Bartın University Journal of Faculty of Education
BUEFAD Volume 14, Issue 3

960-971
dergipark.org.tr/buefad
DOI: 10.14686/buefad.1709772

Role Dynamics and Activities of Physics Teachers as Mentees in a Mentoring Program

Ayşegül Sağlam Arslan [a]*, Alparslan Şahinoğlu [b], Meral Beşken Ergişi [c]

a Professor, Trabzon University, https://orcid.org/0000-0001-8340-2205 * asaglam-arslan@trabzon.edu.tr
b Teacher, Ministry of Education, https://orcid.org/0000-0001-5298-4660
c Assistant Professor, Trabzon University, https://orcid.org/0000-0002-1163-8662

Research Article
Received: 30.5.2025
Revised: 13.7.2025
Accepted: 13.7.2025

Abstract

This study aims to explore the roles adopted and activities undertaken by mentees during a structured group mentoring program designed to support in-service physics teachers' professional development. Using a case study method, three teachers with more than ten years of experience were selected as participants for this study. Within the scope of the study, a total of 16-week group mentoring program was conducted by two mentors who are experts in their fields, and only eight weeks of implementation sessions were video-recorded for analysis. The findings and results of this study revealed that mentees adopted a variety of dynamic roles throughout the process, including informer/informed, critical thinker, inquirer, content developer, and passive attendee. These roles reflected varying degrees of engagement and made distinct contributions to the learning environment. Active roles such as informer and content developer promoted higher cognitive involvement and knowledge sharing, while even passive roles facilitated learning through observation and reflection. Importantly, mentees frequently shifted between roles, underscoring the flexible and evolving nature of participation in effective mentoring settings and highlighting the need for responsive, learner-centered support structures.

Keywords: mentoring, mentee roles, physics teachers

Fizik Öğretmenlerinin Mentörlük Programında Benimsedikleri Roller ve Yürüttükleri Etkinlikler

Öz

Bu çalışmanın amacı, fizik öğretmenlerinin mesleki gelişimini desteklemeye yönelik yapılandırılmış grup mentörlük programı sürecinde mentilerin benimsedikleri rolleri ve yürüttükleri etkinlikleri incelemektir. Bu amaç doğrultusunda çalışma özel durum yöntemi ile yürütülmüş ve on yıldan fazla deneyime sahip üç öğretmen katılımcı olarak seçilmiştir. Çalışma kapsamında toplamda 16 haftalık grup mentörlük modeli kapsamındaki sekiz haftalık mentörlük uygulaması alanında uzman iki mentör tarafından yürütülmüş ve mentörlük seansları video kayıt altına alınmıştır. Çalışmanın bulgu ve sonuçları, mentilerin süreç boyunca bilgi veren/bilgilendirilen, eleştirel düşünür, sorgulayıcı, içerik geliştirici ve pasif katılımcı gibi çeşitli dinamik roller üstlendiklerini ortaya koymuştur. Bu roller, farklı katılım düzeylerini yansıtarak öğrenme ortamına özgün katkılar sağlamıştır. Bilgi veren ve içerik geliştirici gibi aktif roller daha yüksek bilişsel katılım ve bilgi paylaşımını teşvik ederken, pasif roller dahi gözlem ve yansıtma yoluyla öğrenmeyi desteklemiştir. Ayrıca, mentilerin roller arasında sık sık geçiş yapmaları, etkili mentörlük ortamlarında katılımın esnek ve gelişen doğasını vurgulamakta ve öğrenci merkezli, duyarlı destek yapılarının önemini ortaya koymaktadır.

Anahtar kelimeler: mentörlük, menti rolleri, fizik öğretmenleri

To cite this article in APA Style:

Sağlam-Arslan, A., Şahinoğlu, A., & Beşken-Ergişi M. (2025). Role dynamics and activities of physics teachers as mentees in a mentoring program. *Bartın University Journal of Faculty of Education, 14*(3), 960-971. https://doi.org/10.14686/buefad.1709772

© 2025 Bartın University Journal of Faculty of Education. This is an open-access article under the Creative Commons Attribution NonCommercial 4.0 license (https://creativecommons.org/licenses/by-nc/4.0/).

INTRODUCTION

A variety of applications and methods are employed to support teachers' professional development and continually update their teaching practices. Among these, mentoring stands out as a pivotal method that significantly contributes to enhancing educators' skills and knowledge (Hudson, 2013). Mentoring traditionally involves a more knowledgeable and experienced individual (the mentor) providing guidance to someone less experienced (the mentee), fostering growth through support, instruction, and shared expertise (Anderson & Shannon, 1988; Barrera et al., 2010; Hobson et al., 2009; Shea, 2001).

While the primary objective of mentoring is to ultimately improve student outcomes, the process also benefits for both mentors and mentees. Mentors refine their professional skills and communication abilities, while mentees develop competencies such as goal setting, motivation, job satisfaction, psychological resilience, and employability (Besken-Ergisi, 2021; Ehrich et al., 2004; Hudson, 2013; Langdon, 2013; Lopez-Real & Kwan, 2005; Klasen & Clutterbuck, 2002). Mentees, in particular, gain from mentorship through improved capacity to manage occupational stress, effective implementation of academic programs, and cultivation of professional identity and confidence—factors crucial for long-term career development. They may also experience increased income potential, access to broader career pathways, and entry into valuable professional networks (Ehrich et al., 2004).

