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# The experiences of doctoral students working in university settings

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*Informal learning activities and workplace learning constitute a substantial part of a PhD student's knowledge as an adult. It is essential to define the concept of workplace learning and the roles and responsibilities of doctoral students clearly and transparently while explaining how doctoral courses and workplace experience correspond to each other. Learning, in this sense, manifests itself in everyday practices of work and social contexts. In this vein, this study explores the informal workplace learning experiences of PhD students working in university settings with different job titles to offer new contributions to the literature on informal adult learning. Data were collected through in-depth semi-structured interviews with 10 PhD students who were employed in different university settings. Thematic analysis was used to interpret the data. The findings revealed that doctoral students working at universities learn at work by participating in various*

*work-related tasks, collaborating with their colleagues and other people in these settings, and encountering new challenges that provide learning opportunities for them. The unexpected challenges, tasks, and office conversations that are not directly related to the work play key roles in the learning and skill acquisition of this target group. Doctoral students are among the intellectual assets of their home countries and the world. In addition to their formal graduate education, understanding their informal learning and how they learn in their workplaces will be of value for both academia and organisational effectiveness. In parallel to this, the idea of educating the qualified labour force of the future through graduate education has become a fundamental issue for every country in efforts to compete on a global scale.*

*Investigating this phenomenon in different university contexts and area-specific programs would contribute to a better understanding of the informal workplace learning experiences of doctoral students. Graduate program planners could consider integrating the informal learning processes of graduate students into future graduate programs.*

***Keywords**: informal learning, workplace learning, informal workplace learning, graduate education, doctoral students, connectivism*

## Introduction

The demand for more human capital has increased, especially in recent years, with the demand for more production in knowledge societies. The knowledge-based economy on a global scale has increased the learning needs of individuals to meet such demands (Kessels & Kwakman, 2007). Under these conditions, doctoral studies have gained significance. Knowledgeable individuals are seen as potential contributors to economic development (Claxton, 2004). In this worldwide context, formal education in graduate schools for PhD students is not sufficient for global competition in the labour market. That is one of the reasons why the informal and workplace learning activities of these individuals have increased rapidly in recent years (Tynjälä, 2008). Informal learning takes place spontaneously, is unstructured, and happens in

daily life in a variety of settings without a curriculum as defined in the literature on workplace learning (Hann & Caputo, 2012; Le Clus, 2011; Merriam et al., 2007, Misko, 2008; Sambrook, 2005). According to this point of view, learning primarily arises through socialisation without awareness (Livingstone, 2001). Everyday informal learning can occur in three ways: through self-directed learning, incidental learning, or socialisation/tacit learning (Schugurensky, 2000). All three kinds of everyday informal learning may or may not be conscious or planned. Workplace learning has two main directions. First, there may be a focus on the articulation between education and work to recognise and provide credentials for all forms of individualistic learning, reflecting cognitive theories of learning. Second, workplaces where learning takes place naturally can be considered as good learning atmospheres since any learning occurring is based on the rules of the organisation. Therefore, the learning occurring in such a workplace can be described as situated learning (Cullen et al., 2002) Indeed, workplace learning may focus on individual or social learning (Illeris, 2003). Understanding the informal workplace learning experiences of PhD students is valuable in exploring their individual and social learning in this sense.

## Literature review

### *Informal learning*

The idea of lifelong learning has emerged rapidly in recent years with the increasing effects of the knowledge economy in the globalised labour market (Glowacki-Dudka & Helvie-Mason, 2004; Kessels & Kwakman, 2007). In this knowledge-based globalised market, individuals are forced to build and improve their knowledge and skills unceasingly (Lester & Costley, 2010; Livingstone, 1999). It is important to highlight that the idea of lifelong learning is not limited to only the labour market; it is also related to personal and social fulfilment (Sheridan, 2007). In today's world, vast amounts of information and learning tools are accessible to learners for reaching such information thanks to the ongoing changes in technology. Even within traditional schooling systems, reforms are being undertaken to improve learning so that individuals will be better prepared for the future workforce and lifelong success.

As individuals are always forced to learn new things and improve their

existing knowledge in today's knowledge-based world, they need lifelong learning opportunities. These opportunities may be available to them in both formal and informal ways.

However, the role of informal learning as a part of lifelong learning ideology is increasing day by day (Glowacki-Dudka & Helvie-Mason, 2004; Kessels & Kwakman, 2007). Everyday informal learning particularly emerges from the context of the work or life experiences of individuals. Informal learning that takes place in the course of daily activities and interactions has certain characteristics. First of all, there is no formal guidance. Instead, the individuals themselves or the workplace context guides the learning processes. Secondly, there is no organised curriculum or instruction. Ongoing experiences and practices function as the curriculum and instruction. Research on adult learning has confirmed that informal and workplace learning foster the informal learning processes that occur in people's daily lives. In addition, it is emphasised that informal learning is a social process that occurs without one realising it (Livingstone, 2001). From the perspective of the workplace learning literature, informal learning takes place spontaneously in daily activities and interactions (Hann & Caputo, 2012; Le Clus, 2011; Misko, 2008; Sambrook, 2005). It is highly integrated into the daily lives of individuals and occurs socially based on learning needs without awareness. Based on individuals' levels of awareness and the underlying motivations of their learning needs, informal learning is divided into three subcategories by Schugurensky (2000): self-directed learning, incidental learning, and socialisation/tacit learning. The awareness of learning needs and changes in behaviour are the two main requirements of self-directed learning. In the case of incidental learning, individuals are not aware of their learning needs; however, they are somehow aware that learning occurs. Finally, in the case of socialisation, individuals are not aware of their learning needs or of the occurrence of any learning.

