Literature review scope for the Learning Strategy

Explanation of the literature review

Objectives

This literature review aims at encompassing the learning perspectives at three different levels: the organization, the team and the individual. To make sure learning is appropriate, it has to be aligned at those three levels without letting one aside. Considering that “alone we go faster, but together we go further”, individuals must develop themselves while getting involved in a team and seeing their impact and their added value within the organization.

The LR is focusing on the learning needs, how learning can be prepared and how it can be delivered.

The objective is then to understand common successful elements shaping organizational learning, collective learning and individual learning. As WHO is a specialized non-profit organization, the research was oriented towards this end: what are the best practices in public organizations? What are the specificities of health organizations?

Databases

<table>
<thead>
<tr>
<th>Resources used</th>
<th>Area of research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Direct</td>
<td>Health and life sciences, multidisciplinary techniques and sciences</td>
</tr>
<tr>
<td>PubMed</td>
<td>Health and life sciences</td>
</tr>
<tr>
<td>Google Scholar</td>
<td>Multidisciplinary</td>
</tr>
<tr>
<td>Wiley Online Library</td>
<td>Health and life sciences, multidisciplinary techniques and sciences</td>
</tr>
</tbody>
</table>

Research methodology for the LR

The research started with articles responding to the research criteria “Learning in health organization”. Then from such articles, 6 different areas were identified:

<table>
<thead>
<tr>
<th>Research area</th>
<th>Main research keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning in health organizations/health emergencies</td>
<td>Learning health organization / learning health emergencies / learning frontline health / learning health workers</td>
</tr>
<tr>
<td>Organizational learning</td>
<td>Organizational learning / learning organization</td>
</tr>
<tr>
<td>Learning pathways</td>
<td>Learning pathways / learning curricula / learning paths / learning scheme</td>
</tr>
<tr>
<td>Adult learning</td>
<td>Adult learning / andragogy / heutagogy / experienced learner</td>
</tr>
<tr>
<td>Career development</td>
<td>Career development / career plan / career advancement / job development / professional development / professional advancement</td>
</tr>
<tr>
<td>Experiential learning</td>
<td>Experiential learning / experience in learning / real-life learning / experiential learning activities</td>
</tr>
</tbody>
</table>

Then, as much as possible, the articles were chosen when they were published in one of the top peer-reviewed journals, following the classification from the CNRS (French National Center for Scientific Research).
## Literature review

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III Why does learning matter?

III.1 What does “learning” mean?

Learning is defined in Business English as “the process of getting an understanding of something by studying it or by experience” in Cambridge Dictionary (2019). Learning can be split into four different categories:

1. Learning about things, i.e. knowledge acquisition,
2. Learning to do things, i.e. development of skills, competencies and abilities,
3. Learning to become oneself, i.e. personal development and,
4. Learning to achieve things together, i.e. collaborative seeking (Pedler and Aspinwall, 1998).

The latter, i.e. collaborative learning, represents the bridge between individual learning and organizational learning (Nutley and Davies, 2001). However, as highlighted by Caroll and Edmondson (2002), “although individual human beings are naturally programmed to learn, organisations are not.”

III.2 Why do organizations need to learn?

III.2.1 Organizational learning needs

Organizations must adapt their development to recent business and environmental changes. The past century has set challenges that managers are continuously trying to cope with by looking for methods enabling a constant adaptation and a more accurate forecast of the need for change (Lenart-Gansiniec and Sulkowski, 2018; Carroll and Edmondson, 2002; Tabrizinia, 2016). Moving away from methodologies that are not effective, even if they have been used for so long in the past may help teach for understanding within the organization (Clapper, 2010). From the growing expectations of citizens, to the trend of co-participation in decision-making processes, through technological progress and sustainable development goals, recent changes threaten organizational sustainability and force modern management face many challenges (Lenart-Gansiniec and Sulkowski, 2018; Carroll and Edmondson, 2002; Tabrizinia, 2016).

To improve practice, change should be seen as the constant variable which should be anticipated in the individuals and the organization (Clapper, 2010). Learning within an organization is highly influenced by the environment in which it operates (Fiol and Lyles 1985; Lam 2000; Miller 1996). Learning systems need to be purposely adjusted to the scope and the imperativeness of organizational learning required. Prior internal knowledge and capacity of the organization are both constraining the development of organizational learning (Kim, 1998).

There are more and more experienced learners in the workforce since “attitudes towards and expectations of careers have changed” (Newman and Peile, 2002). Talent is scarce and expensive, so most organizations do their best to develop skills internally in order to meet their needs and to develop their talents’ careers, to retain their best (Adenji et al., 2019). When an organization acknowledges that the employees are the most valuable assets, it usually draws attention on organizational approaches to attract and retain “dedicated, loyal, highly motivated, energetic, creative and well-trained workforce needed to accomplish organizational goals” (Adenji et al., 2017).
III.2.2 Learning needs for public organizations

Due to a scattered accountability, a limited autonomy, some questionable goals, and more pressures from external factors, public organizations are criticized for their flawed learning behaviour as those elements hinder individual creativity and learning. Improving learning processes inside the public organizations would help them keep up with external challenges (Hartley, 2008; Hong and Fan, 2011). In such context, Hartley (2008) mentions that “the sharing of knowledge is central to improvement in public services, because the aim is to add value to the public sphere” meaning “that good ideas and practices are not, in theory, limited to one organization or partnership, but need to be transferred between services and levels of government”.

III.2.3 Learning needs for health organizations

III.2.3.1 An ever-changing environment

Due to changing demands affected by numerous factors such as globalization, migrations, social, cultural and economic challenges, healthcare organizations acknowledge that learning as an organization is necessary in this ever-changing environment where “individual and team learning alone cannot produce the desired effect nor stave off stagnation which could threaten service excellence and patient safety” (Ratnapalan and Uleryk, 2014). Organizational learning is fundamental for health organizations as it facilitates communication and transfer of relevant information in multifaceted interconnected active systems in which everyone has to know prevalent background knowledge as well as common meta-knowledge of roles and duties to execute one’s allocated functions (Ratnapalan and Uleryk, 2014).

III.2.3.2 The need to find ways to face such a challenging system

Health organizations aim at enhancing safety and quality of health in an environment which is constantly changing. They can better respond to those changes through innovative organizational learning practices, which can help them develop existing skills and knowledge while providing new efficient ways of working all together (Carroll and Edmondson, 2002; Christensen et al., 2000). Among the future challenges that those organizations will have to face, we note the growth of information and communication technologies which will expand job duties or create new ones requiring clinical education (Clapper, 2010) and may result in possible “breakdowns in communication and coordinated care […] in direct proportion to sophisticated technology and treatment strategies of complex disease processes” (Ratnapalan and Uleryk, 2014). Frequent randomly sporadic discontinuity has challenged health organizations to blend fluid structures (new structural system) to respond to change and more rigid ones (genuine structural system) relying on accountability and bureaucratic governance (Limerick et al., 2002) shifting then from prominent bureaucratic structures to neo-corporate bureaucracies (Hurley and Linsley, 2007). The field objectives are for instance the improvement of patients’ health and well-being, the ability to handle more cases at lower costs while retaining competent staff and sustain the organization’s reputation (Carroll and Edmonson, 2002). To do so, health organizations rely on diverse teams, some which are visible (on the field) and others which are invisible (in back offices) made up of experts and beginners from varied backgrounds but working as one to deliver a coordinated response (Ratnapalan and Uleryk, 2014). Claper (2010) points out that “the healthcare profession will always have a demand for talented people” therefore it is necessary that health organizations promote a working environment in which employees feel they are secure, essential and valued accordingly to make sure the increasing demands can be managed even with very little resources Benson and Dundis, 2003).
III.2.3.3 The need to strengthen learning capacities at every level to improve health

Two different types of knowledge needs can be identified in public health. The first set are the needs of employees who lack some skills for specific duties, which could be met through training or any other professional advisory structure. The second type of needs are the ones of the organization itself, ensuing from deficiencies in the job environment, which could be met through organizational priorities and management proceedings. Opportunities and challenges for both education and training arise from this heterogeneity of the public health workforce. To take full advantage of the possible learning opportunities, talents should be identified within the organization. In the meantime, the gaps in employees’ skills may result in challenging situations which require an adequate prioritization and the implementation of inclusive approaches to ensure the development of the public health personnel. “To establish effective and comprehensive learning systems within public health, it is helpful to first consider three pertinent topics: adult learning, instructional design, and competency-driven workforce development” (Miner et al., 2005).

III.2.3.4 Combining all learning capacities for a greater impact

Health organizations can facilitate safe patient care “by individual professional learning, interprofessional team learning and system-based organizational learning”, encompassing then specific learning by diverse teams and individuals (Ratnapalan and Uleryk, 2014). Organizational improvement can result from training in public health (Hawley et al., 2019) but such training has shifted from a basic knowledge transfer to the development of skills or competencies (Neiworth et al., 2014). Human capital has been the most significant competitive advantage for any organization, but beyond this competitive aspect, the abilities of the workforce are essential especially in health organizations, to the quality of the lives of the people, therefore learning strategies and training of personnel have to be adapted accordingly (Harun, 2001).

III.3 Why do individuals need to learn?

III.3.1 Health professionals may lack fundamental information

III.3.1.1 Differences due to the working environment and their underlying information systems

The healthcare system lacks relevant information in developing countries, which results in human losses and casualties that could have been avoided if the responders had the right information at the right time (Pakenham-Walsh et al., 1997).

Due to the mobility of health care professionals, functional changes should be taken into consideration to ease their practices. The information should be pushed towards them, deliver an extra support upon request from workers while making decisions. The information should have a clear and handy mobile interface while being able to support “fail-safe delivery” at an affordable cost and with a low maintenance (Eisenstadt et al., 1998).

To break down structural barriers such as the lack of IT gear and training, the lack of time to access information on the ground, the lack of communication of information from higher levels, the management of the information is key (Rutland and Smith, 2010).

The information resources vary from one work setting to another, depending on the computer capabilities of the health facilities and the professionals' background. Studies show that health experts working in smaller work environments are more likely to depend on colleagues and
limited formal sources when specialists operating in larger structures or more academic entities rely heavily on IT-based health science libraries (Dalrymple, 1990; Gruppen, Liverman et al., 1997; 1990; Osiobe 1985).

