A framework for effective online corporate training based on adult learning theories

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Keywords

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Framework

Abstract

This research was conducted with the view of developing a framework for effective online corporate training based on adult learning theories. A review of relevant literature pertaining to adult learning theories was undertaken, and conclusions were drawn from the theories and models examined. Based on these conclusions, a survey was sent to 63 professionals working in a corporate environment (a South African professional services firm) and their perceptions and responses were solicited. Following this, contrasts and similarities between these responses and the adult learning theories were drawn, and these were further distilled into conclusions which in turn, were used to devise a framework that may be used as a benchmark for effective online corporate training. This framework indicates five broad aspects to be considered for online training in a corporate learning environment to be effective. These are the self-directedness of the training, the prior experiences of the learner, the relevance of the training to the learner and their role, the usefulness of the training and the learning environment extant within the learner's business unit and indeed, company as a whole.

Introduction and background

This article aimed to establish a framework for effective online corporate training based on adult learning theories. Within the greater research field of effective training, this study focused specifically on three key elements: training within a corporate learning environment, training online and training adults.

Companies have spent and continue to spend large sums of money on training for their employees. In the 2020 Training Industry Report by Training Magazine, total training expenditure was projected to be $82.5 billion in the United States of America alone. In addition, 77% of respondents reported the same or more training-related staff when compared to the prior year (Training Magazine, 2020). As a likely result of the COVID-19 pandemic, the number of companies reporting training budget decreases doubled to 28% from the previous year, with the remaining 72% indicating that training budgets had remained the same or increased (Training Magazine, 2020).

Despite total training expenditure gradually declining over the last five years, the sum spent on training endeavours remains significant. With all this money being spent on corporate training, what of resultant training impact? Are companies getting 'bang for their buck' regarding their training spend? A McKinsey survey in 2010 indicated that less than 25% of frontline employees believed that their companies' training programs are 'extremely effective' or 'very effective' in preparing various employee groups to drive business performance or improve the overall performance of their companies (Gryger, Saar, & Schaar, 2010).

The gradual move to online training has been prolific across all educational sectors, including primary, tertiary, and corporate. In a Rootstrap study, education technology companies reported an average increase of 291% in sign-ups and an average increase of 335% in revenue (Rootstrap, 2020). Indeed, corporate spending has shifted away from face-to-face Instructor-Led Training (ILT) to online training, with 38% of face-to-face ILT budgets decreasing in 2020, and 57% of online learning budgets increasing in the same year (LinkedIn Learning, 2020).

The COVID-19 pandemic provided fuel for companies' shifts to online learning. The pandemic, and the resultant lockdowns around the world, saw more people working from home than ever before. Working from home has been a prevalent theme (for professionals especially) in South Africa too. At the height of the pandemic in their Q2:2020 Quarterly Labour Force Survey (QLFS), Statistics South Africa indicated that of the 14.2 million people who were employed during the period, more than half (58.1%) were expected to work during the national

lockdown by the companies/organisations they work for. Of the approximately 8 million expected to work, a total of 17% worked from home with professional or managerial occupations yielding the highest percentage of home workers (44.7% and 40.5% respectively) (Statistics South Africa, 2020). In the Q3:2020 QLFS, 10.9% of workers still worked from home and these occupations still yielded the highest proportion of home workers with 33.6% of professional workers working from home, and 24.4% managerial workers working from home (Statistics South Africa, 2020). It follows that employees working from home need to learn from home too.

Writing for the World Economic Forum, Li and Lalani cite that:

"Even before COVID-19, there was already high growth and adoption in education technology, with global edtech investments reaching US$18.66 billion in 2019 and the overall market for online education projected to reach $350 billion by 2025" (Li & Lalani, 2020).

It's clear that the world has begun and will continue to move in the direction of online learning, regardless of the education sector. With the need and the shift for training online firmly established, what of the effectiveness of training online? Central to this study's purpose is online training's effectiveness and as a result, it is key to show that people (especially professional adults) learn effectively via online media. This question becomes difficult to answer when one considers the monolith that 'online learning' is. Does this term refer to synchronous or asynchronous events? Is it referring to videos, infographics, animations, websites, interactive PDF documents, apps, interactive LMS modules, games, or quizzes… or maybe all or a combination of the above in a program or curriculum? Has the learning been personalised? Thus, given its variety of forms, it is challenging and problematic to generically say that online learning is or isn't effective.

Clark asserts that instruction (as a result of sound instructional design) is what delivers effective learning, and that the media or form of the instruction is irrelevant (Clark, 1983). Robert Kozma put forward that online learning offered affordances (or options, possibilities) that 'traditional' or face-to-face learning did not (Kozma, 1991). Neither Clark nor Kozma found that online learning was ineffective. Clark declared that modality was irrelevant, but that instructional design made all the difference, and Kozma (not disagreeing with Clark) found that online instruction granted options and possibilities that face-to-face training or teaching did not.

The notion of adults learning in a different way to children is a debate that continues to rage on. In their article titled "Do Children and Adults Learn Differently?", Kuhn and Pease refined the question to examine not whether the act of learning is different, but rather whether the

process of learning underwent an age-related change or not (Kuhn & Pease, 2006). It follows then that adults (particularly those in a professional services context) embark on "mindful learning" activities, in the pursuit of "developing new understanding or capacity". One might infer that this demands critical thinking: thinking in a sceptical way or with a lens of disbelief and questioning, seeking facts and evidence before establishing that new understanding or capacity. Vaske asserts that the development of critical thinking skills appears to be more appropriate and teachable in mature learners, and as a result, critical thinking underpins much of adult education (Vaske, 2001).

With both Kuhn and Pease's conclusion and Vaske's assertion in mind, we can assume that while adults may not learn differently to children, they do require different kinds or methods of learning to cater for 1) the fact that they typically embark on more mindful learning (rather than mere associative learning) and 2) the fact that critical thinking is a primary tenet of adult education.