However, the way mentoring is commonly enacted, especially for in-service teachers, reveals significant limitations rooted in traditional, hierarchical structures. A substantial body of literature suggests that in-service teachers are frequently positioned in passive roles within mentoring relationships, regarded more as recipients of expert knowledge than as active participants in their own professional development (Hobson et al., 2009; Edwards & Protheroe, 2003; Livingston, 2022). This perspective often elevates authority and experience over dialogue and mutually beneficial relationships. The mentor is seen as the knowledge bearer, while the mentee is expected to receive and apply this knowledge without much critical engagement. Such asymmetry marginalizes mentees' voices and limits opportunities for reflective practice, agency, and professional autonomy (Achinstein & Athanases, 2006; Atelapelto et al., 2013; Livingston, 2022).

This mentor-centric model has its roots in apprenticeship traditions in teacher education, where novice educators learned under the close supervision of experienced practitioners (Evertson & Smithey, 2000; Feiman-Nemser, 2001; Livingston, 2022). While effective in supporting early-career teachers, this model is increasingly viewed as inadequate for veteran in-service teachers who already bring substantial experience and pedagogical understanding as well as established values, beliefs, practices regarding teaching. When mentoring is reduced to the mere transmission of knowledge, it neglects the complex, dialogic, and contextually embedded nature of teacher learning. Consequently, mentoring risks becoming a compliance-based activity rather than an empowering and collaborative learning experience (Achinstein & Athanases, 2006).

Moreover, mentoring practices often reflect broader institutional and cultural norms in education that prioritize accountability, standardization, and performance metrics over inquiry, reflection, and professional growth (Ball & Cohen, 1999; Zeichner, 2009). These norms may lead mentors to focus on behavioral conformity and technical efficiency, positioning mentees as implementers of externally defined "best practices" rather than co-constructors of knowledge. This view reduces opportunities for innovation and critical engagement, inadvertently reproducing existing power structures and contributing to professional stagnation (Cochran-Smith & Lytle, 2009).

In contrast, research on teacher learning communities and professional learning networks supports the idea that in-service teachers thrive in environments where they are encouraged to take ownership of their learning (Lieberman & Miller, 2008). In such contexts, mentoring is embedded within a culture of continuous improvement and collective responsibility. Mentees are not isolated individuals receiving guidance but are active members of a professional community engaged in shared inquiry. This perspective aligns with the principles of distributed leadership and professional capital, which advocate for the empowerment of all teachers as leaders of learning (Hargreaves & Fullan, 2012).

Furthermore, the effectiveness of mentorship and training programs can be evaluated through a combination of objective metrics and subjective experiences, each offering unique insights into individual growth and learning outcomes. While many outcomes of mentorship practices can be measured through quantifiable indicators, certain aspects remain inherently subjective and are best captured through the personal reflections and self-assessments of mentees (Johnson, 2015). Moreover, targeted training and skill enhancement not only facilitate a deeper and more comprehensive understanding of the profession but also foster the development of

metacognitive abilities. This, in turn, enables individuals to engage in more accurate self-evaluation and critical reflection (Kruger & Dunning, 1999).

Additionally, much of the scholarly literature continues to focus predominantly on the roles and responsibilities of mentors, with relatively limited attention given to mentees' roles and their active, reciprocal contributions (Attaluri et al., 2025; Hudson, 2013; Merket, 2022; Wang & Odell, 2002). Mentees are often evaluated narrowly based on their classroom implementation of mentor advice or specific teaching outcomes, with little consideration for their involvement in shaping the mentoring process itself (Lindgren, 2005; Orland-Barak, 2006). This limited perspective fails to capture the nuanced and dynamic nature of mentoring, including mentees' critical reflections, collaborative engagements, and their influence on the mentoring agenda. Offering a more expansive view, Fong et al. (2013) examined pre-service teachers' roles in an e-mentoring program and identified them not just as passive learners, but as supporters, collaborators, leaders, active participants, and role models, highlighting the diverse and substantive ways mentees contribute to the mentoring relationship.

Current literature, which primarily emphasizes the roles of mentors, highlights a critical need for studies that thoroughly examine the multifaceted roles of mentees, especially as active and responsive participants in mentoring relationships. Investigating mentees' agency, proactive behaviors, and reciprocal influence is crucial for designing more effective, equitable, and mutually beneficial mentoring programs. Gaining a deeper understanding of how mentees actively engage, challenge, and co-construct the mentoring process through their dynamic roles is essential for developing comprehensive and effective mentoring models which enhance developmental outcomes for all participants. Thus, this study aimed to explore the roles adopted and activities undertaken by mentees during a structured group mentoring program designed to support three in-service physics teachers' professional development.

METHOD

Research Design

This research is designed as a qualitative case study, which provides a rich, in-depth exploration of a specific, bounded context—in this case, the mentoring experiences of a small group of in-service physics teachers. A case study approach is particularly well-suited for educational research where the aim is to understand complex social phenomena within their real-life context (Yin, 2018). This methodological choice allows for the examination of both the individual and collective experiences of the teachers, as well as the nuanced processes through which mentoring influences their professional development. By focusing on a clearly defined group of participants, the case study facilitates a holistic investigation of the interactions, reflections, and role adaptations that occur throughout the mentoring process.