### *Workplace learning*

Learning is seen as a permanent change of capacity in the minds and skills of individuals (Illeris, 2003). Individuals should be taught how to be lifelong learners in knowledge societies to produce the necessary human capital, which is highly essential for economic development (Claxton, 2002; Claxton, 2004). According to Claxton (2006), learning

has three main aims. These are improving standards via better study approaches, fostering better learning atmospheres, and contributing to the lives of individuals by making them better learners. The last of these three aims prepares young people for a lifetime of change, which is necessary in the 21st century. Individuals are expected to track their learning and development, while teachers are expected to teach content that will increase the learning capabilities and improve the learning dispositions of the learners. Claxton further underlines that recognising the importance of dispositions has come to prominence as a fourth stage of development in educational processes. When it comes to workplace learning, there are two main approaches. Recognising any kind of learning experience on an individual level and providing educational credentials for them is essential based on cognitive theories of learning. Alternatively, learning can be seen as an indispensable part of participation in workplace practices based on contextual theories of situated learning (Cullen et al., 2002). Hence, workplace learning can be discussed in terms of the experiences of individuals or the social setting (Illeris, 2003).

Combining these two approaches by extending the theories concerning adult learning, action learning, and learning organisations is a logical next step (Mitchell, Henry, & Young, 2001). At this point, it is important to highlight the following shifts:

> *"From processes focusing on individual and personal development as a worker to instrumental focus where learning at individual, group, and organisational level is related to a goal of enterprise competitiveness."*
>
> *"From learning as the responsibility of individuals and human resource developers to incorporation in wider strategies for human resource management and a more inclusive view of learning as embedded in all layers of business strategy, culture, and structures; learning as continuous improvement."*
>
> *"From learning as declarative knowledge to an emphasis on practical knowledge or know-how and on tacit or implicit knowledge that is not possible in the sense of being communicated to others."*
>
> *"From learning outcomes as competencies and skills that are*

> *observable and transferable from one context to another to learning processes whose outcomes are more intangible and expressed as images, metaphors, conceptual maps, shared understandings or disposition such as commitment and loyalty." (Cullen et al., 2002, p. 34).*

The shifting features listed above reflect the differences between workplace learning and education. There is a focus on the impact of learning organisations on learned knowledge, learners, teachers, learning environments, and learning processes. In these organisations, information is distributed not individually but through learning networks. For this reason, establishing the necessary networks is the most important criterion for learning in this sense. Learning through networks supports local and solution-oriented learning, and it gives learners the chance to be free within the framework of the values of the organisation. However, it may not always be preferred due to the hierarchies that may exist within organisations (Cullen et al., 2002).

### *Informal workplace learning*

Training offered in a formal classroom style in or out of a workplace can be a complement to on-the-job experience, especially for new employees. It is also valuable for more experienced workers (Misko, 2008). Although one would expect to see some of the features of informal learning arising in everyday life within the work setting, it is important to make the distinction between learning at work and learning in work (Sambrook, 2005). Learning at work is a more formal process. Informational courses provided outside of the employee's typical job setting are an example of this. On the other hand, learning in work occurs through asking, observing, or coaching while performing one's actual work. These two concepts can also be defined as work-related and work-based learning, respectively.

Terms such as "informal," "non-formal," or "unstructured" are often problematic because they may carry negative connotations. They suggest a lack of instructors, classrooms, interactions, and curricula. This is the main reason why the roles of such learning experiences are open to debate (Billett, 2002; Billett, 2004). Because of workplace learning's conceptual relationship with an organisation's rules, it is typically compared to the formal learning that happens in schools or other

institutions (Billett, 2002). As a result of this comparison, workplace learning is sometimes undervalued. Hager (2004) calls attention to this comparison and approaches the issue from the perspective of formal learning, which assumes that individuals do not know anything and should be taught in a structured way. Knowledge is defined based on the curriculum conveyed from the teacher to the learner and it should be measured accordingly. That is why workplace learning is regarded as unstructured. It is essential to note, however, that there is still a need for structure in the workplace to ensure continuity in practices and guidance based on workplace norms.

As Billett (2002, 2004) observes, the context of learning can be designed to teach individuals how to perform specific jobs. This context can be varied according to different jobs and different organisations. Participation rules and tasks for evaluation can be determined based on particular needs. However, defining workplace learning purely from the perspective of formal learning can be problematic because learning in the workplace may occur as a result of simple engagement without any connection to the organisation. Learning is not the ultimate mission of workplaces, in contrast to schools. However, workplaces aim to foster learning in addition to fulfilling their ultimate work-related missions. Efforts are being made to conceptualise learning on a broader scale that includes the context of workplace learning (Doornbos et al., 2004; Nieuwenhuis & Van Woerkom, 2007).