Age-related changes occurring in the learning process is significant, especially in a corporate learning environment where professionals are the typical workers. Thus, the contention for this research is that an adult, professional learner should be treated and trained differently to both a child learner, and an adult non-professional learner.

Overall, then, the research problem is establishing a framework for the design of effective online corporate training based on adult learning theories.

Literature review

In this literature review, a particular focus will be applied to existing adult learning theories, with a view of understanding these and (later) their possible applications to the design of effective online training for corporate learning environments. Indeed, there are many adult learning theories (some of which will be discussed below), but they all operate on the same singular premise: adults learning differently to children.

Malcolm Knowles grapples with distinguishing between children and adults for the purposes of education, and concludes that two final criteria are useful when applying the techniques required for 'adult' education (Knowles, 1980, p. 24):

—   Who behaves like an adult? Who performs adult roles, like parent, spouse, worker, responsible citizen, and soldier?

—   Whose self-concept is that of an adult – which is to ask, who perceives their self as responsible for their own life?

What stands out here is the word 'responsible'. It appears in both of Knowles's criteria and seems to indicate that adults have a general sense of awareness of their own maturity and locus of control.

ADULT LEARNING PRINCIPLES

Accepting that adults and children learn for different reasons (that is, the reasons for why they learn are different), it makes sense now to consider the differences between how adults and children learn, and what the implications of how adults learn may be.

Self-direction

Knowles presents four critical assumptions about pedagogy and andragogy, which paint a vivid picture of how the learning of children and adults may differ. He claims that as people mature:

— They move from a state of dependency to one of self-direction

— They accumulate experience that becomes a rich reserve for learning

— Their readiness to learn becomes oriented to their social roles, and

— Their time perspective changes from one of "learning for later" to "learning for now", with a shift from subject-centric learning to performance-centric learning.

(Knowles, 1980)

Knowles speaks of the child learner being wholly dependent on the teacher, who is expected by society to assume the responsibility of what will be learned, when it will be learned, how it will be learned and whether or not it has been learned (that is, the evaluation of learning). In contrast, Knowles tells us that the move from dependency to self-directedness is normal for adults, and that teachers should encourage this progression. He also notes adults' deep psychological need to be generally self-directing, if not most of the time.

In looking at the notion of self-direction, Garrison's self-directed learning theory comes to mind. Developed in 1997 by Donn Randy Garrison, it builds on Malcolm Knowles' theory of andragogy and incorporates ideas about how adults manage themselves, resulting in a theory surmising that the adult learner takes the initiative to recognise what they will need to learn, will seek out those who can help them and will respond to being in command of their own learning journey positively: labelled as self-management, self-monitoring and motivation, respectively (Garrison, 1997).

But there is dissention as to whether self-direction in learning is a phenomenon exclusively exhibited by adults, thereby precluding children from self-directed learning interventions. Elias notes that both Piaget and Erikson have argued that there are aspects of self-directedness in

children's learning (Elias, 1979) and Tennant maintains that children are not the exclusively dependent learners that Knowles alluded to, claiming that learning for them is in fact a natural and spontaneous activity (Tennant, The Staged Self-Directed Learning Model, 1992).

The role of experience

It appears logical that both the volume and nature of adults' experiences would differ from children. Adults generally have more experience than children by virtue of being older than them and qualitatively, adults have on more occasions and with a degree of reflection seen the benefits and outcomes of a greater array of experiences. Adults' brains are archetypally more evolved and capable of judging, pre-empting, and making conclusions about their experiences in a manner that is more holistic, stable, reflective, and future oriented (Reis, 2008). As a result, much of the knowledge making adults undertake seems to be built on this foundation of experience. In contrast, children enter the world as blank slates, and learn (as Knowles mentions) what, when and how they are told to.

There is an experiential learning theory which was developed by David Kolb in the 1970s. It revolves around hands-on and practical learning and uses experiences to demonstrate concepts. Kolb proposed that experience was vital in the construction of knowledge, with learning occurring through the act of discovery and active participation. This resulted in him articulating four stages of learning, summarised as:

1)   Concrete experience: doing or having an experience

2)   Reflective observation: reviewing or reflecting on the experience

3)   Abstract conceptualisation: concluding or learning from the experience

4)   Active experimentation: planning to use or trying out what was learned

(Kolb, 1984)

One noted shortcoming of this theory is the apparent weight of the role of individual experience in the process: this, at the expense of social, political, and cultural elements of learning (Holman, Pavlica, & Thorpe, 1997). These authors proposed a written reflection in an effect to combat cognitive bias in understanding experience (a modified "rhetoric, argument, and social response" model. Kolb, however, reportedly did cater for a personal and social aspects in terms of experiential learning theory by proposing a relationship between social and personal knowledge: one that sanctifies the importance of individual experience in the process of learning, but ties experience directly to the cultural, political, and indeed, social world of the individual (Kayes, 2001)

Constructivism also has a significant reliance on individual experience. This theory (credited to Jean Piaget) states that knowledge is formed not by simple transmission from teacher to student, but rather by a student making meaning of the content for themselves in relation to the interaction between their experiences and their ideas (Piaget, 1971).

Like experiential learning theory, the theory of constructivism is not without criticism. One of the most noted critiques is that of Kirschner and others, who suggested that more organised learning activities (with less emphasis on existing knowledge) would be appropriate for students with little or no prior knowledge – in other words asking, how can a learner construct knowledge on a foundation of nothing? The authors go on to describe constructivist teaching methods as "unguided methods of instruction" (Kirschner, Sweller, & Clark, 2016). Indeed, Mayer found that fifty years of empirical data does not support using the "pure discovery" constructivist teaching technique. Where discovery is required in the learning process, Mayer argues for the use of guided discovery instead (Mayer, 2004).

Readiness to learn.