This case study centers on three experienced physics teachers' roles in a structured mentoring program. Teachers who are volunteered to be in this study were chosen among experienced teachers with at least ten years of teaching experience. These teachers were selected purposively since teachers with more than 10 years of experience may develop their teaching strategies over the years of their professional life which may lead them to develop an attachment to some strategies over time and to resist changing their existing methods (Lomba-Portela, et al., 2022; Snyder, 2017). This resistance particularly negatively affects the implementation of student-centered teaching approaches in the classroom environment. The case study methodology enables the researcher to delve deeply into the mentoring dynamics among these participants, exploring how their roles evolve over time and how the mentoring experience contributes to their ongoing professional learning.

Volunteer teachers were recruited through MONE (Ministry of National Education). After an invitation of letter sent through local MONE branch to all school in a northeast city in Turkey, a total of 3 teachers volunteered to participate in this qualitative study.

Mentoring Program and Sessions

A total of a 16-week structured mentoring program was implemented with the participating mentees. The group mentoring process was implemented in the second stage, which took eight weeks (see Table 1), and in this stage, the essential mentoring applications were carried out by two physics educators with doctoral degrees in their field. During the eight-week mentoring implementation session, to support teachers' practices, teachers' classroom practices were observed, and structured feedback was provided to support the effective implementation of student-centered teaching approaches. To strengthen teachers' pedagogical knowledge base and increase their theoretical awareness of contemporary teaching approaches, mentors supported them in theoretical knowledge as well. Thus, a holistic mentoring process covering both theoretical and practical aspects was designed and implemented.

The mentoring process took place in a university setting, within a meeting room specifically arranged to support small group collaboration. Sessions were scheduled in accordance with the availability of both the mentor and mentees, most frequently held on Fridays between 1:00 PM and 5:00 PM. This time frame was intentionally chosen to coincide with participants' non-teaching hours, ensuring the program's efficiency and sustainability. The sessions were facilitated by a mentor holding a doctoral degree in physics education, with extensive academic experience and subject-matter expertise. The mentor provided both informational support and professional guidance, focusing on developing competencies aligned with contemporary instructional practices. These included student-centered lesson planning and delivery, material development, and the design of assessment tools. Additionally, the mentoring aimed to enhance teachers' argumentation and scientific thinking skills, while fostering their growth as reflective, research-oriented practitioners. One of the authors also participated in the process in the capacity of a non-intervening observer. As a researcher, they observed the mentoring interactions without disrupting the natural flow of the sessions. The focus was on capturing the dynamics of mentor–mentee relationships and the learning processes involved. Observations were reviewed after each session and were used formatively to refine the structure and improve the effectiveness of subsequent sessions.

The mentoring model itself was structured into three distinct yet interconnected phases—preparation, implementation, and evaluation—each designed to support teachers' professional development through observation, collaboration, and reflection (see Table 1.). This systematic approach sought to improve instructional practices by first identifying existing teaching behaviors, then providing targeted support, and finally assessing progress. Each phase played a critical role in establishing a reflective and supportive learning environment.

- *Stage One – Preparation:* During the initial phase, mentee teachers' classroom practices were systematically observed and video-recorded over a four-week period. This allowed for a comprehensive analysis of their instructional strategies and classroom interactions. Based on the observations, each mentee's performance was evaluated and categorized as strong, moderate, or weak. The results were shared with the mentees, and video footage served as a foundation for reflective discussions. These conversations highlighted individual strengths and identified areas for improvement, effectively laying the groundwork for the mentoring intervention.
- *Stage Two – Implementation:* The second phase involved the delivery of targeted mentoring support. Over the course of eight weeks, weekly group mentoring sessions were conducted, each lasting approximately three to four hours. These sessions were facilitated by experienced mentors and included a variety of practice-based activities such as mini-seminars aiming at strengthening teachers' theoretical background on contemporary teaching approaches and to provide a theoretical basis for classroom practice subjects, collaborative lesson planning, instructional practice observations, and group discussions. Feedback from these sessions informed ongoing improvements, and mentees actively engaged in the process to enhance their teaching methods.
- *Stage Three – Evaluation:* In the final phase, the effectiveness of the mentoring program was systematically evaluated. This was achieved by analyzing mentees' classroom practices following the intervention and comparing them to those observed in the initial stage. The evaluation aimed to determine the extent to which the program contributed to professional growth and improved instructional performance.

