

## **Informal workplace learning experiences of graduate student employees**

Özlem Ünlühisarcıklı

Boğaziçi University, Turkey

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*Informal learning and how individuals learn in the workplace have gained increasing attention by researchers in recent years. In relation to other learning activities, informal learning constitutes a substantial part of an adult's life. This paper explores the informal workplace learning experiences of graduate student employees. Data was collected through in-depth semi-structured interviews with 14 PhD students who were employed at their universities. Thematic analysis was used to interpret the data. The findings revealed that graduate student employees learn at work by participating in various work practices, collaborating with colleagues and advisers, and meeting new challenges that provide learning opportunities. The challenges of a set task play a crucial role in learning and skill acquisition, and learning happens as a result of interaction between an individual, an activity and a context. The workplace also provides a social environment where people can grow in maturity and learn responsibility as well as skills. Learning is embodied in the everyday practices of work.*

**Keywords:** *informal learning, workplace learning, informal workplace learning, graduate student employees*

## **Introduction**

Workplace learning comprises a significant part of the learning endeavours of adults (Boud & Middleton, 2003; Billett, 2001). Studies investigating workplace learning have increased in recent years (Ellinger & Cseh, 2007; Tynjälä, 2008), spurred by rapid changes in the global labour market (Manuti, Pastore, Scardini, Giancaspro & Morciano, 2015).

There are various approaches to and definitions of ‘workplace learning’ (Marsick & Watkins, 1990; Tynjälä, 2008 and 2013; Manuti et al., 2015; Le Clus, 2011). Workplace learning is generally characterised as taking place through either formal or informal channels. Formal learning in the workplace happens through organised, curriculum-based training programs that generally take place in classroom-like environments. Marsick and Volpe (1999) emphasise the relevance of informal learning as opposed to formal learning in the workplace and suggest that providing an environment where workers can engage in informal learning activities will contribute not only to the organisational effectiveness of the workplace but also to the learning and development needs of individuals. Research indicates that a substantial amount of workplace learning is informal (Skule, 2004; Boud & Middleton, 2003; Day, 1998). This may be as much as 60 to 80 per cent according to Ellinger and Cseh (2007), over 75 per cent according to Bancheva and Ivanova (2015), and even over 90 per cent in some cases (Cerasoli, Alliger, Donsbach, Mathieu, Tannenbaum & Orvis, 2017). Sambrook (2005) distinguishes between learning at work and learning in work, where the former refers to more formal learning, while the latter refers to a more informal type of learning. In general, workplace learning refers to the ‘many ways that employees learn in organizations’ (Jacobs & Parks, 2009, p. 134).

## **Informal learning**

In their extensive literature review, Colley, Hodkinson and Malcolm (2003) classify learning as informal, non-formal, and formal, recognising that the continuum of learning may range from highly informal to highly formal (Van Noy, James & Bedley, 2016). To define the term, most researchers, however, find it useful to contrast informal learning with formal learning (Hager & Halliday, 2009).

Marsick and Watkins (1990 & 2001), in their early work, classify learning as formal, informal, and incidental. They differentiate informal and incidental learning from formal learning, where formal learning is described as being ‘typically institutionally sponsored, classroom-based, and highly structured’ (Marsick & Watkins, 2001, p. 25), whereas informal learning is characterised by the absence of these. Schugurensky, who classifies learning as formal, non-formal and informal, argues that informal learning ‘takes place outside the curricula provided by formal and non-formal educational institutions and programs’ (2000, p. 2). He further differentiates three types of informal learning: self-directed learning, incidental learning, and tacit learning (also referred to as socialization). Self-directed learning is both intentional and conscious, whereas incidental learning is unintentional but conscious. Socialisation is neither intentional nor conscious. Livingstone (2001) too considers informal learning as distinct from formal learning, where an externally imposed curriculum is present. But he also differentiates between learning that is informal, which refers to self-directed or collective learning, and education or training that is informal, which presupposes the presence of an institutionally recognised instructor in more incidental learning situations (Livingstone, 2006). Eraut (2000), in his initial efforts to conceptualise the learning that contrasts with formal learning, rejects the use of the descriptor ‘informal’ because it is used in a wide variety of contexts beyond learning and is therefore insufficiently precise. He adopts the use of ‘non-formal’ learning instead. Later, Eraut (2004) uses the term ‘informal learning’, which he contrasts with formal learning. He identifies five features of informal learning that distinguish it from formal learning: ‘implicit, unintended, opportunistic and unstructured learning and the absence of a teacher’ (2004, p. 250). As seen from the definitions, informal learning has been conceptualised in different ways by various researchers, yet there are many common features.