Knowles makes some important points about teachable moments in discussing an adult learner's readiness to learn. As knowledge is needed to carry out a particular task, the relevance (and perhaps even necessity) of study or education becomes clear to the learner. With this realisation, Knowles claims that more ground can be made, as the subject seems more relevant (Knowles, 1980).

This assertion by Knowles seems to indicate that as a person matures, their readiness to learn becomes more oriented to the developmental tasks of his social roles – implying an understanding of both the societal role that they play, and the idea of responsibility discussed earlier – which serves as the essence of adulthood.

With an appreciation for the role that others play in an individual's learning process, and indeed life and workplace, Albert Bandura developed social learning theory in the 1970s. This theory underscores the importance of seeing, modelling, and emulating the behaviours, attitudes, and emotional reactions of others. Social learning theory considers how both environmental and cognitive factors intermingle to influence human learning and behaviour. Bandura agrees with the behaviourist ideas of classical conditioning (learning through association) and operant conditioning (the modification of behaviour by reinforcement and punishment), but adds two important new thoughts: one, that facilitating processes occur between inducements and responses and two, that behaviour is learned from the setting through observational learning (McLeod, 2016).

Knowles's premise that the relevance of the subject matter being correlated to the learning progress that can be made is problematic though – as Brookfield points out. His (Brookfield's) chief concern is that learning is reduced to something that is highly task related: merely instrumental and competency based. Brookfield continues, arguing that Knowles's ideas about readiness to learn negate the act of learning for pleasure, or personal satisfaction (Brookfield, 1986).

Another concern of Humphries's is that learning for roles (especially social ones) may inadvertently reinforce and reproduce existing forms of oppression (Humphries, 1988). Examples of this are particularly relevant to gender roles: mother, wife, daughter, for example. Further, societal norms tend to permeate job roles: with examples of doctors being men and nurses being women, pilots being men and flight attendants being women, school principals being men and teachers being women. Humphries makes the point that by limiting someone to their societal roles (actual or expected, and even just in the learning process), they may never emerge from such roles – thereby perpetuating the cycle of 'oppression'.

Performance-centric learning

The premise of performance-centric learning is that as a person matures, their time perspective changes from one of postponed application of learning to immediate application. Accordingly, their orientation toward learning itself moves from being subject-centred to being problem-centred. Knowles himself concedes that being problem-centred maybe the 'natural' approach, but that children are taught in a subject-centric way (Knowles & associates, 1984).

One theory that centres around the idea of learning by doing, with the view of solving problems is project-based learning. This long-standing theory was developed by John Dewey in 1897 and it posits that learners acquire knowledge in a deeper and more rounded fashion when they actively interrogate and experience a real-world issue. Dewey recommended that learners should work on and grapple with this problem for an extended duration: exploring, developing, and trying out the potential solutions, while seeking feedback from instructors on a regular basis. As a result, learners will understand knowledge more completely because of having to actively apply it (Dewey, 1897).

Another theory concerned with the solving of problems is the action learning theory, developed in 1982 by Reg Revans. In this theory, learners follow a process of firstly, asking questions about a problem in an effort to better understand it, then reflecting on what the possible solutions could be, then identifying the best one of those solutions, and finally, by acting.

Following this, learners will reflect again and interrogate their method, the outcomes, and how they could improve (Revans, 1982).

Another offshoot of Knowles's ideas about a performance-centric learning is just-in-time learning. Just-in-time learning is an approach to organizational or individual learning that encourages need-related training to be on hand exactly when and in the format that it is needed by the learner. Just-in-time learning somewhat rejects the notion of curricula and is fundamentally different to structured training or scheduled professional development, which are usually available at set times on set dates (Riel, 2000). Online learning is becoming more prolific as businesses develop employees' skills and knowledge faster and when needed (Lynch, 2004). Typically facilitated by technology, just-in-time allows for training at the point of need, the benefits of which include:

— Accuracy and retention: Workers can usually immediately confirm what they've learned after completing a learning task.

— Productivity: Learning 'just-in-time' keeps workers at their desks (literally and/or figuratively) and working until they need new knowledge. Productivity can remain high with just-in-time learning by allowing for knowledge to made at the moment prior to that knowledge being needed, rather than for knowledge to be made merely when a training schedule dictates.

— Access: Living in an on-demand age, people are less patient to wait for information. Having training that is instantly accessible is almost second nature for employees.

— Relevance: Just-in-time training means that employees have access to exactly what they need to know, at the time they need to know it, addressing immediate knowledge gaps, with the opportunity to apply that learning soon thereafter.

— Confidence: Focused (especially micro) learning modules give employees a sense of ownership, self-regulation, and the confidence to perform on-the-job.

(O'Donnell, 2017)

Knowles claims that children are conditioned to be subject focused, rather than problem focused by the way that they are taught (Knowles M. , The Modern Practice of Adult Education: From Pedagogy to Andragogy, 1980). Knowles also implies and makes the assumption that adults have a greater desire for immediate application and relevance. However, Tennant suggests that a reverse argument could be made for adults being better able to bear the delayed application of knowledge (Tennant, 1988, p. 22) than children.

Brookfield also adds that the idea that adults learn for application only innately undermines their desire to learn for pure fascination, claiming that "Much of adults' most joyful and personally meaningful learning is undertaken with no specific goal in mind. It is unrelated to

life tasks and instead represents a means by which adults can define themselves" (Brookfield, 1986).

EFFECTIVENESS OF TRAINING

As the objective of this article is to establish a framework for the design of effective online corporate training based on adult learning theories, 'effective training' is a concept that deserves interrogation. Indeed, there are several methods to evaluate learning interventions but for this study, the objective is not to measure the impacts or effects of learning, but rather to design a framework that will result in effective training. Here again, a challenge arises in accurately and completely defining 'learning' (surely, the assumed result of 'effective training'). As mentioned previously in this study, Schoenfeld describes learning as "the development of new understanding or capacity" (Schoenfeld, 1999). Gagne labels it as "A change in human disposition or capability that persists over a period of time and is not simply ascribable to processes of growth" (Gagné, 1965) while Brown, Roediger and McDaniel call it "Acquiring knowledge and skills and having them readily available from memory so you can make sense of future problems and opportunities" (Brown, Roediger, & McDaniel, 2014).