### *Graduate education*

Graduate education and lifelong learning are interrelationally linked. They can affect each other while being affected by each other. As Steward et al. (2009) state, in this age of transformation into a knowledge society as a result of developing technology and changing world conditions, graduate education has become an issue of key importance. In the last decade of the 20th century, as Altbach (2007) states, the concepts of knowledge society and knowledge economy gained popularity, and they have maintained their places at the centre of social, political, and economic movements. Hence, they have begun shaping developments in these diverse areas. UNESCO (2005) characterises a society and its economy as knowledge-based according to the variety and capacity of its growth. To achieve those qualifications, each society does its best to provide better education

opportunities for its members. In line with this need, higher education institutions, and especially those offering graduate education options linked interrelatedly to the idea of lifelong learning, have gained considerable importance. According to Knight (2007), the only way to create a knowledge-based society with a knowledge-based economy is through graduate education for any society, regardless of its level of development. For developed countries, graduate education means the continuation of knowledge production and the preservation of world-class presence and power.

As in the world, graduate education in Türkiye , as a part of the higher education system, has gained an important place in the context of the need for lifelong learning. Doctoral programs, master's programs, and post-doctoral programs are included in the scope of graduate education. The contents, requirements, and programs of graduate education differ in each university. As mentioned in many studies (e.g., Demirtaslı, 2002; Alhas, 2006), however, graduate education has common points across all universities and so candidates for this education must meet certain scientific criteria. Additionally, to be accepted for enrolment in these programs, certain documents are demanded from candidates and interview protocols and exams are applied. After these selection processes, the universities are responsible for facilitating, conducting, and sustaining graduate education (Clifton, 2009). Graduate education not only provides learners with the credentials of a graduate program but also helps them become self-determined learners. As many researchers have explained (Austin & Wulff, 2004; Austin & Sorcinelli, 2013; Brown, 2003; Lin, & Cranton, 2005; Lovitts, 2005), graduate education has a certain mission to prepare individuals for the future.

In recognition of the importance of the knowledge-based economy, many jobs specify a graduate degree as a prerequisite. Due to this demand, the content range of graduate education and the conditions for participation have increased (Karaman & Bakırcı, 2010). Since the programs offered in graduate education are based on specialisation, they are designed to provide more detailed and deeper knowledge of a subject. At this level of education, in contrast to undergraduate degrees, it is aimed to ensure that students specialise in a subject. In the framework of globalisation, the way to professionalise is through graduate education (Austin & Sorcinelli, 2013). Graduate education focuses on the synthesis of knowledge to produce scholars and

researchers. However, as Çakar (1997) states, today's system of graduate education has different functions. Graduate education must be capable of enabling scholars to build their academic careers in line with its main purpose (Austin & Wulff, 2004). Individuals educated in this way can work scientifically thanks to their ability to synthesise knowledge and critical thinking skills.

As Sayan and Aksu (2005) state, graduate education aims to increase and deepen the expertise of individuals in the context of solving real-world problems. Other researchers (Ince & Korkusuz, 2006; Karaman & Bakırcı, 2010) agree and further explain that graduate education allows academics to conduct research, learn new information, establish problem-result relationships, and produce many ideas for solving different problems. From this point of view, graduate education is not merely a program for gaining a diploma. It is much more than that. Graduate education teaches research skills and how to learn, synthesise information, establish causal relationships among pieces of information, and combine these intellectually with an understanding of ethics and culture in the process of granting that diploma (Ince & Korkusuz, 2006). As a result of graduate education given in this direction, researchers are expected to be able to conduct scientific research, contribute to the literature, synthesise the information in the literature with new information, and produce new findings (Karaman & Bakırcı, 2010).

As Marginson (2010) emphasises, global knowledge societies are built on education and research. From this point of view, it can be said that the main purpose of knowledge societies is to increase human capital on a global scale through education and research. It is thus of global importance that everyone has access to higher education, research, and lifelong learning and is encouraged to participate to ensure the sustainability of information societies. Due to the relationship between knowledge societies and knowledge economies, the importance attributed to scientific work and research is increasing in many countries (Marginson, 2010). Graduate education itself has great importance due to its contributions to productivity and the competence development of human capital (Rospigliosi et al., 2014). Thus, as stated by UNESCO (2008), graduate education has become an investment target for both individuals and countries due to its contributions to human capital production. In the 21st century, universities play particularly important roles, especially in terms of their research aspects, as they advance

countries in competition among knowledge economies and help convert traditional societies to knowledge societies (Altbach, 2013). As Moreau and Leathwood (2006) state, higher education institutions such as universities aim to produce competent human capital that is ready for the market by graduating students as quickly as possible. Graduates, on the other hand, try to make themselves stand out in the competition in the labour market by investing in their personal development even after graduation.

Qualified human capital is a requirement not only for universities but for all sectors of modern life as a necessity of a world based on a knowledge economy (Alhas, 2006). For this reason, one of the prerequisites in employment recruitment has become graduate level education. Based on this demand, the number of graduate education institutions and the variety of conditions demanded of these institutions have increased (Karaman & Bakırcı, 2010). Since human capital-oriented knowledge production is at main focus of developing countries and their economies, the number of higher education graduates and their role in the system is increasing steadily in those countries in particular (Mitra et al., 2011).

