

## Lived experiences of the on-the-job training towards career preparedness of Bachelor of Science in Mathematics

Villafuerte, Rochele ✉

Central Bicol State University of Agriculture, Philippines ([Rochele.villafuerte@cbsua.edu.ph](mailto:Rochele.villafuerte@cbsua.edu.ph))

Gonzaga, Nilo

Central Bicol State University of Agriculture, Philippines ([Nilo.gonzaga@cbsua.edu.ph](mailto:Nilo.gonzaga@cbsua.edu.ph))



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### **Abstract**

This study explores the On-the-Job Training experiences of Bachelor of Science in Mathematics students at Central Bicol State University of Agriculture–Calabanga Campus. Employing a descriptive qualitative research design, the study seeks to understand the lived experiences of the students during their OJT placement. It focuses on how they perceive the development of their skills, the challenges they encountered, and the nature and influence of mentorship in their training sites. Data were gathered primarily through open-ended survey questions and narrative accounts. The responses were analyzed using thematic analysis. Findings reveal that students commonly described improvements in communication skills, teamwork, adaptability, and self-confidence as significant outcomes of their OJT experiences. Participants also shared challenges such as communication barriers, time management difficulties, and adjustment to diverse and unfamiliar work environments. Mentorship emerged as a central theme, with students emphasizing the importance of guidance and support from supervisors in helping them navigate workplace expectations and overcome challenges. Although students expressed that OJT enhanced their problem-solving abilities and certain technical competencies, many noted a perceived gap between advanced mathematical concepts learned in the classroom and their practical application in the workplace. These reflections highlight the need for closer alignment between academic preparation and assigned tasks during OJT. Overall, this descriptive qualitative study underscores the value of OJT as a formative professional experience while pointing to areas for improvement, particularly in strengthening mentorship practices and ensuring that training assignments are meaningfully connected to students' academic specialization in mathematics.

**Keywords:** career preparedness, mentorship, On-the-Job Training (OJT), lived experiences, BS Mathematics

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### 1. Introduction

The On-the-Job Training (OJT) program is an essential component of the academic curriculum of the Bachelor of Science in Mathematics at Central Bicol State University of Agriculture–Calabanga Campus (CBSUA-Calabanga). This study adopts a descriptive qualitative research design to explore and describe the lived experiences of BS Mathematics students during their OJT. It seeks to understand how students perceive the influence of the program on their career preparedness and personal development, as well as the meanings they attach to their training experiences. The study focuses on students' narratives regarding the opportunities and challenges they encountered in their respective training sites. In particular, it explores experiences related to communication barriers, time management concerns, and adjustment to diverse work environments. It also examines how students describe the role of mentorship in their development, especially in shaping their confidence, skills, work attitudes, and readiness for future employment.

Anchored in Experiential Learning Theory by David Kolb, the study views learning as a process grounded in experience and reflection. Students' OJT experiences are described in terms of how they engage in tasks, reflect on these experiences, form insights, and apply new learning in practice. In addition, the study is supported by Social Cognitive Theory of Albert Bandura, which emphasizes the importance of social interaction, observation, and mentorship in shaping self-efficacy and skill development. These theoretical perspectives guide the interpretation of how students make sense of their experiences and professional growth during OJT. The conceptual framework of the study is described narratively. It considers the students' academic preparation and the mentorship they receive as contextual conditions of their training. The core of the inquiry centers on their experiential learning during OJT, including the competencies they develop and the difficulties they encounter. The study then describes how these experiences contribute to their perceived career preparedness, such as enhanced technical skills, problem-solving abilities, communication competence, and professional confidence.

Consistent with the principles of United Nations Sustainable Development Goal 4 on Quality Education, the study highlights the importance of making academic programs relevant to real-world demands. Through in-depth descriptions of students' experiences, the research underscores how experiential learning bridges theoretical knowledge and practical application. Rather than measuring relationships or testing hypotheses, this descriptive qualitative study aims to provide a rich and detailed account of students' OJT experiences. By identifying recurring themes related to skill development, mentorship, challenges, and alignment between academic preparation and workplace tasks, the study offers insights into the strengths and areas for improvement of the OJT program. The findings are expected to inform educators, program coordinators, and academic institutions in enhancing the quality of training experiences and ensuring that BS Mathematics graduates are better prepared for the professional world.

**Objective of the study** - This study aims to explore and describe the lived On-the-Job Training (OJT) experiences of Bachelor of Science in Mathematics students, with the purpose of identifying the key factors that shape a meaningful and positive training experience, particularly in relation to skill development, mentorship, and career preparedness.