In their study on factors influencing training effectiveness, Mohanty, Dash, Dash and Das obtained feedback from public and private sector employees about a training intervention they attended, and these respondents confirmed that training need analysis, setting training objectives, programme design, faculty/resource person, audio-visual aids, learning environment, methodology and learning outcome were all relevant and important factors in a live, face-to-face training event (Mohanty, Dash, Dash, & Das, 2019). Both the public and private sector groups indicated that the "faculty or resource person" was the most important influence in making the training intervention a success.

In a meta-analysis of empirical literature, Means, Toyama, Murphy and Baki articulate that, from the 45 studies meeting the meta-analysis inclusion criteria, purely online learning has been as effective as face-to-face instruction, and blended approaches of training have been more effective than instruction offered entirely in a face-to-face format (Means, Toyama, Murphy, & Baki, 2013).

Turning to corporate learning, Lombardo and Eichinger suggested that people learn effectively in a proportional breakdown of 70:20:10. In their 1996 survey of almost 200 executives, the pair found that respondents indicated that:

—   70% of learning came from challenging assignments

—   20% of learning from developmental relationships

—   10% came from coursework and training

(Lombardo & Eichinger, 1996)

While there are some criticisms of this hypothesis, the model indicates that much of one's learning experiences happen informally (that is, on assignments or from your discussions with managers or colleagues). Thus, there may be an inordinate emphasis placed on formal training interventions, rather than on informal training (like mentoring, coaching, on-the-job experience, etc.), especially given the perceived ineffectiveness of training in the workplace.

Methodology

A mixed-methods approach was used, where both quantitative and qualitative analyses were conducted. The qualitative analysis included analysis of participants' written responses to open-ended questions obtained via optional survey – these responses were read and subjectively categorised by the researcher by theme. The quantitative analysis included analysis of participants' responses to survey questions which could be totalled and analysed mathematically.

The researcher approached a professional services firm for permission to survey employees (the "learners") of the organisation. Approval was granted by the Risk Management Partner of the firm. A total of 85 participants opened the survey, and 81 of these participants agreed to take part (that is, consented to the survey).

Participant demographics are further summarised in the tables below:

	African	Coloured	Indian	Other	White	TOTAL
Female	21	3	8	2	17	**51**
Male	8	3	5	6	8	**30**
TOTAL	**29**	**6**	**13**	**8**	**25**	**81**

Table 1: Participant demographics by race and gender

Level	Number of Participants
Partner	2
Associate Director	1
Senior Manager	6

Manager	7
Senior Team Member	51
Team Member	14
TOTAL	**81**

Table 2: Participant demographics by job level

Ethical considerations and procedures

All data was treated as confidential and anonymous and was stored in a password protected electronic format. Prior to responding the survey, participants were notified that the survey would not contain information that will personally identify them, to the extent that their name and email address will be collected but will not be published in the final research project.

This survey consisted of true/false questions, yes/no questions, open-ended questions, and multiple-choice questions, among other types of questions.

Findings

There were two sources of information identified that needed to be brought together to answer the question posed at the start of this research. These sources were:

1) A literature review of adult learning theories

2) A survey of learner perceptions, corroborated in part by data from the firm's

Based on some of the findings in the literature review, adults are generally self-directing, and want to be seen as such. This notion spills over into learning: they generally want to direct their own learning activities, and self-directed learning activities are cited as being most effective (rather than ones foisted upon adult learners).

The results of the survey appear to confirm most of these ideas.

Nearly two-thirds (64%) of respondents in the survey indicated that less than 40% of their learning at work was self-directed. In a professional services form, this result rings true, given the quantum of compliance training that is required of employees in this space.

Turning to the data from the learning management system, a total of 149,557 assignments were made in between 1 October 2019 and 30 September 2020. Of these, 49,460 were self-assignments (meaning that the user assigned the item to themselves in the learning management system). Then, between 1 October 2020 and 30 September 2021, a total of 184,110 assignments were made and 53,658 of these were self-assignments.

These results are largely in line with the percentages indicated by respondents in the survey and the crude, blended average calculated – indicating a generally good self-awareness of the respondents' own learning habits as they relate to self-assignment of items.

Nearly three-quarters of the group expressed a desire to engage in more self-directed learning. The 58 respondents (74%) who indicated that they would like to engage in more self-directed learning overwhelmingly cited time as the chief reason for not doing this. 57% of these responses included the word 'time' in them, and other (complementary) reasons included there being other work commitments to attend to, deadlines being unrelenting and there being a significant amount of mandatory training already required of them.

Some direct quotes from the participants include:

Participant 12	"Time. With all the projects and trainings taking place it's hard to find time to make more learning initiatives."
Participant 15	"Capacity. Will all the mandatory training, work commitments, self-directed learning is of a lower priority. Self-directed learning is completed after hours."
Participant 31	"Not enough time in the day. If I were able to complete other mandatory trainings during the day and have evenings to perform self-directed training I would. But evenings are filled with mandatory training."

Table 1: Participant responses for why they would like to engage in more self-directed learning.

Quite similarly, the 23 respondents (28%) who indicated that they would not like to engage in more self-directed learning at work also cited time as the primary reason for not wanting to do this. These respondents believed that apart from not having enough time for this kind of learning, the mandatory (that is, learning that is not self-directed) learning they received was sufficient and provided enough learning opportunity.