### *Doctoral students*

Since the target audience of doctoral studies is adult learners, the concepts of andragogy and adult learning should also be explained while addressing this issue. Adult learning theory was developed by Malcolm Knowles in 1984. Knowles explained the theory through four main assumptions. These are self-concept, experience, readiness to learn, and orientation to learning. Subsequently, motivation to learn was added to these assumptions. Knowles described these five assumptions as follows (Knowles, 1984, p. 12):

1. *Self-concept: "As people become mature, their self-concept moves from one of being a dependent personality toward one of being a self-directed human being."*
2. *Experience: "As people become mature, they accumulate a growing reservoir of experience that becomes an increasing resource for learning."*
3. *Readiness to learn: "As people become mature, their readiness to learn becomes oriented increasingly to the developmental tasks*

*of their social roles."*

4. *Orientation to learning: "As people become mature, their time perspective changes from one of postponed application of knowledge to immediacy of application, and, accordingly their orientation towards learning shifts from one of subject-centeredness to one of problem centeredness."*
5. *Motivation to learn: "As people mature, the motivation to learn becomes internal."*

Adult learning theory describes adult students and their basic characteristics through certain assumptions. Adults benefit from their life experiences by transferring these experiences, which increase as they grow older, into learning environments. These experiences enable adults to gain motivation and continue their learning. Also, as Galbraith and Fouch (2007) state, sharing experiences with other adult learners increases the motivation to learn and adults benefit from this. Adults have the opportunity to give real-life examples in learning environments based on their personal lives and workplaces. However, adult students may only share their personal and workplace experiences associated with learning in relevant learning environments, as life experiences may be sensitive and confidential. When adults associate learning with their own experiences, their motivation to learn increases. In contrast to children, the perspective of adult learners is more problem-oriented. Adults want to solve the given problem with their knowledge immediately, and this ensures that their motivation is sustainable.

### *Connectivism*

Connectivism combines adult learning principles with personal and professional networks, providing adult educators with a facilitating framework. From this point of view, connectivism can be defined as combining networks that support learning (Abik & Ajhoun, 2012; Bell, 2009; Chatti, Jarke, & Quix, 2010; Tinmaz, 2012). Downes (2010) lists autonomy, openness, connectedness, and diversity as four characteristics of connectivism. According to Siemens (2004), connectivism built on the principle of connection is the starting point of learning. Connectivism and its characteristics emerged further with the studies of Siemens (2005, 2006) and Downes (2005, 2008). Connectivism explains the knowledge-building of people

and institutions with the integration of chaos, network, complexity, and self-organisation theories. Considering the theories on which connectivism is based, it is seen that connectivism has been influenced by the "humanistic adult education" theories of Sartre and Buber (Elias & Merriam, 1995). Sartre and Buber focused on the student-centred approach, taking into account many perspectives affecting learning. Downes (2010) explains the characteristics of connectivism in his blog, Half an Hour, as follows:

> *Autonomy – Learners should be guided and able to guide themselves according to their own goals, purposes, objectives or values.*
>
> *Diversity – A system of educational resources structured so that each person in a society instantiates and represents a unique perspective based on personal experience and insight, constituting a valuable contribution to the whole.*
>
> *Openness – The ability to freely opt in and out of the system while allowing a free flow of ideas and artifacts within the system.*
>
> *Interactivity (Connectedness) – The level of individual immersion in a community or society resulting in knowledge development or transfer.*

As many researchers state in the literature, these four characteristics are used to evaluate the dimensions of connectivism that occur during learning (Kop, 2011; Mackness et al., 2010; Tschofen & Mackness, 2012). According to connectivism, learning should be considered not only as internal knowledge-building but as the whole of the information that can be accessed through external networks. Furthermore, for connectivism, information has a complex structure even if it is not a mysterious phenomenon. From the perspective of connectivists, information is a network and connectivism is used to interpret and synthesise the discovered information (Siemens, 2008).

Connectivism is popular as a method for online learning. It reflects a modern manner of exploring the outside world while making sense of one's online interactions (Dennen & Jones, 2023). Although it is a

prominent framework for studying digital learning environments, it can also be a well-tailored approach for offline learning environments (Guerra, 2023; Omodan, 2023; Rank, 2018). Connectivism enables learners to engage in collaboration and discussion as well as problem-solving, decision-making, and sense-making for knowledge processes regardless of the learning environment.

Connectivism is defined as a theory that gives importance to human agency (Bell, 2011), puts the human in the centre (Bell, 2011), and increases the value of the human (Siemens, 2011). Connectivism's focus on networks and the existence of shared experiences distinguishes it from other theories. When the individual's perspective is examined, it is very easy to see the effect of cumulative network connections. In the literature, researchers have emphasised that the characteristics and basis of connectivism still need to be elucidated and that the individual should receive focus as a separate phenomenon in the context of connectivism (Kop & Fournier, 2010). Many elements influence one's informal learning experiences, including the person's environment, the people in that environment, the interactions between those individuals, the culture, and the relationships between variables. All the variables must be regarded as a whole and the relationships between them must be understood to act to build meaningful links between these variables and understand informal learning experiences. That is why connectivism was selected as an appropriate theory for the present study. In light of the given literature, this study examines the informal workplace learning experiences of Turkish PhD students working in university settings with different job titles.

