

# Informal learning mechanisms: Continual competence development for becoming successful in professional work

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**Abstract**—In today’s society, learning is a lifelong pursuit for all professionals who want to become and stay successful in their profession. However, in contrast to formal academic training, workplace learning is often informal and relatively unnoticed by competence developers in both academia and industry. This paper therefore sets out to identify and describe how such learning takes place in practice. More specifically, this paper presents the nine learning mechanisms that was identified from the literature and describes how they takes place in practice to make people successful at work.

**Index Terms**—Competence development, Informal learning, Lifelong learning, Workplace learning.

## I. INTRODUCTION

THOUGH teachers at all academic institutions do their very best to teach students everything they possibly can, it will still only be a fraction of everything they will need to learn at work. Lifelong learning is viewed as vital for many professions, not least for academically educated persons. According to the EU definition, lifelong learning includes “all purposeful learning activity undertaken on an ongoing basis with the aim of improving knowledge, skills and competence” [1]. This is a very broad definition, still most discussions encircle formal learning like the possibilities to take courses and/or certificates. However, in practice most of our professional learning is informal, meaning it is unintentional, unstructured with a lack of prescribed outcomes, and produces implicit and tacit knowledge and situation-specific competences [2]. So, what do we know about informal learning in the workplace?

First, we need to define learning and the leaning process. According to Illeris [3], learning is about creating a permanent capacity change in people. This can be conceptualized as a process, where activities trigger learning mechanisms, which in turn generate learning outcomes [4]. In higher education, learning activities and learning outcomes are frequently discussed. In contrast, learning mechanisms are rather invisible, and not always thought of, but are characterized by “underlying and explanatory features that explain how learning activities bring about change” [4]. Thus, learning activities are not a guarantee for

learning outcomes unless a learning mechanism is triggered. By focusing on the learning mechanisms, informal learning can be understood in more detail.

This piece of paper presents nine learning mechanisms that have been identified from the literature and describes how they takes place in practice to make people successful at work. The learning mechanisms are categorized into loci, that is, their primary place of belonging and where the learning takes place. Table 1 shows an overview of the learning mechanisms and their loci.

TABLE I  
INFORMAL LEARNING MECHANISMS AND THEIR LOCI

Loci	Learning mechanism
Interactional	Collaboration Feedback Mentoring Vocalizing
Actional	Basic work practice Stretching experiences Out-of-profession experiences
Cognitive	Observation and absorption Reflection and abstraction

## II. INTERACTIONAL LEARNING MECHANISMS

### A. Collaboration

Collaboration belongs to the interactional locus category of learning [5] and is put forward as a vital mechanism in much workplace learning literature [6]. Learning from collaboration is triggered by communication and interaction with peers, colleagues, and clients [2, 7], as well as participation in group activities [8]. Cheetham and Chivers [9] specify work in multidisciplinary teams, where intervision is an explicit method for learning from communal problems [6].

### B. Feedback

Feedback is an interactional learning mechanism assumed to contribute to an increased level of both cognitive and motivational factors [10]. It may involve colleagues, supervisors, subordinates, clients, and suppliers [7], and is identified as an essential mechanism for learning to take place [6].

A number of feedback distinctions have been highlighted by Frese and Zapf [11]; concurrent versus terminal feedback, immediate versus delayed feedback, verbal versus nonverbal feedback, and positive versus negative feedback. In practice, a range of learning activities may trigger such feedback; peer and supervisor appraisal [7], debriefings [6], and 360 degree feed-back [12].

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### C. Mentoring

Interaction with a mentor or coach may assist learning in that the mentor can help to see mistakes as a learning experience, think together on work-related problems and give tips on how to do the work [7]. The interaction may be structured and formally organized [13] or unstructured and lack an officially designated person [14]. Learning activities can furthermore consist of peer-mentoring groups to meet [15], sounding boards or interrogations of a more experienced person [9].