Some direct quotes from the participants include:

Participant 38	"I think we are provided with more than enough mandatory learning for us to utilise and help perform our job and learn and anything else which we want to read up on and learn about does not need to be allocated in work time."
Participant 42	"Mandatory training covers all necessary aspects I need to learn, and I do not have time for self-directed learning."
Participant 46	"I feel that self-directed learning may result in ineffective training. One may focus on trainings which aren't applicable to their current job responsibilities. Mandatory trainings are more focused and applicable for the individual they have been assigned."

Table 2: Participant responses for why they would not like to engage in more self-directed learning.

When asked about the effectiveness of self-directed learning, 62% of respondents thought that this kind of learning was more effective. Their reasons fell into four broad categories, namely:

— Being able to choose learning that spoke to a personal interest or yielded personal benefit

— Being in control and having a sense of choice and autonomy

— Being able to consume and enjoy this learning on their own terms (that is, at their own pace, in their own time, in their own space, etc.)

— Being able to identify and subsequently address their own 'learning gaps', or developmental needs

Some direct quotes from the participants include:

Participant 37	"Mandatory learning can easily become a tick box exercise under time constraints however self-directed learning, people feel it is their choice and will really grasp what they are learning and be eager to learn."
Participant 44	"Yes, there is genuine interest from the employee."
Participant 77	"I think that if it is training that person WANTS to do (i.e., self-directed learning), he/she will naturally engage more. If training is FORCED (mandatory training), it is less effective."

Table 3: Participant responses for why they thought self-directed learning was more effective.

On the flipside, the 38% of respondents who believed that self-directed learning was not more effective than mandatory learning offered these (summarised and paraphrased) reasons:

— There is a sense of community and common direction in mandatory learning: professionals know that they are completing something that everyone else is completing.

— There was no time to dedicate to self-directed learning, especially considering mandatory learning that needed to be completed.

— There is no need for identifying one's own developmental needs and identifying the right courses to take to address these.

— There is no incentive or punishment for completing or not completing self-directed learning. Mandatory learning is closely monitored with consequences for completion or non-completion. This creates a sense of urgency and drive to complete the learning.

— **Results from the questions relating to experience.**

Returning to the literature review results, it appears that adults have life experiences which may serve as bases upon which new or altered learning may be constructed. The role of bias should not be underestimated in this construction process. From the survey, two-thirds (67%) of the respondents believed that experience is important when learning something at work.

Their reasons are grouped into five main categories, including:

— Experience providing a foundation, context, or background to the topic that the learning relates to.

— Experience pointing to the extent of intervention required.

— Experience providing a level of perspective.

— Experience offering a level of practicality, as opposed to the matter being purely theoretical.

— Experience creating an environment geared towards improved understanding and/or application.

The other third of the group of respondents who thought that experience was not important when learning something at work appeared to think that experience being important was situational: that it depended on what was being learned and when. Many thought that a willingness and/or openness to learning something that one had no prior experience with or of were effective remedies for the purported lack of context and history with that subject or task. Others thought that a lack of experience could be overcome by effective instructional methods or by learning 'on-the-go': that is, as one performed the task or as that knowledge was needed. Despite one-third of the group indicating that experience was not important when learning at work, an overwhelming 91% of the respondents asserted that having previous experience meant that one had more of a foundation on which to base new learning.

Splitting the group almost down the middle was the question asking whether having previous experience meant that one is biased towards existing ways of doing something: 53% of the respondents believed this to be true.

The group did not believe that experience created close-mindedness though, with 70% of the respondents believing themselves to be capable of remaining openminded, even when they did have previous experience in an area of learning.

— **Results from the questions relating to relevance.**

Most respondents believed that the majority of their formal learning at work was relevant to their role, with a combined 66% answering that more than 60% of their learning did have relevance. Further, most people (85%) who answered the survey indicated that they were interested in learning things at work that were not specifically relevant to their role. Those who

indicated in the positive answered with broadening their knowledge base and advancing their career prospects as the primary reasons for wanting to learn something outside of their role. Other general reasons given included the living and working in a fast-paced and ever-changing world, the love for learning and desire for personal growth and wanting to become and be seen as a well-rounded professional. Those who did not want to learn more outside of their role (15% of the group) indicated generally that they one, did not have enough time for such learning, and two, did not see the usefulness or purpose of learning outside of their role at work. Some direct quotes from the participants answering in the positive include:

Participant 12	"I don't know what I don't know. If I limit myself only to things that pertain to my role, I won't be able to grow and discover new interests."
Participant 26	"To enhance my knowledge and not being limited to my role, it can also help me with working with others if I have more understanding of their work."
Participant 33	"Then I can be better well-rounded and when I approach that certain role in the future, I will have a better basic knowledge understanding."
Participant 66	"This will assist me explore other roles which might present me with job opportunities."

Table 3: Participant responses (positive) for why they wanted to learn something at work that was not specifically relevant to their role.

Some direct quotes from the participants answering in the negative include:

Participant 25	"Need to concentrate more on what will uplift me in my own role."
Participant 61	"There is no time for such."
Participant 71	"Formal learning should be directed towards the areas specifically relevant to my role."

Table 4 Participant responses (negative) for why they wanted to learn something at work that was not specifically relevant to their role.

— Results from the questions relating to learning for now.

Approximately two-thirds of the surveyed participants believed that high percentages of their formal learning at work was useful to them: 30% of respondents indicated that 80 – 100% of their formal learning was useful, with a further 36% indicating that 60 – 80% was useful.

Just more than half (52%) of the people surveyed thought that they used new knowledge or skills within a few weeks of the formal learning intervention, with the remaining half being split on either side of this timeframe: approximately a quarter (25%) indicating they use new knowledge or skills at least within a few days, and the other quarter (23%) indicating they use new knowledge or skills within a few months.

