Adult learning theories: implications for online instruction

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Received 27 February 2017
Revised 9 July 2017
Accepted 9 July 2017

Abstract

Purpose – This paper analyzes critically four selected learning theories and their role in online instruction for adults.

Design/methodology/approach – A literature review was conducted to analyze the theories.

Findings – The theory comparison revealed that no single theory encompasses the entirety of online instruction for adult learning; each theory explains some portion of adult online learning; theories are contextual; and components of all theories can be utilized to improve online learning.

Research limitations/implications – Adult learning theories and their roles in shaping online learning and instruction deserve more attention. The study of adult learning theories, combined with in-depth analysis of psychological and human resource literature, will enable researchers to delve deeper into the subject. More qualitative studies are needed to explore further how instructors' ability to utilize theoretical principles can improve online learning.

Practical implications – This manuscript offers practical advice to instructors and other practitioners for utilizing adult learning theories for instructional enhancement.

Originality/value – This literature review uniquely contributes to filling the gap in human resource development literature by examining selected adult learning theories, comparing them and extending the theories' applicability and value in online instruction.

Keywords Constructivism, Andragogy, Online instruction, Humanism, Adult learning theories, Behaviorism

Paper type Conceptual paper

Online education presents a set of challenges for instructors that differ from face-to-face instruction. Researchers have stressed the need for different pedagogical principles for online learning (Huang, 2002). The current generation of students expects varied instructional styles and interesting and engaging activities that may be difficult to incorporate in traditional lectures. The field of education has been slow to embrace changes in student learning styles and dynamics. Learning theories, e.g. behaviorism, cognitivism, constructivism, humanism and several others, were developed considering traditional instructional approaches. With the advent of multiple online degree programs and emphasis on online instruction, as well as its use in corporate training, it has become imperative to revisit theories to evaluate their role in adult online instruction.

We selected four main areas of learning theories, namely, behaviorism, cognitivism, humanism, and constructivism (Yilmaz, 2011) and explored their role in adult online instruction, based on their prominence in supporting adult learning. We also included andragogy as a model that fits under humanism and is relevant for adult learning. Four broad theories were selected because it is not feasible to cover the entire gamut of learning

European Journal of Training and Development
Vol. 41 No. 7, 2017
pp. 593-609

2046-9012
DOI 10.1108/EJTD-02-2017-0014

theories in one article. We compared commonalities, differences and salient features, along with the theories' strengths and weaknesses.

Research problem and purpose

Many instructional theories emphasize on learning (Kiely *et al.*, 2004). No single theory or model provides complete knowledge about adult learners, learning context and learner understanding (Merriam, 2001). As including every theory is beyond the article's scope, we selected four major learning theories and discuss their implications for improving adult online instruction. Our goals for this manuscript were:

- to analyze and compare the selected learning theories; and
- to discuss implications of learning theories for enhancing online instruction for adults.

Significance of the problem

Instructors play a crucial role in the learning process by creating the right conditions for learning (Fayolle and Gailly, 2008). Working with adults in diverse settings at both individual and organizational levels, trainers apply theoretical knowledge to improve performance (Anderson and Gilmore, 2010; Arghode and Wang, 2016; McGuire and Cseh, 2006; Nafukho *et al.*, 2009). Further:

> Identification of common principles found in existing theories of learning, as well as those that emerge from experience, may be an important step toward closing the divide between practice and theory (Weibell, 2011, p. 5).

Ertmer and Newby (1993, p. 51) mentioned, "learning theories are a source of verified instructional strategies, tactics, and techniques". The above point is supported by Yanchar *et al.* (2010, p. 39): "Scholarship in the field of instructional design and technology has traditionally emphasized theory". Learning theories provide a foundation for improved teaching, as they illuminate various facets of the learning process (Higgins and Elliott, 2011; Lawless and McQue, 2008; Yilmaz, 2011). Theories are important in research because they provide a structure and a guiding framework. Moreover, instructors should be familiar with their teaching and learning philosophies to utilize the learning principles (Arghode, 2013; Milheim, 2011).

Learning theories provide directions to improve instruction (Biniecki and Conceigao, 2016). Research on learning is attributed with high importance in organizational literature (Koornneef *et al.*, 2005; Nafukho *et al.*, 2009). Learning theories have been discussed extensively in the literature (Chen, 2014), and researchers have also explored strategies to improve online instruction (Fish and Wickersham, 2009); however, the role of learning theories in online instruction is underexplored. As shown in our literature review, considering the need to extend learning theory principles to online and distance education, we analyzed four major learning theories and their implications for adult online instruction.