## Method

The experiences of individuals and the attributes given to those experiences are meaningful in qualitative studies (Merriam & Simpson, 2001; Marshall & Rossman, 2006, Merriam & Tisdell, 2016). In this sense, qualitative research designs help researchers reveal the viewpoints of individuals based on their real-life cumulative experiences that occur as a result of certain social interactions (Merriam & Simpson, 2001). Gaining insight into such experiences makes qualitative research designs more interpretive and socially constructed (Creswell, 2013). It is also possible to reveal the feelings, thoughts, and emotions of research participants through qualitative research (Strauss & Corbin, 1990). The

field of education is closely interested in the everyday lives and practices of individuals and qualitative research designs help researchers discover such practices (Merriam & Tisdell, 2016). Qualitative research designs present more information with the help of in-depth interviews. As Manning (2013) states, phenomenology compares the reflections of a homogeneous group of people experiencing the same or similar events. In the present study, phenomenology was used to compare reflections on informal workplace learning experiences among doctoral students who were working at a university while completing their doctorate degrees. The study aims to describe the experiences of this target group in terms of their informal workplace philosophy and psychology (Giorgi, 2009; Moustakas, 1994).

As stated by Van Teijlingen et al. (2001), a pilot study is a miniature version of a study. It is similar to a feasibility report, giving necessary early warnings about the whole study. Hence, it is an essential way to increase the overall success of a study and gain meaningful insights. For the present work, a pilot study was conducted with an accessible PhD student who willingly volunteered. Based on that pilot study, the interview questions, research design, and procedure were revised.

According to Creswell (2013), a convenience sample is possible when the researcher needs to use a naturally formed group, like a classroom or volunteers. Sampling can be based on assumptions that are expected to be discovered and participants from whom the most can be learned can be selected (Patton, 2015). Keeping these points in mind, volunteering participants from whom the most could be learned were conveniently selected for this study during the COVID-19 pandemic in the spring of 2020.

Approval of this qualitative study was obtained from the relevant university's institutional review board. The ethics committee approved the topic and the goal of the study as well as the entire procedure. In this process, the protection of the ethical rights of each participant was ensured. The participants were given information related to the study's approval and their ethical rights. They also received a written copy of the consent form, which again explained the details of the study and their ethical rights. Accordingly, their names and university names were anonymised to ensure confidentiality, and they had the right to withdraw from the study at any time.

The participant information and consent form (Appendix A), describing the study and the ethical rights of the participants, was presented to each participant before the instruments were administered. As research instruments, a demographic information form (Appendix B) and semi-structured interview questions (Appendix C), both prepared by the researchers, were administered to participants online. As stated by Rubin and Rubin (2012), interviewing is an exchange process based on a meaningful relationship between the interviewer and the interviewee. Face-to-face meetings were not possible during the worldwide COVID-19 pandemic, however, so online interviews were conducted individually using the institution's official Zoom software. This provided the benefit of eliminating the time constraints of regular Zoom rooms and contributed to the natural flow of the interviews. In addition, e-mail messages were collected instead of wet-ink signatures to confirm the participants' consent. Only audio recordings of the Zoom conversations were made. The data were organised and analysed without the use of any specific software; the researchers analysed the data with pen and paper based on the content analysis method, which is used to analyse texts systematically way and helps in evaluating large amounts of information (Mayring, 2000; Powers & Knapp, 2006). First, the audio recordings were transcribed. The transcripts were read repeatedly to generate units of meaning. Through this process, textual data emerged. Keeping the research purpose in mind, the researchers revealed central themes driving the essence of the phenomenon of interest. By integrating these themes, the structure of the phenomenon was revealed (Creswell, 2013; Moustakas, 1994). For reliability, the content analysis procedure of the study was conducted individually by each researcher for a few selected samples and their respective results were cross-checked with one another. A high similarity of the content areas was also observed among the analysis for individuals. Thus, the reliability of the data analysis was ensured through member checking.

The participant group of this study consisted of 10 volunteering PhD students working in different university settings with different job titles in Türkiye. In this regard, these participants were experiencing the same phenomenon. The demographics of the participants varied by age, gender, marital status, job title, years of experience, income level, educational background, and department of study. The participants

included eight female and two male PhD students from different settings in Türkiye and they were between the ages of 27-32. Three of the participants were married and only one participant had children. Demographics are a vital component of any research and should be given in both narrative and table format (Connelly, 2013). Therefore, Table 1 provides the demographic data in more detail.

**Table 1. Summary Table of Participants' Demographic Information**

| Name | Year of Birth | Gender | M. Status | Income Level | University (PhD)/Depart./Stage | University (Work)/Depart.) | Work Exp. |
|---|---|---|---|---|---|---|---|
| Pilot | 1986 | M | Single | Middle | A University (Foundation) Computational Science and Engineering Thesis | A University (Foundation) R. Assistant (F. Time) R&D Projects (P. Time) | 4.5 Years |
| 1. | 1988 | F | Married | High | B University (Public) Preschool Education Thesis | C University (Public) R. Assistant (F. Time) | 6.5 Years |
| 2. | 1992 | M | Single | Middle | D University (Public) Translation & Interpreting Studies Course | E University (Foundation) English Instructor (F. Time) | 2.1 Years |
| 3. | 1988 | F | Single | Middle | F University (Public) Educational Sciences Thesis | G University (Foundation) R. Assistant (F. Time) | 5.8 Years |
| 4. | 1991 | M | Single | Middle | H University (Public) Molecular Medicine Qualifying | E University (Foundation) R. Assistant (F. Time) | 3 Years |
| 5. | 1991 | F | Single | Middle | I University (Public) PCG Course | K University (Foundation) R. Assistant (F. Time) | 5 Years |
| 6. | 1992 | F | Single | High | L University (Foundation) Clinical Psychology Course | K University (Foundation) R. Assistant (F. Time) | 3 Years |
| 7. | 1992 | F | Single | Middle | D University (Public) Learning Sciences Course | D University (Public) R. Assistant (F. Time) | 2 Years |
| 8. | 1987 | F | Married | Middle | D University (Public) Educational Sciences Sci. Prep. | M University (Foundation) R. Assistant (F. Time) | 3.3 Years |