Numerous studies have investigated informal learning and how individuals learn in the workplace (Gola, 2009; Jurasaitė-Harbison, 2009; Skule, 2004; Eraut, 2004; Enos, Kehrhahn & Bell, 2003). In recent years, studies that focus on the contribution of others to learning in the workplace have increased (Boud & Middleton, 2003; Cheetham & Chivers, 2001; Poell, Van der Krogt, Vermulst, Harris & Simons, 2006).

## **Informal workplace learning**

Billett finds it problematic to describe workplace learning environments as either formal or informal, which, according to him, ‘suggests a situational determinism’ (2002, p. 56). He further points out that there are substantial similarities between formal and informal learning when the actual learning is considered, and he maintains that the purported differences between formal and informal learning are debatable.

Beckett and Hager, on the other hand, use a matrix to compare formal and informal learning in the workplace. They identify six key features of practice-based informal workplace learning as organic/holistic, contextual, activity- and experience-based, not an end in itself, learner initiated, and often collaborative/collegial. They argue that ‘informal workplace learning of the right kind appears to be an essential component of proficient practice in most, if not all, occupations’ (2002, p. 114).

**Table 1:** *Differences between formal learning and informal learning from work*

<b><i>Formal learning</i></b>	<b><i>Informal workplace learning</i></b>
Single capacity focus, e.g. cognition	Organic/holistic
Decontextualised	Contextualised
Passive spectator	Activity- and experience-based
An end in itself	Dependent on other activities
Stimulated by teachers/trainers	Activated by individual learners
Individualistic	Often collaborative/collegial

*Source: Beckett and Hager (2002, p. 128).*

Hodkinson and Hodkinson (2004) compared learning in the workplace as intentional/planned learning or unintentional/unplanned learning in a matrix. They presented different types of workplace learning in a six-fold classification. From this matrix, it can be deduced that unintentional/unplanned learning refers to informal learning experiences (Table 2).

**Table 2:** *Types of workplace learning*

	<i>Intentional/planned</i>	<i>Unintentional/unplanned</i>
Learning that which is already known to others	(1) Planned learning of that which others know	(2) Socialisation into an existing community of practice
Development of existing capability	(4) Planned/intended learning to refine existing capability	(3) Unplanned improvement of ongoing practice
Learning that which is new in the workplace (or treated as such)	(5) Planned/intended learning to do that which has not been done before	(6) Unplanned learning of something not previously done

*Source: Hodkinson and Hodkinson (2004, p. 261).*

Hager and Halliday, who argue that informal workplace learning cannot be gained elsewhere, define the term as follows: ‘The informal learning from the practice of work can be thought of as the development of an evolving capacity to make context-sensitive judgments in changing contexts’ (2009, p. 30).

By ‘context’ they mean ‘the surroundings in which learning occurs and the possible influences that these surroundings have on what is learnt’ (Hager & Halliday, 2009, p. 159). They assert that all activities require multiple judgments and that an ability to make context-sensitive judgments ‘is needed to identify features of a new context to which (one) can relate through previous experience’ (2009, p. 210). They argue that context and practice are related: ‘one obvious way of making sense of the notion of context is through the practice within which a judgement is located and that itself is a matter of judgement’ (2009, p. 193).

Numerous studies investigate informal workplace learning with a primary focus on types of informal learning, factors that impact informal learning, and the context. Slater (2004), for example, emphasises the inefficiency of workplaces that rely strictly on formal training methods, as most of the learning happens informally. He surveyed 676 employees in a non-profit financial service organisation and found that the top five informal learning activities were (in the order of most to least frequent)

executing the job, interacting with supervisors, getting on-the-job training, working in teams, and reviewing documentation.

Ellinger (2005) conducted a qualitative case study to investigate contextual factors that influence informal learning in the workplace and found that contextual factors influence informal learning both positively and negatively. The emergent themes for 'Positive Organizational Factors Influencing Informal Learning' (p. 401) were identified as learning-committed leadership and management, an internal culture committed to learning, work tools and resources, and people who form webs of relationships for learning. The emergent themes for 'Negative Organizational Factors Influencing Informal Learning' (p. 404) are leadership and management not committed to learning, an internal culture of entitlement that changes slowly, work tools and resources, people who disrupt webs of relationships for learning, structural inhibitors, lack of time resulting from job pressures and too many responsibilities, too much change too fast, not learning from learning.

Berg and Chyung (2008) investigated factors that influence informal workplace learning and the types of learning activities employees engage in at work. A total of 125 workplace learning and performance improvement professionals volunteered to respond to an online survey. The data laid out no significant correlation between engaging in informal learning and presence of learning organisation characteristics. Personal and environmental factors, on the other hand, were found to affect employee engagement.

Kyndt, Dochy and Nijs administered a questionnaire to 1,162 employees of 31 different organisations 'to investigate the presence of learning conditions for non-formal and informal workplace learning in relation to the characteristics of the employee and the organisation he or she works for' (2009, p. 369). The findings suggest that opportunities for non-formal and informal learning are different for different groups of employees in five learning conditions, namely: 'feedback and knowledge acquisition', 'new learning approaches and communication tools', 'being coached', 'coaching others', and 'information acquisition'.