With a limited access to the Internet in many rural facilities in developing countries (e.g. in Botswana), healthcare workers struggle to get right and timely information due to possible discrepancies or outdated information, which complicates their work and may result in a lower trust from patients (Park et al., 2016).

As a study shows, the information available in rural areas of developing countries is not always relevant. This study highlighted the fact that the textbooks which had been given to a rural facility in Uganda were irrelevant to the local needs as they had been written in developed temperate countries, which are far different from the tropical health situation of the developing country (Musoke, 2000; Pakenham-Walsh and Bukachi, 2009).

Information practices vary between developed and developing countries, in which access to basic and relevant information is limited. The disparity between infrastructures available for healthcare workers is affecting their daily work and may prevent them from meeting their information and learning needs in the delivery of a safe and effective care (Pakenham-Walsh and Bukachi, 2009).

### III.3.1.2 Challenging information practices

The healthcare information management should be improved to remedy the multiple factors (from a cultural aspect to a financial one, through the technological shift too for example) shaping a complete ongoing knowledge-based society, which results in more and more complex medical information in the whole system (Cordell et al., 1998).

In terms of information practices, studies show that young health professionals are mainly relying on medical literature online when older healthcare workers prefer textbooks and informal information sharing with colleagues. Older professionals may not know how to properly browse information online (Gruppen, 1990; King, 1987; Liverman et al., 1997; Lockyer et al., 1985; Osiobe, 1985).

Indeed, colleagues and reference books are the most common information resources for healthcare workers (Blackwelder and Dimitroff, 1996; Covell et al., 1985; Curley et al., 1990; Williamson et al., 1989).

Moreover, emergency professionals have to face even more challenging situations as they often lack key information about their patients, who usually do not disclose every key detail of their medical history or are too sick or wounded to provide all their medical information. As emergency care is naturally episodic, health professionals do not know their patients and their medical histories. It is estimated that $90 billion is wasted annually since health professionals don’t have access to their patients’ complete medical histories. Most of the patient information remains paper-based, which makes information difficult to retrieve and share. Even when the right information is available, it may not be possible to get it and share it in a timely manner (Cordell et al., 1998).

### III.3.2 Health workers need up-to-date information

James Grant, former director of UNICEF, stated in 1993 that “The most urgent task before us is to get medical and health knowledge to those most in need of that knowledge. Of the approximately 50 million people who were dying each year in the late 1980s, fully two thirds
could have been saved through the application of that knowledge.” Health workers, especially in developing countries, should be able to access reliable health information. The sustainable advancement of healthcare worldwide could only rely on this cost-effective provision of relevant information, as it a key determinant in the work development of health professionals, who form the backbone of any healthcare system (Pakenham-Walsh et al., 1997).

### III.3.2.1 Different information needs

Osheroff and colleagues (1991) identified three types of information needs:

- Needs which are currently satisfied: information relevant for decision-making but already known by the health worker
- Needs which are consciously recognized: the health worker does not know this information but recognizes it and knows it can be applied for decision-making
- Needs which are not recognized: important information for specific circumstances at hand but the health worker does not think it is applicable.

### III.3.2.2 Different reasons to get information

Health workers have different reasons to search for health information. Williams and his fellow workers (1992) classified those different reasons:

- Confirmation or rejection of the existing knowledge
- Assistance to solve a new or unusual health care issue
- Basic knowledge update on a specific subject through review
- Information research from another health field if the patient has multiple problems
- Dissemination of specific patient care concerns to fellow health care workers
- Identification of a rare or unfamiliar patient care issue
- Identification of a knowledge gap in literature and a need for further research
- Assistance in the implementation of new administrative or institutional initiatives

Since the healthcare field is heavily information-oriented, a well-managed “portable” information is crucial for every stakeholder involved, from frontline workers to policy makers (Cordell et al., 1998).

### III.3.3 Health workers need specific health information

Health workers need information for different purposes such as educating patients, patient care, work interest, and research. All aspects of medicine and health care have seen their knowledge foundation being broadened by the rapid progress of technology and science (Liverman et al., 1997).

Information needs vary between health professionals, especially in developing countries. Many factors influence continually the information needs; those factors can be related to their profession, their home institution, their culture and their usual infrastructure. Because of the complexity of those interrelated factors, there is not any single method which allows a clear evaluation of health information needs. Every single health professional has specific information needs, which may vary over time, clinical caseload and place (Pakenham-Walsh and Bukachi, 2009).

There is a strong need of capacity at the local level in terms of surveillance and response, “to detect unusual public health events, to report key epidemiological information to relevant
intermediate and national authorities, and to immediately implement primary control measures” (Wilson et al., 2008).

Studies show that topics of health information needs can be broad, especially in developing countries: In a research, health care workers in Botswana for example needed information about HIV, TB and Pediatrics (Park et al., 2016).

In rural settings, health staff highlighted their need of feedback information, i.e. processed information which is sent back to the rural remote areas. Such information is a key determinant for their daily work, but because of the geographical isolation, this information is either late or not even arriving (Martinez et al., 2005).

Frontline public health workforce needs local information to ensure patient care even in rural areas (Rutland and Smith, 2010).

Health information needs can be for example the recognition by health care workers of their own knowledge weaknesses and also the identification of what would be useful to help them improve their practice (Pakenham-Walsh and Bukachi, 2009).

III.3.4 Health workers need to develop their knowledge

Within our industrial world, knowledge is becoming crucial. Drucker stated: “The real, controlling resource and the absolutely decisive ‘factor of production’ is now neither capital nor land nor labor. It is knowledge” (Cordell et al., 1998; Drucker, 1993).

III.3.4.1 What kind of knowledge should be developed?

The distinction between tacit and explicit knowledge may be key. Brannback (2003) describes explicit knowledge as a knowledge that different stakeholders can easily spread as it relies on structured supported materials. Tacit knowledge consists of the knowledge in the individuals’ head, based on their interactions, their experiences and their inner learning. Most of our knowledge is tacit but organizations have difficulties in taking full advantage of this valuable resource. Indeed, to capture this inner knowledge, it should be become explicitly available. However, this process is challenging as people are not all aware of their tacit knowledge and they don’t need it to be explicit to use it.

The transformation of personal knowledge into corporate one can result from this change from tacit to explicit knowledge (Stenmark, 2000; Mentzas et al., 2001). The distinction is that explicit knowledge can be codified and stored when tacit knowledge cannot (Nonaka, 1994; Polanyi, 1967). Kakabadse (1991) mentions that it is important to obtain information of what knowledge an individual has and needs to develop, considering both types of knowledge. It is key to understand the different stakeholders and the organization as a whole to be able to act on knowledge in adequate manners.

III.3.4.2 Shifting from simple information sharing to specific knowledge transfer

Knowledge transfer is key for professionals in health emergencies as important practical information about an agency’s emergency response procedures may only be known by an experienced administrator or someone who has been working for the organization for a long time. In such a situation, there is a need to update information among the health professionals working in emergencies. Public health organizations and individuals of the public health workforce themselves expect an adequate emergency preparedness to make sure the response is both relevant and timely (Gebbie and Merrill, 2002).
III.3.4.3 Learning for expert adults

As mentioned earlier, health organizations have to face new challenges and one of them is the need of more adult workers entering the health care profession to meet the demand (Clapper, 2010). Considering the statement from Velada and Caetano (2007) highlighted previously, as work satisfaction and affective reactions from employees when they are on duty may impact the way they perceive learning, motivating the workforce for learning is a problem to deal with adult learners. Hough (1984) states that this: “effective learning […] based on the needs and interest characteristics of the adult learner” should be considered when it comes to learning for adults. Through an empowering process which develops lifelong learning, adult learners’ expertise should be valued as it grows over time and each individual should be able to be accountable for the identification of one’s own educational requirements (Cohen, 1995).
IV What constraints learning?

IV.1 The need to build supportive learning culture and structure within the organization

Organizational cultures and structures are key elements for organizational learning as they shape how individuals go through the learning process while diminishing the common tension of busy organizations between “doing” and “learning about doing” (Nutley and Davies, 2001).

IV.1.1 Organizational learning culture

IV.1.1.1 What does learning culture bring to the organization?

To ensure that employees feel safer, organizations should focus on learning and training which help the workforce build up belongingness and personal confidence/self-esteem. In Maslow’s pyramid of needs, this would result in reaching the final stage for self-actualization, representing the ability to use one’s entire potential and thus “become everything that one is capable of becoming” (Benson and Dundis, 2003; Maslow, 1943).

Most critical success factors (CSF) appoint organizational culture as a significant element of any initiative changing the current processes of the organization (Hammer, 2004; Skerlavaj et al., 2007; Terziovski, 2003). Shared goals (Tabrizinia, 2016), defined set of norms and values forging the functioning of the organization (Peters and Waterman, 1982; Skerlavaj et al., 2007) along with resources to build up learning (Nutley and Davies, 2001) are forming an organizational learning culture, also known as OLC. Many scholars highlight the symbolic, embedded and dominant aspect of organizational culture, which can be conveyed by invented assumptions and stories or real anecdotes (Peters and Waterman, 1982; Schein, 1992), all of this being considered worthwhile and thus taught to newcomers as the right and only way to think and understand (Schein, 1992) as it is just “the way things get done around here” (Deal and Kennedy, 1982).

Jacques (1952) emphasized that accepting at least partially this traditional way of doing things within an organization is necessary to be acknowledged as a member of the organization.

IV.1.1.2 What are the key elements to develop an organizational learning culture?