## Findings and discussion

The collected data were analysed in line with the main focus of how doctoral students experience informal learning in their workplaces. Participants described their informal learning experiences through workday experiences and different work-related responsibilities in and out of the workplace.

Considering the answers given to the semi-structured interview questions, it was seen that all participants depicted their experiences within the framework of common themes. Thus, the informal learning experiences of these doctoral students are discussed here in light of the common patterns and themes.

The data analysis process began with the transcription of the interviews. Afterwards, the six-stage analysis process described by Smith et al. (2009) was followed. In the first stage, the transcribed interviews were read once by each researcher to establish familiarity and comprehensive understanding. In the second stage, the answers given to each question were descriptively noted by the researchers separately for each participant. Significant quotes were highlighted. In the third stage, the descriptive notes for each question were coded. In the fourth stage, those codes were combined according to their similarities and main themes were formed. In the fifth stage, the patterns within the themes were examined for each question and between questions. In the last stage, the themes were finalised considering those patterns. This analysis process was carried out by each researcher separately. Their final analyses were compared and the trustworthiness of the process was confirmed. The themes for each interview question arising from this analysis are given in Table 2. Each column shows the themes drawn from the relevant question as listed across the top row.

**Table 2. Table of Themes**

| Q1 (Intro) | Q2 (Workplace roles and experiences) | Q2.1 (Reflections from a typical day in the workplace) | Q2.2 (Reflections from the first weeks in the workplace) | Q3 (Advantages of working in academic setting) | Q4 (Mutual benefits of doctorate and workplace) | Q5 (Alternative learning paths to workplace) |
|---|---|---|---|---|---|---|
| Ice breaker | Workload as a teacher/instructor/ lab assistant/research assistant | Flexible working hours | Familiar environment | Financial support | Similar academic environments | More time for literature review |
| | Various roles | Shared office rooms/busy/ distraction | Constructing a new faculty experience | Contribution to academic excellence | Not totally matching but related | More time for learning through different projects or platforms |
| | Not clear job description | Typical workday | First day anxiety | Theory–practice opportunity | Informal learning opportunities | |
| | No job satisfaction | Time for personal academic work | No orientation | Social Learning among colleagues | Easy access to academic network | |
| | Paperwork | | Mutual support relation between colleagues | Difficulty managing two roles | | |

Although many of the participants revealed that they did not have clear job descriptions, they generally worked in universities as research assistants (Participants 1, 3, 4, 5, 6, 7, 8, and 10). Additionally, most of them had begun working while completing their master's degrees. As described in the literature, research assistants are entitled to participate in research studies and to oversee courses as instructors (Sayan & Aksu, 2005; Sevinç, 2001). However, during the interviews, many participants stated that they had not yet had a chance to be an instructor due to operational issues in their universities:

Participant 3 (Female): "... Actually we do not teach as assistants. We do not have such a job description, but we have some certain responsibilities for the given courses..."

Participant 4 (Male): "My responsibility is to assist the professors in lab courses..."

Although they had not received any orientation during the first week of their jobs, they were in charge of many duties without clear descriptions in their workplaces. These roles included supporting senior lecturers with technology, attending classes, and working as department secretaries, coordinators, student assistants, lab assistants, and teaching assistants. Participants who stated that they had no idea about which tasks they were responsible for described themselves as being confused within a jungle of roles:

> *Participant 5 (Female): "... This year I also give 2 courses. Additionally, I prepare curriculums, course programs, exam programs and I organise them. I work as a proctor in exams. There is no job definition for a research assistant. Individually, we struggle to do research with our professors..."*

> *Participant 1 (Female): "We do not do research here or do not publish anything and nobody cares about it. We just work... Generally, paperwork... We do the things that are done by bureaucrats in other organisations."*

However, they also explained that thanks to this role confusion, they developed their skills and knowledge in many areas because they had many different experiences and worked with many different academics, even if they were often overwhelmed. Many of these experiences provided the participants with new perspectives because of informal learning. For example, when five participants (Participants 3, 5, 6, 8, and 10) started working as research assistants, their universities were newly established. For this reason, as a result of their roles, responsibilities, and interactions in the establishment process, they gained significant experience regarding how to establish a university or faculty:

> *Participant 7 (Female): "On the one hand, the subject of research comes out. For example, if there is a subject with science, I can adapt it to mathematics through the person I talk to. Because it allows me to look from a wider perspective. Apart from that, for example, I learn from my research assistant friends that it will make it easier for me to do my academic work. In other words,*

> *"Look, there was such a program", "It worked very well while making a transcript", "If you look at this source, you can find the pdf of the books there", "You can reach the articles more easily", "How do you use it with the university network?" You learn technical but life-saving information because you know people and you are familiar with the culture. Also, they are closer to me as we age, and we understand each other's language better. They are closer both by age and by experience. I think I learned different things from them."*