An overwhelming majority of individuals (91%) indicated that they enjoyed learning at work, citing reasons falling into these buckets:

— Staying relevant and up to date

— Personal and professional growth, and self-improvement

— Motivation and knowing that the firm is investing in you

— Professional duty, with reference to professional body memberships

— Improvement of individual work performance

— Interaction, networking, and colleague engagement

The few (7 participants) who indicated that they didn't enjoy learning at work, said that they found the learning boring, that the learning was overwhelming and badly timed, that the learning was not practical or easy to implement on the job and that what they were required to learn, did not interest them.

— Results from the questions relating to learning environment.

When asked about how they have been learning at work since October 2019, all modalities suggested were answered in the affirmative by the participants, with the results indicated in the table below. When asked to opine on which of these modalities were the most effective way of learning for them, again, all were selected with these results also shown below.

Modality	Think back over the last 2 years at work (i.e., from October 2019 to now). How have you learned at work?	Which of these do you think is the most effective way of learning at work for you?
Physical classroom training	39	45
Online Teams training	74	34
Online virtual classroom training	76	45
Online interactive eLearning	65	38
Online recorded videos	58	22
Interactive PDFs	30	14
Online reflection submissions	36	12
Informal discussions with my team or colleagues	55	42
Animated video clips	48	22
Recorded audio ('podcast') clips	26	12
Online resources from portals, intranets, etc.	52	25
From feedback provided to me by my colleagues	56	41
Email newsletters	36	9

By doing and figuring out how to do tasks on the job	65	53
By receiving coaching from another colleague	63	61
Other	1	1

Table 4: Think back over the last 2 years at work (i.e., from October 2019 to now). How have you learned at work? (Select all that apply) and Which of these do you think is the most effective way of learning at work for you? (Select all that apply)

Finally, participants were posed six True/False questions and an ultimate open-ended question. For the True/False questions, the results were:

Statement	True	False
If there is no post-course assessment, I don't concentrate on that learning as much.	25	56
If a course is not part of my overall compliance score, I don't concentrate on that learning as much.	24	57
Earning CPD for a course is a key factor in me completing learning at work.	37	44
When faced with task that I have never completed before, I actively seek out formal learning to upskill myself.	58	23
Learning in a physical classroom at work is better than learning online at work.	43	38
I prefer courses that I can take at my own pace (i.e., they are not 'live events').	53	28

Table 5: Participant responses to True/False questions pertaining to the learning environment.

For the open-ended question, participants were simply asked how learning could be made better at work. Responses were categorised into seven broad categories, being:

— **Make learning practical:** Participants want emphasis on how the theory is used in practice, rather than just teaching the theory. They highlighted a need to spotlight the real-world implications and considerations in the training environment.

— **Make learning interactive:** Participants want to remain engaged during a training with tasks, discussions, research, etc. rather than simply being spoken 'at' in webinar-style events or sent documents to read and teach themselves.

— **Make learning time-friendly:** Participants highlighted time in several different contexts, including the timing of learning interventions (that is, when they took place in the year), how long they are and how frequently they are planned. They also emphasized the need for time to be given or planned for so that they could properly engage in and with the training.

— **Make elements of learning self-directed:** Participants shared a need for learnings to be completed 'on their own terms' which included how many times they could revisit

something, when they could complete the learning and initiate learning when they needed or wanted it.

— **Make learning face-to-face:** There was a clear desire to have face-to-face training.

— **Make learning multimodal:** Participants enjoy learning in different ways, and they highlighted the need for learning being presented in different forms to cater for different learning preferences. This included virtual training (as has been the norm during the lockdown period) and face-to-face (many of them indicating that this should be done in the COVID-safe way).

— **Make learning personalised:** Participants expressed a desire to learn things that they wanted or needed to learn, rather than being continually presented with mandatory courses that they have no say in.

Discussion

The study's purpose was to establish a framework for the design of effective online corporate training based on adult learning theories. This study was necessary for four chief reasons:

— Firstly, online training is now ubiquitous, given the change in work and learning owing to the COVID-19 pandemic.

— Secondly, much money is spent on training employees at firms and in organisations. Evidence exists that training is not entirely effective, so to make the most of this training spend, effort should be expended into determining what makes (online) training effective.

— Thirdly, positive training experiences yield proficient employees. These employees in turn yield positive results – and positive results are good for company performance.

— Finally, at this stage, it is unclear what specifically makes online training effective in a corporate learning environment.

After researching adult learning theories, the researcher found that self-direction, experience, relevance, and performance-centric learning are all key components of how an adult learns effectively. These findings were used in part as a base for a survey. Here, 81 learners in a corporate learning environment were surveyed about their perceptions of learning at work. The learners represented all levels within the organisation and were satisfactorily representative of a typical corporate environment in South Africa.

The researcher found that relatively low levels of self-directed learning existed (approximately 30% of all formal learning assignments). With that said, most respondents (72%) wanted to engage in more self-directed learning with the belief that self-directed learning was more

effective than prescribed, mandatory learning. Many of the reasons offered for this related to the learning being of genuine interest to the learner, autonomy, and the power to choose, and learners being able to complete their learning on their own terms and in line with their own perceived personal development needs. Time was the overwhelmingly cited barrier to engaging in more self-directed learning, with other work commitments and deadlines also referenced. Thus, in thinking about a framework for the design of effective online corporate training, such a framework would include:

— Abundant opportunities for self-directed learning and/or the opportunity to choose what one wanted to learn and

— Time being allowed by project and/or engagement managers to complete such learning.

Some mandatory learning is likely to always exist in large environments, given regulatory and legislative stipulations and requirements for such (for example, money-laundering training in a banking environment or health and safety training in a mining environment).

It was found that two-thirds of the respondents believed that experience was important in the learning process, as it offered background or context to the topic, afforded the learner with a sense of perspective and primed them for on-the-job transfer of the learning. Respondents overwhelmingly believed that experience offered a foundation for learning and that it did not hinder a learner's inability to remain openminded to new learning, but when asked about bias, about half of the group thought that this may anchor learners to an existing way of thinking when learning. This apparent contradiction seems to indicate that experience is on participants' radars: that there is a concern about the role that experience could play in learning. Experience appears to have both a light and dark side – and this would need catered for the design of training courses and programs.