In a survey of 143 information technology professionals, Lohman (2009) investigated factors that affect engagement in informal learning activities. The findings revealed that this group of professionals relied primarily on online sources, and when this failed, they would talk with

colleagues or share materials and resources in order to meet their learning needs. He identified six environmental factors that inhibit informal learning activities: lack of time, distance to colleagues' work areas, non-supportive organisational culture, lack of access to others, insufficient equipment and technology, and lack of meeting/work space. The enhancers for engagement in informal learning activities were identified as initiative, self-efficacy, love of learning, interest in the profession, integrity, an outgoing personality, a teamwork ethic, curiosity, and open-mindedness.

The university as a workplace includes diverse work positions that are grouped broadly as academic staff and non-academic staff. Academic staff generally fulfil teaching and research responsibilities, although they may also have managerial and administrative tasks. Graduate student employees contribute to academia through research or by teaching or working at laboratories and research centres. While Flora (2007) investigates the legal employment status of graduate assistants, a number of studies focus on unionisation of graduate employees (Julius & Gumport, 2003; Rhoads & Rhoads, 2005; Rogers, Eaton & Voos, 2013), and yet others investigate the use of research assistants in academia (Hobson, Jones & Deane, 2005; McGinn & Niemczyk, 2013; Naufel & Beike, 2013). However, research that focuses on the informal workplace learning experiences of graduate student employees at the university is sparse.

The present study takes the university as a workplace where PhD students are employed. The following sections describe the methodology and the sample of the study.

## **Methodology**

Since the time of Vygotsky, one witnesses an increased interest in social interaction, which is considered the foundation of human activity and learning. In studies on workplace learning, it is therefore important to focus on social interaction, environmental factors, and the social dynamics of the workplace (Loftus & Higgs, 2010). This focus also contributes to the understanding of the experience of the individual through the individual's reflection. With this in mind, the study employed a qualitative approach. Data was collected from PhD students in semi-structured, face-to-face in-depth interviews from three

universities in three different cities in the states of Pennsylvania and Massachusetts in the USA.

The critical incident technique was used for the in-depth interviews. The critical incident technique is a systematic and sequential procedure to collect and analyse the content of 'observed incidents or observations previously made that are reported from memory around a phenomenon of interest' (Ellinger, 2005, p. 398). This technique was introduced into the social sciences in 1954 by Flanagan (1954), who claimed that its roots go back to the late 19th century and the studies of Sir Francis Galton. The critical incident technique allows respondents to determine which incidents are relevant and important to them in relation to the phenomenon under investigation. As such, Gremler (2004) argues that it provides a rich source of data and is particularly useful when investigating a phenomenon on which there is little knowledge.

The sample consisted of 14 PhD students who worked in jobs related to their area of study at their universities. To give an example, a PhD student in mechanical engineering working in a university mechanical engineering laboratory was eligible to participate, but the same student would not have been eligible if he had been working at a job in the library. A further requirement was that the participating PhD students should be on the university payroll, with the full responsibilities and benefits of an employee.

An informed consent form was signed both by the researcher and the interviewee before each face-to-face interview. An interview guide was used during the interviews. Each interview lasted approximately half an hour, with the longest being about an hour. To protect the identity of the interviewees, no personal information was requested except for their area of study and year of the PhD study (Table 3).

**Table 3:** *Details of interviewees*

University	Subject No.	Gender	Area of Study	Year of Study in the Program
University A	A-1	Male	Mechanical Engineering (Mechatronics and Robotics)	5th year
University A	A-2	Male	Interdisciplinary Engineering	3rd year
University A	A-3	Male	Chemical Engineering	2nd year
University A	A-4	Female	Engineering	2nd year
University A	A-5	Male	Mechanical Engineering (Biomedical)	5th year
University A	A-6	Male	Mechanical Engineering (Mechatronics)	4th year
University B	B-1	Male	Mechanical Engineering (Nanomechanics)	1st year
University B	B-2	Male	Polymer Engineering	3rd year
University B	B-3	Female	Learning Sciences and Policy	4th year
University B	B-4	Male	Learning Sciences and Policy (Policy and Instruction)	3rd year
University C	C-1	Male	Bioinformatics	3rd year
University C	C-2	Female	Statistics	3rd year
University C	C-3	Male	Computer Science	3rd year
University C	C-4	Male	Adult Education	4th year

For the present study, thematic analysis was used to interpret the data. In thematic analysis there are three ways to develop themes and a thematic code: theory driven, prior data or prior research driven, and inductive or data driven (Boyatzis, 1998). In this research, themes were developed inductively, based on the data from the interviews.