Participants who worked at the same university where they obtained their bachelor's or master's degrees (Participants 4 and 7) stated that, although they did not have an orientation, they always found support in the process of adapting to their roles thanks to the confidence they felt from working in a familiar environment and the support they received from colleagues who started working in the same period. They stated that these were the factors that supported their social and informal learning the most:

> *Participant 1 (Female): "We share the room with other assistants of other departments. They have different backgrounds. We support one another academically. We discuss academic issues all the time together, we consult one another and learn from one another, which is supporting and contributing..."*

When asked to depict a day in the workplace, all participants, without exception, expressed how grateful they were for the flexibility of their working hours and that they could schedule their days as they wished. Apart from mandatory meetings, they said that by dividing their day into two, they could perform their research assistant responsibilities in one half of the day and focus on their academic work in the other half. They described this routine as constituting their typical working days:

> *Participant 10 (Female): "Under normal circumstances, if I do not have a task from the previous day, I work on my thesis. So, I study for my thesis, I work for the proficiency exam, I read some literature... something that is completely up to me is actually how I manage the day. My day starts with my choices."*

> *Participant 5 (Female): "We can spare time for ourselves. We are not dictated to come and do the following tasks. Tasks are given*

> *beforehand. Since it has a delivery date, we can make our own plan so that I will deliver it on that date... Apart from that, I can take time for myself and create a working environment at my desk."*

> *Participant 10 (Female): "I have been concentrating on office work in the morning all the remaining time... I [do that work] in the first place because I feel like my job is the responsibility of the university. In the afternoon, I begin to return to my [own] work a little bit. If I have time, if I have homework, I look at it a bit. If I need to look at something in the literature, I look at it... Normally, when we started to work, especially the academics who had no university experience work between 9 am and 5 pm. As a person who still claims that the university will not be such a place, I sometimes go to work at 10 am and leave at 7 pm. Sometimes I come early in the morning and leave at 3 pm. I try to use the day more comfortably at intervals."*

When asked to explain what they were gaining while working and completing their doctorate degrees, they emphasised the different benefits of being both a student and a working individual. The first of these was that working gives them financial support to continue their education. Furthermore, they had opportunities to increase their expertise and skills through informal and social learning. In addition, they had the chance to put the theories they learned during their educational lives into practice and learn via "living by doing."

As stated by the participants during the interviews and supported by the literature, students completing PhD degrees aim to become faculty members after graduation. For this reason, working at a university offers many opportunities to prepare them for the future and ensure that they are familiar with professional processes. In addition, it offers many opportunities for them to create academic networks:

> *Participant 7 (Female): "...I think it is an opportunity to learn. Because...think like this. I am at the university, there are a lot of people that I can ask about anything I can think of right now. Because of the academic environment... everyone works mostly in academic jobs there. I also learn administrative affairs. This is actually not about my doctoral process, but about the post. If*

> *I become an academic, I learn how the process progresses. But as I said, I can knock on the door of academics when there are questions in my head...if they are available. I can ask them and learn something. Let's say I want to do an academic study and I want to be a researcher. We are constantly intertwined with academics. I can see and hear what they are working on. We share the same kitchen with teachers. Even while having tea, coffee, and breakfast there, I transfer what I learned in a PhD course to a teacher. I learn a lot from our teacher about it."*

When asked what they would have done if they were not working towards becoming a faculty member after graduation, most participants stated that they would prefer to remain in the academic community and seek a different job, even if they were not research assistants. However, if they did not have other work, they stated that they would prefer to try to learn more about the relevant literature by spending time in the library:

> *Participant 6 (Female): "I have a library habit. It was always like this while studying at university. I'm a library lover, a person who loves to work in a library. So I think I would probably go to the regular library. At least I would try to go as far as possible. I could work harder like this."*

Even though there was no direct interview question regarding connectivism, these findings relate to the four characteristics of connectivism. In terms of autonomy, the participants had opportunities to guide themselves according to their expertise by connecting with senior academics and assisting with their courses. In addition, they could create cumulative network connections with their professors, senior lecturers, or other senior staff of the university. For example, they could co-work on a study or could participate in academic conversations. In terms of diversity, based on their experiences the participants could contribute to the overall system through their academic efforts and products. In terms of openness, however, the participants had little space to opt in and out of the system because of the hierarchical structure of universities in Türkiye. In terms of interactivity, the participants were aware of the power and necessity of connectedness and interactivity to survive in such a system. Interactivity and cumulative network connections develop each other. Overall, the data

obtained in this study reflect the main characteristics of connectivism, which plays a major role in the workplace experiences of PhD students.

On a general level, the participants explained what they have gained from informal learning opportunities in their workplaces. They stated that even if they encountered difficulties when they began working, they overcame those difficulties thanks to their friends' support and social learning. Participants who worked as research assistants stated that they had many roles and responsibilities due to their titles and they had no clear job descriptions arising from that confusion. However, they emphasised that they gained significant experience due to this variety of duties and responsibilities. They also stated that, during these experiences, they had opportunities for informal learning and social learning through interactions with colleagues and senior academic staff.