Dashe and Thomson indicate that biases exist and that they can undermine learning, but that they can also play into the learning professional's favour when designing interventions and curricula (Dashe & Thomson, 2019). They go on to say that as a first step in mitigating the adverse effects of bias, we (as learners) need to recognise it in ourselves and in others.

Most participants (66%) thought that most (more than 60%) of their learning at work was relevant to their jobs but interestingly, a high majority (85%) wanted to engage in learning that was not relevant to their direct line of work. Reasons for this included wanting to broaden their general knowledge and advance their career prospects, along with a love for learning and a desire for personal growth.

In a crude, blended average, participants thought that 54.9% of their learning at work was useful. From this, we may conclude that learners think that (approximately) 54.9% of the knowledge, skills, and attitudes they gain in learning interventions can be directly applied to and used in the work that they do. Given the time and money being spent on training, companies (and indeed, learners themselves) would ideally want a higher percentage of learning usefulness – and this should be factored into the design of the final framework.

Most learners (52%) indicated that they used learning "within a few weeks" of completing the learning intervention, and given this lag time, reminders or refreshers may be useful within two or three weeks of the intervention. It is theorised that "time is the enemy of memory" and that people begin forgetting almost immediately after something has been learned (Editorial Team, 2020). A suggested way of combatting this decay is by using space repetition: training interventions that have been optimally spaced out to encourage long-term retention.

A very high majority of learners (91%) indicated that they enjoy learning at work, citing staying relevant and up to date, personal and professional growth, improved motivation, professional duty, and the opportunity to network as some of the reasons for this enjoyment.

Given participants' responses about preferred modalities, two elements came through as chiefly important. Firstly, that many ways of training are effective (all the offered options were selected as preferred in the survey). From this, we can conclude that blended learning (that is, a combination of modalities) is preferred – in line with the findings of Means, Toyama, Murphy and Baki (2013). Secondly, it is clear that interaction is important to participants (26 of the 81 participants included the word "interaction" or "interactive" in their response to why a method of learning at work is preferred).

Further, participants identified the informal ways of learning as some of their most effective, including receiving coaching from another colleagues (61 of 81 respondents), by doing and figuring things out on the job (53 of 81 respondents), by having informal discussions with their team or colleagues (42 of 81 respondents) and from feedback provided to them by colleagues (41 of 81 respondents).

About two-thirds of participants did not need an assessment element nor did they need a course to be monitored for compliance to compel them to concentrate on learning. Just more than half the group concluded that CPD was not a key factor for them completing learning activities.

A similar number of participants (just more than half of the group) indicated that face-to-face classroom training was better than online learning. In line with Mohanty, Dash, Dash and Das's

(2019) finding (discussed in Chapter 2) that the "faculty or resource person" was the most important influence in making the training intervention a success, people delivering the training should be highly skilled at facilitation.

About two-thirds of participants also indicated that they actively sought out learning when faced with a new task and a similar number of participants said that they prefer courses that they can take at their own pace.

Incorporating all the findings into one framework has been challenging. This goes to show that a 'one size fits all' approach is seldom practical or possible in designing training and learning interventions – many participants want different and often contradicting things among themselves. Further complicating this are the internal and external regulatory and legislative requirements of a company – which in turn often compete with participant desires and preferences!

Nonetheless, a framework in the form of a set of statements has been presented below. Each statement has a corresponding True/False option attached to it for the training designer to check themselves against the statements provided. This framework should be used iteratively throughout the design process. As such, training designers may put training together, mark themselves in the framework below (using the True/False statements), and then amend their training to obtain a greater number of true statements (which, in line with the adult learning theories researched and the learner perceptions surveyed, would indicate more effective online corporate training).

Admittedly, deciding whether a statement is true or false is subjective and will require judgement – but given the creativity required in designing training, the researcher believes that these statements and this framework are still appropriate for the design of effective online corporate training and learning interventions. The statements also offer no sense of weight – resulting in one statement purportedly being as important as another. Training designers are encouraged to review these statements considering their (the statements) perceived importance at the organisation – as some aspects will be more important or more challenging for different companies.

Further, training designers are encouraged to collaborate with other designers in their organisations and possibly even have them (their designer colleagues) mark the statements, having reviewed the training themselves.

To illustrate links between these statements and the applicable adult learning theories and literature, the researcher has presented a second table below the framework. Explanations of

these theories and pieces of literature can be found in the Literature Review. It should be noted that much research informed the statements below, including information gleaned from articles, books and research in the Literature Review and the findings presented but the researcher believed it is important to link the statements offered to specific adult learning theories, in line with the research question posed.