As a first step, data collected from the interviews was transcribed verbatim. To preserve the anonymity of the interviewees, each one was

assigned a code. NVivo, a software to organise and analyse qualitative data, was used for the thematic analysis. The research results are laid out around the themes that emerged from the analysis. The themes unfold in a narrative that emanates from the personal reflections of the interviewees.

## **Findings**

The findings are presented from the perspective of graduate student employees, based on their informal workplace learning experiences. The narratives unfolded around the general themes of the first days at work, getting more competent through work, and ways of informal learning.

Most of the interviewees had started working at the same time they started their PhD studies. A few did not have a position from the start, but had worked either at a different part of the university (e.g. interviewee C-3, who had worked at the university dining hall) or worked on a volunteer basis (e.g. interviewees A-6 and B-4), until they got jobs relevant to their area of study.

When they first started work, they generally had a period when they adapted to the routine of their workplace and learned to perform the tasks that would be assigned to them:

*I was really kind of just learning the routines and a lot of the procedures in the lab and things like that. I learned about the specific technology of our lab ... our machines, what kind of software we use. You know, really, my first responsibility in the lab was just to get up the speed ... (A-2)*

The tasks performed by newly-recruited PhD students are diverse and generally start with basic hands-on tasks such as cleaning machine parts (A-2), preparing samples for experiments (A-3), constructing an experimental set-up (A-4), or desk-based tasks such as doing online searches (A-1) or reading journal articles (C-1). An exceptionally different experience is reflected in the following citation:

*Me and one of the guys (laughs). Big project (laughs). It was ... it was also kind of ah ... when it was introduced to me, my adviser here at the university at the lab said, 'okay this is what you'll do for the next six months. It's a pretty easy project, [so]*

*you should be able to package it up and do [it] pretty easily – no problem, six months, no more it should be, you know, it isn't too much'. And I looked at it, like trying to eat an elephant – like, how much am I supposed to eat in six months? (Laughs) So my perception ... first perception was completely different. And for an experienced engineer, six months is okay, six months is okay. But for a new guy ... (A-5)*

Unlike the others, who started with more routine and low-level tasks as an initiation into the job, this interviewee reflected on the enormity of the task he was assigned, which eventually took much longer than six months to complete.

To cope with the demands of the initial tasks, the strategies most frequently used by the interviewees were reading (articles, books, theses), observing others, asking for help from a co-worker or adviser. For instance, interviewee B-3, whose first assignment was to contribute to a project, explained her role of observer:

*I remember that in the project that I worked with two professors, I went to the interviews with them. And my main task ... actually, they told me 'now we will do the [actual] interview, but we want you to pay attention [to] how we ask the questions, how we prompt them' and ... so all this stuff. I think I was like ... when I was conducting all the interviews this time [myself] ... I was remembering all the conversations that we had and how they were asking the questions, how they were prompting them. So they modelled it for me, and then this time I could do it easily. (B-3)*

With the exception of three respondents, all mentioned that their tasks changed significantly over time. The changes were generally characterised by moving from low-level tasks to higher-level tasks, taking on more responsibilities, and occasionally making decisions. Some eventually became senior members in their workplace and were thus considered decision-makers.

*So I shifted more kind of from doing all the smaller tasks to some of the higher-level tasks like project management, or overall design things like that. And I really liked that. It is nice ... it is nice not to having to ... not having to do every little detail of the project ... I became a confident person ... (A-2)*

*... [M]y tasks changed. At first I was just a passive person who, you know, did whatever being told and from there now I came to the point where ... you know, we meet with very important people, we have ... we write grants for ... we write research proposals for grants ... (A-6)*

With higher-level tasks, their responsibilities increased and they became decision-makers:

*When I first came here, I didn't know much, so I was sort of ... new, and now that I am here almost two years, I am one of the senior members ... so ... and I think with that comes more responsibility ... you are sort of looked at to make decisions, sort of keep everyone in line, to make sure things don't break, to make sure they [are] clean ... stuff like that. It is just ... I don't see it [as] seniority but you just get more responsibility. (A-3)*

Through work, they learn the culture of their workplace, the needs and the priorities, and ways of doing things; in the process, they become more confident in themselves, which eventually leads to an ability to make decisions when necessary.

Difficult work situations are critical incidences that may arise from any unanticipated situation, event, contradiction, lack of skill or knowledge, and the like. The nature of such situations encountered by the interviewees is quite diverse, ranging from being unable to handle cheating students during a test to managing a whole project, from having conflicts with a new recruit in the lab to not being able to handle a specific program or understand how it works.