Table 1. Mentoring Model

Stage	Description	Duration	Activities
Stage I. Preparation	Mentees' lectures were observed and video-recorded. Practices were categorized as strong, medium, or weak. Feedback was given to mentees.	4 weeks (Before implementation)	Observations and evaluation Feedback Defining purpose and expectation
Stage II. Implementation	Group mentoring sessions were conducted weekly with mentors to support teaching practices.	8 weeks (3–4 hours/week)	Mini seminars (on subjects such as contemporary teaching methods, material development, and argumentation-based teaching) Planning Treatment and observation Discussion and evaluation Redesign and evaluation
Stage III. Evaluation	The effects of mentoring were analyzed based on teachers' classroom practices.	4 weeks (After implementation)	Evaluation of the program

Data Collection Process

Data were collected through mentoring sessions in the second stage of implementation of mentoring model (see Table 1), which were video recorded for later analysis. Each session in this stage was categorized by the researchers into three segments: Introductory Activities, Collective Discussion and Studies, and Concluding Studies. Introductory Activities included jointly determining the session's purpose, briefly reviewing previous sessions (if any), clarifying the agenda based on classroom situations encountered by the teachers, and engaging in practices to prepare the mentee emotionally and mentally for the process. In the second segment, Collective Discussion and Studies, the core application and discussion activities of the mentoring session were examined. During this phase, mentees shared their classroom experiences and analyzed the challenges they faced. This stage also included reflections on the teaching process and feedback from the mentor. Additionally, preparations for the upcoming week's lessons—such as developing materials and lesson plans—were discussed. Concluding Studies involved summarizing the session and planning for the future. Specifically, this included reviewing the topics covered, reflecting on what the mentees had learned, providing an overall evaluation of the session, and setting goals for the next meeting. In this context, the roles undertaken by the mentees at each stage were analyzed in detail, revealing how they participated in the overall process.

Mentoring practices, which continued for an average of 3 to 4 hours per week for eight weeks, were designed according to the needs of the participating teachers.

Data Analysis Process

To facilitate a detailed analysis of the mentoring process, all mentoring sessions were video-recorded and subsequently transcribed. This approach enabled a thorough examination of the roles assumed by the participating teachers and the specific activities they engaged in during the sessions. The data were analyzed using content analysis, guided by methodological principles outlined by Patton (2002) and Yıldırım & Şimşek (2001), ensuring both rigor and consistency throughout the analytical process. For the purposes of anonymity, the mentees are referred to as M1, M2, and M3.

The analysis unfolded in several systematic steps:

- The submitted transcripts were independently reviewed by two authors to ensure a comprehensive understanding of the data set. This preliminary reading allowed the researchers to become immersed in the content and to begin identifying recurring patterns.
- The data were then classified by identifying similarities and differences across responses. This comparative approach facilitated the development of an initial coding framework, which aimed to capture the core elements and variations in participants' experiences and behaviors.
- After establishing the initial codes, these were grouped into broader categories. Through this process, overarching themes began to emerge, reflecting the key dimensions of the teachers' participation and engagement during the mentoring sessions.
- To enhance the credibility and consistency of the findings, the second author reviewed the emergent themes, comparing them against the original transcripts. This step ensured that the thematic interpretations remained grounded in the actual data.
- Finally, the authors engaged in collaborative discussions to resolve any discrepancies and to refine the definitions of each theme. This consensus-building process helped ensure that the final thematic framework accurately represented the data and aligned with the research objectives.

Research Ethics

Participation in the study is completely voluntary and participants were informed about the process in a clear and understandable manner before participating. Participants were also informed that they had the right to withdraw from the study at any time. Participants were not judged based on their participation, roles and achievements in the mentoring sessions, and only their professional development was supported. In addition, code names (M1, M2, M3) were used in cases where participants' identities were kept confidential and citations were made, and the data was used only for research purposes.

FINDINGS

This section first provides information about the activities conducted during the mentorship sessions with the mentees, followed by a presentation of the roles adopted by the mentees.

The mentoring sessions conducted within the scope of this study were carried out in a planned and structured manner to support teachers' professional and occupational development. The various activities implemented throughout this process aimed to enhance teachers' skills related to lesson planning, goal setting, material development, problem-solving, and other instructional competencies. A content analysis of the transcripts from these sessions was conducted, through which the activities were categorized, and exemplified, and their frequency of occurrence was presented by session in Table 2.

Table 2. The activities carried out in the Stage II. implementation of mentoring program

The activities	Aim	Aims and Descriptions	Observed Session (S)
Introductory activities	Needs analysis	Determining mentees' individual and group needs, expectations and goals	S1, S3, S4, S6
	Draw attention	Attracting mentees' attention and creating focus	S1, S2, S5, S6
	Motive	Ensuring extrinsic and intrinsic motivation of mentors	S2, S3, S4, S5, S6, S7
	Planning Session	Clarifying the structural framework of the session and informing the mentees	S1, S2
Collective discussion and studies	Discussion	Having structured discussions with mentees regarding the content of the session	S1, S2, S3, S4, S5, S6, S7
	Developing material	Designing course materials with mentees	S1, S2, S3, S4, S5, S7
Concluding studies	Evaluating Session Evaluation	Evaluation of the suitability of the mentoring process and outputs for the purpose of the session.	S1, S2, S3, S4, S5, S6, S7
	Summarizing Session	Summarizing the work done during the session to make it permanent	S2, S3, S4, S5, S6, S7

Within the scope of this study, the mentoring sessions were designed as a series of structured activities aimed at facilitating organized learning and development processes. These activities were generally organized under three main categories: introductory, collective discussions and studies, and concluding studies. The specific tasks carried out at each stage are detailed below.

Introductory activities generally encompass tasks such as needs analysis, drawing learners' attention, fostering motivation, and planning instructional sessions.