### 2. Methodology

**Research Design** - This study employed a descriptive qualitative research design to explore the lived experiences of Bachelor of Science in Mathematics students during their On-the-Job Training (OJT) at Central Bicol State University of Agriculture–Calabanga (CBSUA-Calabanga). The design allowed for a rich and detailed

examination of students' perspectives, focusing on the challenges they faced, the skills they developed, and the role of mentorship in shaping their career preparedness and personal growth. By prioritizing participants' reflections and narratives, the study aimed to understand the meaning and significance of OJT experiences from the students' point of view, rather than measuring variables numerically.

**Participants** - The study included a total of 56 BS Mathematics students, comprising 38 females and 18 males, with ages ranging from 21 to 28 years old. Participants were purposively selected based on their completion of OJT to ensure that they had direct and relevant experiences to share. During their training, the students were assigned to a variety of institutions, including 5 private organizations, 22 government agencies, and several government-owned corporations, providing diverse workplace contexts for exploration.

**Sampling Technique** - The study used purposive sampling, a non-probability sampling method, to identify students who could provide in-depth insights into the OJT program. This approach allowed the researcher to focus on participants with firsthand experience and rich perspectives, which are essential for a descriptive qualitative study.

**Data Collection** - Data were collected through an online semi-structured survey consisting of open-ended questions designed to elicit detailed narratives about the participants' OJT experiences. Questions explored the challenges students encountered, the skills they developed, their reflections on mentorship, and the perceived impact of OJT on their career preparedness and personal development. The survey instrument was developed based on an extensive review of literature on OJT, experiential learning, mentorship, and career readiness. To ensure clarity, relevance, and appropriateness, the survey was validated through content review by a panel of experts in education and OJT programs. Before deployment, students attended a pre-OJT orientation seminar, which covered topics such as time management, workplace behavior, and expectations of host institutions. This seminar helped prepare students for the workplace environment and ensured they could meaningfully engage with OJT activities, thereby enriching their experiences and reflections.

**Data Analysis** - All qualitative data collected from the open-ended survey responses were analyzed using thematic analysis. This process involved coding the narratives, identifying recurring ideas and patterns, and organizing these into themes that reflect the key aspects of students' OJT experiences. Themes focused on challenges, skill acquisition, mentorship experiences, and reflections on career preparedness, providing a comprehensive understanding of the phenomenon under study. The analysis prioritized the students' perspectives and meanings, capturing how they interpreted and made sense of their experiences in their own words. This approach aligns with the descriptive qualitative aim of providing a rich, contextualized account of lived experiences rather than seeking numerical generalizations.

**Ethical Considerations** - The study strictly adhered to ethical principles to protect participants' rights and confidentiality. Informed consent was obtained from all participants prior to data collection, emphasizing voluntary participation, the purpose of the study, and the right to withdraw at any time without consequences. Participants' anonymity was maintained, and all identifying information was removed from the dataset. Survey responses were stored securely, and access was limited to the researcher. Ethical approval for the study was obtained from the relevant institutional review board to ensure compliance with guidelines for research involving human participants.

**Limitations of the Study** - The primary limitation of this study was its focus solely on the lived experiences of the BS Mathematics students during their OJT. The research did not include feedback from the partner institutions or offices where the students were assigned. To address this limitation, a separate study will be conducted to collect feedback from these partner institutions for triangulation purposes. This additional research will help provide a more comprehensive view of the OJT program and its impact from multiple perspectives.

### 3. Results and discussion

#### 3.1 Key Factors Contributing to a Positive OJT Experience Among B.S. Mathematics Students in Calabanga

The findings of this study reveal that the quality of mentorship, relevance of assigned tasks, and institutional/organizational support were key factors contributing to a positive On-the-Job Training (OJT) experience among Bachelor of Science in Mathematics students. These factors shaped students' learning outcomes, skill development, confidence, and career preparedness, providing insight into the elements that promote meaningful experiential learning.

**Quality of Mentorship** - Students consistently emphasized the importance of mentorship in facilitating their OJT experiences. Many participants described their mentors as approachable, supportive, and actively involved in guiding their learning. Students reported that mentors provided clear instructions, constructive feedback, and encouragement, which allowed them to reflect on their performance and improve their skills throughout their training. From the lens of Kolb's Experiential Learning Theory (1984), the mentors' guidance functioned as a critical component of the reflective and conceptualization phases of the learning cycle. By discussing tasks, clarifying expectations, and offering feedback, mentors enabled students to reflect on experiences, derive insights, and apply new understanding in subsequent tasks. Similarly, Bandura's Social Cognitive Theory (2001) highlights the role of mentorship as a form of observational learning and modeling. Through consistent interaction with experienced professionals, students gained confidence, developed competence, and internalized professional behaviors, which directly contributed to their sense of self-efficacy and career readiness.