The first strategy that most participants used for dealing with a given situation was to do an online search. The interviewees were quick to point out that an online search often provides only generic knowledge unless the chosen key words are very specific, in which case the search can yield useful material. Reading articles, theses and dissertations can provide a more specific understanding of the nature of the problem if the problem is academically based. Another important strategy used by the participants to resolve a particular issue was to ask for help from others, such as an expert, co-worker, or adviser. Almost all the interviewees, however, indicated that they would resort to asking others only when they were unable to find a solution on their own. First they would try to

understand the nature of the problem, identify what was missing in their knowledge or skills, and then try to equip themselves with the needed knowledge or skills. A comment by interviewee A-6 provides an insight into the feelings of those who were asked for help:

*I ... right now, for example, there are various ... there are students who come to me for advice, the new members, and I am the senior engineer ... senior student. So, I hate it when people come to me with questions without trying first, because first if they didn't research it they don't exactly know what they are asking, and I just find it disrespectful to me, you know, to take up my time without actually ... them ... trying first. So that's why I was always like trying to figure [things] out on my own, but when I sense like that it is a waste of my time, then I went to them. (A-6)*

Difficult work situations also create learning experiences. All the respondents expressed that critical incidents resulted in personal development in areas such as gaining confidence, valuing patience, appreciating good advice, not being intimidated, and not doing a sloppy job. These learning experiences are embedded within the context of the work to be done and are therefore practice-based.

For instance, A-4, who was deliberately given a difficult task to accomplish, endured sleepless nights and feelings of insecurity until she finally managed to complete the task, but her critical incident resulted in her having more self-confidence and the realisation that she can succeed if she does not give up.

*I think I have gained some ... gained some confidence after ... I mean, before that, I was like 'what I am gonna do. I can't solve this. I can't do this.' But after that, I realised that, well, somebody trusts me, so I also have to trust myself. That's ... that's ... that's the basic thing that I gained. And well, okay, it was hard ... (A-4)*

Participant B-1 also experienced difficult times working on a project, and as he explains in the following quotation, the lesson learnt was the value of persisting, not giving up, and patience.

*We worked hard on this problem. We actually had times when we lost our hope and we thought about more ... more marginal*

*ideas maybe giving up some quality of that project or ... maybe not trying anymore or ... But at the end, I see that if we hadn't acted on any of those different ideas, we wouldn't succeed at the end. I mean, we were talking about giving up that ... quality in that project, [and] ... if our adviser wasn't, you know, more stubborn and just wanted to cut things at that point, we couldn't work more on this problem and we couldn't solve it. ... I mean, patience was good at this point. (B-1)*

When reflecting on how they improved overall through their work, respondents referred not only to technical and practical skills but also to personality traits and soft skills such as time management, patience, and confidence. For those who were planning to stay at the university after their PhD study, working with faculty members also initiated them to the everyday realities of being an academic researcher. Interviewee B-3, for instance, who plans to become a faculty member after her graduation, reflected on how she was involved in the everyday work of the profession:

*I feel that I learned to work a lot. In the beginning, I did not have a clear sense of what it would be like to work as a researcher in a faculty ... So now, working with the professors very closely on a research project, I have a sense of how to conduct a research project ... And then I have a better sense of what are the challenges of finding even like the sample ... or like finding the schools that we need to work on ... So I feel like I learned a lot about in terms of how to conduct a better research and what a researcher should be paying attention to while doing all this work. And I also learned the skills of doing this. (B-3)*

Respondents reflected on the relevance of their courses and their work at the university to their PhD studies. Generally, they were of the opinion that, while courses are of value, many times these do not equip students with the skills and experience that they had the opportunity to acquire during their work experience. With the exception of one, the interviewees believed that what they were doing in their workplace was relevant and that it contributed to their PhD studies. For instance, interviewee C-4 explained that he had preferred a graduate assistantship over a fellowship because it would give him the opportunity to work at the university during his PhD program, which he believed would

contribute to the skills he needed to achieve his goal of becoming a faculty member.

*I actually had been offered a fellowship at [University of X]. That was gonna be a way to finance my education. But I remember talking to ... people about the pros and cons of a fellowship and a graduate assistantship, and a lot of people said 'well it is actually, you know when you have a fellowship, you don't actually have to go to work' ... 'but as a graduate assistant you have to do certain tasks'. And I remember people saying that it is actually the better thing to do ... (C-4)*

He further reflected that it was a wise choice, since working at the university gave him the skills he would need as a university researcher. He further stated that, although the courses provided a theoretical foundation and a practical basis for those skills, it is never the same as working in an actual situation. Hence, what made him learn was being involved in the everyday processes, with the responsibilities of the tasks assigned to him.