Needs analysis: At this stage, both mentors and mentees identified their learning and developmental needs at individual and group levels, in alignment with the objectives of the process. In this context, the mentoring sessions were structured by analyzing the participants' knowledge levels, expectations, and goals, with the aim of designing a personalized mentoring process.

Draw Attention: At the beginning of the mentoring sessions, activities were conducted to capture participants' attention, enhance their focus, and support their cognitive readiness. These activities included posing effective questions, presenting case studies, and facilitating interactive discussions.

Session Planning: At this stage, the mentor outlined the objectives, duration, and content of the session, and collaboratively established both macro- and micro-level rules and expectations with the mentees. The purpose of this planning was to provide a structural framework for the session and to inform the mentees about their responsibilities and anticipated contributions.

The concept of *Collective Discussion and Studies* generally encompasses activities such as discussion, material development, and experimentation. It has been observed that discussions typically occur during the second phase of the mentorship sessions (see Table 1). During this stage, mentees actively participate by sharing their ideas and engaging with diverse perspectives through interactive activities. The primary aim of these discussions is to foster collaboration among mentees by enhancing their critical thinking skills. Within the scope

of *Material Development*, mentors and mentees collaboratively designed various instructional materials and assessment tools. The process aimed to support mentees' creative thinking and productivity, facilitating the transformation of acquired knowledge into tangible products.

All mentoring sessions conducted in this study were concluded with *Concluding Studies* in which both *Evaluating* and *Summarizing* activities were implemented. At the end of each mentoring session, evaluation activities were carried out to assess the effectiveness of the session both in terms of process and outcomes. Mentees provided verbal feedback on the session and conducted both individual and group evaluations of the activities carried out. These evaluation efforts aimed to identify the impact areas of the specific mentoring session and to inform the development areas for subsequent sessions. On the other hand, as part of the *Summarizing* process, key concepts and learning outcomes addressed during the session were recapitulated. This summarization was intended to reinforce the mentees' learning and support cognitive structuring, thereby enhancing the retention of knowledge.

Roles adopted by mentees

During the mentoring process, each mentee adopted specific roles aligned with the responsibilities and expectations unique to the process, and through these roles, they engaged in activities that supported their professional development. Below, the common roles that emerged from the analysis of the mentoring session transcripts are summarized. The observed characteristics of these roles—including their defining features, illustrative statements, and frequency of occurrence—are presented in Table 3.

Table 3. Mentee roles and frequency of occurrence

Mentees' Roles	Examples of Associated Practices	Example of Utterance	Occurrences	
			Mentee	Week
Informative/Informed	Asks questions, explains/makes statements	"What kind of misconceptions are there in the literature regarding this outcome in the program?" (M3)	M3	W3, W5
Critical thinker	Criticizes ideas, offers ideas	"Teacher [mentor], let's enrich this concept map you prepared with various measurement tools." (M2)	M1 M2 M3	W1, W2, W,3, W4, W6, W1, W6 W4, W7
Inquirer	Guides discussions, enriches the learning experience	"To what extent do you think the material we developed meets the different learning styles and individual needs of students? What can we do differently?" (M3)	M1 M3	W7 W2, W6
Content developer	Enriches the sharing environment	"It can be an aquarium or a large glass container in a large container filled with water. Have students observe by throwing a piece of wood, a piece of iron and a plastic ball into it." (M1)	M1 M2	W5 W2, W4, W5
Passive attendee	Listens to and approves of others	"Hmm, Yes, I know (M2)"	M2 M3	W3 W1

Analysis of the findings revealed that in collaborative learning environments, mentees engage in various roles that reflect their level of participation, cognitive development, and approach to knowledge acquisition. These roles range from active engagement and content creation to passive observation, each contributing differently to the learning dynamics within a group. The following outlines key mentee roles—Informer/Informed, Critical Thinker, Inquirer, Content Developer, and Passive Attendee—highlighting how they interact with knowledge, peers, and the broader learning process.

- **Informer/Informed:** This role is grounded in active participation and is characterized by interaction within the processes of knowledge sharing and acquisition. The mentee who assumes the role of knowledge receiver is typically at an early stage of cognitive development and demonstrates motivation toward the learning process, seeking to close gaps in their understanding. Conversely, the knowledge-giving mentee contributes to the learning and meaning-making processes of the group by sharing their existing knowledge and expertise. In summary, this role represents an interaction based on the exchange of knowledge. The mentee with limited or insufficient understanding of the subject seeks to learn by asking questions or requesting clarification (knowledge receiver), while the mentee who possesses relevant knowledge provides explanations and offers support to others (knowledge provider).