Nutley and Davies (2001) report some key cultural values facilitating organizational learning drawn by Mintzberg et al. (1998) and Schein (1996):

- Celebration of success: Genuine values often protect against failure, which results in single-loop learning. To overcome this, excellence should be emphasized.
- Absence of complacency: a learning organization should promote innovation and change to find new ways of delivering. Knowledge must be supported through organizational learning to increase organizational innovation (Liao and Wu, 2010). Jimenez and Sanz-Valle (2011) state that organizational learning impacts performance mainly through innovative approaches. Organizations should encourage exploration and discovery (Carroll and Edmondson, 2002) but “may be biased towards knowledge exploitation rather than exploration (Crossan and Berdrow 2003; Levinthal and March 1993) because it is perceived as ‘tried and tested’ and less risky than exploration” (Rashman et al., 2009).
- Tolerance of mistakes: an organization can only learn from its mistakes if failure is tolerated. Organizational learning is supported by risktaking (Weick, 1996).
- Belief in human potential: Success is driven by the individuals of the organization; therefore, they should be valued and their professional as well as their personal development should be integrated in the organizational learning culture.
- Prioritizing the immeasurable: decisions based on qualitative aspects of performance should be a priority.
- Openness: An organization aiming at developing its learning capacity should foster an open environment where knowledge can be shared. Such environment should be cultivated not only because employees can learn and share knowledge but because they should do so (Skerlavaj et al., 2007). Informal channels and peer-to-peer interactions are more common for this knowledge sharing than written reports. In parallel, Weick (1996) stresses that “cross-boundary networking” can support organizational learning.
- Trust: “Without trust, learning is a faltering process” (Nutley and Davies, 2001). Mutual trust between staff and managers supports organizational learning by enabling staff to experiment innovative ways of doing things while being empowered to use time, space and resources efficiently. Ongoing trusted relationships relying on a common interpretation of needs and concerns encourages information sharing across the organization (Yang and Maxwell, 2011).
- Outward looking: A learning organization needs to get insights from the outer world to develop learning opportunities.

IV.1.2 Organizational learning structures

Organizations which commit to learning need to build supportive structures (from whole information systems to tutoring managers for example) which shape a psychologically safe environment enabling feedback and participation from everyone (Carroll and Edmondson, 2002; Davenport and Prusak, 1997; Edmondson, 2002).

Several structural mechanisms facilitate organizational learning. Flatter hierarchies resulting in timesaving in vertical negotiations are best suited for the development of organizational learning (Dodge, 1993; Mabey et al., 1998). A cross-sectional teamwork culture with greater flexibility promotes the accomplishment of shared goals (Mabey et al., 1998; Tabrizinia, 2016). Organizational learning culture positively impacts organizational performance (Hammer, 2004; Skerlavaj et al., 2007; Terziovski et al., 2003) thus “the increasing concerns about performance have focused on the need to provide incentives and rewards for good performance” (Mabey et al., 1998; Nutley and Davies, 2001). Yang and Maxwell (2011) note the positive aspect of having a reward system supporting information sharing within an organization.

Organizations learn thanks to the formation of opportunities for information flow and knowledge generation through a combination of learning mechanisms rooted in values, skills and structures of the organization itself. They can take the form of benchmarking, performance appraisals, evaluations, problem assessments and post-action analyses (Carroll and Edmondson, 2002; Popper and Lipshitz, 1998). Those varied learning mechanisms can trigger creativity and convey new information (Garvin, 2000; Popper and Lipshitz, 1998). However, as Carroll and Edmondson (2002) point out, the development of bureaucratic commands and the instruction to use those learning processes, does not guarantee learning or change in job practices. Organizations can prompt employees’ productivity and motivation towards cooperation with other teams through crowdsourcing, useful for knowledge sharing (Lenart-Gansiniec and Sulowski, 2018). Crowdsourcing within public organizations help generate
information, while developing collaborative services, solutions and policies (Nam, 2012). Therefore, different scholars recognize that crowdsourcing naturally helps solving organizational issues (Afuah and Tucci, 2013; Brabham et al., 2014).

IV.1.3 Organizational challenges for a public health organization

Health organizations rely heavily on customs and practices rather than evidences (Smith, 1991); in such context, unlearning formerly established proceedings should be incorporated to the learning strategies (Hedberg, 1981).

With a different perspective, Carroll and Edmondson (2002) point out three assumptions related to organizational learning and health organizations:

1. “Healthcare organizations can improve quality and other outcomes by enhancing their capabilities for organizational learning.
2. Organizational learning requires leadership from executives, line (middle) managers, and informal network leaders throughout organizations.
3. Leaders are more effective when they take a broad view of the interdependencies among individuals, teams, task flows, systems, and cultural meanings.”

Therefore, formal and informal forms of power and politics, must be considered when exploring learning in such public organizations (Rashman et al., 2009). Health organizations must hence support local learning as well as standardized routines with a balanced standardization mix of both attitudes and structures encouraging exploration and discovery (Carroll and Edmondson, 2002).

IV.2 Fostering individuals’ motivation and asserting their abilities to learn

IV.2.1 Motivating a workforce of excellence

IV.2.1.1 Designing learning paths

Different research studies highlight the aspect of knowledge society in today’s world where knowledge is spread, shared and used by different stakeholders to update individuals’ competencies and skills. Depicted as an element shaping the economy, and the overall business world, this knowledge society pushes more and more employees to structure their own human resource development to help them grow throughout their career (David and Foray, 2002; Dinu, 2008; Poell et al., 2018).

Learning paths are thus ways and directions employees follow to guide their personal professional development. Each individual is then strategically able to determine the contents of their learning paths in different points. As they create their own tracks, employees’ learning paths differ across occupations and duties and represent an array of learning activities which are consistent as a whole and worthwhile to the employees (van der Krogt, 2007a and 2007b; Poell and van der Krogt, 2010; Poell et al., 2018).

IV.2.1.2 Emphasizing career development for professional commitment

One of the main challenges to the accomplishment of high efficiency and organizational effectiveness is the degree of career development but most organizations, cannot provide their employees with possibilities for upward professional advancement (Adenji et al., 2019).
Scholars highlight that there is a lack of research on workforce development in public health (Sellers et al., 2015) therefore career and professional development schemes should be the priority to create a “sustainable, diverse and competent PH workforce” (Sherrer and Prelip, 2018). The health sector implies particular work circumstances and evolving expectations from staff of different categories (Adenji et al., 2019), with different knowledge and skills making public health teams work properly (Taylor et al., 2000). With continued professional evolution, the workforce is motivated to learn the skills and knowledge required for career advancement (Maimunah, 2016). Career development allows staff to strengthen their skills, knowledge, attitudes and capabilities and to have motivating opportunities at work (Adenji et al., 2019; Armstrong, 2011; Tareef, 2012).

IV.2.1.3 Helping employees set their career goals

In the age of boundaryless (Arthur and Rousseau, 1996) and protean (Mirvis and Hall, 1996) careers, employees are more engaged in and accountable for the management of their career than before therefore, understanding what influences career goal setting can give further information for the career management process (Greco and Kraimer, 2019). Career goal is then an important feature of career development as it defines the desired professional outcome (pay raise, promotion, skill acquisition…) that the individuals want to reach (Greenhaus, 1987; Seibert et al., 2013) by directing their efforts (e.g. concentration, time and drive) (Greco and Kraimer, 2019; King, 2004). Career goal setting would facilitate the progression towards the desired goals (Gould, 1979; Greenhaus, 1987). Deci and Ryan (1985) distinguish two types of career goals: intrinsic and extrinsic. Extrinsic goals are outward-oriented goals including signs and attributes of self-worth compared to others (status and influence, success…) (Kasser and Ryan, 1993; Seibert et al., 2013; Williams et al., 2000). Intrinsic goals are inward-oriented goals including personal motivators (skill and knowledge acquisition and development, interest in job performed, have a duty making an impact on the society…) (Deci and Ryan, 1985; Seibert et al., 2013). Four different career advancement strategies can usually be identified among employees (Carter & Silva, 2011):

- Climbers: Staff who pursue progression in their organizations by requesting diverse assignments, working long hours, networking and searching for greater visibility.
- Hedgers: Individuals who take advantage of all career tactics available to move forward in and out of their organizations.
- Scanners: Employees who thoroughly screen the job market and are ready to change jobs, if not organizations, as occasions appear.
- Coasters: People who don’t strive much for career advancement.

For career advancement, workers may rely on personal professional identification through referent career-oriented groups (Fugate et al., 2004; Greco and Kraimer, 2019). Fugate et al. (2004) highlight that “identification with a relevant group can replace institutionalized career structures and provide a compass for an individual beyond the walls of an employing organization”. This identification is when the employee is able to define who he/she is, in terms of professional role, coupled with psychological features such as the need for control and belongingness (Ashforth, 2001). This is supported as well by Maslow’s (1943) pyramid of needs, where the individual needs to belong to a group (belongingness layer), be positively seen by others (esteem) and be able to use his/her own full potential (top layer being self-actualization): the workers would then be motivated and would struggle for the organization interests as long as their personal needs are the priority for the managerial body of the organization.
Ohunakin et al. (2018) state that employees commit to the organization when they are able to perceive that their own professional goals can turn into real possible future opportunities and thus feel that they can personally blossom within the organization: employee satisfaction is higher when the employee’s skills, motives, attributes and competencies are aligned with their career choice. However, research shows that more than 2 out of 3 employees are usually dissatisfied with future professional opportunities offered by their organization (Bombuwela and Alwis, 2013; Adenji et al., 2014; Salau et al, 2014).

IV.2.1.4 Ensuring a learning environment sparking personal motivation

The way the workforce perceives learning can depend on individual's work satisfaction and on the different feeling they may go through while on duty (Velada and Caetano, 2007).

Ryan and Deci (2000) suggest that there are three instinctive psychological needs which when fulfilled are positively related to self-motivation and mental health. Those three needs are: competence, autonomy and relatedness. If any of those is dissatisfied, it weakens the individual's motivation and well-being.

In the learning context, the individuals are executing a series of actions which serve as learning activity and this notion is straightforwardly understandable for them, so it is then easy to study thoroughly systemic behaviours (Kay, 2000). Rewards and sanctions are the crucial elements which enable the social environment to support learners' behaviours (Tennant, 1986). To better appreciate the learners' conducts, the Behaviour Change Wheel (BCW) emphasizing on three fundamental elements to the behaviour system could be used. It encompasses capability, opportunity and motivation. Undeniably, the capability aspect reflects the physical and psychological aptitudes of the individual, the opportunity condition complements a social perspective to the behaviour change and finally the motivation component exposes the automatic and reflective viewpoint (Michie et al., 2011).

