Reflective Journaling as a Diagnostic Tool for Identifying Gaps in Student Teachers' Understanding

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Abstract: This qualitative study examined the use of reflective journal prompts during the student teaching experience to gauge the success of seven areas of teacher preparation. Results varied by certification areas. Showed strengths in reflection, classroom management, and planning. The areas for growth centered on objectives and essential questions, parent communication, and questioning skills.

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The purpose of this study was to use reflective journal questions to identify shortcomings and gaps in student-teacher professional understanding and practice within the classroom and determine if these possible gaps are related to specific areas of certification/content or systemic. One additional benefit to this methodology is that the use of reflective journals has previously been shown to promote critical thinking and reasoning skills in a variety of fields (literature, healthcare, and mathematics) and allowed participants to develop better self-awareness and content understanding (Davut Göker, 2016; Epp, 2008).

Reflective questions offer practical utilization because student teachers can reference conversations, evaluations, and self-made notes written throughout the day. It allows them to explore the four years of theory and application they have learned as practical tools to employ in the classroom. The main goal was to identify gaps in the teacher education program but, on an introspective level, to allow the student-teacher participants to develop a deeper self-awareness centered on their pedagogy, which reflective questions and journals have been shown to do in multiple studies (Gilmore, 1996; Hatton & Smith, 1995; Ramsey, 2005).

The use of reflective journals to evaluate a teacher preparation program's effectiveness also addresses several concerns regarding how current program evaluations and assessments are conducted while being centered on quantitative certification data. Amrein-Beardsley, et al., (2013) noted that systems often rely on student test scores, which fail to capture the complexity of teacher education programs, and programs must find ways to engage in an evaluative process where they can ensure they are preparing effective educators. Darling-Hammond (2020) calls for additional standards-based performance assessments in the evaluation and accountability of teacher preparation programs. Reflective journaling is a performance assessment that can capture authentic pre-service teacher knowledge and understanding. This study shows how it can be used to evaluate a teacher education program.

The targeted areas for evaluation and reflection come from the Pennsylvania Department of Education's Framework for Program Guidelines, where six core elements of teacher preparation programs are defined; instruction, state standards, standards-based curriculum, materials and resources, assessment, and appropriate interventions (Pennsylvania Department of Education, 2010; Pennsylvania Department of Education, 2012). Within those six areas, the researchers identified seven core skills that student teachers should demonstrate successfully during their final placement. Those areas were reflection, lesson planning, objectives and essential questions, questioning skills, parent communication, classroom management, and special education.

Semi-structured, open-ended prompts were created from the Pennsylvania Department of Education's Framework to strategically help the participants identify, reflect, and change (if needed) their understanding and practices as required in their PRAXIS exams and competency checks for certification. This allowed for analysis of potential gaps in the teacher education curriculum and to determine if this problem is based on certification

level/area or a generalized problem within the program.

Methods

Candidates for student teaching at a small, private college in Central Pennsylvania, during the 2022 – 2023 school year, participated in a discussion about the reason behind our research and asked if they wished to contribute to the nongraded research study ($n = 39$). The student teachers completed their student teaching in the Fall or Spring semester. The student teachers represented three varied certification areas, Elementary Education K-4 (6), Elementary K-4 and Special Education K-8 (22) (Dual Certification), and Secondary Education 7-12 (11) in Mathematics, Social Studies, English, or Biology.

The three majors take some similar courses in behavioral interventions and teaching but do have differing coursework for lesson planning and instructional strategies. Of the 39 participants, 28 were female, 11 were male, and all but one identified as white/Caucasian. Targeted prompts were given bi-monthly during their senior seminar for participants to reflect on at the start of each cohort meeting. They were provided the time to complete the reflection questions in a journal form before continuing with the seminar agenda for the day.

Results

The qualitative analysis of our study included the review and synthesis of all reflective responses by participants. The themes were disaggregated and divided into the most poignant areas for both our education programs and study parameters. The analysis reveals several pivotal themes that resonate across the teaching community. A few examples of the themes include time barriers, appreciation for support and guidance, self-assessment, student engagement, clarity of instruction, the continuous pursuit of improvement in teaching practices, and balancing workload with stress. These themes not only shed light on effective instructional strategies but also underscored the commitment of educators for continuous growth and refinement. Moving forward, the education department will use the information to embed the new skill set into the gaps in our instruction and create a seamless addition to the scope and sequence.

