



Learning Transfer in the Workplace: An Insight Into the Missing Link in the Education and Training of Employees

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ABSTRACT

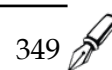
The goal of education and training is the transfer of learning which requires translating theories to knowledge, skills and learned behaviour. Education can only achieve its intended purpose when theories taught in the classroom are connected to workplace practices. If education and training fail to achieve this lofty objective, then, all efforts, time and resources may be a waste. Transfer of learning only occurs when prior learned knowledge and skills are applied in workplace, either in similar, related, or different contexts. However, there seems to be a missing link in what is being taught and transferred to the workplace in recent times. Aside from the theory of identical elements, this review also considers the theory of near and far transfer. The relevance of these two theories to classroom and workplace is the focal point of this review. Data for this review are secondary sources from documentary reviews, related articles, scholarly works in journals, conference proceedings among others. Data derived from these sources were analysed using content analysis approach. This paper posits that there is a missing link between what is being taught and learnt in the classroom and its workplace application. This paper posits that there is urgent need to make classroom a centre of active learning. Hence, a student-centred pedagogy is recommended, where real-life social contexts are taught in the classrooms, which can ultimately transfer learning to workplace.



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INTRODUCTION

Education serves as a mechanism for the development of skills and knowledge which is further transmitted as skills in the workplace or for a useful living. This is not mere acquisition of certificate (Todaro & Smith, 2011). The goal of education transcends mere learning but applying the acquired knowledge and skills is critical to fulfilling this objective (Mwamwenda, 2020). In other words, learning transfer seeks to achieve a functional education which Okunlola and Hendricks (2022) contend that education will only be useful if it showcases that formal learning is worthwhile by establishing a nexus between education and development in which the society is the ultimate beneficiary. Raliphada et al. (2014) further posit that the ultimate goal of learning is found in the ability of learners to implement the learned behaviour or skills to real life situations or in the workplace. Hence, learning transfer refers to the carrying over of prior learned knowledge and skills received through education and training to the workplace. It assumes that whosoever attended an educational programme would have gained mastery over the content taught and would be able to apply same in the world of work. Thus, transfer of learning occurs when learning in one context is applied in either the same, related, or different context.



However, a study from North American industries has established that the return on training and development is low; despite hundreds of billion dollars spent, not more than 10 percent of these expenditures resulted in actual transfer of knowledge, skills, and learned behaviours to the workplace (Brion & Cordeiro, 2018; Taylor, 1997b). Showing that this problem is not limited to the Western nations, United Nations Educational Scientific and Cultural Organization (UNESCO) (2015) reported that African nations spent \$921 million on education between 2010 and 2012 with little to demonstrate for learning despite the huge investment on education and training. This is also corroborated by Goodge (1998) that the value or return on education and training seems to be inconsequential compared to the huge investment on the training. With the little transfer of learning to workplace, it is a pointer that government, policy makers and educators need to place premium on how transfer of learning occurs (Awoniyi et al., 2002; Brion & Cordeiro, 2018; Ford, 1994).

However, poor learning transfer has been attributed to trainee characteristics, training design and work environment (Baldwin & Ford, 1988). Consequently, educators must take into account learning transfer before, during and after formal trainings. Then, pedagogies that will enhance learning transfer must be culturally adapted (Brion & Cordeiro, 2018).

Theories of Learning Transfer

Meanwhile, theories of learning transfer have evolved over the years. They help to put the essence of learning into a critical perspective. Transfer of learning is pervasive and cuts across different spheres of life. It can be positive or negative. If positive, it implies that prior learning aids in new transfer and if negative, it shows that transfer does not occur in the new context which may be the workplace, home or community (Taylor, 1997a). An educational programme is expected to facilitate job performance through the application of knowledge, skills and learned behaviour from formal learning or training in the workplace. Learning transfer theories have helped to explain the cardinal purpose of learning and the processes involved in transferring knowledge to the real world of work. Learning transfer theory is still relevant today because the essence of education is the application of learning to various tasks that may arise, especially after formal education. However, it should be stated that the 'transfer' does not always occur as envisaged. So, transferring acquired knowledge to different circumstances other than what learners were taught, has always been problematic and is not as simple as assumed (Hajian, 2019). This made Mwamwenda (2020) to caution teachers to guard against producing learners who can only solve problems similar to what was learnt in the classroom. Several researchers have attempted to unravel what leads to the acquisition of knowledge during the learning process. Several findings have emerged from this research (Blume et al., 2010), including numerous theories on learning transfer. Two of such theories are examined in this review: the *Identical Element* theory and the *Near and Far Transfer* theory.

Theory of Identical Elements

The theory of identical elements has played a critical role in education since its introduction by Woodworth and Thorndike (1901). The theory argues that the greater the number of shared elements, the greater the amount of transfer. Identical elements theory maintains that learning transfer takes place to the extent that the original task is similar to the transfer task – that is, how many elements the two tasks (original task and transfer task) have in common (Woodworth & Thorndike, 1901). Woodworth and Thorndike postulate that transfer between two tasks only occurs in so far as knowledge elements are identical. For example, if a student goes to learn French after Latin, it will be easier to learn due to its similarities (Taatgen, 2013). Similarly, a secondary school graduate who took courses in calculus or algebra may find it very applicable later in life if (s)he becomes an engineer, since the profession requires such knowledge, but such knowledge may not help if (s)he becomes a linguist. The theory of identical elements reveals the nexus between what was learnt in formal institutions and what real life demands (Hajian, 2019). This has further called for the need to make classrooms, centres of active learning where real life situations are taught in social context rather than being subjected to teacher-centred pedagogy.