A constant interaction between personal characteristics, environmental circumstances and behaviours is the foundation of the Social Cognitive Theory. This model stresses that people learn from their intrinsic experience but also from others' experiences by observing them and following up on the outcomes of the proceedings (Bandura, 1986).

As Woodruff (1968) points out that "Learning of all kinds begins with direct personal perception of something in life", the learning setting can be represented in five key modules: the individual, his or her environment, the contact between the two, the effects of this interaction and eventually how the individual distinguishes and responds to those consequences. The social feature of learning should thus be considered, and more precisely the close link between the learner's social environment and the psychological learning process (Woodruff, 1968).

The learners are more inclined to have the required capacity to find an appropriate fit between their own personality traits and the environment they identify, rather than an objective setting, as the individuals' perception can often be more easily altered than environmental surroundings (Roberts and Robins, 2004).

IV.2.2 Encouraging the employees to gird themselves for learning

IV.2.2.1 Catalysing information literacy

Information literacy is often defined as a personification based on a set of personal attributes (Webber and Johnston, 2000).
Among those attributes, someone who is information literate should be able to recognize the need for information, recognize that precise and exhaustive information is the foundation for smart decision-making, identify promising sources of information and develop fruitful search plans of action. Information literacy should also involve the ability to access different sources of information (using any kind of technology), to assess information, to organize it for constructive use, to integrate new information into an existing core of knowledge, so that information can be used in problem solving and critical thinking (Doyle, 1992).

Information literacy would also imply the need of critical and analytical skills in order to develop research queries, analyse the results. The information literate person should have strong skills to search for and use different information types to make sure to he or she get the information needed (Lenox and Walker, 1993).

Information literacy could be depicted as a “new liberal art” which goes beyond the ability to use technologies and access information, which is a set of practical worthwhile technical skills fostering critical reflection on the essence of information itself (Shapiro and Hugues, 1996).

Information literacy and education can noticeably dovetail. There would be a need to integrate the concept of information literacy into learning curricula, so that individuals and institutions can benefit from the deep-rooted opportunities of the current information society. Information literate individuals would be the ones who learnt how to learn since they understand how knowledge is organized, where they can find information and how they can use it to ensure that others are also able to learn from them (Spitzer et al., 2004).

Information literacy is also crucial to the character of learning organizations. The related information-based processes need to be upheld by the organizations’ technology infrastructure as they consist in the peoples’ ability to function efficiently within the information society. Three different groups of individuals who could be interested in on-the-job experiences of information literacy can be identified:

- The first one would consist of managers worried about employees’ professional development and capacity to react to change;
- the second one could be composed of information managers interested in training and education of the organization’s audience to take full advantage of the information services available within the organization;
- the third group would comprise trainers willing to equip learners for their selected job (Bruce, 1999).

Bruce (1999) highlights 7 different workplace experiences of information literacy, each of them closely associated with on-the-job information-based processes, advocating then a variety of possibilities for professional education and development.

1. The first face consists in “information literacy experienced as using information technology for information awareness and communication", which turns in the environmental scanning process in the workplace.
2. The second face is when “information literacy is experienced as finding information from appropriate sources", meaning that the individual should know where to search for information, using internal and external information resources and systems.
3. The third IL experience is when “information literacy is experienced as executing a process’. This entails a problem-solving mechanism during which information is processed and used for an internal or external purpose.
4. The fourth face is the information control experience, which means that the individual makes sure the information is retrievable by storing/recording it accordingly.

5. The fifth face is the knowledge construction experience. This is the ability to build up one’s knowledge in a new area based on the knowledge gained and personal critical analysis.

6. The sixth face is called knowledge extension experience and may be connected to a research and development mechanism, allowing the individual to use information to create more information.

7. The final face is the wisdom experience which represents the capacity of wielding information to benefit other people, from which professional ethics and codes of conduct may be ensued.

Due to a global keen interest, information literacy is now a major topic of discussions when it comes to learning. UNESCO highlights for instance the need to examine evidences of the nexus between information literacy and the learning outcomes, and its possible effects on educational achievement while shaping educational policies and practices. The aim would be to establish educational environments sustaining information literacy (Horton, 2007).

IV.2.2.2 Driving learning through adequate standard competencies

In such context, an all-round approach aiming at building confidence around fundamental competencies in line with multi and interdisciplinary cooperation, a student-focused programming ecosystem and the promotion of a real learning community are vital elements to meet the needs of diverse learners (Sherrer and Prelip, 2018).

Public health organizations should then customize the competencies required to represent the particular role it actually has in preparing and responding to emergencies. Indeed, if the employees master those fundamental competencies, they are more likely to manage their responsibilities in emergency circumstances (Gebbie and Merrill, 2002). As depicted by Neiworth et al. (2014): “Mapping competencies to training has potential for enhancing the value of public health training during resource-constrained times by directly linking training content to the desired skills”.

Since training in public health has shifted from a simple knowledge transfer to a hands-on development of skills or competencies (Neiworth et al., 2014), core competencies can represent a reference for the orientation of new recruits and for any training activity for the workforce (Gebbie and Turnock, 2006). Biech (2008) points out then that, when developing a training, it is preferable to determine first those desired competencies with corresponding learning objectives and eventually shape the training around these accordingly (Biech, 2008; Gebbie, 2008).

V How can learning be established?

V.1 Developing organizational learning

V.1.1 Changing the organizational behaviours

Organizational learning is a process of singular and mutual action and thought in the context of an organization (Rashman et al., 2009). Organizational learning is about building, changing and improving the organization’s rules, practices, and structure (Brabham, 2008; Dodgson, 1993; Lenart-Gansiniec and Sułkowski, 2018). Organizational learning relies on common
experiences, skills and knowledge of the workforce of the organization to enhance its capabilities and performance (Argyris and Schön, 1996; Dodgson, 1993; Fiol and Lyles, Garvin, 2000; 1985; Huber, 1991; Senge, 1990; Slater and Narver, 1995). It is also depicted as a process through which raw knowledge and information are turned into action (Ratnaplan and Uleryk, 2014; Skerlavaj et al., 2007).

Many scholars affirm that organizational learning has the potential to change individual and organizational behaviours (Fiol and Lyles, 2000; Huber, 1991; Murray and Donegan, 2003; Senge, 1990; Slater and Narver, 1995) when Lenart-Gansiniec and Sułkowski (2018) see organizational learning as “the result of changes in the current behaviour of the organization”. Learning organizations are the entities which intentionally seek to develop organizational learning (through structural and strategical development) (Dodgson, 1993; Nutley and Davies, 2001). Miller (1996) emphasizes on this intentionality aspect of organizational learning explaining how organizational purpose and learning can be aligned thanks to the autonomy or constraint of individuals and institutions in their understanding and action. Beyond the enhancement of the organization’s capabilities as mentioned earlier, Brabham (2008) points out that organizational learning helps better prepare the entity for future challenges and solve problems.

V.1.2 Organizing learning in health organizations

Nutley and Davies (2001) state that “organizational learning is not something left to chance: it is engineered”. In health organizations, organizational learning is not a single-step intervention but is rather a continuous process made up of formal and informal learning with complementary acquaintance with organizational change.

V.1.3 Shaping organizational learning through five disciplines


- Personal mastery consists in the improvement of the individual capabilities. This results from initiatives and efforts to develop one’s own proficiencies, through self-directed and problem-based learning, which help individuals choose what they want to achieve.
- A shared vision gives a mutual purpose for the workforce. This clear strategic guidance based on values and practices enabling the achievement of the objectives, encourages a common understanding of the vision itself and builds collective commitment.
- Mental models, i.e. rooted assumptions and generalizations should be updated if an organization has to learn to do things differently. The focus of this reflection is on attitudes of an individual and his peers and how day-to-day practice is unconsciously shaped within an organization.
- Team learning entails the ability to interact with others to mobilize energies through collective thinking to reach common objectives. Such teams are crucial and result in “an intelligence and ability bigger than the sum of individual members’ talents” as highlighted by Tabrizinia (2016).
- Systems thinking should be open for organizational learning. This means that individuals should be able to understand that what they do is interconnected with what others do beyond possible boundaries (departmental, organizational) to better appreciate forces shaping the outcomes of the activities they have undertaken (Isaacs, 1999; Senge, 1990; Schulman, 1993; Tabrizinia, 2016; Weick et al., 1999).
V.1.4  A thorough process to develop organizational learning

Many scholars agree that organizational learning contains four sub-processes:

- the first one is knowledge acquisition, meaning that the entity tries to get new information and knowledge, for instance by asking employees to go to fairs and exhibitions on a regular basis;
- the second sub-process is knowledge distribution, the mechanism by which information is shared among employees of the organization, through peer discussions and teamwork for example;
- the third step is knowledge interpretation, happening when information is meaningful across the organization and is turned into new common knowledge;
- lastly, the organization has to store this created knowledge for future endeavours. This final sub-process is called organizational memory, which is possible by updating databases and simplifying access to those records through varied networks (Baker and Sinkula, 1999; Huber, 1991; Jimenez and Sanz-Valle, 2011; Lopez et al., 2005; Sinkula, 1994; Weerd-Nederhof, 2002).

V.1.5  Setting learning routines

Senge (1990) distinguished, in his analysis of these learning routines carried out by organizations, different forms of learning. Adaptive learning is about solving problems through pre-set pathways in which detection of an undesirable outcome triggers corrective behaviours to bring it back on track. This single loop process is relying on feedback on organizational norms. Generative learning, represented by a double loop, implies the creation of new paths and revised norms, practices and values through a continuous experimentation and feedback which in turn help examine how organizations define and solve problems. Finally, meta-learning consists in the ability of an organization to learn about learning, i.e. to know how and when learning occurs. This process helps an organization regulate learning and adapt it to the organizational context accordingly (Nutley and Davies, 2001).

Figure 1 - Learning routines
(Source: Nutley & Davies (2001). Developing organizational learning in the NHS)
V.2 Encouraging collective learning

V.2.1 Bridging organizational and individual learning

In order that total service gains stream from lifelong learning, such learning needs to be deployed within the organization and transmitted to others. It is common that organizations know less than their members and sometimes “the organization cannot seem to learn what every member knows” (Argyris and Schön, 1978). Collective learning then forms the bridge between individual learning and organizational learning (Argyris and Schön, 1978) but in public health, such team learning opportunities are even more necessary despite the suitable relation between healthcare delivery and the development of organizational learning (Nutley and Davies, 2001).