Developing writing skills was another benefit of work for some of the interviewees, as mentioned by A-6, B-4, and C-4. Writing in the context of a PhD program, including writing a dissertation, is different from writing for business, as C-4 explained:

*I wrote literature reviews for proposals ... [their] structure is a bit different from a dissertation. A dissertation tends to be much longer, sort of, you know, they expect you to prove that you can be analytical and all that. But when you are writing a proposal, you know, you tend to be more succinct. (C-4)*

Similarly, A-2 pointed out how writing for a different audience requires a different style. From writing a dissertation for PhD purposes and through his work, he had the opportunity to learn the skills to write for different audiences:

*And the other thing I would say is writing, having to write all these reports. Sure, I had to write a dissertation, [and] I [had] had to write a master's thesis, that's part of my work but in ... but in my actual work, there are reports, e-mails and memos [and] everything else, so my writing skills, at least writing for*

*certain audiences, and things outside the normal academic environment have definitely improved through my work. (A-2)*

Overall, the interviewees' experiences reflect a progressive improvement in skills, knowledge and attitudes that resulted from their job. The experience of A-1 resembles a master-apprentice relationship, where the master explains, shows, and scaffolds the steps of a task for the apprentice. After that, an apprentice performs the task on his own. Similarly, he experienced the process of listening to the professor, an engineer, observing how he performs tasks, and then performing them himself. This informal learning experience as an organic form of learning contextualised in an activity related to work, and in collaboration with a more able mentor, also highlights the value of such learning:

*He [the mentor] is the director of the motion analysis lab at the hospital. And so he is an electrical engineer by training but he is an electrical engineer for study of biomechanics and motion, human body motion, so I learned a tremendous amount from him about manipulating, you know, signals from sensors in the machines that are supposed to sense what the environment of the person does. Yeah, so just working with him [was] very good experience ... he would explain to me enough for me to understand why, you know, this is how it would be done, and he would show me how to do it. So that's how I learned. And the next time I had to do it, I knew, I knew why I had to do it, and I knew what the tools were ... (A-1)*

The findings from the interviews indicate that as newly recruited members in their workplace, all the interviewees except one had routine tasks in their early days at their workplace. These tasks generally served as an initiation to the workplace, and as the new employee handled each task, he or she moved on to tasks that required progressively higher level skills and decision-making. The fact that all the interviewees had graduated from related programs and had a master's degree meant that they had already completed courses that covered the knowledge and some of the skills that would be needed in their workplace at the university. Still, they appreciated this initiation process.

Workplaces should therefore be seen as environments for learning. The transmission of knowledge through observation and practical

application provides a very important form of learning that resembles the traditional forms of apprentice-like learning. Such learning is woven into activities that are ends in themselves. Skills and knowledge are acquired through practice. Distinct in character from learning in formal settings, informal workplace learning provides us with an important insight into learning. The skills acquired on the job are embedded in life. That is, a person performs a task not to learn, but to accomplish something. Therefore, a task within a context – for instance, writing a new program or conducting an interview – plays a crucial role in learning and skill acquisition, and learning happens as an interaction between a person, an activity and a context. Furthermore, the workplace provides a social environment where people can grow in maturity and learn responsibility as well as gaining skills. Informal workplace learning thus provides not only for the enhancement of skills but for personal development and collegial interaction as well.

## **Conclusion**

The workplace is an environment where learning often occurs informally. This study aimed to investigate – via graduate student employees – informal workplace learning experiences and ways of informal learning. The findings reveal that graduate student employees learn at work by participating in various work practices, collaborating with colleagues and advisers, and meeting new challenges, all of which provide learning opportunities. Learning is embodied in the everyday practices of work.

Several interviewees commented that when they compared their experience of PhD coursework to their workplace experience, they realised that the formal learning of the classroom produces mainly explicit knowledge, while informal workplace learning leads to tacit or implicit knowledge, thanks to personal involvement in working towards completing a particular task. Consistent with previous research, the findings of the present study reveal that informal learning in the workplace is important for graduate student employees, and this happens in the performing of a task and interaction with senior researchers and advisers (Slater, 2004). Such learning flourishes in a collegial environment (Ellinger, 2005) and is enhanced by personal characteristics (Lohman, 2009).

In line with the findings of Beckett and Hager (2002), the informal workplace learning experiences of the graduate student employees in the present study showed that, when involved in tasks that are holistic, contextualised, and activity- or experience-based, individuals were motivated to learn and enhance their skills so as to better accomplish the tasks at hand. Often such learning had a collaborative/collegial nature. In fact, one cannot separate workplace practices from learning, as they are inter-embedded.

Most previous research on informal workplace learning has concentrated on types of informal learning and on factors and contexts that affect informal workplace learning. However, none of these studies investigated graduate student employees' experiences. The present research does exactly that and provides insights on how these experiences can contribute to PhD candidates' studies and their overall development as future academicians. Difficult work situations (critical incidences) also proved to have potential for skills development and personal growth when combined with the right amount of pressure and/or support from senior researchers or advisers.

The present study contributes the literature as a pioneering study, but further research is needed to develop a more detailed understanding of the effect of informal workplace experiences of graduate student employees. Future studies might, for example, focus on similarities and differences between diverse disciplines in terms of the degree of contribution of informal workplace learning to the students' professional, academic and personal development. One could also explore the transition of graduate student employees into new roles after graduation.

