

# Organisational Learning and Learning Organization: A Review of Theories

Akwaowo, Raphael Reuben and Kalio, Tamuno-Iduabia Sobie

*Department of Management, University of Port Harcourt, Nigeria*

**Abstract:** The paper critically examined organisational learning and learning organization as well as the review of theories underpinning the study. In essence this conceptual paper reviewed some extant literatures and related theories on organisational learning and learning organisations. The paper indicated that the survival of any organisation, particularly, a profit oriented organisation depends to a large extent, on how well it can adapt to environmental changes, accept changes and do better in terms of its operations. The study highlighted the ways to identify a learning organization. It also, revealed the conceptual differences between organisational learning and learning organization. The study revealed that organizational learning and learning organization are two constructs based on conceptual metaphors. Organizational learning is a process that occurs across individual, group, and organizational levels through intuiting, interpreting, integrating, and institutionalizing. It may be an adaptive process based on the single-loop learning, or a generative process based on the double-loop learning. Organizational learning implies organizational unlearning and a dynamic organizational memory. The organization that is capable of transforming organizational learning into the engine of knowledge creation aiming at building up a competitive advantage may become a learning organization. The paper discovered that the theory of organizational learning is defined in four premises namely: **Premise 1: Organizational learning assumes a tension between knowledge exploitation and knowledge exploration.** **Premise 2: Organizational learning is a multilevel process (i.e. individual, group, organization).** **Premise 3: The three levels of organizational learning are linked through psychological and social processes: intuiting, interpreting, integrating, and institutionalizing (4Is) and** **Premise 4: Cognition influences action, and action influences cognition.** The paper x-rayed cognitive learning theories, behavioural learning theories and social learning theories as the key philosophies underpinning the study. The paper revealed that learning should be engrained as part of the organization's philosophy and core organisational value and culture. It is only by so doing that organisation will be able to face tomorrow when it actually comes. The study also, revealed that for effective double loop learning to occur at the organisational level, there is a need for organisational leaders to appreciate the value of learning as a panacea for organizational sustainability. The paper therefore, supports the proposition that organisation learning culture has direct influence on organisational innovativeness, which is directly tied to long-term organizational success. It is recommended, therefore, that all organisations that want to remain competitive should focus on becoming a learning organisation.

**Keywords:** Organisational Learning, Learning Organisation, Double-loop Learning, Cognitive Learning Theories, Behavioural Learning Theories, Social Learning Theories

## I. INTRODUCTION

An organisation's capability to learn has been linked to a fundamental source of competitive advantage (Albrecht, 2003), which is why Alrefaai and Khalil (2019), insisted that organisational learning helps to improve an organisations competitive advantage as well as responsiveness to change. Interestingly, "business executives and intellectuals have come to realize that knowledge assets and intellectual capital can best serve as a source of competitive advantage in comparison with the total dependence of traditional factors of production" Maier, Prange & Von Rosenstiel, 2003, p.14. This lends a support to the fact raised by Argyris (1999,). over three decades ago, that the value of a firm's organisational learning capabilities and knowledge assets is frequently several times that of its material assets.

According to Alrefaai and Khalil (2019), the first to introduce the concept of organisational learning into the literature were Kurt and March. However, another study has it that Cangelosi and Dill were the first to introduce the topic of organisational learning with empirical analysis. Be that as it may, the quantum of debate on whether organisational learning should be conceptualized as a change in cognitions or behaviour has greatly reduced in recent times Albrecht (2003), owing to the great acceptance in recent literature that learning involve both a change in cognition as well as change in behaviour. In other words, it is almost a universal postulation that learning involves both cognition and doing.

Organisational learning is defined as a change in the organisation's knowledge base that occurs due to past experience (Espejo & Flores, 2021). Learning organisation has been described as an outcome or product of organisational learning, which is complex and multidimensional in approach. That is why Mohamed (2017) views organisational learning as a process going on in the learning organisation" (p. 157). According to Alrefaai and Khalil (2019), the creation of knowledge, the retention of knowledge, and the transfer of knowledge, which altogether can be classified as organisational learning, can be conceptualized as formal activities which are a function of experience.

Organisation learning is hereby conceptualized as a multilevel process where members individually and collectively acquire knowledge by acting together and reflecting together (Albrecht, 2003).

This paper seeks to review several literatures and present main concepts and ideas about organizational learning and the learning organization in order to have an integral review of theories and perspectives on organizational knowledge dynamics.

## II. ORGANIZATIONAL LEARNING

Generally, organizations learn when people learn; so, leaders search for methods, which help them achieve more, faster, and deeper in the form of valuable business learning, and what they learned should be converted into useful services and products, which can compete in the market. It makes an organization's learning to a fundamental qualitative shift because learning makes their activities a source of sustainable competitive advantage. In this review, we will focus on some important things regarding organizational learning and some aspects of learning organizations (Argote, 2013).

Weed-Schertzer (2020) mentioned that an organization learns by processing information with an objective to collect useful knowledge, and maintain the data. Learning within an organization can be subdivided into four processes while organizational learning is one of them. It is an important behavioral process, which shapes organizational behavior. Behaviorists believe that learning instills a new behavior in an individual because of exposure to social experiences (Proctor, 2018).

Knowledge acquisition is practically implemented through collecting information, information distribution, interpretation, data collection, and organizational memory. During the acquisition process, knowledge is attained. Information distribution is about sharing the attained information, which takes the form a new understanding. The information distribution process is followed by information interpretation before it reaches the last organizational process called organizational memory, which is a method of knowledge storage for making it accessible in the future (Kanbur & Mohamed, 2017).

Metaphorical analyze places individual learning in the source domain and organizational learning in the target domain. Thus, individual knowledge from the source domain can be mapped onto the target domain as organizational knowledge. Individual memory from the source domain can be mapped onto the target domain as organizational memory. Also, the main stages of the individual learning process can be transferred to the organizational learning, but the dynamics of organizational learning is more complex than individual one. This metaphor opens new opportunities of understanding the relationship between organization and knowledge, and between organizational action and organizational thought. As Gherardi and Nicolini (2003, p.47) emphasize, "Organizational learning is a metaphor that encompasses two concepts, learning and organization, and enables the exploration of an organization as though it were a subject that learns, processes information, reflects on experiences, and possesses a stock of knowledge, skills, and expertise".

Organizational learning can be defined as a learning process through social interactions at the groups and organization levels. Through organizational learning "whole organizations or their components adapt to changing environments by generating and selectively adopting organizational routines" (Argyris, 1999, p.8). That means that organizational learning has as a consequence an increased level of organizational knowledge, which is able to generate new changes in organization. Organizational learning creates necessary conditions for the strategic renewal that balances continuity and change at the level of organization. "Renewal requires that organizations explore and learn new ways while concurrently exploiting what they have already learned" (Crossan, Lane & White, 1999, p.522). Identifying, understanding and managing knowledge exploitation and exploration in a way that reduces the tension between them constitute a result of organizational learning. Organizational renewal can become strategic if the process would encompass the whole organization, not just some groups or individuals, and the organization operates as an open system. In developing their theory of organizational learning, Crossan, Lane & White (1999, p.523) define four premises:

- Premise 1: Organizational learning assumes a tension between knowledge exploitation and knowledge exploration.
- Premise 2: Organizational learning is a multilevel process (i.e. individual, group, organization).
- Premise 3: The three levels of organizational learning are linked through psychological and social processes: intuiting, interpreting, integrating, and institutionalizing (4 I's).
- Premise 4: Cognition influences action, and action influences cognition.

Based on these four premises, Crossan, Lane & White (1999, p.523) formulate the following proposition: "The 4I's are related in feed-forward and feedback processes across the levels". Feed-forward reflects knowledge exploration, and it promotes learning from individuals and groups to organization, where new knowledge becomes embedded into routines, procedures, and strategies. Feedback reflects knowledge exploitation and institutionalizes the learning results. The premise 2 refers to the ontological dimension of organizational learning (Nonaka & Takeuchi, 1995). Concepts and ideas are born in the minds of individuals and through knowledge sharing they are transferred to groups. During the social interaction process initial knowledge may be enriched and amplified, synthesized and streamlined in concordance with some group and organizational goals. Through continuous interaction between groups, knowledge reaches the organizational level where it is institutionalized. Organizations are well structured social systems and groups interaction are built in the design of operational procedures.