V.2.2 Promoting information sharing among teams

Information sharing, which has been more and more feasible with the development of information and communication technologies, is often associated with a better organizational efficiency and performance (Yang and Maxwell, 2011), and encouraging groups to share information and knowledge is becoming a trend among organizations (Zhang et al., 2005). Information sharing is a “key strategic activity for organizations in the public and private sector” (Yang and Maxwell, 2011) for three distinct purposes: “(1) to establish mutual awareness between information giver and information receiver; (2) to educate or raise consciousness; and (3) to develop rapport” (Marshall and Bly, 2004). Therefore, identifying elements that prompt information sharing is crucial, especially to make more accurate and timely decisions by establishing information systems minimizing deviations to internal practices and information flow (Yang and Maxwell, 2011).

V.2.3 How should information be shared?

Information sharing has dramatically shifted in public organizations in the last fifteen years, moving from information protection at any cost to a collaborative cross-organization information sharing (Yang and Maxwell, 2011).

Rioux (2005) found out that individuals can purposefully remember the information needs of others. Assuming that someone is willing to share information with other people, this person is able to store in his memory the information needs of others through daily interactions. The pictures of such connections in the potential memory are activated only when a cognitive threshold is reached, that is when the recipient obtains information which has a significant value and usefulness. This would activate a cognitive trigger which will make the recipient represent the information he just got and help him make connections between this newly received information and the people who would potentially need this piece of information. Once this association is clear, the person can distribute the information to the individual who may benefit from this information (Rioux, 2005).

Yang and Maxwell (2011) represented intra-organizational information sharing with a succession of layers. Various factors influence information sharing within an organization. First, organizational structure, based on bureaucratic, formal models and systems as well as the organizational culture (i.e. rituals and norms), have a large impact on the organization’s activities related to information. Reward and incentive systems, social identity and network, and trust among stakeholders represent the second layer, and may arise from the organizational culture and structure. At this stage, scholars added information technology, absorptive capability (“ability of an individual, group, or organization to recognize the value of
new information, and to assimilate and apply it to practical and innovative use” (Cohen and Levinthal, 1990; Yang and Maxwell, 2011). and characteristics of information shared as factors influencing the following inner layer which represents members’ beliefs. This inner layer suggests that members may share information within the organization depending on their self-interest and on a cost-benefit analysis (what is the best trade-off for me? For the organization?).

The dilemma between information ownership (assuming the full rights and responsibilities of the information) and information stewardship (managing information on behalf of others) is another key determinant in organizational information sharing (Kolekofski and Heminger, 2003). Yang and Maxwell (2011) indicate intra-organizational information sharing is thus possible in a culture promoting information stewardship instead of ownership, where reward systems trigger information sharing within and across organizations in such environment facilitating the establishment of sustainable trustworthy relationships based on common understanding of needs, goals and issues.

V.2.4 How can team information sharing be improved?

Some emergency physicians reported the unfriendly and disruptive aspects when exchanging health information. Through such exchanges, they may search for information which will help them influence their clinical decisions. Health information exchange systems should then be transformed to meet the needs of those health professionals and integrated in their workflow (Thorn et al., 2014).

To make sure frontline public health workers have the right information, a dedicated library and knowledge service is key, so that they can get news bulletins and last-minute information, especially about the local health situation. Health workers should also have access to relevant training to improve their literature-searching abilities and basic IT skills. Such improvements may need engagement from both sides, top management and frontline responders (Rutland and Smith, 2010).

With the ever-growing use of computers in healthcare facilities, access to information online should become easier, and thus provide up-to-date information and allow a smoother transfer of knowledge thanks to better information (Liverman et al., 1997; Park et al., 2016).

In this digital setting, information about patients’ medical histories, should move from point to point in a harmonized way. Such 24/7 system would allow health care workers to have instantly access to someone’s health records, and thus enable huge savings for those emergency services which do not allow any downtime. The challenge is to improve health professionals' problem-solving and decision-making through computers by allowing them to get the information they need, when and where they need it, in an adequate format (Cordell et al., 1998; Wong and Abendroth, 1996).

In rural primary health care of developing countries, such computer-based system, with a voice system included, should facilitate “epidemiological surveillance system, emergency management, doubt consultation”, and “distance training” (Martinez et al., 2005).

Cordell and colleagues (1998) suggested 4 recommendations “to accelerate the incorporation of information management in emergency medicine patient care, research, education, and health care management.” They highlight that the development of standards and even data sets need to be funded and promoted and that healthcare information systems should be incorporated to ensure that medical, management and research needs are met: “bridging
islands of information while merging database archipelagos. As depicted by Rutland and Smith (2010), Cordell and colleagues (1998) stress the need of training health professionals to use IT in their daily work, to ensure they are capable of transforming raw data into relevant useful and useable information (Thom et al., 2014). Finally, IT threats and opportunities should be closely examined to ensure a smoother adoption of new information practices from healthcare workers (e.g. the future of AI).

V.2.5 Cultivating knowledge transfer

Thorough knowledge transfer and cross curricular teamwork are required for the functioning of the emergency health care system (Mansell and Curry, 2002). Building and sharing knowledge are both crucial elements to enhance productivity and competitiveness while preserving conventional memory (Leonard-Barton, 1998; Laycock, 2005). Meanwhile, the coordination of disaster management and relief endeavours benefits also from knowledge transfer (Zhang et al., 2002). The lack of research about the complex coordination of operations during disease outbreaks results in management systems and knowledge which are more and more misunderstood, above all in such situation where a good operation system is required to minimize infection (Bdeir et al., 2012).

Knowledge transfer in health emergencies may be challenging, but research shows that health professionals are more likely to be in favour of the possibility to have a registry of assessments evaluating how effective public interventions have been based on an evidence-based methodological rating. There would be an opportunity to link those reviews with specific practice implications for the development of the emergency workforce. The participants of this study had stated that they would like to have customized updates of new reviews in their own area of interest (Dobbins et al., 2004).

The use of information and communication technologies is likely to facilitate the exchanges of information framing the learning process and may ease the generation and the flow of new knowledge. Cultural and organizational changes in the emergency health care system should be considered for knowledge transfer as interactions between the different stakeholders have significantly changed in the last few years (Mansell and Curry, 2002).

V.2.6 Nurturing knowledge management systems

V.2.6.1 Bolstering cross-cutting expertise among teams

Mentzas (2004) describes knowledge management as “a new discipline of enabling individuals, teams and entire organizations to collectively and systematically create, share and apply corporate knowledge assets to better achieve organizational efficiency, responsiveness, competency and innovation”. Knowledge exists in the organizational systems, norms and routines where it may be rooted as tacit or explicit knowledge (Newell et al., 2002).

Essential organizational capabilities set as preconditions such as organizational structure and culture, and knowledge strategy are all shaping the way knowledge is managed within an organization (Gold et al., 2001; Liao and Wu, 2010; Zheng et al., 2010). Knowledge as a whole, but more precisely, from its creation, to its acquisition, dissemination and integration, is a significant strategic resource for organizational learning (Jerez-Gomez et al., 2005).

In healthcare organizations, knowledge management is a key component of learning. Along with new discoveries and knowledge becoming available to professionals working in this sector, everyone has to acquire, disseminate, retain and use this knowledge related to one's
field of expertise. In such environment, there exists a lag time between knowledge creation and knowledge conversion, but organizational learning covers institutional memory and old knowledge through which professionals can understand “how things were done and what the consequences were” to make sure the right information is communicated across the organization (Ratnapalan and Uleryk, 2014).

V.2.6.2 Strengthening team routines

Different scholars mention link knowledge with established routines: what employees learn are established routines structuring the way knowledge is disseminated to “achieve incremental improvements to existing practices” (Nutley and Davies, 2001). Such routines, made more operative, are useful to conduct work that achieves organizational goals (Crossan et al., 1999; Huber, 1991; Levitt et al., 1988). Those routines evolve over time, as people join or leave the organization, get new experience, technologies change, policies and best practices may shift (Carroll and Edmondson, 2002) and the underlying knowledge is stored in different forms: guideline manuals, physical equipment and individual memory for instance (Argote and Ingram, 2000).

With more and more globally spread work environments, which are more relying on technologies, the available volume of knowledge within organizations is dramatically increasing. For this reason, in such situations where efficient decision-making processes are required, knowledge management is becoming crucial (Du Plessis, 2005).

Knowledge management can improve organizational performance, boost efficiency and creativity. Nowadays, knowledge is identified as a significant strategic resource for the future of organizations therefore the development of a broad understanding of the strategies and processes regarding knowledge exchanges (from generation of knowledge to its transfer and use) is crucial (Mentzas, 2004). A multifaceted knowledge embracing corporate, technical and socio-cultural dimensions can be a trigger for the generation of new skills and thus gain a related competitive advantage: this should form the Organizational Knowledge Management Systems (Zahra et al., 1999; Meso & Smith, 2000).

To encompass knowledge within the organization, dialogue between and among top managers and other corporate actors should be and remain of high quality (Kakabadse, 1991). An effective management of people and the development of organizations allowing the workforce to develop their knowledge are key elements to take full advantage of the knowledge potential of the entity. This may entail a clear understanding and a meticulous management of different cognitive styles among the professionals, and the organization should pay close attention to “star performers” who could have “signature skills” that can be challenging but can be a source of knowledge opportunities. (Leonard-Barton, 1998).

Face-to-face communication, discussions, capacity development curricula and interactions between the institute and the industry are relevant ways to trigger sharing of ideas, transfer of knowledge and an overall communication which increase knowledge within the organization. To sustain the flow of knowledge among the workforce, reward systems should be developed to compensate employees who agreed to disseminate their knowledge (Kumaraswamy and Chitale, 2012).

Knowledge often goes beyond a formal job description, which usually does not depict all the individual’s daily work duties. It is then important to understand that professionals rely on their expert interests which make them perform actions which are regularly outside their role definitions (Stenmark, 2000).
The connected environment created from knowledge management should technically represent the corporate memory. The key linkages of this knowledge system should not only be between people but also between them and relevant information systems (Mentzas et al., 2001).