- **Critical Thinker:** This role represents a form of participation characterized by the demonstration of critical thinking skills and an inquisitive approach to knowledge. It involves deep reflection on and evaluation of ideas or content. A mentee in this role actively listens to the perspectives or practices being presented, offers constructive critiques, questions the accuracy of information, highlights inconsistencies, and proposes alternative viewpoints. This high level of engagement supports the mentee not only as a learner but also as an active contributor to the learning environment.
- **Inquirer:** The inquirer role pertains to the mentee's curiosity and depth of understanding within the learning process, fostering the critical and exploratory nature of learning. Mentees in this role deepen their own learning and stimulate others' thinking by asking meaningful questions. Through inquiry, they promote the emergence of new ideas, enrich the learning experience, and enhance the group's collective awareness and comprehension of the subject matter.
- **Content Developer**: This role is grounded in active contribution. The mentee engages in the learning environment by producing content or materials related to the topic, thereby assisting in the construction of knowledge. A mentee in this role is not a passive recipient of information, but rather someone who reconstructs and contributes to the learning process. This may involve delivering presentations, developing examples, or sharing instructional materials with the group.
- **Passive Attendee:** This role reflects a minimal level of participation. The mentee is physically present but does not actively engage in the learning process—refraining from speaking, asking questions, or offering comments. They may only display occasional non-verbal cues or brief affirmations such as "yes" or "I agree." However, this passive engagement does not necessarily imply the absence of learning; mentees who remain silent due to factors such as social anxiety may still learn through observation and internalization.

DISCUSSION & CONCLUSION

This study investigates the practices implemented during a structured mentoring process, focusing particularly on the diversity of roles adopted by mentees and how these roles evolved throughout the mentoring sessions. The mentoring sessions were purposefully designed within a framework of planned and structured activities aimed at supporting the professional development of teachers. These sessions were conducted in three distinct phases and were intended to enhance teachers' competencies in areas such as lesson planning, material development, problem-solving, and pedagogical skills. The analysis revealed that the content of certain phases varied depending on the specific needs of the sessions.

One key element observed across the mentoring process was the emphasis on needs analysis, which emerged as a critical component for personalizing and increasing the effectiveness of the mentoring experience. The identification of learning needs, jointly determined by mentors and mentees, supported the development of goal-oriented content. When mentees were able to identify their own learning needs, their level of engagement and responsibility in the learning process increased. However, the effectiveness of the needs analysis depended significantly on the mentees' capacity for realistic self-assessment and the mentor's guidance. Therefore, both the existence of this step and the quality of its implementation were shown to be crucial for personalizing learning experiences. This approach aligns with findings in the literature emphasizing the importance of needs assessment in mentoring programs. For instance, Fer (2015) highlights that needs analysis provides program designers with information that enables them to make informed decisions, ensuring that instructional design is conducted at the right time, for the right individuals, with appropriate content and methods. Additionally, Zachary (2000) emphasizes that the preparation stage, which includes needs analysis, is the most critical in the mentoring process, as it lays the groundwork for the relationship and ensures that both mentor and mentee are aligned in their goals by incorporating a thorough needs analysis, mentoring programs can be tailored to address specific gaps in knowledge and skills, leading to more effective and meaningful professional development outcomes (Legler, 2023; Sucuoğlu, 2018).

The second phase of the mentoring process involved collaborative discussions and practices, which supported interaction-based professional development by promoting collaborative learning among teachers. Exposure to diverse perspectives during these discussions contributed to the development of critical thinking skills. The final phase, which focused on reflective and summarizing activities, played a significant role in reinforcing the internalization of learning. Evaluations conducted at the end of sessions contributed to mentees' self-awareness and the cultivation of a feedback-oriented practices. Summarization activities also acted as a reinforcement tool,

aiding in the recall and restructuring of learning outcomes. Such practices were found to support teachers in meaningfully organizing both their individual and collective learning experiences. In light of these findings, structured mentoring programs can be considered powerful tools in supporting teacher professional development. However, implementing these programs with flexibility rather than rigid frameworks may contribute more effectively to mentees' learning processes.

Analysis of the data revealed that mentees adopted various roles within the learning environment, including informer/informed, critical thinker, inquirer, content developer, and passive attendee. The characteristics of these roles emphasized the social and interactive dimensions of learning. The informer/informed and content developer roles appeared to be associated with higher levels of cognitive engagement and knowledge production. From the perspective of Vygotsky's sociocultural theory of learning, mentees assuming these roles acted as mediators in the transfer of knowledge within the group and contributed to the development of the learning environment. In contrast, the critical thinker and inquirer roles highlighted the importance of inquiry and the restructuring of understanding, aligning closely with principles of problem-based learning. These roles facilitated both deeper individual learning and collaborative knowledge construction. The presence of critical questioning and alternative viewpoints was found to positively influence the effectiveness of learning environments. Among the noteworthy findings was the identification of the passive attendee role. While often perceived as indicative of low engagement, results of this study suggest that learning through this role should not be assessed solely based on observable participation. Concepts such as implicit learning and silent participation in the literature (Rogoff, 1994; Lave & Wenger, 1991) emphasize that learning can also occur through observation and internalization. This may be particularly relevant for mentees who experience high levels of social anxiety or who culturally prefer a less prominent role in group settings.

The results also showed that mentees' roles were not fixed but dynamic, shifting throughout the mentoring process. This variability underscores the dynamic nature of mentoring interactions. For instance, a mentee who initially adopted a receptive role could later assume a more active position as a knowledge contributor or content creator. Such transitions highlight the importance of a flexible, supportive, and encouraging mentoring environment—one that allows mentees to move between roles as their confidence and competencies develop (Kemmis et al., 2014). As noted by Hobson and Malderez (2013), effective mentoring must be responsive to the evolving needs and agency of the mentee, facilitating a space for gradual role transformation and professional growth.

