teaching, assessment and classroom management.

4. Conclusion

The study finds that non-education graduate instructors use variety of teaching and classroom management strategies, which mainly focus on experiential learning and adaptation to the context and professional experience, but not on formal pedagogical preparation. They adopt an experiential, contextualized, and blended approach to teaching and learning to encourage students to apply knowledge in practice, engage in learning, and gain meaning from scientific ideas. They show how well the instructors are able to apply their content knowledge to meaningful classroom situations without extensive training in pedagogy.

The results also indicate that non-education instructors see the importance of using different learner-centered, interactive, differentiated and inclusive teaching methods in maintaining pupils' participation and catering for pupils' needs. Despite their existence, their implementation is, however, still largely situational, intuitive, and experience-based, because of the lack of pedagogical competence to facilitate collaborative, constructivist and inclusive learning environments. Therefore, instructors often use personalized and spontaneous teaching methods to meet the demands of the classroom and individual differences in the classroom.

The study also shows that classroom management skills among the non-education instructors are largely behavior-oriented, control oriented, and structures. The instructor relies on routines, reinforcement systems, monitoring strategies and prevention of discipline to keep the class orderly and teachable. Practical solutions to classroom management needs are seen in these approaches, as well as in some degree of exposure to participatory, restorative and learner-autonomy based management frameworks.

Furthermore, the results reveal that non-education graduate instructors incorporate holistic, and relational, teaching methods through fostering emotional responsiveness, positive teacher-student relationships and sensitivity with students' social and personal environments. The teachers' acknowledgment of students' emotional and contextual experiences helps to illustrate that effective instruction goes beyond what is taught to relational support, empathy, and psychologically safe learning environments.

In conclusion, the study suggests that non-education graduate instructors are adaptable, resilient and committed in handling instruction and classroom management responsibilities without having received formal pedagogical training. However, the experience-based, ad hoc nature of their teaching development reveals the need for continuous faculty development on teaching practices, pedagogy and learner-centeredness, differentiated instruction, classroom management, assessment literacy and participatory teaching. Systematic professional development programs are vital in boost pedagogical competence in order to improve effectiveness of instruction and to promote the professional development of non-education graduate instructors in higher education institutions.

Compliance with ethical standards

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Disclosure of conflict of interest

The author declares that there are no financial or non-financial conflicts of interest related to the conduct, authorship, and publication of this study.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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