Reflection

Four main areas were individually explored, asked one at a time, in the reflective questions; how often do you reflect, what are you asking yourself during this reflection, do you formally write reflections, and do you adjust the lesson plans based on your reflections? Analysis showed that overall reflection was a strong area for the student teachers, with all 39 stating they reflected on their teaching.

Elementary and dual certification responses emphasized the practice of reflecting on teaching experiences daily, often with the guidance and involvement of a host teacher. Participants mentioned reflecting on their lesson multiple times, including during the lesson itself, immediately after, during planning/lunch periods, and at the end of the day. Secondary certification responses conveyed a sense of ongoing engagement with teaching practice, as they thought about their lessons throughout the day and actively sought ways to refine their approaches. Overall, the themes underscored the importance of self-assessment, student engagement, clarity of instruction, and the continuous pursuit of improvement in teaching practices. Less than one-third of

respondents edited lesson plans, refined activities, or wrote formal reflections. They mentioned time constraints as a factor influencing their decision. Instead, they prioritized other aspects of their teaching responsibilities, grading assessments, duties, and creating future lesson plans.

Planning

Three focused questions were asked, how does the mandated lesson planning format help or hinder the planning process, how far in advance do you plan, and how do you plan your daily lessons. Results between the all-student teachers remained similar. Most (33) identified the use of standards and assessments as the starting point for the lesson plan. Many (25) thought the requirement of the college lesson plan was time-consuming, cumbersome, and not in alignment with what is happening each day in classrooms across the United States.

Elementary and Dual Certification themes underscored a systematic and collaborative methodology in lesson planning, prioritizing alignment with curriculum standards, integration of technology, and responsiveness to student needs and instructional objectives. Secondary Certification students emphasized the structured, collaborative, and student-centric aspects inherent in the lesson planning endeavor, focusing on flexibility, adaptability, and conscientious attention to the evolving needs and advancement of students.

Despite the structured format of the lesson plan, all participants expressed divergent perspectives regarding its efficacy, citing concerns about its practicality (particularly in generating multiple comprehensive lesson plans daily), and its influence on their teaching methodology and planning approach, noting potential slowdowns and decreased emphasis on robust instructional strategies. Several participants noted a divergence from the prescribed college format, opting instead to adopt the lesson plan format utilized by their host teacher. This deviation was motivated by the recognition that their host teacher's format often offered a higher level of detail or better alignment with their instructional requirements and preferences.

Objectives and Essential Questions

One area that drew a need for reflection as a program was objectives and essential questions. An in-depth examination was conducted of the following questions with regards to objectives and essential questions, which type of goal/objectives format do you use, how do you directly use your goals and objectives during the lesson, and what is the difference between goals/objectives and essential questions.

The analysis revealed that elementary and dual certification students encountered difficulty in delineating between structuring an objective and ensuring its measurability. Despite concerted efforts, these cohorts grappled with the nuanced process of formulating objectives that are not only clearly defined but also quantifiably assessable. This struggle underscores a crucial aspect of pedagogical development, where aspiring educators strive to refine their ability to articulate learning outcomes that are both instructional and evaluative.

This was not the case with secondary student teachers, as many respondents (9) mentioned using the ABCD method for setting instructional objectives, prioritizing clarity, measurability, and relevance to the lesson content and learning outcomes.

Questioning

Another facet spotlighting the necessity for refinement within the teacher education program pertains to questioning techniques. Reflective prompts directed participants to

contemplate the efficacy of wait time based on the type of question posed, as well as the construction of questions and leveling of questions both before and during instructional sessions. Findings revealed a discernible deficit in advanced preparation concerning questioning strategies, particularly in relation to crafting open-ended and evaluative inquiries, which are indicative of higher-order thinking skills.

A notable observation emerged from the responses of several elementary education and dual certification participants (5), who either misinterpreted the inquiry or displayed a lack of comprehension regarding the distinction between simple recall or procedural questions and their higher-order counterparts. This discrepancy suggests a fundamental misunderstanding or oversight regarding the cognitive demands associated with varying question types, indicating a potential gap in pedagogical knowledge and instructional planning strategies.