In conclusion, this study demonstrates that mentoring processes constitute a learning experience not only through knowledge transmission but also through the assumption and transformation of roles. This aligns with sociocultural perspectives on learning, which emphasize the importance of active participation and role-taking in knowledge construction (Vygotsky, 1978; Lave & Wenger, 1991). Unlike traditional in-service training seminars—often characterized by passive learning and standardized delivery—mentoring provides a more dynamic and personalized professional development experience (Borko, 2004; Feiman-Nemser, 2001). The adoption of diverse roles by mentees, such as inquirer, collaborator, and content developer, directly impacts both their individual learning trajectories and the overall quality of the learning environment by fostering deeper engagement, critical thinking, and reflective practice (Clarke et al., 2014; Wang & Odell, 2002).

Based on these findings, future research should consider comparative analyses of structured mentoring models implemented across various teacher groups (e.g., based on experience level or school type). Additionally, examining the impact of these roles on the knowledge and skills acquired through mentoring could provide further insights into the effective integration of mentoring into teacher education.

Limitations

This study, conducted with a qualitative research approach and a limited number of teachers (3) over a long-term mentoring process, has limited generalizability of its findings. The small number of participants restricts the ability to reflect similar results for teachers working in different types of schools and in various geographic regions. Additionally, the specific characteristics of the mentoring model adopted in the study and the individual traits of the participants also limit the applicability of the descriptive roles identified by the research findings to other situations. Furthermore, due to the nature of qualitative research, the findings are not supported by quantitative data for broader inferences.

Statements of Publication Ethics

Ethical principles were taken into consideration in the conduct of this study. In this context, participants' consent was obtained on a voluntary basis, confidentiality of data was maintained, and no conflict of interest or ethical violation was included in the research process. The Ethics Committee Approval was taken from Karadeniz Technical University on 03.04.2014 with the issue number of 82554930/400-572.

Researchers' Contribution Rate

Authors	Literature review	Method	Data Collection	Data Analysis	Results	Conclusion
Author 1	☒	☒	☐	☒	☒	☒
Author 2	☒	☒	☒	☐	☐	☐
Author 3	☒	☒	☐	☒	☒	☒

Conflict of Interest

There is no any conflict of interest. Data used in this study was obtained from a broader TÜBİTAK-supported project numbered 214K043. A limited part of this study was presented as a summary paper at the ATEE 2023 conference.

REFERENCES

Achinstein, B., & Athanases, S. Z. (2006). *Mentors in the making: Developing new leaders for new teachers*. Teachers College Press.

Anderson, E.M., & Shannon, A.L. (1988) Toward a Conceptualization of Mentoring. *Journal of Teacher Education, 39*, 38-42. http://dx.doi.org/10.1177/002248718803900109

Attaluri, P. K., Wirth, P. J., Shaffrey, E. C., Bentz, M. L., & Afifi, A. M. (2025). The less emphasized link in mentorship: The role of the mentee. *Plastic and Reconstructive Surgery, 155*(5), 958e–960e. https://doi.org/10.1097/PRS.0000000000011835

Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3–32). Jossey-Bass.

Barrera, A., Braley, R. T., & Slate, J. R. (2010). Beginning teacher success an investigation into the feedback from mentors of formal mentoring programs. *Mentoring & Tutoring: Partnership in Learning*, *18*(1), 61–74. https://doi.org/10.1080/13611260903448383

Besken-Ergisi, M. (2021). How does working with and mentoring student teachers shape teacher educators' professional identity? In L. Shagrir & S. Bar-Tal (Eds.), *Exploring professional development opportunities: Promoting faculty-student partnerships* (pp. 128–142). Routledge.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3–15. https://stacks.stanford.edu/file/druid:vc541fv0664/Borko-PD_and_Teacher_Learning.pdf

Clarke, A., Triggs, V., & Nielsen, W. (2014). Cooperating teacher participation in teacher education: A review of the literature. *Review of Educational Research, 84*(2), 163–202. https://doi.org/10.3102/0034654313499618

Cochran-Smith, M., & Lytle, S. L. (2009). *Inquiry as stance: Practitioner research for the next generation*. Teachers College Press.

Edwards, A., & Protheroe, L. (2003). Learning to see in classrooms: What are student teachers learning about teaching and learning while learning to teach in schools? *British Educational Research Journal*, *29*(2), 227–242. https://www.tandfonline.com/doi/abs/10.1080/0141192032000060957

Ehrich, L. C., Hansford, B., & Tennent, L. (2004). Formal Mentoring Programs in Education and Other Professions. *A Review of the Literature. Educational Administration Quarterly*, *40*, 518–540. https://doi.org/10.1177/0013161X04267118

Evertson, C. M., & Smithey, M. W. (2000). Mentoring Effects on Protégés' Classroom Practice: An Experimental Field Study. *The Journal of Educational Research*, *93*(5), 294–304. https://doi.org/10.1080/00220670009598721

Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, *103*(6), 1013–1055. https://doi.org/10.1111/0161-4681.00141

Fer, S. (2015). *Öğretim tasarımı* [Instructional Design]. Anı Yayıncılık.