Furthermore, they explained that with the advantage of flexible working hours, they could easily fulfil their responsibilities as students. The fact that they worked in an academic environment helped these PhD students gain the necessary knowledge and skills for their future goals. Looking at the responses given, they stated that, even if they did not have their current jobs, they would still be looking for similar work as they would prefer to remain in an academic environment.

## Conclusion

This study has aimed to explore the informal workplace experiences of PhD students working in university settings. The findings have revealed that doctoral students working at universities with different job titles learn in their workplaces by participating in various work-related tasks, collaborating with their colleagues and other people, and encountering new tasks that create learning opportunities for them. Unexpected challenges, tasks, and office conversations that are not directly related to their job descriptions had essential roles in the learning and skill acquisition of the participants in this study. In this population, learning primarily happens as a result of the interactions of PhD students with other individuals, various work or non-work-related activities, and the general context (Unluhisarcıklı, 2018). Learning emerges from the everyday practices of work and social contexts. Many participants emphasised that when they compared their PhD course experiences with their workplace experiences, although they could find aspects

common to both, there were also many ways in which they diverged. For instance, the PhD students participated in scholarly activities such as writing articles and publishing books through their course experiences, whereas they facilitated the smooth continuation of bureaucratic processes by overseeing paperwork in their workplace experiences. In light of the literature and the findings of this study, it can be said that the workplace offers different learning experiences by supporting PhD students in learning practical knowledge or know-how and in terms of tacit or implicit knowledge (Mitchell, Henry, & Young, 2001). However, the PhD students participating in this study also highlighted that their workplace learning experiences, in terms of participating in various work-related tasks, encountering new challenges, and collaborating with their colleagues and other academics, were not related to their doctoral learning experiences but rather to the flow of business life and bureaucratic processes. In this respect, this study contradicts the literature. In addition, it has been reported that the informal workplace learning experiences of doctoral students working in university environments can provide them with many skills and knowledge that they can use (Unluhisarcıklı, 2018). In fact, workplace practices cannot be separated from learning, as they are intertwined. Much of the previous research on informal workplace learning has focused on how informal learning occurs in the activities of daily life without any certain aim or structure (Merriam et al., 2007). This learning can occur as a result of the socialisation of adults, with or without their awareness and intention (Livingstone, 2001). Regarding the four characteristics of connectivism, Turkish PhD students working in academic settings have the autonomy to lead themselves by engaging with senior faculty members and assisting them. Furthermore, students can also establish cumulative network connections with such people. They can add to the diversity of the overall system through their experiences. Because of the hierarchical structure of Turkish universities, PhD students have little freedom to opt in or out of the system. In this context, they highly value the interactivity that exists. The interactions of PhD students with other individuals in the workplace context result in learning, and so it is embodied in the everyday practices of work and social context. Similar findings emerged from Unluhisarcıklı's (2018) study conducted in an American context. However, the different structure of graduate education and differences in the job descriptions of graduate students in Türkiye resulted in country-specific findings in the present

study. As also noted in the literature, one of the largest problems in the Turkish graduate education system is that PhD students are hired as research assistants or lecturers, but there are no clear definitions of these titles within the system. PhD students working in university settings with such titles are expected to perform secretarial tasks like preparing timetables or reserving classrooms. This causes PhD students to experience role conflicts. As a result, demotivated doctoral students struggle with many problems such as stress related to the work environment, limited opportunities for promotion, lack of support, lack of participation in decision-making processes, and lack of professionalisation opportunities. The present study contributes to the literature on graduate education by providing the findings of qualitative research specifically addressing the case of PhD students working in Turkish university settings. Understanding the processes of informal learning for PhD students provides useful insights for other work-integrated education programs. In addition, the target participants of this study included PhD students working in both public and foundation universities in Türkiye, which increased the representativity of the study. Additional steps to move this research forward could include repeating the study with a more gender-balanced target participant group, creating wider participant pools, and analysing the data with a cross-cultural perspective. Therefore, further research is needed to provide a more detailed exploration of the informal workplace experiences of PhD students considering the limitations of the present study.

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## *APPENDIX – A: PARTICIPANT INFORMATION AND CONSENT FORM*

This form was removed from the appendix to avoid revealing the university name during the manuscript review process. It can be provided via e-mail on demand.

APPENDIX – B: DEMOGRAPHIC INFORMATION FORM

1. Participant Code: .....
2. Year of Birth: .....
3. Gender:

☐Female ☐Male ☐Other

4. Your marital status:

☐Single ☐Married ☐Other (.....)

5. Number of Children: .....
6. Income Level:

☐Very Low ☐Low ☐Middle ☐High

7. Your job description at the university: .....

☐Part-Time ☐Full-time ☐Other (.....)

8. Work experience: ..... day/month/year
9. University / department / stage information of your doctoral program: ..... .....
10. Previous educational background information (university/department/graduation year:

☐Bachelor: .....

☐Master of Arts: .....

☐PhD: .....

11. Additional information (if you wish):

APPENDIX – C: SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Can you tell us about your doctorate and academic studies?
2. Can you explain your work life and your duties/responsibilities there?

2.1. Can you describe your experiences on a typical day at the workplace?

2.2. Can you describe your experiences during your first weeks in the workplace?

3. What are the advantages of working in this job during your doctorate?
4. What are the benefits of what you learn in your doctorate and at work for each other?
5. If you were not working during your doctorate, which path would you follow to specialise professionally?

## About the authors

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