This way, organizational learning is described as an active process relying on knowledge, which moves from the individual to the group level and then to the organizational one before getting back again (Crossan et al., 1999; Huber, 1991). Literature shows different perspectives on this subject: organization learning can be seen as the “cumulative product of the learning of small groups or teams” for Levinthal and March (1993) when Ratnaplan and Uleryk (2014) state that individual and team learning only supplement organizational learning without creating it. The latter perspective entails that individual and team learning takes place in separate environments where knowledge is not shared with other groups within the organization (Ratnaplan and Uleryk, 2014).

V.2.6.3 Creating cohorts based on competencies

On top of enhancing competencies to help the organization fulfil its organizational objectives (Adenji et al., 2019; Ibidunni et al., 2016), career development should be a supportive partnership between the organization and the employees for their professional growth (Adenji et al., 2019). The organization should then keep increasing their career satisfaction and thus retain talents by building up a community, like a “cohort model” (Sherrer and Prelip, 2018).

Maimunah (2016) states that career development is made up of “training, coaching, mentoring, counselling and promotion to stimulate the performance of employees”. There should be “plans for all categories of staff” including “variety of development activities attractive to staff” (Adenji et al., 2019), especially for a sector like the health one, with developmental expectations from employees of various types and backgrounds (Adenji et al., 2019).

V.3 Embracing individual learning

V.3.1 Valuing the individual as an asset

Learners can usually actively and positively contribute to their organization but may remain a resource which is not fully tapped. However, even if helping the learner build a personal learning plan is essential, with formative and thorough appraisal of learning needs, this individual learning aspect may defeat the learning purpose of a peer group (Newman and Peile, 2002).

The passive structure of the delivery of most presently available materials is hindering the extensive dissemination of information related to evidence-oriented programs and research to the workforce operating in public health. The burden is on the learner to explore and find programs that will be effective in his or her working environment (Maddock et al., 2018).

V.3.2 Inviting the individual to learn

To sustain life-long learning and to help employees grow despite constantly changing learning environments, new teaching approaches are required (Ashton and Newman, 2006). An evidence-based learning experience supports knowledge transfer to practice as long as the needs of the target learners are understood and that the content and delivery methods are tailored accordingly (Arora et al., 2018).
Williams and Dunn (2008) suggest a four-phase lesson design for organizing learning schemes while improving understanding. Combining brain-focused learning with differentiated teaching, the learning flow consists of four logical phases: inquire, gather, process and apply phases. In each phase, the learner is going through a set of active learning activities requiring self-reflection. The learner is taken through a transformative process not only leading to assimilation of new or adjusted frame of reference but also inviting the learner to apply this newly adopted knowledge in new ways.

V.3.3 Distinguishing the singularity of each learner

V.3.3.1 A learning style approach

The hallmark of worthy teaching is when the individuality of the learner is recognized (Jonassen and Grabowski, 1993). Thus, the trainer must adopt a “flexible and reflective educational style that it tailored to the individual learner (Newman and Peile, 2002). However, the need to create experiences corresponding to the Dunn and Dunn (1978) learning style theories is often put aside when developing learning. The learners may be more auditory, visual or kinaesthetic and academic research shows that final test scores were higher when the learning style approach was adopted compared to the traditional one (Lovelace, 2005). Fleming (2006) suggests the VARK model, adding then a fourth learning style to the visual, aural and kinaesthetic ones: The reading learning style, which is the preference of gaining information through reading notes, texts and lists... The learning style profile can be determined by a dedicated questionnaire giving a score for each modality.

V.3.3.2 Gardner’s Theory of Multiple Intelligences

Gardner (1999) stresses, in his “Theory of Multiple Intelligences”, the importance to consider the nine intelligences of each learner, which go beyond the common learning styles by differentiating human intelligence into peculiar modalities rather than defining intelligence by only one distinct ability, which help better understand what approaches would best fit each person all along their learning. This theory does not restrict the learner to only one ability but empowers the learners instead. The nine intelligences are the following:

- Verbal-linguistic: advanced verbal skills and sensitivity to pronunciations, senses and intonations of words.
- Logical-mathematical: ability to think theoretically and capacity to distinguish logical or arithmetical forms.
- Visual-spatial: Capacity to think in images and to visualize precisely and theoretically.
- Bodily-kinaesthetic: Ability to control one’s own body moves and to manipulate objects dexterously.
- Musical-rhythmic: Ability to produce and recognize rhythm, tone and timber.
- Interpersonal: Ability to identify and respond accordingly to the tempers, inspirations and desires of others.
- Intrapersonal: Ability to be self-aware and in accordance with one’s feelings, principles, opinions and thinking approaches.
- Naturalistic: Capacity to identify plants, animals and other objects in nature.
- Existential: Ability to tackle questions about human existence.

However, Gardner’s theory is often criticized by scholars since it lacks empirical support, there is no proof of effectiveness and it may skew the belief of one’s own intelligence (Armstrong, 2017).
V.3.3.3 Considering employees as adult learners

Knowles (1970 & 1984) is the precursor of the concept of adult learning, pointing out that adults learn differently compared to children, and calling this concept “andragogy”. Adult learners need to be acknowledged and their use of prior experience and knowledge should be valued; they need to be considered with regards to their diverse learning styles, their will to be vigorously implicated and actively participating in the whole learning process, unlike children who are usually a more passive audience (Merriam, 1993).

Six distinct characteristics are drawn to explain the difference between adult learners and child learners:

1. Adults have to know why they need to learn. They need to understand why, when, where and how this can be applied in the organization and how they can personally contribute to this, directly or indirectly. They may ask: “Why do I need to know this?”
2. The learner’s self-concept should be considered, i.e. adult learners keep the concept of accountability for the decisions they make on their behalf, in their life. They may state: “I am responsible for my own decisions”.
3. Adult learners get into the educational process with a greater and more diverse amount of experiences than child learners. They can bring those life experiences and knowledge to their new learning experiences. They may point out: “I have experiences which I value, and you should respect”.
4. Adult learners are ready to learn the things they need to know so that they can cope efficiently with authentic and concrete situations. This involves a growing orientation towards the developmental assignments of the learners’ social roles. They may admit: “I need to learn because my circumstances are changing”.
5. Adults are life-focused in their orientation towards learning. Knowledge is tied problem-oriented and facilitates a response. They may remark: “learning will help me deal with the situation in which I find myself”.
6. Adults are more sensitive to internal motivators than external ones. They may acknowledge: “I learn because I want to”. (Chacko, 2018; Knowles, 1984; Knowles et al., 1998; Ravi, 2014; Taylor and Hamdy, 2013)

III.3.4 Matching learning individuality with adequate approaches

III.3.4.1 Pairing learner stage with teaching style

In such situation, the trainer’s teaching style should dovetail with the learner’s stage to sustain confidence and enthusiasm throughout the learning process. First, the learner is usually dependent and thus needs support from an expert to build confidence. Once interested, the learner needs to be motivated. When the learner is more involved and starts mastering the content, the trainer should only be here to facilitate learning. Finally, for a self-directed learner, the trainer acts only as a delegator (Grow, 1991).

Newman and Peile (2002) distinguish then how learners and trainers can make a positive partnership, based on the learners’ attributes discussed earlier. Related to maturity, adult learning should occur in reciprocal respect independent of age. In terms of experience, the learner should come up with a hint of relevant experience. The self-directedness perspective involves that the learner is accountable for his/her own learning with the trainer’s support, therefore as stated above, there is a need to match learner stages to teaching styles (Grow, 1991). The positive contribution here, in this partnership, means that both teacher and learner appreciate learning from each other. And finally, individuality implies that the trainer’s approach
can be adapted through a personal development scheme. Indeed, we consider that adults learn in various ways and are somehow different from one another, so any learning module should take into account the learners' attributes, from their learning styles, passing through their stage of development, to the enablers or blockers affecting their learning (Knowles et al., 1998; Taylor and Hamdy, 2013).

As scholars agree on specific attributes that all adult learners display to some extent: maturity, independence/experience, self-directedness, positive aspiration to contribute, and matured individuality (Newman and Peile, 2002; Spencer and Jordan, 1999), thus following the figure 2 below, adult learners should have a delegator helping them direct their learning on their own.

![Figure 2 – Grow's matching learner stage with teacher style matrix (Source: Newman & Peile (2002), Valuing learners’ experience and supporting further growth)](image)

**III.3.5 Andragogy: a self-directed approach**

Mezirow (1981) developed his "Charter for Andragogy", based on Knowles' concept, after defining andragogy as "an organized and sustained effort to assist adults to learn in a way that enhances their capability to function as self-directed learners". This Charter for Andragogy is relying on twelve principles that should be followed to make andragogy possible:

1. progressively decrease the learner's dependency on the educator;
2. help the learner understand how to use learning resources—especially the experience of others, including the educator, and how to engage others in reciprocal learning relationships;
3. assist the learner to define his/her learning needs—both in terms of immediate awareness and of understanding the cultural and psychological assumptions influencing his/her perceptions of needs;
4. assist learners to assume increasing responsibility for defining their learning objectives, planning their own learning program and evaluating their progress;
5. organize what is to be learned in relationship to his/her current personal problems, concerns and levels of understanding;

6. foster learner decision making / select learner-relevant learning experiences which require choosing, expand the learner's range of options. facilitate taking the perspectives of others who have alternative ways of understanding;

7. encourage the use of criteria for judging which are increasingly inclusive and differentiating in awareness, self-reflexive and integrative of experience;

8. foster a self-corrective reflexive approach to learning- to typifying and labelling, to perspective taking and choosing, and to habits of learning and learning relationships;

9. facilitate problem posing and problem solving, including problems associated with the implementation of individual and collective action; recognition of relationships between personal problems and public issues;

10. reinforce the self-concept of the learner as a learner and doer in providing for progressive mastery; a supportive climate with feedback to provisional efforts to change and to take risks; avoidance of competitive judgment of performance; appropriate use of mutual support groups;

11. emphasize experiential, participative and projective instructional methods; appropriate use of modelling and learning contracts;

12. make the moral distinction between helping the learner understand his/her full range of choices and how to improve the quality of choosing vs encouraging the learner to make a specific choice" (Mezirow, 1981).