The four processes introduced in Premise 3, i.e. intuiting, interpreting, integrating, and institutionalizing occur over all three ontological levels: individual, group, and organizational. According to Crossan, Lane and White (1999, p.524), "The three learning levels define the structure through which

organizational learning takes place. The processes form the glue that binds the structure together; they are, therefore, a key facet of the framework”.

*Intuiting* operates at the individual level. It is an unconscious process based on filtered experience and pattern recognition. That means that individual experience is examined by the individual cognitive unconscious to find out a solution to a rather complex problem and in a new specific context, and the result is an intuition (Lakoff & Johnson, 1999). The inputs of this process are individual experiences and images, and the outcomes consist of metaphors. “Scholars have recognized metaphors as a critical link in the evaluation from individual intuitive insight to shared interpretation. Individuals use metaphors to help explain their intuition to themselves and to share it with others” (Crossan, Lane & White, 1999, p.527).

*Interpreting* operates at the interface between individual and group levels. It is the sequence of externalization of that intuition and explaining it through combination to others (Nonaka & Takeuchi, 1995). Interpreting is basically a social process. Individuals construct cognitive maps about their field of activity and use these maps in interpreting the new issue in a social environment. “Just as language plays a pivotal role in enabling individuals to develop their cognitive maps, it is also pivotal in enabling individuals to develop a sense of shared understanding” (Crossan, Lane & White, 1999, p.528). Language and cognitive maps are its inputs, and dialogue is the outcome. Interpreting moves knowledge beyond the individual limits toward the group and organizational levels through shared understanding. The final outcome is a collective sensemaking (Stigliani & Ravasi, 2012). A group can learn not only through interpreting individual knowledge, but acquiring knowledge from other groups. “When a group changes a routine drawing on the experience of others, it is said to have undergone a vicarious learning process” (Bresman, 2013; Denrell, 2003).

*Integrating* operates at the group level and at the interface between group and organization levels. It is the process during which a shared understanding can be obtained at the group level, and as a result an action may be decided. Its input is given by shared understanding, and the outcome consists in interacting with others from the group and organization. Integrating is an essential process in transforming the potential intellectual capital into operational intellectual capital, and in initializing action through decision making (Bratianu, 2008; Bratianu & Orzea, 2013a). A new and efficient tool of integrating knowledge is *wikis*. Wikis are web pages that allow any user to enter and modify their content online. Wikis can be implemented in universities, in organizations and in informal learning settings. “They may be good tools to support individual and organizational learning. Wikis are convenient instruments for producing digital artefacts of collective knowledge” (Kimmerle, Cress & Held, 2010, p.40).

Finally, *institutionalizing* operates at the organization level through new routines. Organizational learning is completely different than the individual learning, since the outcomes belong now to the whole organization. “Although individuals may come and go, what they have learned as individuals or in groups does not necessarily leave with them. Some learning is embedded in the systems, structures, strategy, routines, prescribed practices of the organization, and investments in information systems and infrastructure” (Crossan, Lane & White, 1999, p.529). Its inputs are given by routines and the outcomes are rules and procedures. Through feedback, outcomes of this last process are related to inputs of all the other three processes, such that there is a continuous interaction between the ontological levels. Although these processes have been presented in a linear mode, they develop in a nonlinear mode without knowing exactly when one process ends and another process begins. Only a new intuition and a new institutionalized routine can be identified as the beginning and, respectively, the end of an organizational learning cycle. Thus, the Crossan, Lane & White model creates an understanding of how the four processes (i.e. intuiting, interpreting, integrating, and institutionalizing) link the three ontological levels: individual, group, and organizational.

Cook and Yanow (1993) make a difference between *the cognitive perspective* and *the cultural perspective* with respect to organizational learning. In the cognitive perspective the focus is on the individual learning and knowledge creation, which is then transferred and integrated at the group level, and finally institutionalized at the organizational level. In the cultural perspective the focus is on the group or organization as a whole, and on its ability to learn by creating intersubjective meanings that are expressed through their artifacts (i.e. objects, language, and acts). In this new perspective, organizational learning reflects the capacity of the organization to learn how to do what it does, and what it learns is possessed by the whole aggregate of people and not by individuals. In Cook and Yanow’s view (1993, p. 384), organizational learning means “acquiring, sustaining, or changing of intersubjective meanings through the artificial vehicles of their expression and transmission and the collective actions of the group”. The classic example would be with an orchestra performing a symphony. It is not meaningful to say that learning to perform that symphony is the result of each individual since no musician can play the symphony only by himself. Of course, each member of the orchestra learns his part in that symphony, but only the whole orchestra can play integrally the symphony. We can identify the organizational learning in this example by simple empirical observation. Also, we may add the fact that two different orchestras would play the same symphony in slightly different ways, in concordance with their experience and their specific organizational culture.

Bratianu (2013a), Bratianu and Orzea (2013a; 2013b; 2013c) emphasize the importance of going beyond the paradigm of

tacit-explicit knowledge, and to consider the multifield framework of the organizational knowledge in understanding the complexity of organizational learning. That means to integrate cognitive knowledge with emotional knowledge and spiritual knowledge. While spiritual knowledge may be considered the driving force of the organizational learning, emotional knowledge influences the readiness and efficiency of organizational learning through shared motivation and emotional decision making. Senge (1999) remarks that emotions and feelings may have positive or negative effects on organizational learning. Positive emotions and feelings support the motivational system, while negative emotions and feelings create *an emotional tension* that may oppose the creative tension. “The dynamics of relieving emotional tension are insidious because they can operate unnoticed. Emotional tension can always be relieved by adjusting the one pole of the creative tension that is completely under our control at all times – the vision” (Senge, 1999, p.151). Research demonstrates that each component of the organizational learning is influenced by shared emotions, feelings, values, and vision (Argyris, 1999; Argote, 2013; Garratt, 2001; Nonaka & Takeuchi, 1995; Pedler, Burgoyne & Boydell, 1997; Senge, 1999; Zohar & Marshall, 2004). In an overarching conclusion of the research performed in this field we may agree with Scherer and Tran (2003, p.369-394) that “Emotions focus the energies of an organization on events, provide the organization with crucial learning opportunities, and produce the motivational underpinning necessary for a sustained effort to learn about adapting to changing environments”.

Schilling and Kluge (2009) make a systematic analysis of barriers to organizational learning and suggest some practical ways of overcoming them. “For theoretical and practical reasons, we propose that it is helpful to understand *barriers* to organizational learning. We define barriers as those factors either preventing organizational learning or, at least, impeding its practicability” (Schilling & Kluge, 2009, p.337). The authors use the organizational learning model developed by Crossan, Lane & White (1999) and present the barriers associated to each of the four processes (i.e. intuiting, interpreting, integrating, and institutionalizing). For each of these processes Schilling and Kluge (2009) consider factors from three perspectives: actional-personal, structural-organizational, and societal-environmental. Actional-personal barriers are generated by individual thinking patterns (Bratianu, 2007), attitudes and behavior. Structural-organizational barriers are rooted in organizational strategies, technologies, processes, internal regulations, and culture. Societal-environmental barriers come from the external social and economic environment. Knowledge managers should be able to identify and develop methods to overcome all of these barriers if organizational learning becomes a priority. For example, in the GOAP – goals, obstacles, actions, and prerequisites – approach obstacles are analyzed in relation to the goals in order to find out their causes, and to design measures to overcome them (Naeve, Sicilia & Lytras, 2008).

### *Single-loop and Double-loop Learning*

Organizational learning is seen as an evolving process from the individual level to the group level, and from the group level to the whole organization along the ontological axis, as suggested by Crossan, Lane and White (1999). Individuals are the agents of learning and behavioral change, and through their social interactions in a structured working context learning becomes metaphorically an organizational phenomenon. Argyris (1999) considered in his analysis the whole organization as a complex system with feedback reactions to the input variables and to the governing variables. Any system has a set of governing variables that control the normal operation of the system. They establish the qualitative and quantitative correlations between the inputs and outputs of the system, and the metrics of evaluating the outputs in a given environment.

To have a better understanding of how a feedback reaction works we may consider a simple heating system which is automatically controlled by a thermostat. We assume that it is wintertime, and we set *the reference* value for the room temperature at 22 degrees Celsius. When *the actual* room temperature is below the reference value, the feedback is positive and the thermostat sends a signal to the heating system to continue delivering heat into the room. As a consequence, the air temperature is increasing up to the reference value or even higher. When the actual room temperature is higher than the reference value, the feedback reaction is negative and the thermostat sends the signal to the heating system to reduce heating or even to turn off the heater. Thus, the purpose of this feedback reaction is to correct the output of the system with respect to a reference value, which has been established from the beginning to be *a control or a governing value*. Metaphorically, Argyris consider that an organization with such a feedback reaction from the output variables to the input variables is an organization with *a single-loop learning*: “Single-loop learning occurs when matches are created, or when mismatches are corrected by changing actions” (Argyris, 1999, p.68).