Additionally, a significant majority of all participants (19) were noted to have omitted the incorporation of questions spanning diverse levels of Bloom's Revised Taxonomy (Anderson, et al., 2001) or Webb's Depth of Knowledge (Webb, 2002) within their lesson plans. This oversight highlights a broader pattern of neglect in scaffolding learning experiences that foster critical thinking, problem-solving, and higher-order cognitive skills among students.

Parent Communication
Effective parent communication stands as an indispensable skill that educators must adeptly wield, necessitating comprehensive exposure and training within their educational programs. The three reflective questions asked were: how many times you have contacted parents/guardians, what has been the hardest part about parent communication, for what reasons do you generally contact parents. However, the data gleaned from the study underscored a shortfall within the current program design, particularly concerning communication with parents and host schools. Alarmingly, more than half of the participants reported a lack of opportunity to engage directly with parents, while for those who did, the primary mode of contact predominantly comprised a student-teacher introduction letter. Such limited interaction hardly scratched the surface of fostering meaningful parent-teacher partnerships essential for student success.

Classroom Management
The incorporation of these three reflective questions marked a notable highlight in the training provided to participants, particularly regarding classroom management within elementary and dual certification programs. Specifically, how is classroom management going right now, what struggles have you faced this semester, what behavior management techniques have you utilized this year, and do you think you were properly trained to handle classroom behavior. It also brought into sharp focus a recognized deficiency within the secondary program, where the absence of a dedicated course specifically addressing classroom management emerged as a glaring oversight.

The data from this observation underscores a concerning trend wherein the program's failure to prioritize comprehensive training in classroom management exerts a generally adverse impact on its efficacy in adequately preparing educators for the challenges they may encounter in real-world classroom settings. Nine secondary participants indicated that they were not adequately trained in behavior and classroom management techniques. They expressed a need for more instruction, activities, and

simulations to practice these skills before entering the classroom.

Several responses from elementary certification participants emphasized that, while training provides a foundation, true proficiency in classroom management comes with practice and experience gained from working with students over time. Some student-teachers (4) expressed satisfaction with their training, particularly in terms of learning positive reinforcement techniques and observing effective classroom management strategies. Responses indicate that the student teachers feel adequately trained in behavior and classroom management, crediting their institution or teachers for providing comprehensive training in this area.

Many dual certification participants responses (18) indicate that while they received training, they believe true preparation comes from being immersed in the classroom environment over time. Practical experience is considered invaluable for managing behaviors effectively. Many student-teachers expressed gratitude for the strategies and training they received, such as positive reinforcement techniques and behavior management journals. They feel equipped with a variety of tools to handle different situations.

Special Education
The reflective prompts focusing on special education delved into various facets including planning, instructional strategies, management techniques, and the adaptation of assessments. The specific questions asked were: how do you plan for students who may not learn as quickly, what two behavior management strategies will/did you use with students who display oppositional behavior, give three examples of how who adapted/modified assessments, do you think you got enough experience meeting the needs of diverse during your coursework, what types of instructional strategies are available for students with processing issues, what support systems are in place (if any) that allow you to take risks with your instructional methods?

It becomes evident that this domain represents a significant area of strength within the teacher education program. The nuanced exploration of these critical components underscores the program's commitment to equipping educators with the requisite knowledge, skills, and attitudes necessary to effectively support and accommodate diverse learners. By engaging in thoughtful reflection and discourse surrounding special education practices, participants are empowered to develop a deeper understanding of inclusive pedagogy and cultivate inclusive learning environments where every student can thrive. This emphasis on special education not only reinforces the program's dedication to equity and diversity but also enhances its overall effectiveness in preparing educators to meet the diverse needs of contemporary classrooms.