III.3.6 Transformative learning: a reflexive approach

Adult learning has also been considered with a different perspective: transformative learning. Mezirow (1991) defines it as the “process of learning through critical self-reflection, which results in the reformulation of a meaning perspective”. Transformative learning is when learners shift their reference structure to match the new way of thinking, discovered through critical reflection (Mezirow, 1997).

Depicted as the process focusing on “changing what we know” (Kegan, 2000), transformative learning is framed by six core concepts that can be found in most transformative educational experiences (Taylor, 2009).

III.3.6.1 Critical reflection

One of them is critical reflection: Based on prior experience, adult learners are likely to question the uprightness of profoundly rooted assumptions and beliefs. A confusing event may lead the adult learner to reconsider and adjust his/her underlying ideas, and to adopt new standards
and use them as a source for new knowledge. Adult learners going through such disorienting operation may have contradictory thoughts, emotions and reactions that could transform their perspective (Mezirow, 2000). Sammut (2014) identifies three different forms of reflection: reflection on content (think about what we observe, assume, and experience), reflection on process (think about how we carry out our observations) and reflection on premise (think about why we perceive). Even before the birth of the concept, Brookfield (1987) had highlighted the role of critical reflection on earlier concerns and distress to assess from different ways how new experiences could relate to one’s life. This is actually helping learners have a valuable reflection process which enables them to understand that the new ways of performing certain tasks may be more logical and effective compared to how they performed them in the past.

III.3.6.2 Dialogue

A second element is dialogue: Transformation is mostly encouraged and cultivated through rational dialogue (Taylor, 1998 & 2007).

III.3.6.3 Holistic orientation

A third component is holistic orientation: “engagement with other ways of knowing- the affective and relational- are paramount” (Sammut, 2014).

III.3.6.4 Awareness of context

Awareness of context is a fourth concept: It is essential to develop a profounder comprehension and acknowledgement of the personal and socio-cultural circumstances swaying the transformative learning process (Sammut, 2014).

III.3.6.5 Meaningful and authentic relationships

Fifthly, transformative learning relies heavily on the establishment of worthwhile and authentic relationships, as it allows learners to foster confidence to cope with learning on an affective aspect, especially when transformation can emotionally affect them; such genuine connections allow learners to have open discussions and achieve joint understanding (Cranton, 2006).

III.3.6.6 Experience

The sixth central concept of transformative learning is experience, which corresponds to the starting point of the transformative process, providing the necessary resources for critical reflection: the acknowledgement of the boundaries of their perspectives is essential for learners (Mezirow, 1991 & 2000).

With all those components, transformative learning occurs first with a “trigger event” or experience, followed by a self-examination of the settings causing the anxiety, then the establishment of innovative ways of thinking about this specific situation and finally the attempt of the new assimilations (Mezirow, 1995).

III.3.7 Heutagogy: dealing with an experienced workforce

III.3.7.1 Allowing learning self-determination

Chacko (2018) points out a shift from andragogy to heutagogy. Heutagogy is most effective when oriented to already professionally skilled, self-motivated and self-determined adult learners. This concept aims at improving practice while facing new complex challenges at work. Heutagogy is then the continuum of the andragogy approach. Such shift is then possible
by moving from self-directed learning to self-determined learning. Andragogy's single loop experiential learning is becoming heutagogy's double loop learning, relying not only on the experience but on the reflection on experience as well. Therefore, according to Chacko (2018), the promotion of competency development by getting students to learn content (andragogy) is now replaced by the support of capability development by getting students to understand the process rather than the content (heutagogy).

In a fast-changing era coupled with an information outburst, heutagogy is seen as a potential way to deliver the skills and characteristics required for professionals facing the challenges of the 21st century (Collis and Moonen, 2001).

Such approach involves the complexity theory highlighting that individuals learn through haphazard reaction to unpredictable need, often when it challenges the limits of their current knowledge or abilities (Hase and Kenyon, 2007). Experience is then at the basis of any form of adult learning, in two different perspectives: the experiences that the individual has accumulated so far (I have a bulk of diverse experiences) and the medium by which one learns (I learn what I experience for myself) (Brookfield, 1986).

III.3.7.2 Personalizing learning through e-learning

The learning environment has a noteworthy effect on the learning process, and to frame this array of multifaceted ecosystems, personalization has consequently been presented through new technological channels to better match the learners' needs (Wild et al., 2008). This learning changeover can enlighten the social aspect related to the Internet and the emergent learning ways. (Maloney et al., 2013) For instance, web-based instruction has the capacity to allow employees to learn where and when they want while being tailored to the learners' needs (Ruiz et al., 2006; Cook, 2007). E-learning is then an example of customized learning with a higher time flexibility (Batalla-Busquets and Pacheco-Benal, 2013).

III.3.7.3 Supporting learning through experiences

Beyond the behaviour change, the conceptual change might be the most challenging to wield, as research reveals that it is simpler to encourage a new belief than making individuals disown their erstwhile ones. (White and Gunstone, 1989) Therefore, to be adjusted to organizational change, driven and safe health workforce should take advantage of an experiential learning approach promoting satisfactory buy-in tactics for their newest accountability readiness (Barnett et al., 2005). Indeed, Clapper (2010) emphasizes the need of an environment which facilitates experimentation and tolerates failures to let good learning occur. Conversely, learners may resist to learning opportunities if they cannot fully experiment and thus learn from their failures.

III.3.7.4 Learning flexibility through experiential learning

Many researchers agree on the central role of personal experiences in the learning process as "learners play a critical role in assessing their own learning" (Wurdinger, 2005). Even if the experiences are driven by core competencies, and monitored by a mentor, this approach allows the learners to maximize learning ownership by having a learning content precisely tailored by themselves to meet their individual needs (Bhoryrub et al., 2010). Experiential learning is then an opportunity for adult learners to actively participate and get involved in various ways (cognitive engagement, behavioural dimension and affective connection) (Sheehan & Kearns, 1995).
In 1984, Kolb states that experience is the source of learning and development. He mentions that experiential learning is really different from the behavioural and cognitive learning perspectives but should not be considered as a third alternative to both theories. Instead, experiential learning should be a perspective which “combines experience, perception, cognition and behavior” (Kolb, 1984).

Experiential learning implies “the students’ active creation of the class itself. Students determine the syllabus, prioritize topic areas, regulate class members’ commitment, facilitate actual class sessions, undertake individual or group-inspired projects, and engage in ongoing evaluation” (Warren, 1995).

The concept of experiential learning means then that instead of being told what to see, what to do and when, the learners manage their own learning. The teaching responsibility is no longer the instructor’s but becomes the learners’ themselves. As learning depends on the individual’s experiences, the curriculum is flexible and adaptable to anyone, providing then a new learning environment which does not necessarily involve academic readings and plenary sessions. (Moon, 2004)

### III.3.7.5 Different experiential learning models

Kolb (1984) described 3 key models to explain experiential learning.

The first one is the “Lewinian Model of Action Research and Laboratory Training”, which is the main model of experiential learning (ELM). Based on his control engineering knowledge, Lewin had come up with social and pedagogical works which were then used by Kolb to develop his experiential learning theory model (Abdulwahed et al., 2008).

The 4-stage model emphasizes the importance of any experiential activities, from fieldwork to laboratory session for instance. To successfully benefit from this experiential approach, the learner must go through each stage of the model. The first stage implies that the learner is experiencing an activity (field class, etc.), the second stage is when he or she is conscious of the experience and is able to reflect back on this, the third stage is when the “learner is being presented with/or trying to conceptualize a theory or model of what is (to be) observed”, and the fourth one is when the learner is thinking about planning to test the theory or model for a future experience (Healey and Jenkins, 2000).

![Figure 3 – Kolb’s (Lewinian) Model of Learning (Source: Duquesne University)](image)

The second theory depicted by Kolb is John Dewey’s model of learning, which is close to Lewin’s one, with a more detailed explanation of the “developmental nature of learning implied
in Lewin's conception of it as a feedback process by describing how learning transforms the impulses, feelings, and desires of concrete experience into higher-order purposeful action" (Kolb, 1984).

However, Kolb’s interpretation of Dewey’s model is questionable as Dewey highlights the concept of experimental thought and activity when Kolb explains his vision about experiential learning. Both concepts are phonetically close but theoretically far from each other (Miettinen, 2000).

The third model Kolb relies on is Piaget’s model of learning and cognitive development. According to Piaget, learning is associated to the “mutual interaction of the process of accommodation of concepts or schemas to experience in the world and the process of assimilation of events and experiences from the world into existing concepts and schemas”. A balanced approach to both processes would result in a smart adaptation: “When accommodation processes dominate assimilation, we have imitation - the molding of oneself to environmental contours or constraints. When assimilation predominates over accommodation, we have play – the imposition of one’s concept and images without regard to environmental realities” (Kolb, 1984).

The sensory-motor stage represents the first 18 months after birth, during which the practical human knowledge is developed. This aspect is the basement of the future representational knowledge of the human being. The presentational stage implies the capacity of the individual to have a “pre-operational representation” thanks to the ability of speaking, symbolizing and thinking. Yet, there are not any operations at this stage. The third stage, based on concrete operations means that the child is able to think from objects, developing his or her ability to shape the idea of number as well as “spatial and temporal operations”. In the fourth stage, the operations do not rely only on objects but also on hypotheses to follow a logical hypothetic-deductive approach (Piaget, 1964).

Based on the work of Piaget, Lewin, and Dewey, experiential learning emphasizes an active knowledge construction process involving transactions between a person and the environment (Seel, 2011).
III.3.7.6 Building cohesion through experiential learning

Creating a safe environment for experiential learning is key for a successful adult learning approach (Kolb et al., 2001). Thus, peer-to-peer learning is an essential component in experiential learning (Arora et al., 2018).

Such collaborative experiential teaching scheme improves learning of particular knowledge and skills (Kinyon et al., 2009), expands expertise and practices to minimize mistakes, accelerates and enhances organization processes, helps better forecast and adapt to changes while reducing organizational costs (Rashman et al., 2009).