Classrooms need to present opportunities to students to participate in order for learning to be functional (Gutek, 2014; Hajian, 2019; Williams, 2017).

Aarkrog (2011), too, contends that there is a need to focus on teaching for transfer or application of knowledge, and this should not be through teaching method alone; rather, the curricula, also, should reflect real life situations that graduates may encounter in the larger society. In other words, learning should integrate theory and practice. Schools also need to employ an active learning strategy as a mode of instruction to enhance pedagogy that transcends abstract learning. This may be helpful in aiding transfer of knowledge and skill to real life situations.

Theory of Near and Far Transfer:

Learning transfer theories, however, are not without criticism, but they have survived as new forms of theoretical frameworks relevant for understanding how transfer occurs in different contexts (Aarkrog, 2011). Near transfer refers to applying aspects of knowledge/skills learnt in one context to another context similar to the learning environment of education and training. Recalling and applying classroom experiences are important to facilitating near transfer in similar contexts (OECD, 2018), but far transfer involves transferring knowledge or skills to more complex contexts which may be dissimilar to the original learning context. This makes far transfer cumbersome, unlike near transfer (Seel, 2012).

Similarly, Larsen-Freeman (2013) clarifies the distinction between near and far transfer. Near transfer occurs between two similar contexts while far transfer happens in two widely separate contexts. Day and Goldstone (2012) as well make the distinction that near transfer is easy while far transfer is difficult only because individuals fail to recognize and invoke conceptual and structural similarities from previous learned knowledge demanded in the current or new task. Barnett and Ceci (2002) who are renowned proponents of the taxonomy of transfer, pose the issue of when and where do we apply what we learn, while Larsen-Freeman (2013) contends that the teaching strategy being used by teachers is not effective. It can only produce 'near transfer' of knowledge and skills and teachers are acting under pressure to prove the performance of their students in standardised examinations, thereby, jeopardising opportunities for 'far transfer' which seems more important for future success of graduates.

Nonetheless, the times are changing and far transfer is no more only about the ability to apply prior learning in another context; it now also includes the ability to solve novel problems which share logical structure with knowledge earlier gained but that now manifest in other forms (Larsen-Freeman, 2013). This suggests that for education and training to be functional and aid students' future achievement in society, premium needs to be placed on curriculum and pedagogy to enhance both near and far transfer of learning. There is no doubt that near and far learning transfer theory is useful and relevant in explaining how formal learning is applicable in the workplace. Consequently, Mwamwenda (2020) identifies seven factors that can aid transfer of learning which is as follows:

1. Learning must be adequately mastered.
2. Learned information must be easily retrievable from memory for the occurrence of transfer of learning to take place.
3. Active learning should be encouraged and applied.
4. Learning should be based on clarity and understanding and not rote learning.
5. Learning should be based on concrete material usage.
6. Engaging in thinking at deep level of abstraction facilitates learning transfer.
7. Monitoring various aspects of learning through Metacognition.

The Relevance of the Learning Transfer Theory

Education studies is now replete with several learning transfer theories, as most formal learning aspires to transfer skills. Thus, unless transfer occurs, the goals of education cannot be said to have been achieved. This has made it a critical matter in education (Perkins & Salomon, 1992). Asaju and Adagba (2014), too, corroborate the importance of learning transfer and contend that a functional education must have anticipated application which ensures that learners actually

transfer their learning activities into action. This also implies that the ultimate goal of learning is the application. Thus, these two theories examined under learning transfer theory aimed at transfer of learning from classrooms to real life situations either in the workplace or society. Hence, the ability of a graduate to transfer learning into action in a real world of given tasks is crucial to achieving a functional education at all levels of education. Hajian (2019) equally affirms that the two learning theories considered are potent tools useful in pedagogy and in aiding transfer of learning in education and training. Perkins and Salomon (1992) as well demonstrated the application of these theories, in that, for instance, a secondary school graduate who took courses in calculus or algebra may gain later in life if (s)he becomes an engineer. Similarly, knowledge of mathematics or financial accounting at the secondary level of education may aid a secondary school graduate in handling cash book, financial entries, and other numerical tasks.

CONCLUSION

This review made use of two prominent transfer of learning theories, namely, the theory of identical elements and the theory of near and far transfer. However, learning transfer theories are inexhaustive. Other theories and pedagogical models on transfer of learning include: the theory of low and high road transfer (Perkins and Salomon, 1988), the theory of analogy and abstraction (Skemp, 2012), problem-based learning (PBL) (Hung, 2013), communities of practice (CoP) (Wenger & Snyder, 2000), cognitive apprenticeship (CA) (Wedelin & Adawi, 2014), hugging and bridging (Perkins & Salomon, 1992), game-based learning (GBL) (Clark et al., 2016) and simulations (Electronic Arts, 2018) that aide learning and transfer.

These theories, despite shortcomings, are still relevant in education and training. It is worthy to reemphasize that education and training is only useful if it aids transfer of knowledge, skills and learned behaviour which is ultimately transmitted into a workplace or society for a useful living. If education does not fulfil this lofty aspiration of transfer of learning, then the resources and efforts may be meaningless (Brion & Cordeiro, 2018; United Nations Educational Scientific and Cultural Organization (UNESCO), 2015). Mwamwenda (2020) as well cautions educators to guard against producing learners who can only proffer solution to what was learnt in classroom without application to dissimilar situations. In order to urgently nib this problem in the bud, active learning and other factors posited by Mwamwenda (2020) must followed through to ensure learning transfer occurs in the quality and quantity anticipated by government and policymakers. Classroom activities should be student-centred while educators take into account transfer of knowledge before, during and after the formal training (Brion & Cordeiro, 2018).

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