Finally, various studies point out concepts such as communities of practice that undoubtedly contribute to a broader understanding of workplace practices, but as Loftus and Higgs (2010) point out, investigating individual experiences and what the individual brings to the world of work through practice and through engaging in activities is important and needs to be researched further.

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## References

- Bancheva, E. & Ivanova, M. (2015). 'Informal learning in the workplace: gender differences' in J. Ostrouch-Kamin'ska and C. C. Vieira (eds.) *Private world(s): gender and informal learning of adults*, Sense Publishers, 157–182.
- Beckett, D. & Hager, P. (2002). *Life, Work and Learning: Practice in Postmodernity*, London: Routledge.
- Berg, S.A. & Chyung, S.Y. (2008). 'Factors that influence informal learning in the workplace', in *Journal of Workplace Learning*, 20: 4, 229–244.
- Billett, S. (2002). 'Critiquing workplace learning discourses: participation and continuity at work', in *Studies in the Education of Adults*, 34: 1, Spring, 56–67.
- Billett, S. (2001). 'Learning throughout working life: interdependencies at work', in *Studies in Continuing Education*, 23: 1, May, 19–35.
- Boud, D., & Middleton, H. (2003). 'Learning from others at work: communities of practice and informal learning', in *Journal of Workplace Learning*, 15: 5, 194–202.
- Boyatzis, R. (1998). *Transforming Qualitative Information: thematic analysis and code development*, Thousand Oaks, CA: Sage.
- Cerasoli, C. P., Alliger, G. M., Donsbach, J. S., Mathieu, J. E., Tannenbaum, S. I., & Orvis, K. A. (2017). 'Antecedents and outcomes of informal learning behaviors: a meta-analysis' in *Journal of Business and Psychology*, 1–28.
- Cheetham, G., & Chivers, G. (2001). 'How professionals learn in practice: an investigation of informal learning amongst people working in professions', in *Journal of European Industrial Training*, 25: 5, 248–292.
- Colley H., Hodkinson, P. & Malcolm, J. (2003). *Informality and formality in learning: A report for the learning and skills research centre*. Leeds: Learning and Skills Research Centre, University of Leeds.
- Day, N. (1998). 'Informal learning gets results', in *Workforce*, 77: 6, 30–36.
- Ellinger, A. D. (2005). 'Contextual factors influencing informal learning in a workplace setting: the case of "reinventing itself company"', in *Human Resource Development Quarterly*, 16: 3, 389–414.
- Ellinger, A. D., & Cseh, M. (2007). 'Contextual factors influencing the facilitation of others' learning through everyday work experiences', in *Journal of Workplace Learning*, 19: 7, 435–452.
- Enos, M. D., Kehrhahn, M. T. & Bell, A. (2003). 'Informal learning and the transfer of learning: how managers develop proficiency', in *Human Resource Development Quarterly*, 14: 4, 369–387.
- Eraut, M. (2000). 'Non-formal learning and tacit knowledge in professional work', in *British Journal of Educational Psychology*, 70, 113–136.

- Eraut, M. (2004). 'Informal learning in the workplace' in *Studies in Continuing Education*, 26: 2, 247–273.
- Flanagan, J. C. (1954). 'The critical incident technique', in *Psychological Bulletin*, 51: 4, 327–358.
- Flora, B. H. (2007). 'Graduate assistants: students or staff, policy or practice? The current legal employment status of graduate assistants', in *Journal of Higher Education Policy and Management*, 29: 3, 315–322.
- Gremler, D. D. (2004). 'The critical incident technique in service research', in *Journal of Service Research*, 7: 1, 65–89.
- Gola, G. (2009). 'Informal learning of social workers: a method of narrative inquiry', in *Journal of Workplace Learning*, 21: 4, 334–346.
- Hager, P. & Halliday, J. (2009). *Recovering Informal Learning*, Dordrecht: Springer Science + Business Media B.V.
- Hobson, J., Jones, G., & Deane, E. (2005). 'The research assistant: silenced partner in Australia's knowledge production?', in *Journal of Higher Education Policy and Management*, 27: 3, 357–366.
- Hodkinson, P. & Hodkinson, H. (2004). 'The Complexities of Workplace Learning: Problems and Dangers in Trying to Measure Attainment', in H. Rainbird, A. Fuller & A. Munro (eds.) *Workplace learning in context*, London: Routledge, 259–75.
- Jacobs, R. L., & Park, Y. (2009). 'A proposed conceptual framework of workplace learning: implications for theory development and research in human resource development', in *Human Resource Development Review*, 8: 2, 133–150.
- Julius, D. J., & Gumport, P. J. (2003). 'Graduate student unionization: catalysts and consequences', in *The Review of Higher Education*, 26: 2, 187–216.
- Jurasaitė-Harbison, E. (2009). 'Teachers' workplace learning within informal contexts of school cultures in the Unites States and Lithuania', in *Journal of Workplace Learning*, 21: 4, 299–321.
- Kyndt, E., Dochy, F. & Nijs, H. (2009). 'Learning conditions for non-formal and informal workplace learning', in *Journal of Workplace Learning*, 21: 5, 369–383.
- Le Clus, M. (2011). 'Informal learning in the workplace: a review of the literature', in *Australian Journal of Adult Learning*, 51: 2, July, 355–373.
- Livingstone, D. W. (2006). 'Informal learning: Conceptual distinctions and preliminary findings' in *Counterpoints*, 249, 203–227.
- Livingstone, D.W. (2001). '*Adults' Informal learning: definitions, findings, gaps and future research*', WALL Working Paper No. 21, Toronto: Ontario Institute for Studies in Education.