Coming back to the heating system, we can see that the single-loop is controlled with respect to a reference, or a governing temperature value. However, this value is not fixed forever. It can be changed. For instance, if we would like to reduce the costs of heating, we decide the reference value for the room temperature to be 20 degrees Celsius. The heating system will be functioning in the same way, but the final output will be a lower room temperature. The reaction of changing the reference value as a result of the decision to reduce heating costs constitutes a second feedback that influences the governing variables. Metaphorically, Argyris calls this second reaction *the double-loop learning*. In organizations, double-loop learning appears when mismatches are corrected by altering first the governing variables. “Governing variables are the preferred states that individuals strive to ‘satisfice’ when they are acting. These governing variables are not the underlying beliefs or values people

espouse. They are the variables that can be inferred, by observing the actions of individuals acting as agents for organization, to drive and guide their actions” (Argyris, 1999, p.68). Single-loop learning is adequate for repetitive issues and programmable routines. Corrections with respect to a set of reference values are the main feature of this learning. Double-loop learning is necessary for more complex activities which are not programmable. In organizations, the most numerous changes are based on single-loop learning. These changes represent adaptations to the changes produced in the external environment, or improvements in the internal business environment. Although they are numerous, they are not necessarily powerful. Double-loop learning represents the powerful change or the master program of change in a long range perspective. Sometimes, complex changes suitable for double-loop learning can be decomposed into simpler changes for which single-loop learning is enough. However, changes are usually nonlinear processes and their decomposition into smaller units may not be possible (Bennet & Bennet, 2006; Ohmae, 1982; Senge, 1999).

Argyris (1999) makes the hypothesis that individuals act according to *the theory-in-use*, which they learned through education or some training programs in some specific professional areas. This *theory-in-use* gives each individual the set of governing variables with respect to which one corrects his behavior. According to Argyris (1999, p.81) these governing variables are the following:

- 1) strive to be in unilateral control;
- 2) minimize losing and maximize winning;
- 3) minimize the expression of negative feelings; and
- 4) be rational.

Based on these governing variables individuals develop strategies to help them remaining in control and saving face in a social context. That means to create clear advantages for the single-loop learning. Due to these benefits and to *inertia* phenomenon (Bratianu & Murakawa, 2004; Godkin, 2010), the *theory-in-use* becomes a barrier against the double-loop learning since the logical consequence would be the change of that theory. Paradoxically, developing the double-loop learning at the organization level should start at the individual level, where the effort must focus on changing the individual mindsets (Argyris, 1999; Gardner, 2006; Heath & Heath, 2008; Kotter, 1996; Kotter, 2008; Lytras & Pouloudi, 2006).

Research in this direction shows that it is possible to change the theory-in-use if individuals are exposed to new and attractive theories able to replace the old ones. “The intervention requires the creation of a dialectical learning process where the participants can continually compare their theory-in-use, and the learning system in which they are embedded, with alternative models. This requires that interventionists make available alternative models with significantly different governing values and behavioral strategies” (Argyris, 1999, p.90).

### *An Integral Model for Organizational Learning*

A theoretical framework for an integral model of organizational learning is presented by Argote (2013), and Argote and Miron-Spektor (2011). The model is composed of learning cycle placed into an organizational context, surrounded by the environmental context. The learning cycle is “an ongoing cycle through which task performance experience is converted into knowledge through organizational learning processes. Task performance experience interacts with the context to create knowledge. The knowledge flows out of the organization into the environment and also changes the organization’s context, which affects future learning” (Argote, 2013, p.32). Organizational learning occurs in a context, similar to *Ba* from Nonaka’s model of knowledge dynamics. This context can be extended up to the whole organization creating the *organizational context*. The organizational context includes all the features that define the organization: identity, goals, strategies, culture, infrastructure, and relationships. The organizational context interacts with the individual’s experience to create knowledge. Argote and Miron-Spektor (2011) suggest that organizational context has two main components, a dynamic or active component and a latent one. The active context includes people and their tools, and is able to perform action. The difference between the active and latent components of the organizational context consists in their capacity of initiating actions. Also, the model considers the external environmental context since organization is conceived as an open system. The external environmental context influences the organizational experience, and thus the organizational learning.

The authors of this model consider that the main elements through which organizational learning operates are people, tools and tasks. Also, they conceive three specific networks formed with these elements, i.e. member-member network, tool-tool network, and task-task network, and other interrelated networks like member-tool network, task-tool network, or member-task network. Although the model looks rather complex due to these numerous combinations of networks, it is a simplified explanation of the operational structure of the organizational content as the framework for the organizational learning. To approach the complexity of the real life in organizations we may conceive the three fields of knowledge (i.e. cognitive, emotional, and spiritual) and their interaction with the organizational infrastructure. The authors state that individual learning represents the basic level of organizational learning, but in order to generate organizational learning it is necessary that “the knowledge the individual acquired would have to be embedded in a supra-individual repository so that others can access it. For example, the knowledge the individual acquired could be embedded in a routine (task-task network) or a transactive memory system (member-task network)” (Argote, 2013, p.35). That means that individual learning is essential to organizational learning but it is not sufficient for group and organizational learning to happen.

Organizational experience can be acquired directly by the focal organizational unit or indirectly from other units (Argote, 2013; Argote & Todorova, 2007). Experience is related to the novelty of tasks, which are related to the trade-off between *exploitation* and *exploration* (March, 1991; Raisch et al., 2009). “In studies of organizational learning, the problem of balancing exploration and exploitation is exhibited in distinctions made between refinement of an existing technology and invention of a new one. It is clear that exploration of new alternatives reduces the speed with which skills at existing ones are improved. It is also clear that improvements in competence at existing procedures make experimentation with others less attractive” (March, 1991, p.72). Balancing exploitation and exploration in organizational learning is conditioned by the strategies implemented in organization, and the tangible and intangible resources the organization has.

Experience depends on the capability of organization to learn from its *successes* and *failures*. Some authors remark the fact that people in most organizations are attracted more by learning from previous successes than failures (Denrell & March, 2001). For the Western cultures learning from successes is almost a tradition. Benchmarking, best-practice and the winner’s attitude are just some examples of that tradition. Failures are associated usually with losers, and they are rarely considered opportunities for learning. Exceptions are for those fields of activity where there is a high level of risks and accidents, like in aerospace industry, nuclear engineering and mining. For the Japanese culture, failures could be excellent lessons to learn, as it is the case of Toyota system. Toyota’s experience shows that knowledge acquired from failures decays more slowly than knowledge acquired from successes. Of course, an integration approach of learning from both successes and failures would yield more reliable and durable knowledge. Experience, as a result from previous tasks, is time dependent. The more recently events occurred, the more valuable experience can be, especially in the continuous improvement strategy.

The authors of this integrated model conceived an organizational context composed of two components: a latent or background context and a dynamic context. The difference comes from their capacity to initiate action. “The background context determines the organization’s task and tools available to perform its task. The background context also affects members’ abilities, motivations, and opportunities” (Argote & Miron-Spektor, 2011, p.41). For instance, employees’ motivation is influenced by contextual factors including rewards, feedback, job design, and the organizational culture. As I mentioned previously, learning from errors and failures is supported by an organizational culture which is not based on fear and blaming. It is a safe culture that encourages dialogue and trust among workers (Nonaka & Takeuchi, 1995; Rother, 2010; Starbuck & Hedberg, 2003).

Finally, Argote (2013) discusses about the three fundamental processes of organizational learning: knowledge creation,

knowledge transfer, and knowledge retention. Since I have already presented these processes in the previous chapters I shall not discuss them anymore. The main idea is to consider all of these processes integrated, and in continuous interaction with the organizational context (Bratianu, 2008; Bratianu, 2013b; Bratianu, Jianu & Vasilache, 2011). Liao, Chang and Wu (2010) make a combination of strategic vision, organizational learning, business operation system, knowledge creation, transfer and storage and the mental models used by managers and develop the Learning Organization Pyramid (LOP) integrated model. The LOP model has as a driving force its shared vision: “This shared vision is one, which brings individuals together as one and is one, which will lead the company in a manner of which it was planned to be” (Liao, Chang & Wu, 2010, p.3795).