Overall, elementary, dual, and secondary student teachers stated that they commit to creating inclusive learning environments and providing meaningful support for students with disabilities, as well as their recognition of the importance of being adequately prepared to meet the diverse needs of all learners. By providing additional time, utilizing visual support, simplifying instructions, using guided notes, and offering individualized assistance, student teachers aimed to support these students in their learning and academic success. Delving deeper into their reflections, participants articulated a steadfast commitment to ensuring accessibility and comprehension for all students, irrespective of their unique processing abilities. This dedication not

only reflects a profound sense of inclusivity but also embodies a fundamental ethos of equity and excellence in education, where every learner is afforded the opportunity to thrive and succeed to their fullest potential.

Additionally, dual certification participants also reflected on their preparedness and experiences in special education settings, indicating the importance of hands-on training in adapting work for diverse learners. The participants underscored the importance of employing varied instructional strategies tailored to the needs of students with processing issues to promote understanding, engagement, and academic success.

Discussion

As students engaged with the reflective prompts, evidence began to emerge that would not have been captured with a strictly quantitative approach to an education program's effectiveness. One area for programmatic growth emerged concerning the selection of objectives focused on either convincing or understanding. This deficiency underscores a crucial opportunity for pedagogical enhancement within the program, suggesting a need for targeted interventions aimed at bolstering educators' proficiency in formulating and deploying diverse questioning techniques conducive to fostering deep and critical engagement among students. Through deliberate training and ongoing support, educators can cultivate a more dynamic and intellectually stimulating learning environment beneficial to nurturing students' cognitive growth and metacognitive development.

There were also discrepancies for curriculum-aligned questions that warrant concerted efforts to provide comprehensive training and resources aimed at equipping educators with the requisite tools and strategies for designing curriculum-aligned questions that stimulate deeper levels of cognitive engagement and promote holistic learning outcomes. Understanding the importance of varied levels of questions and having a plan to make sure those questions are addressed is a major gap in the current teacher education program.

Only a handful of students (6) reported having engaged in more than one authentic parent communication, signaling a systemic deficiency in providing opportunities for hands-on experience in this crucial aspect of the educational landscape. Considering these findings, it is incumbent upon the preparation program to engage in critical self-reflection and reevaluation of its practices to ascertain viable strategies for rendering this skill more attainable and integrated throughout the student teaching journey. By prioritizing the cultivation of robust parent communication competencies through targeted interventions, workshops, and practical experiences, the program can better equip future educators to navigate the complexities of familial engagement and establish collaborative relationships conducive to maximizing student learning outcomes and holistic development.

A shortfall in classroom management was found in the data. This not only undermines the confidence and competence of future educators but also compromises their ability to establish conducive learning environments conducive to fostering student engagement and academic success. Addressing this critical gap warrants a concerted effort to reevaluate the curriculum framework and integrate targeted coursework opportunities aimed at equipping educators across all certification levels with the requisite skills and strategies for effective classroom management. By rectifying this deficiency, the program can better fulfill its mandate of cultivating competent and resilient educators capable of

navigating the multifaceted demands of the modern educational landscape.

This study encounters certain limitations that warrant consideration. Firstly, not all students could consistently attend each student-teacher seminar, leading to potential gaps in data collection. Future research endeavors should strive to address this issue by implementing strategies to ensure the acquisition of complete datasets from all participants. Secondly, while the responses provided valuable insights, there remain several areas where follow-up guided reflections could yield further depth and understanding. This was evidenced by the observation that the wait time allocated for responding to lower-level questions exceeded that designated for higher-order inquiries.

A proposed modification to the study design involves incorporating facilitated open discussions centered on the weekly focus areas following the completion of prompts, thereby affording participants an additional opportunity for reflection (Davut Göker, 2016). This iterative process has the potential to elicit richer and more nuanced responses, thereby enriching the overall quality of the study's findings. This is something that the program should explore as it looks for areas to improve. Incorporating more field experiences, micro-teaching, and reflective components can enhance practical understanding. College lesson plans should bridge theory and practice. How can we ensure that pre-service teachers experience the real-world implications of their plans? The program's commitment to improvement should include a critical examination of lesson planning processes.

Given the context of this study within a small private college in Central Pennsylvania, the results bear significant implications for institutional growth and development. However, the scope of the study extends beyond mere self-assessment, the next phase involves deploying modified versions of these questions in future cohorts of early career teachers. This expansion aims to ascertain whether the identified areas of growth are isolated phenomena or indicative of broader systemic issues within teacher education.

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