Fong, N. S., Zakaria, M. H., & Wan-Mansor, W. F. A. (2013). Roles of mentees via virtual mentoring. *Jurnal Teknologi (Sciences & Engineering)*, *65*(2), 133–140. https://doi.org/10.11113/jt.v65.2359

Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.

Hobson, A. J., Ashby, P., Malderez, A., & Tomlinson, P. D. (2009). Mentoring beginning teachers: What we know and what we don't. *Teaching and Teacher Education*, *25*(1), 207–216. https://doi.org/10.1016/j.tate.2008.09.001

Hobson, A. J., & Malderez, A. (2013). Judgementoring and other threats to realizing the potential of school-based mentoring in teacher education. *International Journal of Mentoring and Coaching in Education, 2*(2), 89–108. https://doi.org/10.1108/IJMCE-03-2013-0019

Hudson, P. (2013). Mentoring as professional development: 'Growth for both' mentor and mentee. *Professional Development in Education*, *39*(5), 771–783. https://doi.org/10.1080/19415257.2012.749415

Johnson, W. B. (2015). *On being a mentor: A guide for higher education faculty* (2nd ed.). Routledge.

Kemmis, S., Heikkinen, H. L. T., Fransson, G., Aspfors, J., & Edwards-Groves, C. (2014). Mentoring of new teachers as a contested practice: Supervision, support and collaborative self-development. *Teaching and Teacher Education, 43*, 154–164. https://doi.org/10.1016/j.tate.2014.07.001

Klasen, N., & Clutterbuck, D. (2002). *Implementing mentoring schemes: A practical guide to successful programs*. Routledge.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, *77*(6), 1121–1134. https://doi.org/10.1037/0022-3514.77.6.1121

Langdon, F. J. (2013). Evidence of mentor learning and development: An analysis of New Zealand mentor/mentee professional conversations. *Professional Development in Education*, *40*(1), 36–55. https://doi.org/10.1080/19415257.2013.833131

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation. Cambridge University Press.*

Legler, N. (2023). Needs assessment and data analytics: Understanding your constituencies. In D. Law & N. Dominguez (Eds.), *Making connections: A handbook for effective formal mentoring programs in academia* (pp. 104–130), Paper 7. Utah State University. https://digitalcommons.usu.edu/makingconnections/7/

Lieberman, A., & Miller, L. (2008). *Teachers in professional communities: Improving teaching and learning*. Teachers College Press.

Lindgren, U. (2005). Experiences of beginning teachers in a school-based mentoring program in Sweden. *Educational Studies*, *31*(3), 251–263. https://doi.org/10.1080/03055690500236290

Livingston, K. (2022). What do we mean by mentoring? The context for mentoring in Scotland. In S. Eady, J. Essex, K. Livingston, & M. McColl (Eds.), *Mentoring teachers in Scotland: A practical guide* (pp. 3–18). Routledge. https://doi.org/10.4324/9780429356957-2

Lomba-Portela, L., Domínguez-Lloria, S., & Pino-Juste, M. R. (2022). Resistances to Educational Change: Teachers' Perceptions. *Education Sciences, 12*(5), 359. https://doi.org/10.3390/educsci12050359

Lopez-Real, F., & Kwan, T. (2005). Mentors' perceptions of their roles in mentoring student teachers. *Asia-Pacific Journal of Teacher Education, 33*(3), 275–287. https://doi.org/10.1080/13598660500286267

Merket, M. (2022). An analysis of mentor and mentee roles in a pre-service teacher education program: A Norwegian perspective on the future mentor role. *Mentoring & Tutoring: Partnership in Learning, 30*(5), 524–550. https://doi.org/10.1080/13611267.2022.2127261

Orland-Barak, L. (2006). Convergent, divergent and parallel dialogues: Knowledge construction in professional conversations. *Teachers and Teaching: Theory and Practice*, *12*(1), 13–31. https://doi.org/10.1080/13450600500364547

Patton. M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Sage Publications.

Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity, 1*(4), 209–229.

Shea, G. F. (2001). *Mentoring: How to develop successful mentor behaviors*. Crisp Publications.

Sucuoglu, H. (2018). Design and implementation of mentoring programs. In K. Dikilitas, E. Mede, & D. Atay (Eds.), *Mentorship strategies in teacher education* (pp. 284–296). IGI Global. https://doi.org/10.4018/978-1-5225-4050-2

Snyder, R.R. (2017). Resistance to change among veteran teachers: Providing voice for more effective engagement. *NCPEA International Journal of Educational Leadership Preparation, 12* (1). https://files.eric.ed.gov/fulltext/EJ1145464.pdf

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wang, J., & Odell, S. J. (2002). Mentored learning to teach according to standards-based reform: A critical review. *Review of Educational Research, 72*(3), 481–546. https://doi.org/10.3102/00346543072003481

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage Publications.

Yıldırım, A. & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in social sciences.] (9th ed.). Seçkin Yayıncılık.

Zachary, L. (2000). *The Mentor's Guide: Facilitating Effective Learning Relationships*. John Wiley & Sons, Inc.

Zeichner, K. (2009). *Teacher education and the struggle for social justice.* Routledge.