### III. LEARNING ORGANIZATION

It is an organization, which is open to learn what is happening in its surroundings; so, it gains from it, influences it, and gives back to it. Organizations differently respond to changes and challenges, which take place in their internal and external environments. They achieve fulfillment when they provide quality goods and services, and meet their customers’ and investors’ expectations. Every organization has unique human resource quality, characteristics, and vision to promote organizational learning for building a learning organization, which is fully capable of competing and continuing its operations despite instability of the environment. Despite challenges, organizations keep on generating new ideas to gain and prolong competitive advantage (Srithika & Bhattacharyya, 2009).

A learning organization model is the operational model of the post-modern era, because in this era, organizations are facing frequent operational challenges, rapid changes, technology and communication advancements, new knowledge generation, knowledge management issues, and growing interest in smart capital. They need appropriate treatment, human element, trust, and appreciation to handle today’s workforce. They also require stimulus to learn and innovate, and participatory vision formulation to develop their strategies and decision-making processes (Proctor, 2018).

A learning organization is a concept, which implies that organizations should encourage the learning process and find ways to learn more and better. This concept has large number of sub-concepts and issues pertaining to different scientific fields, including economics, politics, biology, organizational theory, and organizational behavior (Alrefaai & Khalil, 2019).

In the literature, several definitions of a learning organization exist, like the one mentioned by Xie (2020), who believes that a learning organization is consciously-managed and it focuses on learning as a fundamental element that comprises visions, goals, and values to continue its daily operations. Hashemi, Saadi and Movahedi, (2019), believed that a learning organization makes everyone work cooperatively but

independently for continuously developing their capabilities for achieving results according to their aspirations.

It also attempts to develop new thought patterns to set collective goals and agree on common aspirations. According to Johnson (2002), a learning organization is actually a skilled organization, which creates and owns knowledge before transferring it to all the hierarchical levels, and then, new technology is adapted according to its requirements. Alrefaai and Khalil (2019) pointed out that the learning organization model is an “ideal model” that focuses on maximizing learning.

As Örtenblad (2001) remarks, many authors once used the concepts *organizational learning* and *learning organization* interchangeably. It is true that *organizational learning* came into existence earlier than *learning organization*, but now things changed and there is a clear distinction from semantic point of view between these two concepts. “Organizational learning means processes or activities (of learning) in the organization, while learning organization is a form of organization in itself” (Örtenblad, 2001, p.126). A similar distinction is made by Tsang (1997, pp.74-5): “Organizational learning is a concept used to describe certain types of activity that take place in an organization while the learning organization refers to a particular type of organization in and of itself”. Both theory and practice demonstrate that processes of organizational learning may be developed in any organization, which means that the concept of organizational learning does not involve the concept of learning organization. On the contrary, the concept of learning organization involves the concept of organizational learning. Thus the two concepts are not semantically symmetric (Dodgson, 1993). Furthermore, Örtenblad (2001, p.127) distinguishes between “something that *exists naturally without any efforts* and something that does not naturally exist but *needs activity or effort to be carried out*. In this case, all organizations would have organizational learning, but only some would be learning organizations”. In a competitive business environment organizational learning represents almost a necessity for companies to achieve their competitive advantage, while the companies need not necessarily be learning organizations (Fulmer, Gibbs & Keys, 1998; Hawkins, 1994; Kim, 1993).

*The learning organization* is a metaphor. “The concept of the learning organization has metaphorical status because it is embedded in the multiple narratives of organizations in all their complexity, though it becomes taken for granted, reified, and treated as though it always existed” (Stewart, 2001, p.147). Acknowledging this metaphorical status will help us in understanding how organizations are capable of “learning”, and having human qualities and characteristics (Morgan, 1997; Smith & Tosey, 1999).

The concept of *the learning organization* became a powerful source of inspiration for academics and the global business community with the publication of the widely acclaimed book *The fifth discipline. The art & practice of the learning*

*organization* by Peter M. Senge in 1990. Then, to give more practical support to his ideas on systems thinking Senge published with his colleagues two more books: *The fifth discipline field book. Strategies and tools for building a learning organization* (1994), and *The dance of change. The challenges of sustaining momentum in learning organizations* (1999). Peter Senge is a Senior Lecturer in Leadership and Sustainability, and Director of the Center for Organizational Learning at the Sloan School of Management, Massachusetts Institute of Technology. He is the founding chair of the Society for Organizational Learning, a global community of corporations, researchers, and consultants dedicated to the interdependent development of people and their institutions. *The Journal of Business Strategy* (September/October 1999) named Peter Senge one of the 24 people who has had the greatest influence on business strategy over the last 100 years. *The Financial Times* (2000) named him one of the world’s top management gurus, and *BusinessWeek* (October 2001) rated Peter Senge one of the top 10 management gurus. He has lectured extensively throughout the world, translating the abstract ideas of systems theory into tools for better understanding of economic and organizational change (<http://mitsloan.mit.edu>).

Senge considers *the learning organization* a social invention, similar to any engineering inventions. While an engineering invention is composed of tangible elements called *technologies*, a social invention is composed of intangible elements called *disciplines*. A *discipline* is essentially “a body of theory and technique that must be studied and mastered to be put into practice. A discipline is a developmental path for acquiring certain skills or competencies... To practice a discipline is to be a lifelong learner” (Senge, 1999, pp.10-11). These disciplines will not create necessarily the learning organization, but they will create the convergence of all the needed efforts the company to develop as a learning organization. In Senge’s view the five disciplines that contribute to the creation of the learning organization are the following: 1) personal mastery; 2) mental models; 3) shared vision; 4) team learning, and 5) systems thinking. Personal mastery stimulates personal motivation for never stop learning and improving the professional competences. Mental models focus on the opportunity to see the world in a more complex and adequate way than the simple descriptions learned from schools. Shared vision means to focus on the team and organization future and to harmonize personal interests with that of the organization. Creating a shared vision means to have a commitment for the common future. Team learning means to look beyond the individual perspective of learning and to share the acquired knowledge with others. Finally, the systems thinking integrates all the other four disciplines and creates the framework for the learning organization. It stimulates the synergy of learning integration, underlying the fact that in nonlinear systems the final result is larger than the sum of all the component parts.

Senge (1999), emphasizes that at the heart of the learning organization is a *shift of mind* of all employees, especially of all managers. “A learning organization is a place where people are continually discovering how they create their reality. And how they can change it” (Senge, 1999, p.13). The essence of becoming a learning organization is that quest for cognitive, emotional and spiritual learning able to produce that *shift of mind* or *metanoia* (*meta* – above or beyond, and *noia* – related to mind in Greek). It is the capacity of seeing the forest beyond the trees, like a new reality with new features we couldn’t see at the individual level. For Senge (1999, p.14), the learning organization is essentially “an organization that is continually expanding its capacity to create its future. For such an organization it is not enough merely to survive. ‘Surviving learning’ or what is more often termed ‘adaptive learning’ is important – indeed it is necessary. But for a learning organization, ‘adaptive learning’ must be joined by ‘generative learning,’ learning that enhances our capacity to create”. Experience gained with the Japanese continuous improvement managerial philosophy demonstrates that ‘adaptive learning’ implies designing and implementing small changes that improve the quality of products and services, and adapt the level of knowledge and performance of organization to the level of the external business environment. By contrast, ‘generative learning’ implies a deep change which is characteristic for a transformation process, as remarked by Calvert, Mobley and Marshall (1994, p.40): “All learning is directed towards some desired result, involves the encouragement of thinking and group learning, and is a transformative process”.

*Adaptive learning* is based on a process of extrapolation of the present into the future by small changes designed on a short-term perspective and predictable results. *Generative learning* is based on exploration of the future and designing complex changes based on a long-term perspective and less anticipated results. Generative learning is able to overcome inertial forces and to create probable futures that enhance company’s chances for achieving a competitive advantage. Generative learning is based on entropic, nonlinear, probabilistic and creative thinking models (Bratianu, 2007; Bratianu & Murakawa, 2004). The driving force of adaptive learning is the willingness to improve continuously in small and controllable steps of organizational change. However, nobody can guarantee that small changes built up into a large change in the right direction. The driving force for generative learning is the leadership vision of some better probable futures. In this case, the direction of change is first defined and only then changes are implemented. “Generative learning cannot be sustained in an organization where event thinking predominates. It requires a conceptual framework of ‘structural’ or systemic thinking, the ability to discover structural causes of behavior” (Senge, 1999, p.53).