	Statement	True	False
Self-direction	There are abundant opportunities for the learner to self-select interventions in this training.		
	Time has been set aside by project or engagement managers for this training to be completed.		
Experience	Opportunities to identify one's own previous and existing knowledge, skills, and attitudes prior to completing this training have been provided.		
	Opportunities to identify others' previous and existing knowledge, skills, and attitudes prior to completing this training have been provided.		
	Where applicable, an explicit indication of previous learning that the learner would've completed already (in line with a learning path or similar) has been made.		
	Some guidance has been offered and/or a facilitated discussion has been had about how these existing knowledge, skills, and attitudes and prior learning may help or hinder the learning about to be completed.		
Relevance	The knowledge, skills or attitudes gained or changed in this training are pertinent to the learner's job.		
	The knowledge, skills or attitudes gained or changed in this training have been articulated to the learner before and/or during the training.		
	Given learners' desire to engage in learning that is not always relevant to their direct line of work, other learning opportunities like this training have been recommended and suggested to the learner.		
Usefulness	The knowledge, skills or attitudes gained or changed in this training have been presented in a useful way to the learner (that is, in a way that they can use what they've learned on the job).		
	Elements of autonomy and the power to choose one's own learning have been included throughout the training.		
	Elements of personalisation have been included in this training (that is, the training dynamically adjusts to the learner's performance).		
	The training interventions are short and frequently offered.		
	The training interventions include elements of assessment or quizzing that have been designed to reactivate learning from previous training interventions or curricula.		
	Learners are made aware of and encouraged to make curricular connections throughout the training (that is, linking what is being learned now with what has been learned previously).		
	Reminders about the positive aspects of learning at work, including staying up to date, personal and professional development, improved motivation, professional duty, and the opportunity to network have been made.		
Learning environment	The training is practical, with an emphasis on job performance.		
	The training is interactive, with the participant playing an active role in the process.		
	The training offers a blended learning experience (that is, training is delivered both online and face-to-face).		
	The training offers a multimodal learning experience (that is, training is presented in different formats and using different media).		
	Assessments have been used as a measure of the training's effectiveness and as an opportunity for reactivation of the content.		
	Opportunities for informal learning (including coaching, team or colleague discussions and feedback) have been highlighted, made available and encouraged throughout the training.		

Table 6: A framework for effective online corporate training based on adult learning theories

	Statement	Applicable adult learning theory or literature
Self-direct	There are abundant opportunities for the learner to self-select interventions in this training.	— Garrison's self-directed learning theory
	Time has been set aside by project or engagement managers for this training to be completed.	— Hiemstra's *Self-Directed Learning*
Experience	Opportunities to identify one's own previous and existing knowledge, skills, and attitudes prior to completing this training have been provided.	— Kolb's experiential learning theory — Piaget's constructivism theory
	Opportunities to identify others' previous and existing knowledge, skills, and attitudes prior to completing this training have been provided.	
	Where applicable, an explicit indication of previous learning that the learner would've completed already (in line with a learning path or similar) has been made.	
	Some guidance has been offered and/or a facilitated discussion has been had about how these existing knowledge, skills, and attitudes and prior learning may help or hinder the learning about to be completed.	
Relevance	The knowledge, skills or attitudes gained or changed in this training are pertinent to the learner's job.	— Knowles's andragogy — Bandura's social learning theory
	The knowledge, skills or attitudes gained or changed in this training have been articulated to the learner before and/or during the training.	
	Given learners' desire to engage in learning that is not always relevant to their direct line of work, other learning opportunities similar to this training have been recommended and suggested to the learner.	
Usefulness	The knowledge, skills or attitudes gained or changed in this training have been presented in a useful way to the learner (that is, in a way that they can use what they've learned on the job).	— Dewey's project-based learning theory — Revans's action learning theory — Gottfredson and Mosher's *'5 Moments of Need'*
	Elements of autonomy and the power to choose one's own learning have been included throughout the training.	
	Elements of personalisation have been included in this training (that is, the training dynamically adjusts to the learner's performance).	
	The training interventions are short and frequently offered.	
	The training interventions include elements of assessment or quizzing that have been designed to reactivate learning from previous training interventions or curricula.	
	Learners are made aware of and encouraged to make curricular connections throughout the training (that is, linking what is being learned now with what has been learned previously).	
	Reminders about the positive aspects of learning at work, including staying up to date, personal and professional development, improved motivation, professional duty, and the opportunity to network have been made.	
Le ar	The training is practical, with an emphasis on job performance.	n/a – based on survey results

	The training is interactive, with the participant playing an active role in the process.
	The training offers a blended learning experience (that is, training is delivered both online and face-to-face).
	The training offers a multimodal learning experience (that is, training is presented in different formats and using different media).
	Assessments have been used as a measure of the training's effectiveness and as an opportunity for reactivation of the content.
	Opportunities for informal learning (including coaching, team or colleague discussions and feedback) have been highlighted, made available and encouraged throughout the training.

Table 8: Links between framework statements and applicable adult learning theory or literature

Conclusion

Specific principles apply to the design of training for adults in an online and corporate environment. The literature review highlighted the differences between adults and children, and then examined various adult learning principles under the headings of self-direction, experience, relevance, and performance-centricity. The effectiveness of training was also investigated. To validate the theories researched in this literature review, learners from a professional services firm in South Africa were surveyed and the results compared with such theories.

Finally, the objective of this research was to propose a framework for the design of effective online corporate training based on adult learning theories. Such a framework has been proposed and presented here and thus: the objective met.

Recommendations and limitations

Further research may be required in a few areas related to this study.

Firstly, the effect of company incentives and disincentives has not been fully understood, especially as they relate to learning at work. Companies are keen to show that their employees are competent and can offer clients better service than their competitors – but this can seldom be achieved without correctly and effectively trained staff. Training costs money and it is not an income generative act – thus resulting in it being a 'grudge purchase' or a 'necessary evil'. Additionally, the notion of training effectiveness has not been tested objectively in line with the recommendations made in the framework. So, while the framework purports to provide guidance for the design of effective online training in a corporate environment, the effectiveness offered is from the point of view of employees, not from the point of view of the company that they work for. Put another way, the remedies and suggestions provided should result in effective training for the employees (that is, effective from their perspectives), but this may not necessarily be effective for or contribute positively to the company's performance and operations.

One limitation of the survey of learner perceptions is that they are merely perceptions: the learners' view of themselves at work. As such, these perceptions may be overly generous or overly critical – depending on the employee. Further, one's perception of one's own knowledge and learning ability may be affected by where they are in their career at the time of responding to the survey.

Finally, there are the practical limitations of including all adult learning theories (or elements thereof) in a training activity or learning intervention; for example, it would be challenging to create a training where social learning, personalisation, and constructivism all feature. Thus, the suggested framework may present a skewed view of what a training should have or should include – giving the impression that all elements are required (in equal proportions) for success.

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