- Loftus, S. & Higgs, J. (2010). 'Researching the individual in workplace research' in *Journal of Education & Work*, 23: 4, 377–388.
- Lohman M.C. (2009). 'A survey of factors influencing the engagement of information technology professionals in informal learning activities', in *Information Technology, Learning, and Performance Journal*, 25: 1, 43–53.
- Manuti, A., Pastore, S., Scardini, A. F., Giancaspro, M.L. & Morciano, D. (2015). 'Formal and informal learning in the workplace: a research review', in *International Journal of Training and Development*, 19: 1, 1–17.
- Marsick, V. J., & Volpe, M. (1999). 'The nature and need for informal learning', in *Advances in Developing Human Resources*, 1: 1, 1–9.
- Marsick, V. J., & Watkins, K. E. (2001). 'Informal and incidental learning', in *New Directions for Adult and Continuing Education*, 89: 25–34.
- Marsick, V. J., & Watkins, K. E. (1990). *Informal and Incidental Learning in the Workplace*, New York: Routledge.
- McGinn, M. K., & Niemczyk, E. K. (2013). 'Research practice in research assistantships: Introducing the special issue on research assistantships', in *Journal of Research Practice*, 9: 2, 2.
- Naufel, K. Z., & Beike, D. R. (2013). 'The ethical treatment of research assistants: are we forsaking safety for science?', *Journal of Research Practice*, 9: 2.
- Poell, R. F., Van der Krogt, F. J., Vermulst, A. A., Harris, R. & Simons, M. (2006). 'Roles of informal workplace trainers in different organizational contexts: empirical evidence from Australian companies', in *Human Resource Development Quarterly*, 17: 2, 175–198.
- Rhoads, R. A., & Rhoades, G. (2005). 'Graduate employee unionization as symbol of and challenge to the corporatization of US research universities', in *The Journal of Higher Education*, 76: 3, 243–275.
- Rogers, S. E., Eaton, A. E., & Voos, P. B. (2013). 'Effects of unionization on graduate student employees: faculty-student relations, academic freedom, and pay', in *ILR Review*, 66: 2, 487–510.
- Sambrook, S. (2005). 'Factors influencing the context and process of work-related learning: Synthesizing findings from two research projects', in *Human Resource Development International*, 8: 1, 101–119.
- Schugurensky, D. (2000). 'The forms of informal learning: towards a conceptualization of the field', NALL Working Paper No. 19, Toronto: Centre for the Study of Education and Work, OISE/UT.
- Skule, S. (2004). 'Learning conditions at work: a framework to understand and assess informal learning in the workplace', in *International Journal of Training and Development*, 8: 1, 8–20.

- Slater, T.R. (2004). 'Informal learning in the workplace: Identifying contextual factors affecting employee's ability to engage in informal learning in the nonprofit financial services industry', doctoral dissertation, Capella University, Minneapolis, MN.
- Tynjälä, P. (2013). 'Toward a 3-P model of workplace learning: a literature review', in *Vocations and Learning*, 6, 11–36.
- Tynjälä, P. (2008). 'Perspectives into learning at the workplace', in *Educational Research Review*, 3, 130–154.
- Van Noy, M., James, H., & Bedley, C. (2016). *Reconceptualizing Learning: a review of the literature on informal learning*, New Jersey: Rutgers Education and Employment Research Centre and ACT Foundation.

## **About the author**

Associate Professor **Özlem Ünlühisarcıklı** is an academic member at Boğaziçi University, Faculty of Education, Department of Educational Sciences in Istanbul, Turkey. Her research focuses on apprenticeship and work-based learning, informal learning, workplace learning, and adult literacy.

## **Contact details**

*Özlem Ünlühisarcıklı*  
*Boğaziçi University*  
*34342, Istanbul, Turkey*  
*Email: unluhisa@boun.edu.tr*