The difference between the two paradigms of learning can be illustrated by the parable of the boiled frog (Senge, 1999). If one places a frog in a pot of boiling water, it will immediately

try to jump out. But, if put the frog in the pot containing water at room temperature, the frog will show no intention to jump out. If the pot is on a stove and one turns on the heating, and then increases gradually the temperature the frog will adapt to the new temperature of the water without any effort. When the temperature is at the saturation level, water begins to boil and the frog will be boiled. This paradoxical behavior is due to the fact that the frog’s system for sensing threats to survival is based on sudden changes in his environment, not to slow and gradual changes.

The learning organization is based on complex and nonlinear phenomena. That creates real problems to the decision makers whose thinking models are based on linear and simple cause-effect relationships. Organizations, like living systems, can be understood as wholes with integrity. As Senge (1999, p.66) argues metaphorically, “Dividing an elephant in half does not produce two small elephants”. Unfortunately, many people cannot understand that issue and try to simplify problems by dividing them into parts. In this way they are losing the interactions between the parts that create integrity and produce the synergy effect. Essentially, systems thinking is a discipline for seeing wholes, and within these wholes to see the interrelationships rather than things. System thinking operates with patterns of change and not with snapshots at a given moment. In conclusion of this line of argumentation, Senge (1999, p.69) states: “I call system thinking the fifth discipline because it is the conceptual cornerstone that underlines all of the five learning disciplines of this book. All are concerned with a shift of mind from seeing parts to seeing wholes, from seeing people as helpless reactors to seeing them as active participants in shaping their reality, from reacting to the present to creating the future”.

In systems thinking it is important to understand the feedback role and effect on the system output. The feedback is responsible for the single-loop learning. Senge (1999) distinguishes between reinforcing feedback and balancing feedback. *The reinforcing feedback* acts as an amplifier and it is the engine of growth. The Pygmalion effect, which can be found in many business management practices, is based on this reinforcing feedback. In this phenomenon small change builds on itself. Whatever movement occurs it is amplified, producing more movement in the same direction. It is well-known process of building up a snowball. The reinforcing feedback may act in a negative direction as well leading toward the business decline. *The balancing feedback* acts as a tendency of natural and technological systems toward stability. It underlines all goal-oriented behavior. The human body contains many balancing feedback processes. For instance, the balancing process of maintaining the body temperature or the adjusting our eyesight in concordance with the light intensity, processes which are called generically *homeostasis*. As a rule, a balancing process is always operating to reduce a gap between what is desired and what actually exists. As Senge (1999, p.88) remarks, “Whenever there is ‘resistance to change,’ you can count on there being



one or more 'hidden' balancing processes. Resistance to change is neither capricious nor mysterious. It almost always arises from threats to traditional norms and ways of doing things”.

Bui and Baruch (2010) take the learning organization model developed by Senge (1990) and refine it by providing a theoretical framework for antecedents and outcomes. For each discipline defined by Senge, Bui and Baruch offer a set of antecedents and outcomes, and of some factors that can play the role of moderators. For instance, for the discipline of *personal mastery* the authors found five antecedents, four outcomes and one possible moderator. The antecedents of personal mastery are the following: personal values, motivation, individual learning, personal vision, and development and training. As possible outcomes of personal mastery the authors consider: self-confidence, self-efficacy, better performance, and a balanced work and home life. The moderator factor may be considered the human resources policy within a given organization. By defining such kind of antecedents and outcomes for each discipline Bui and Baruch enlarge the map of the five disciplines. Some of the antecedents may be common for several disciplines. Same situation may happen for the outcomes.

Gardner (2006) emphasizes that understanding systems thinking means to understand not only the concept of feedback but also the concepts of *emergence* and *self-organization*. Both theory and applied research demonstrate that a group of people become a team only when some conditions are met. For instance, there is a shared vision among the team members that means a driving force for the action of the team. Also, there are some shared values that guide the decision making at the team level. “High-performing teamwork is a characteristic that emerges when the conditions are just right, when the team really is behaving as a team. This is merely one example of emergence, whereby the whole does indeed become greater than the sum of its parts” (Sherwood, 2002, p.14). Emergence creates synergy as a result of nonlinear interactions between the components of the team. Furthermore, “The emergence of a stable dynamic structure is known as *self-organization*, another important property of many complex systems” (Sherwood, 2002, p.15).

Gharajedaghi (2006, p.45) explains how important is in systems thinking to understand *the emergent* property of a system. “I can love, but none of my parts can love. If you take me apart, the phenomenon of love will be lost. Furthermore, love does not yield itself to any one of the five senses. It doesn't have a color, a sound, or an aroma. It can't be touched or tasted”. Similar to love we may consider success, failure, friendship, wisdom and happiness. They are *emergent properties*, i.e. properties that have meanings only at the system level. They cannot be decomposed like physical properties at the individual level of the system components. Since emergent properties are properties of the whole, they cannot be deduced or assembled from the properties of the parts. For instance, if there is a team of three experts in

management, their total mass will be obtained by summing up the three individual masses. However, the value of their total intelligence is not equal with the summation of the individual intelligences. The *team intelligence* in solving management problems is an emergent property of the micro-social system just formed. Because of their nonlinearity and formation, emergent properties cannot be analyzed by using analytical tools, and they do not yield to causal explanations, which have linear nature. That means a real difficulty in measuring directly such emergent properties that reflect the interactions between the parts of a system, and between the system and the external environment. One can measure only the manifestations of emergent properties.

#### IV. THEORETICAL PROSPECTIVE OF ORGANIZATIONAL LEARNING

##### *Cognitive learning theories*

Organizational cognition is a discipline which contributes to improve the computational capacity of the organization along with its ability for knowledge management. It can also be developed artificially with the active interaction of human computer/ machine interaction to change and improve based upon the organizational goals (Popova- Nowak & Cseh, 2015). There are different cognitive theories that consider organizations as a learning entity and an extended individual (Göhlich, 2016). Some theorists call the cognitive system of organizations as mental models (Gaine, 2014), cognitive maps (Alemanno, 2014), collective memory, cognitive memories systems (Alemanno, 2014). Similarly, Leavitt (2011), asserts that individual's knowledge is made cohesive with organization when they share their learning and experiences with management which are assessed, reshaped and distributed among workers (Sawyer & Jarrahi, 2013). Moreover, researchers suggest that these cognitive systems form the basis of organizations' information processing mechanisms, enabling the organization to detect environmental events, opportunities and threats.

Interpretation of this environmental information is a crucial stage occurring immediately before organizational learning and action (Sawyer & Jarrahi, 2013). Interpretations of environmental information are done in organizational references and context because what is required is kept otherwise discarded (Alhabeeb & Rowley, 2017). While Alemanno (2014), points to the need and necessity for organizations to develop and design their interpretation system (Meyer & Höllerer, 2014; Weed-Schertzer, 2020).

According to learning theories not only information but experiences also leave greater impact on learning in organizations. These learning converts abstract ideas to practical experiences (Alemanno, 2014; Sawyer & Jarrahi, 2013). Leavitt (2011), states that learning takes place progressively, and moves from concrete experience to reflective observation, then abstract conceptualization, and finally active experimentation. This perspective suggests an active interconnection between cognition and action (Weed-

Schertzer, 2020). By developing learning typology based on individual preferences, Alhabeeb and Rowley(2017) believes that experiential learning theory and rational calculation model of organizational choice explains the process of assimilation and accommodation (Sawyer & Jarrahi, 2013). Computational cognitive theory takes and supports all social, cognitive and behavioural factors for the learning development at individual and organizational level (Meyer & Höllerer, 2014).

#### *Behavioural Learning Theories*

Behavioural learning focuses on objectively observable behaviour of the learning entity (Sawyer & Jarrahi, 2013). This happens because of a learning process called conditioning, which is based on a stimulus triggering a response (Gaine, 2014). For Leavitt (2011), “the defining property of learning is the combination of same stimulus and different response”. Similarly, Meyer and Höllerer (2014) see organizational learning as involving adaptation to the environment. For them, organizational learning occurs when an organization, in response to “an external source of disturbance or shock”, selects behaviours that lead the organization “to a preferred state” (Eisenberg, 2016). All single, Double-loop and Deutero learning are not independent from its consequences and all of them are triggered by stimulus, questioning and reasoning. They link changes in the level of behavioural and cognitive development through social networking between the two determines the type of learning that takes place. Eisenberg’s (2016), work perceives learning as an adaptation process and distinguish between lower-level and higher-level learning, the former being merely repetition of past behaviour and behavioural adaptation to consequences of past behaviour and involving association building between behaviour and outcome (Alemanno, 2014). This can also be described as path dependency (Leavitt (2011).), meaning that organizations base their future behaviour on cumulative learning that worked in the past, which is like the idea of positive reinforcement in behavioural conditioning. it includes questioning the consequences of behaviour and seeking a more profound understanding of the causation of organizational processes (Popova- Nowak & Cseh, 2015).