To benefit from peer networking and interactions, face-to-face learning is important and should be delivered in short workshops and then followed up with online module trainings (Mainor et al., 2018). Even if developing virtual learning communities (e.g. social media for collaborative learning) is constructive when it comes to teaching, some programs still require in-person approaches (Maddock et al., 2018).

III.3.7.7 Instituting experiential activities

The concept of experiential activity can be discussed too: what are the criteria making an activity an experiential one or not? Indeed, the fact of simply participating to a given experience does not necessarily make this an experiential learning approach. A few characteristics should be considered to define a method or activity as experiential:

1. “Mixture of content and process”: There should be a balance between the experiential approaches and the related fundamental theory.
2. “Absence of excessive judgment”: Students should feel safe in their learning environment to be able to learn by their own discoveries.
3. “Engagement in purposeful endeavours”: The learner is his or her own teacher, so the learning activities should be tailored to the learner’s needs and preferences.
4. “Encouraging the big picture perspective”: The learners must be engaged in experiential activities which allow them to establish the link between what they are learning and the complex world systems.

5. “The role of reflection”: Learners should be disposed to reflect on the knowledge they are getting by “bringing the theory to life” to better understand their connections to the world.

6. “Creating emotional investment”: The experiential learning process should emotionally hit the learners.

7. “The re-examination of values”: As learners were given a safe space in order to let them explore on their own, they should be able to analyse their values and adjust them with what they experienced.

8. “The presence of meaningful relationships”

9. “Learning outside one’s perceived comfort zones” (Chapman et al., 1995).

Experiential learning can be both field-based or classroom-based. On the one hand, the field-based experiential learning can comprise of internships, service learning or any experience which exposes the learners to a real-world setting. On the other hand, classroom-based experiential learning can include but are not limited to simulation games, case studies and role-playing group activities for instance (Lewis and Williams, 1994).

Experiential learning should benefit to learners who need to be involved in the learning process to be motivated to come back to education, but also those who are or were struggling when learning within a formal academic environment and who seek an alternative way of developing their knowledge (Cantor, 1995).

Brookfield (1995) highlights that adult learners are likely to acknowledge that they look incompetent when their learning moves away from their habitual practices. To ensure learner competency accomplishment, practice-based teaching (PBT) is a central approach to nursing and medical education (Koh, 2002; Wass, 2011) but currently less regularly adopted in public health (Hartwig, Pham and Anderson, 2004) as “exposure to real-life, practice-based experience is essential in training competent and skilled professionals” (Koo and Miner, 2010).

Research shows that those practice and experience-oriented learning methods (discussion, practice by doing it on your own, teach others) yield higher scores of learning retained compared to more traditional teaching techniques (lectures, reading sessions, use of audio-visuals, demonstration of concepts) (Silberman, 2006).

Learners with considerable experience and knowledge may represent a real challenge for trainers to maximize their learning (Newman and Peile, 2002). A learner-focused education with adequate adult learning models is required with a significant change in the trainer’s role, shifting from a didactic teacher to a facilitator of learning (Spencer and Jordan, 1999).

III.3.7.8 Impactful real-life experiential situations

An educational program based on experience allows then learners to take advantage of the real-world problem-solving situations by engaging them to test out and apply new knowledge (Christ, 1999; Maudsley and Strivens, 2000; Sheehan and Kearns, 1995).

Experiential learning involves critical reflection on the experience itself from the adult learner throughout the process (Kolb, 1984; Kolb et al., 2001; Maudsley and Strivens, 2000). Lewis
and Williams (1994) state that: “In its simplest form, experiential learning means learning from experience or learning by doing. Experiential education first immerses adult learners in an experience and then encourages reflection about the experience to develop new skills, new attitudes, or new ways of thinking”.

IV Summary of the literature

Public organizations are constantly trying to cope with new challenges affecting their area of expertise, ranging from technological improvements, to socio-cultural issues, political pitfalls, environmental questions. In order to do so, such organizations need to have a dedicated and motivated workforce able to deliver efficiently. The organization has to build up a work environment in which its employees feel secure and can blossom while contributing to the achievement of the organizational goals. It is then up to the organization to help its workforce grow through learning and career development.

Through coaching, mentoring, training and counselling, employees should be able to determine their career goals. The organization should then support them in the accomplishment of their professional targets, to ensure work satisfaction and motivation enabling the organization to retain its talented workforce, i.e. its most valuable assets. Several aspects of organizational culture are key to develop organizational learning among which we count for instance the tolerance of mistakes, a mutual trust and valuing human potential. In terms of organizational structure, flatter hierarchies, reward systems, teamwork and greater flexibility are all facilitating organizational learning. Organizational learning is not limited to what the organization learns, but also what teams and individuals learn. The problem is that often employees know far more than the organization does.

Knowledge exists in the organizational systems, values and usual practices, either as tacit or explicit knowledge. Most of our knowledge is tacit, but organizations struggle to take full advantage of this treasured resource. The challenge is that, in public organizations, and even more specifically in health organizations, the workforce is made up of individuals who have different backgrounds, different experiences, different cultures, some are medical staff and others are not: the organization needs to consider the individuality of its employees and build cohorts who share some characteristics to develop learning paths. Such learning paths represent an array of learning activities which are relevant to the needs and the expectations of the learner.

New learning methods, emphasizing more on competencies than basic knowledge, are required to help employees develop themselves while facing constantly changing learning environments. Each individual has a different approach to learning (different learning style, different learning objectives, different motivation…) but all adult learners have six core features of andragogy they all share: the need to know why they need to learn, self-concept, coming to learn with a bag of past experience, the ability to be aware of changes, life-focused orientation, depending mostly on internal motivators. Andragogy is sometimes criticized and replaced by a more flexible approach: heutagogy which moves the adult learner from his/her self-directed learning to a self-determined learning, meaning the adult has is not only choosing what he/she learns but is able to adjust learning throughout his/her learning experiences. Adult learning implies two forms of experience: the experience the learner has accumulated until then, which can be a resource for further learning, and the experience as a medium by which the individual learns, i.e. experiential learning. The latter is allowing adults to get involved in many ways and thus help them develop their behavioural and cognitive abilities. The learner is managing
his/her own learning and is able to get new knowledge by experiencing it directly and by testing it out. Such approach, is then encompassing all six characteristics of adult learners as it is engaging the learner to have a critical reflection on the learning experiences he/she is going through.

Learning has moved from an adaptive learning (single-loop learning) to a generative learning (double-loop) and is now incorporating meta-learning (learning about learning). Trainers should be aware of these challenges and adjust their teaching style accordingly. As an example, a dependent learner (beginner) would need a teacher who plays the role of an authority, an expert whereas a self-directed learner (very experienced) would not bear such teaching approach but would prefer a delegator allowing him/her to explore, strengthen and develop on his/her own his/her competencies and knowledge.

V What does it imply for WHO?

To build a workforce of excellence for health emergencies, WHO needs to tailor learning paths which can help employees grow within the organization while contributing to the achievement of the extra billion protected from health emergencies. This study aims at better understanding how employees learn at WHO and how their learning experience could be improved to motivate them, engage them and value them throughout their journey under WHO’s flag. WHE is made up of employees who are health experts and others who are not medical staff at all, they come from different countries, they got different education, culture and they have been through different experiences, therefore this research intends to assess how the organizational learning approach encompassing individuality and teamwork can be strengthened across WHE.

Four critical objectives can be identified to have a qualified and sustainable workforce able to minimize casualties related to urgent health threats. The first one is to enlarge the type and the number of preparedness and response workforce, the second consists in delivering certification while providing training based on competencies, the third is about recruitment and retention of the highest quality professionals and the fourth involves the evaluation of the impact of the training to track learning (CDC US, 2003).

WHO’s strategy is already focusing on a competency-based approach to learning defined as the “desirable behaviours in emergency work for already-established WHO competencies”. The WHE Competency Framework relies on the Enhanced WHO Competency Model and establishes an important element of the WHE Learning Strategy. This WHE Competency Framework deepens WHE-centred competencies that are presently critical for individuals and teams working in emergencies. Those competencies are cross-cutting and can apply to all WHE staff. Built upon their education and their experience, the WHE Competency Framework draws attention on the technical knowledge acquired by WHE experts for health emergency work. It intends to be the reference point in terms of training and learning outcomes.

The main purposes of the models are to: “facilitate WHE staff recruitment and team composition creation based on expected individual and collective team competencies; provide competency-based evidence that informs training design and assessment of the application of learning; and provide the basis to appraise and manage WHE personnel and team performance.”

The WHE Competency Framework relies on the CASK model, meaning that a competency is the visible ability (i.e. behaviour) to administer one’s attributes, skills and knowledge. The
model relies on behavioural indicators which describe behaviours proving the existence of a necessary competency. Those indicators are mapped on a matrix guiding learning development and assessment. It is agreed that as attributes are inherent in individuals as personal traits, WHE does not directly invest learning resources to this end. A set of priority competencies has then been established to meet the challenges faced in health emergency work in addition to the core values of the UN (integrity, professionalism and fostering diversity):

“A. Technical competencies: Possessing and maintaining the highest levels of technical knowledge, skills and approaches for one’s respective area of expertise.

B. Behavioural competencies

1. Moving forward in a changing environment: Flexibility, agility and adaptability, situational awareness in diverse cultural environments, security, safety and duty of care, change management.
2. Operationalization of Technical expertise: Technical leadership, information and planning, health operations, operations support and logistics, finance and administration.
3. Communications: Clear, based on listening, effective communication.
4. Teamwork: Building, nurturing and working in emergency teams.
5. Partnership: Building and promoting partnerships across the Organization and beyond, partner coordination.
6. (For personnel with management or leadership roles) Leadership: Leadership, vision, empowering others, building trust, managing performance, judgement and decision-making.”

A possible pitfall is that the implementation of such competency-based framework may not be properly integrated with other staff management systems which aim at attracting, motivating and keeping talents within the organization. The challenge is then that the other HR systems and the CBF may not have data in sync if the latter is not included in the overall Human Resources Management System.

Thus, WHO has now to be able to invite the workforce of excellence of the organization to identify themselves to choose a learning pathway reflecting their ambitions and aspirations, while considering their singularity, their importance in teams and their undeniable added value to the organization.