Students also noted that mentors encouraged their personal and professional growth, fostering an environment in which they felt empowered to take initiative and explore new learning opportunities. These findings are consistent with prior research emphasizing that effective mentorship involves not only task guidance but also the cultivation of professional identity and self-confidence (Snyder & Snyder, 2019; Schunk & DiBenedetto, 2020). Overall, mentorship emerged as a pivotal factor in shaping students' OJT experiences, enhancing their confidence, supporting skill development, and guiding them toward meaningful engagement with their professional tasks.

**Relevance of Assigned Tasks** - Another prominent theme that emerged was the relevance of tasks to students' field of study. Participants expressed that the tasks they were assigned allowed them to apply mathematical knowledge to practical problems, promoting intellectual engagement and skill development. Students perceived their tasks as meaningful, challenging, and aligned with their academic preparation, which facilitated critical thinking and professional growth. Kolb's ELT (1984) underscores that learning is most effective when tasks are directly connected to prior knowledge and experience. In this study, students' narratives indicate that engaging in tasks relevant to mathematics enabled them to bridge the gap between classroom theory and workplace practice. By reflecting on their experiences, students were able to conceptualize strategies and apply problem-solving techniques to real-world situations, reinforcing the value of experiential learning. These findings align with studies highlighting the importance of task relevance in OJT, which ensures that students are engaged, can see the practical application of their academic knowledge, and develop competencies essential for future careers (Santos & Ramos, 2020). Task diversity also contributed to the richness of the OJT experience, as students were exposed to multiple roles and responsibilities, further promoting skill acquisition and adaptability.

**Institutional and Organizational Support** - The study also highlighted the role of institutional and organizational support in shaping positive OJT experiences. Participants emphasized that proper preparation by the school, clear coordination between the university and host organizations, and comprehensive orientation seminars helped them transition smoothly into the workplace. Such preparation allowed students to feel more confident and ready to take on responsibilities, aligning with Kolb's (1984) emphasis on structured guidance as a critical element in the experiential learning cycle. Students appreciated the resources, safe work environment, and inclusive organizational culture provided by host institutions. Supportive environments allowed them to focus on

learning, ask questions without hesitation, and take initiative in completing tasks. According to Bandura (2001), social and environmental support is essential in shaping students' self-efficacy and motivation. A workplace culture that fosters learning and provides fair opportunities enables students to engage meaningfully in tasks, explore their potential, and gain confidence in their abilities. Additionally, orientation and mentoring provided by the institutions helped students understand workplace expectations, reinforcing the relevance of institutional support in enhancing the learning process. These findings corroborate previous research emphasizing the importance of collaboration between educational institutions and industry partners in promoting effective OJT experiences (Martinez & Lopez, 2017; Snyder & Snyder, 2019).

### 3.2 Discussion and Theoretical Implications

The findings indicate that positive OJT experiences arise from the interaction of mentorship, task relevance, and institutional support. Through mentorship, students engaged in reflective observation and gained confidence via modeling and guidance, consistent with Kolb's ELT and Bandura's SCT. Task relevance ensured that students could meaningfully apply theoretical knowledge, enhancing their learning and professional growth. Institutional support, including preparation and orientation, facilitated a smooth transition into the workplace and provided a safe, resource-rich environment conducive to learning. These results emphasize that experiential and social learning processes are mutually reinforcing. Mentorship and institutional support provide the scaffolding necessary for students to engage in meaningful reflection, while relevant tasks allow students to apply and extend their knowledge. The integration of ELT and SCT provides a robust framework for understanding the mechanisms by which OJT contributes to career preparedness, skill development, and personal growth among mathematics students. Overall, the study demonstrates that the success of OJT programs depends not only on the tasks assigned but also on the quality of mentorship and the supportiveness of the organizational environment, reinforcing the theoretical perspectives outlined in the review of the related literature and review of the related studies.

## 4. Conclusion and recommendation

This study revealed that the On-the-Job Training (OJT) experiences of BS Mathematics students were shaped by three key factors: quality mentorship, relevance of assigned tasks, and institutional and organizational support. Supportive and accessible mentors enhanced students' confidence and professional growth, meaningful mathematics-related tasks allowed them to connect theory to practice, and effective coordination between the university and host organizations provided a conducive learning environment, reflecting the principles of Kolb's Experiential Learning Theory (1984) and Bandura's Social Cognitive Theory (1997).

To further strengthen OJT outcomes, it is recommended that the university implement a structured pre-OJT preparation program conducted two weeks before deployment, including a one-week orientation covering workplace expectations, time management, and mentorship guidelines, the assignment of mentors who participate in pre-OJT briefing sessions, and coordination with host organizations to align tasks with students' academic training. The effectiveness of these measures should be evaluated through pre- and post-orientation surveys and task alignment reviews, ensuring that students enter OJT confident, prepared, and able to meaningfully apply theoretical knowledge from day one.

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