#### *Social Learning Theories*

There are many cited social learning theories in organizational context. Relational learning theory is based on the concept of sharing, dissemination, distribution and negotiation taking place at micro-level, worker level (Meyer & Höllerer, 2014; Sawyer & Jarrahi, 2013).

Similarly, Experiential Learning Theory (ELT) was presented by Kolb in 1984 and has its roots in Psychology, Philosophy, and physiology and has major impacts and influences on organizational learning and organizational development (Sawyer & Jarrahi, 2013). It states that learning is a process and it occurs in the best way when a learner is exposed to diverse processes and experience, through which it underpasses and creation, recreation and transformation of

experiences and learning take place both at individual and organizational learning (Weed-Schertzer, 2020).

Adoptive and Generative Organizational Learning Theory believes in the construction and development of the shared vision and intelligence at worker, team and organizational level (Leavitt (2011). Assimilation Theory of Organizational Learning focuses on action and performance based learning (Meyer & Höllerer, 2014).

Moreover, New Institutional Theory of Organizational Learning presented by John Meyer and colleagues such as Brian Rowan in 1977 and Richard Scott in 1983, and by Lynne Zucker in 1977, postulates that with the passage of time, organizations react and adjust to internal and external demands and reflects changes in their cognitive, normative (Social and cultural) and regulatory (Behavioural) domains (Popova- Nowak & Cseh, 2015).

New-institutional theory also supports 4I framework arguments for organizational learning, where the learning process get starts from the individual and later get institutionalized in the organizational repository (Meyer & Höllerer, 2014).

Socio-Technical Theory of Organizational Learning basic premise and philosophy is that any work, enterprise and organization is the combination of both social and technical (soft and hard) components and they are open to environment and both effects each other in a bidirectional way (Leavitt, 2011). It provides social support, solves complexities and assures availability of the information to the workers. Main promise of this theory is the participatory approach, interaction and involvement of the workers with information technology which guides and promotes learning (Sawyer & Jarrahi, 2013).

#### *The Difference Between Organizational Learning and Learning Organization*

Organizational learning is a process where employees act based on experience and knowledge they gather by day to day activities to handle various business situations (Weed-Schertzer, 2020). On the contrary, learning organization is inbuilt within the organization structure where employees are continuously developed to improve their capacities and capabilities to handle business situations. So, this is the key difference between organizational learning and learning organization. Another difference between organizational learning and learning organization is that organizational learning concept focuses more on outcomes and achievements, whereas learning organization concept focuses more on processes and purposes (Wellman, 2009). In addition, organizational learning culture leans towards objective setting and achievement of objectives, whereas learning organization culture is more performance-based. Table 1 summarizes the difference between organizational learning and learning organization (Espejo & Flores, 2021):

Table 1: Organisaational Learning Versus Learning Organisation

Subject	Organisational Learning	Learning Organisation
Definition	Organisational learning is a process where employees act based on experience and knowledge they gather by day to day activities to handle various business situations	Learning organization is inbuilt within the organization structure where employees are continuously developed to improve their capacities and capabilities to handle business situations
Type	Process	Structure
Learning	Learn by business situation	Learn by training or facilitated method by organisation
Manager's Responsibility	None	To develop subordinates
Focus	Customers and achievement	Process and purpose

Source: Espejo, F.H.S. & Flores, E. (2021). Knowledge management and teamwork in

Organizational learning in educational institutions of network, Lima. *Psychology and Education Journal*, 58, 5245-5259

Organizational learning as posited by Brix (2017), focuses on learning by experience and knowledge employees gather from day to day activities. Learning Organization, in contrast, focuses on enhancing the competencies and capabilities of employees. So, this is the key difference between Organizational learning and Learning Organization. Further, organizational learning is a process, whereas learning organization is a structure (Espejo & Flores, 2021).

#### *Relation between Organizational Learning and Learning organization*

Espejo and Flores (2021), argue that the relation between organizational learning and a learning organization is a form of "containment relationship." A learning organization focuses on the educational process, which consistently performs for increasing its members' capabilities to gain flexibility, which leads to creating new thinking methods and models (Mohamed, 2017).

Organizational learning primarily focuses on the learning process to improve the members' acquisition of skills, directions, and information, which upgrades the organization and helps its members adapt to new variables, which emerge because of changing environment. In the overall scheme of decisions and plans, organizational learning plays as an essential component (Weed-Schertzer, 2020). Kanbur and Mohamed (2017) noted that the learning organization-organizational learning relationship is further clarified using the following result: There is no correct organizational learning process without any consequence of building it (Brix, 2017).

#### V. SUMMARY AND CONCLUSION

Organizational learning and learning organization represent conceptual metaphors that help us understand the interactions

between different knowledge fields within an organization, and the relationships between these phenomena and the firm's economic performances. Organizational learning represents a learning process through social interactions across individual, groups and organizational levels. As a result of organizational learning a company can adapt faster and better to the external environment requirements. Organizational learning can be conceived as a sequence of four interactive processes: intuiting, interpreting, integrating, and institutionalizing. These processes are responsible for knowledge creation and transformation from individual knowledge into organizational knowledge. Although research performed so far concentrated on cognitive knowledge, organizational learning embraces all three fundamental forms of knowledge: cognitive, emotional, and spiritual. Organizational learning is based on reinforcing feedback and balancing feedback, as well as feed-forward reaction. All of these interactions between inputs and outcomes have been structured into single-loop and double-loop learning, in concordance with their effect on inputs (single-loop learning) and governing variables (double-loop learning). Organizational learning involves by symmetry organizational unlearning. Both processes are intertwined dynamically, and make use of organizational memory, which is another conceptual metaphor used in organizational knowledge dynamics.

The various literature reviewed in this study indicate that organisational learning and learning organisation are two different concepts. Organisational learning is a process that leads to an ideal state of a learning organisation. In fact, all learning organisations have organisational learning as part and parcel of their organizational culture. A learning organisation is one that helps to enhance organisational learning by creating structures, strategic fittings and strategic crafting. Organisations need to constantly learn so that they will be able to cope with the future challenges that are brought about by dynamic technological changes. At the same time, it must continuously unlearn certain old assumptions that are no longer valuable and in tune. Once a learning organisation is developed, management must ensure that the tempo of learning must not be allowed to stop. In fact, the tempo must be increased on a continuous basis. Most times, when organisations achieve initial success, they tend to stop learning because they feel they have arrived, and that is the main reason why most companies fail after achieving initial success.

When organisations are young, they tend to be fluid, flexible and be willing to learn, but as they achieve initial success and grow, flexibility gives way to rigidity and there is loss of vigor and willingness to learn. It is that initial success that brought failure to them because they feel they have arrived and therefore, they see nothing new to learn. The people in the organisation relax and enjoy their fortune. They have lost environmental sensibilities and this has made them to be blind to new opportunities in the business environment. Before they

realize what is happening, their competitors have already overtaken them and that marks their downfall.

Learning should be engrained as part of their organization philosophy and core organisational value and culture. It is only by so doing that organisation will be able to face tomorrow when it actually comes. Furthermore, for effective double loop learning to occur at the organisational level, there is a need for organisational leaders to appreciate the value of learning as a panacea for organizational sustainability.

Finally, organisational leaders should make a gradual but holistic shift from their traditional role of figurehead, company spokesman, and resource allocator to a broader cross functional role of encouraging constructive dialogue, experimentation of ideas, which will create an environment capable of facilitating open communication. The learning organization represents an ideal organization or an attractor like in complex systems theory. It is a potential that can be transformed into reality by inspirational leaders and different way of thinking managerial processes.