### D. Vocalizing

Apart from being a way of sharing knowledge with others, vocalizing is a learning mechanism which require the person in question to combine current tacit and explicit knowledge with understanding about their respondent's situation and based on that develop ideas and constructs that are appropriate and meaningful to their respondent [16, 17]. One related learning activity is coaching others, where learning is embedded in the coaching of external interns, interims and voluntary employees [6, 14]. Other examples are teaching, production of quality manuals, and engagement in constructive debates where you need to justify or explain your actions [6, 9].

## III. ACTIONAL LEARNING MECHANISMS

### A. Basic work practice

Basic work practice is a central mechanism in many studies of learning and is about actually doing the job itself [2]. Repeated practice is found to be "positively associated with the accumulation of tacit and explicit knowledge" [18], and by experimenting with new ways of performing job tasks, a manager can learn from himself or herself [7, 19]. To be noted is that progression depends on the daily work content [8].

### B. Stretching experiences

The learning mechanism stretching experiences derives from basic learning theories such a Bloom's [20] and Vygotsky's [21], where learners are challenged with increased levels of difficulty. By overcoming such challenges, new learning arises [22]. The tackling of challenging tasks is highlighted as a learning promotor also in workplace learning [2, 8, 13]. There is however a twofold aspect on these stretching activities as learning mechanisms. While challenging demands have a positive relationship with learning performance, demands associated with hindrance have a negative relationship with learning performance [23].

### C. Out-of-profession experiences

Learning from out-of-profession experiences is about applying what is learnt in one context into another context. This might be a challenge as it requires extension of common assimilative learning [24]. In workplace learning, Cheetham and Chivers [9] put forward job rotation or cross-cultural working as beneficial learning activities to trigger learning from out-of-profession experiences, while Noe, Tews and Marand [19] suggest reading professional magazines and management books. In addition, Tynjälä [2] put forward formal education and extra-work content.

## IV. COGNITIVE LEARNING MECHANISMS

### A. Observation and absorption

Observational learning consists of attentional, retentional, reproductive, and motivational processes [25], which are all equally important to make this mechanism work. Simply put, without ability to recognize and then remember the essential features of a role model's behavior, and then ability to reproduce such behavior, nothing will change. Nor will this new behavior be activated if it is not favorably received [25]. Eraut [8] highlights observation and absorption as a key aspect for workplace learning, and managers perceive it as the most valuable method of learning in a study by Coetzer [26]. Hoover, Giambatista and Belkin [27] argue that observation before direct experience enhance learning performance compared to direct experience alone, since observational learners do not face direct (task) demands and therefore may free up cognitive capacity and focus freely on what they want to learn. To support learning from observation and absorption, networking and shadowing are considered beneficial learning activities [9].

### B. Reflection and abstraction

Reflection is a fundamental mechanism in traditional learning theories [17, 28], as well as in contemporary research on workplace learning [2, 7, 29]. In the latter case, it is defined as "the act of acquiring new or expending existing KSAO's through reflecting on specific work practices and methods" [7]. In addition, abstraction assists to generalize knowledge and further increase learning at work [2, 8].

Reflection and abstraction are often perceived as preceded by individual learning activities such as conscious/unconscious individual assessments and self-analysis [30]. However, Cheetham and Chivers [9] also put forward collective reflections. They also highlight graphical representation, perspective switching exercises, and positive thinking as beneficial activities for learning from abstraction.

## V. CONCLUSIONS

Clearly, an academic exam is nothing but the start of a lifelong journey of learning. As most of our learning at work is informal, this paper pinpoints nine learning mechanisms derived from literature that make up the learning process of informal learning. By increasing the knowledge about how informal learning takes place, such learning may be enhanced by both individuals and organizations. For example, embracing or facilitating stretching experiences may support informal learning, as well as putting aside time for reflection and abstraction. Possibly, such insights may be planted already during academic training.

QUESTIONS FOR DISCUSSIONS

How can we take advantage of informal learning mechanisms in our teaching?

Should we be more active/highlight the presence of informal learning in our education? If so, how?

Should we prepare the students for life-long learning (teach them how to learn)? If so, how?

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