#### REFERENCES

- [1] Albrecht, K. (2003). *The power of minds at work. Organizational intelligence in action*. New York, NY: American Management Association.
- [2] Alemanno, S. P. (2014). Risques organisationnels et anticipation," *Communication et organisation*, 45, 1-15.
- [3] Alhabeeb, A. & Rowley, J. (2017). Critical success factors for eLearning in Saudi Arabian universities, *International Journal of Educational Management*, 31 (2), 131-147.
- [4] Alrefaai, M.R. & Khalil, A.H.A. (2019). The Impact of Knowledge Management on the Learning.
- [5] Argote, L. (2013). *Organizational learning. Creating, retaining and transferring knowledge*. 2nd Edition. New York, NY: Springer.
- [6] Argote, L. & Miron-Spektor, E. (2011). Organizational learning. From experience to knowledge. *Organization Science*, 22(5), 1123-1137.
- [7] Argote, L. & Todorova, G. (2007). Organizational learning: Review and future directions. In G.P. Hodgkinson & J.K. Ford (Eds.). *International review of industrial and organizational psychology* (pp.193-234). New York, NY: John Wiley and Sons.
- [8] Argyris, C. (1999). *On organizational learning*. 2nd Edition. Oxford, UK: Blackwell Business.
- [9] Becker, K. (2005). Individual and organizational unlearning: Directions for future research. *International Journal of Organizational Behavior*, 9(7), 659-670.
- [10] Becker, K. (2010). Facilitating unlearning during implementation of new technology. *Journal of Organizational Change Management*, 23(3), 251-268.
- [11] Bennet, A. & Bennet, D. (2006). The learning organization. Learning as associative patterning. *The Journal of Information and Knowledge Management Systems*, 36(4), 371-376.
- [12] Bettis, R.A. & Prahalad, C.K. (1995). The dominant logic: Retrospective and extension. *Strategic Management Journal*, 16(1), 5-14.
- [13] Bratianu, C. (2007). Thinking patterns and knowledge dynamics. In B. Martinis & D. Remenyi (Eds.). *Proceedings of the 8th European Conference on Knowledge Management* (Vol.1, pp.152-157). Consorci Escola Industrial de Barcelona, 6-7 September 2007, Barcelona, Spain. Reading, UK: Academic Conferences Limited.
- [14] Bratianu, C. (2008). A dynamic structure of the organizational intellectual capital. In M. Naaranoja (Ed.). *Knowledge management in organizations* (pp.233-243). Vaasa, Finland: Vaasan Yliopisto.
- [15] Bratianu, C. (2013a). The triple helix of the organizational knowledge. *Management Dynamics in the Knowledge Economy*, 1(2), 207-220.
- [16] Bratianu, C. (2013b). Nonlinear integrators of the organizational intellectual capital. In M. Fahti (Ed.). *Integration of practice-oriented knowledge technology: Trends and perspectives* (pp.3-16). Heilderberg, Germany: Springer.
- [17] Bratianu, C., Agapie, A. & Orzea, I. (2011). Modeling organizational knowledge dynamics: Using Analytic Hierarchy Process (AHP). *Electronic Journal of Knowledge Management*, 9(3), 236-247.
- [18] Bratianu, C., Jianu, I. & Vasilache, S. (2011). Integrators for organizational intellectual capital. *International Journal of Learning and Intellectual Capital*, 8(1), 5-17.
- [19] Bratianu, C. & Murakawa, H. (2004). Strategic thinking. *Transactions of JWRI*, Osaka University, 33(1), 79-89.
- [20] Bratianu, C. & Orzea, I. (2013a). The entropic intellectual capital model. *Knowledge Management Research & Practice*, 11(2), 133-141.
- [21] Bratianu, C. & Orzea, I. (2013b). Emotional knowledge: The hidden part of the knowledge iceberg. In B. Janiunaite, A. Pundziene & M. Petraite (Eds.). *Proceedings of the 14th European Conference on Knowledge Management*, Kaunas University of Technology, Lithuania, 5-6 September 2013 (Vol.1, pp.82-90). Reading, UK: Academic Conferences and Publishing International Limited.
- [22] Bratianu, C. & Orzea, I. (2013c). The multifield structure of organizational knowledge. In A.R. Thomas, Al.N. Pop & C. Bratianu (Eds.). *The changing business landscape of Romania. Lessons for and from transition economies* (pp.3-19). New York, NY: Springer.
- [23] Bresman, H. (2013). Changing routines: A process model of vicarious group learning in pharmaceutical R&D. *Academy of Management Journal*, 56(1), 35-61.
- [24] Brix, J. (2017). Exploring Knowledge Creation Processes as a Source of Organizational Learning: A Longitudinal Case Study of a Public Innovation Project. *Scandinavian Journal of Management*, 33, 113-127. <https://doi.org/10.1016/j.scaman.2017.05.001>
- [25] Bui, H. & Baruch, Y. (2010). Creating learning organizations: A systems perspective. *The Learning Organization*, 17(3), 208-227.
- [26] Calvert, G., Mobley, S. & Marshall, L. (1994). Grasping the learning organization. *Training and Development Journal*, 48(6), 38-43.
- [27] Cook, S.D.N. & Yanow, D. (1993). Culture and organizational learning. *Journal of Management Inquiry*, 2(4), 373-390.
- [28] Crossan, M.M., Lane, H.W. & White, R.E. (1999). An organizational learning framework: from intuition to institution. *Academy of Management Review*, 24(3), 532-537.
- [29] De Holan, P.M., Phillips, N. & Lawrence, T.B. (2004). Managing organizational forgetting. *MIT Sloan Management Review*, 45(2), 45-51.
- [30] Denrell, J. (2003). Vicarious learning, undersampling of failure, and the myths of management. *Organization Science*, 14, 227-243.
- [31] Denrell, J. & March, J.G. (2001). Adaptation as information restriction: The hot stove effect. *Organization Science*, 12(5), 523-538.
- [32] Dodgson, M. (1993). Organizational learning: A review of some literature. *Organization Studies*, 14(3), 375-394.
- [33] Eisenberg, D. T. (2016). The Restorative Workplace: An Organizational Learning Approach to Discrimination," University of Maryland.
- [34] Espejo, F.H.S. & Flores, E. (2021). Knowledge management and teamwork in organizational learning in educational institutions of network No. 02, Lima. *Psychology and Education Journal*, 58, 5245-5259
- [35] Fulmer, R.M., Gibbs, P. & Keys, J.B. (1998). The second generation learning organizations: New tools for sustaining competitive advantage. *Organizational Dynamics*, 27(2), 6-20.

- [36] Gaine, B. R. (2014). *Social and Cognitive Processes in Knowledge Acquisition*, Knowledge Science Institute, Canada.
- [37] Gardner, H. (2006). *Changing minds. The art and science of changing our own and other people's minds*. Boston, MA: Harvard Business School Press.
- [38] Garratt, B. (2001). *The learning organization. Developing democracy at work*. London, UK: HarperCollinsBusiness.
- [39] Garvin, D.A. (2000). *Learning in action. A guide to putting the learning organization to work*. Boston, MA: Harvard Business School Press.
- [40] Garvin, D.A., Edmondson, A.C. & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, March, 109-116.
- [41] Gharajedaghi, J. (2006). *System thinking: Managing chaos and complexity. A platform for redesigning business architecture*. 2nd Edition. Amsterdam, Netherlands: Elsevier.
- [42] Gherardi, S. & Nicolini, D. (2003). The sociological foundations of organizational learning. In M.Dierkes, A. Berthoin Antal, J. Child & I. Nonaka (Eds.). *Handbook of organizational learning & knowledge* (pp.35-61). Oxford, UK: Oxford University Press.
- [43] Godkin, L. (2010). The zone of inertia: Absorptive capacity and organizational change. *The Learning Organization*, 17(3), 196-207.
- [44] Göhlich, M. (2016). Theories of Organizational Learning as resources of Organizational Education, *Springer Fachmedien Wiesbaden*, 11-22.
- [45] Hashemi, Z.H., Saadi, H. & Movahedi, R. (2019). The relationship between transformational leadership and learning organization (Case Study: Agricultural Jihad Organization of Isfahan Province).
- [46] Hawkins, P. (1994). Organizational learning: taking stock and facing the challenge. *Management Learning*, 25(3), 433-61.
- [47] Heath, C. & Heath, D. (2008). *Made to stick. Why some ideas survive and other die*. New York, NY: Random House.
- [48] Hedberg, B. (1981). How organizations learn and unlearn. In P. Nystrom & W.H. Starbuck (Eds.). *Handbook of organizational design* (Vol.1, pp.3-10). New York, NY: Oxford University Press.
- [49] Ho, S.K.M. (1999). Total learning organization. *The Learning Organization*, 6(3), 116-120.
- [50] Janis, I. (1982). *GroupThink: psychological studies of policy decisions and fiascoes*. Boston, MA: Houghton-Mifflin.
- [51] Johnson, J.R. (2002). Leading the learning organization: portrait of four leaders. *Leadership & Organization Development Journal*, 23, 241-249. <https://doi.org/10.1108/01437730210435956>
- [52] Kanbur, A. & Mohamed, I.A. (2017). Whether Open Innovation Is a Better Choice as a Model of Innovation for Organizations
- [53] Kim, D.H. (1993). The link between individual and organizational learning. *Sloan Management Review*, Fall, 37-50.
- [54] Kimmerle, J., Cress, U. & Held, C. (2010). The interplay between individual and collective knowledge: Technologies for organizational learning and knowledge building. *Knowledge Management Research & Practice*, 8(1), 33-44.
- [55] Kotter, J.P. (1996). *Leading change*. Boston, MA: Harvard Business School Press.
- [56] Kotter, J.P. (2008). *A sense of urgency*. Boston, MA: Harvard Business School Press.
- [57] Lakoff, G. & Johnson, M. (1999). *Philosophy in the flesh. The embodied mind and its challenges to Western thought*. New York, NY: Basic Books.
- [58] Leavitt, C. (2011). A comparative analysis of three unique theories of organizational learning, University of wales, San Diego, 2011.
- [59] Liao, S.H, Chang, W.J. & Wu, C.C. (2010). An integrated model for learning organization with strategic view: Benchmarking in the knowledge-intensive industry. *Expert Systems with Applications*, 37, 3792-3798.
- [60] Lytras, M.D. & Pouloudi, A. (2006). Towards the development of a novel taxonomy of knowledge management systems from a learning perspective: an integrated approach to learning and knowledge infrastructures. *Journal of Knowledge Management*, 10(6), 64-80.
- [61] Mahler, J.G. & Casamayou, M.H. (2009). *Organizational learning at NASA. The Challenger and Columbia accidents*. Washington, D.C.: Georgetown University Press.
- [62] Maier, G.W., Prange, C. & Von Rosenstiel, L. (2003). Psychological perspectives of organizational learning. In M. Dierkes, A. Berthoin Antal, J. Child & I. Nonaka (Eds.). *Handbook of organizational learning & knowledge* (pp.14-34). Oxford, UK: Oxford University Press.
- [63] March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- [64] Masden, P.M. & Desai, V. (2010). Failing to learn? The effects of failure and success on organizational learning in the global orbital launch vehicle industry. *The Academy of Management Journal*, 53(3), 451-476.
- [65] Meyer, R. E. & Höllerer, M. A. (2014). Does Institutional Theory Need Redirecting?" *Journal of Management Studies*, 1221-1233
- [66] Mohamed, I. A. (2017) Some issues in the institutional theory: A critical analysis. *International Journal of Scientific and Technology Research*, 6, 150-156.
- [67] Moorman, C. & Miner, A. (1997). The impact of organizational memory on new product performance and creativity. *Journal of Marketing Research*, 34, February, 91-106.
- [68] Morgan, G. (1997). *Images of organizations*. 2nd Edition. Beverly Hills, CA: Sage Publications.
- [69] Naeve, A., Sicilia, M.A. & Lytras, M.D. (2008). Learning processes and processing learning: fromorganizational needs to learning designs. *Journal of Knowledge Management*, 12(6), 5-14.
- [70] Nonaka, I. & Takeuchi, H. (1995). *The knowledge-creating company. How Japanese companies create the dynamics of innovation*. Oxford, UK: Oxford University Press.
- [71] Ohmae, K. (1982). *The mind of the strategist. The art of Japanese business*. New York, NY: McGraw-Hill, Inc.
- [72] Örténblad, A. (2001). On differences between organizational learning and learning organization. *The Learning Organization*, 8(3), 125-133.
- [73] Örténblad, A. (2011). *Making sense of learning organization. What is it and who needs it?* Kuala Lumpur, Malaysia: Yayasan Ilmuwan.
- [74] Pedler, M., Burgoyne, J. & Boydell, T. (1997). *The learning company. A strategy for sustainable development*. 2nd Edition. London, UK: McGraw-Hill Company.
- [75] Popova-Nowak, I. V. & Cseh, M. (2015). The Meaning of Organizational Learning: A Meta-Paradigm Perspective," *Human Resource Development Review*, 14(3), 299-331.
- [76] Prahalad, C.K. & Bettis, R.A. (1986). The dominant logic: A new linkage between diversity and performance. *Strategic Management Journal*, 7(6), 485-501.
- [77] Proctor, T. (2018). Creative problem solving for managers: Developing skills for decision making and innovation. Routledge, London. <https://doi.org/10.4324/9780429458255>
- [78] Rother, M. (2010). *Toyota kata. Managing people for improvement, adaptiveness, and superior results*. New York, NY: McGraw Hill.
- [79] Raisch, S., Birkinshaw, J., Probst, G. & Tushman, M.L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science*, 20(4), 685-695.
- [80] Sawyer, S. & Jarrahi, M. H. (2013). Sociotechnical approaches to the study of Information Systems, Syracuse University, USA, 2013.
- [81] Schein, E.H. (1993). How can organizations learn faster? The challenge of entering the green room. *Sloan Management Review*, Winter, 85-92.
- [82] Scherer, K.R. & Tran, V. (2003). Effects of emotion on the process of organizational learning. In M. Dierkes, A. Berthoin Antal, J. Child & I. Nonaka (Eds.). *Handbook of organizational learning & knowledge* (pp.369-394). Oxford, UK: Oxford University Press.
- [83] Schilling, J. & Kluge, A. (2009). Barriers to organizational learning: An integration of theory and research. *International Journal of Management Reviews*, 11(3), 337-360.

- [84] Senge, P. (1990). *The fifth discipline. The art & practice of the learning organization*. London, UK: Century Business.
- [85] Senge, P. (1999). *The fifth discipline. The art & practice of the learning organization*. London, UK: Random House.
- [86] Senge, P., Kleiner, A., Roberts, C., Ross, R.B. & Smith, B. (1994). *The fifth discipline fieldbook. Strategies and tools for building a learning organization*. London, UK: Nicholas Brealey Publishing.
- [87] Senge, P., Kleiner, A., Roberts, C., Roth, G. & Smith B. (1999). *The dance of change. The challenges of sustaining momentum in learning organizations*. London, UK: Nicholas Brealey Publishing.
- [88] Sherwood, D. (2002). *Seeing the forest for the trees. A manager's guide to applying systems thinking*. London, UK: Nicholas Brealey.
- [89] Smith, P. & Tosey, P. (1999). Assessing the learning organization: Part I – theoretical foundations. *The Learning Organization*, 6(2), 70-75.
- [90] Srithika, T.M. & Bhattacharyya, S. (2009). Facilitating organizational unlearning using appreciative inquiry as an intervention. *Vikalpa*, 34(4), 67-77.
- [91] Starbuck, W.H. & Hedberg, B. (2003). How organizations learn from success and failure. In M.Dierkes, A. Berthoin Antal, J. Child & I. Nonaka (Eds.). *Handbook of organizational learning & knowledge* (pp.327-350). Oxford, UK: Oxford University Press.
- [92] Stein, E.W. (1995). Organizational memory: Review of concepts and recommendations for management. *International Journal of Information Management*, 15(2), 17-32.
- [93] Stigliani, I. & Ravasi, D. (2012). Organizing thoughts and connecting brains: Material practices and the transition from individual to group-level prospective sensemaking. *Academy of Management Journal*, 55(5), 1232-1259.
- [94] Stewart, D. (2001). Reinterpreting the learning organization. *The Learning Organization*, 8(4), 141-152.
- [95] Thompson, R.F. & Madigan, S.A. (2007). *Memory. The key to consciousness*. Princeton, NJ: Princeton University Press.
- [96] Tsang, E.W.K. (1997). Organizational learning and the learning organization: a dichotomy between descriptive and prescriptive research. *Human Relations*, 50(1), 73-89.
- [97] Weed-Schertzer, B. (2020). Tools for knowledge and organizational learning. in: (ii) logical knowledge Management, Emerald Publishing Limited, Bingley, 83-117. <https://doi.org/10.1108/978-1-83867-803-620201003>
- [98] Wellman, J.L. (2009). *Organizational learning. How companies and institutions manage and apply knowledge*. New York, NY: Palgrave Macmillan.
- [99] Xie, L. (2020). The impact of servant leadership and transformational leadership on learning organization: A comparative analysis. *Leadership & Organization Development Journal*, 41, 220-236.
- [100] Zohar, D. & Marshall, I. (2004). *Spiritual capital. Wealth we can live by*. San Francisco, CA: Berrett-Koehler Publishers, Inc.