Methods

We reviewed the literature on learning theories utilizing the following databases: Academic Search Premier, ERIC and ProQuest. We used the following key search terms in researching the articles: adult learning, online instruction, behaviorism, cognitivism, andragogy, humanism and constructivism. Title and abstract analyses were used to judge each article's suitability for inclusion.

The literature review process included:

- exploring and choosing articles;
- summarizing the articles; and
- extracting related information from the summaries.

In selecting the central and seminal works, we used the following criteria:

- studies cited in the selected articles between 2007 and 2016; and
- the relevance of the articles to the theoretical framework and to the theories under study.

Although we restricted our selection of articles to the past 10 years, relevant prior studies considered to be classic were also selected.

Theoretical framework

The following sections describe the selected learning theories and their key assumptions.

Behaviorism

Behaviorism has been one of the most influential learning theories. A unique attribute of behaviorism is its belief in how learning is achieved based on external stimuli and subsequent responses (Boghossian, 2006). Behaviorists believe that learning is successful only when the learner demonstrates compliance of connecting stimuli and desired responses through conditioning. Francis (2003) commented that, unlike constructivism, which focuses on knowledge construction, knowledge acquisition is the main focus of behaviorism. As behaviorists stress on observable behavior, they are not concerned with knowledge conceptualization (Foxall, 2008). Online learning can elicit a behavior that can be compared to provided stimuli and responses. Behaviorism principles are put to good use if online educators can design activities that condition a response cycle in learners.

Cognitivism

Cognitivists focus on mechanisms by which the mind stores, processes and retrieves information (Biniecki and Conceigao, 2016; Merriam *et al.*, 2007; Rutherford-Hemming, 2012). "A cognitivist views the learning process as an internal and active mental process, which develops within a learner, increased mental capacity and skills in order to learn better" (McLeod, 2003, p. 38). Engaging instruction is designed to invite learners' attention and encourage active participation. "Cognitivists assert that learning opportunities should involve opportunities for learners to be actively involved in the process; at times developing their own goals and activities" (Allen, 2007, p. 31). Cognitivism focuses on "what learners know and how they come to acquire it than what they do" (Yilmaz, 2011, p. 205). The emphasis in cognitivism is mostly on acquiring, processing and assimilating knowledge.

Constructivism

Constructivists believe that knowledge creation involves both mental effort and social interaction (Altman, 2009; Merriam *et al.*, 2007). Constructivism reflects the view that instruction should encourage learners to construct meaning resulting in enhanced learning (Altman, 2009; Biniecki and Conceigao, 2016; Jackson, 2009). Ertmer and Newby (1993, p. 64) emphasized:

> Clearly the focus of constructivism is on creating cognitive tools which reflect the wisdom of the culture in which they are used as well as the insights and experiences of individuals.

It is important to note that, while effective instruction and content presentation skills are important, successful learning cannot take place without students' efforts and willingness to learn and apply the concepts (Arghode, 2013; Anderson and Gilmore, 2010; Weibell, 2011). In essence, effective instructional practices should be matched with equally good student motivation for promoting learning. An instructor can provide information and facilitate discussions, but a learner needs to understand the content (Arghode and Wang, 2016; Foote, 2015).

Humanism

Similar to andragogy, humanism emphasizes on adults taking ownership of learning. Yang (2004, p. 138) highlighted, "Humanism assumes the ultimate purpose of learning is to facilitate a self-actualized, autonomous person". Humanism envisions an education for the sake of an individual's independence, self-reliance and self-awareness (Milheim, 2011). According to humanism, learners are responsible for their learning, and instructors are facilitators (Weber, 2014). Humanists believe "the key purpose of humanistic education is to enhance personal growth and develop human potential" (Yang, 2004, p. 136). Humanists focus on human development, human feelings and other affective parameters (Merriam *et al.*, 2007; Weber, 2014).

Andragogy

While andragogy is attributed with helping educators and trainers understand adult learning (Knowles *et al.*, 2014), it does not meet the criteria to be classified as a theory. Rather, it is a model under the theory of humanism that, according to Knowles (1980), is a set of principles applicable to most adult learning situations. Adults should feel "accepted, respected, and supported", as there is "a spirit of mutuality between teachers and students as joint inquirers" (Knowles, 1980, p. 47). Gradually, as learning progresses, learners evolve from being dependent to independent learners. During this educational journey, learners need guidance that can be provided by instructors (Henschke, 2011).

Theory comparison

Learning is the common theme among the theories discussed in this review article. The theory approaches, however, are different. Table I compares the theories and concepts on various parameters.

All theories and approaches share a common strand of improving learning, yet differ in explaining the learning process. Humanists stress that learning involves not only a learner's inclination to learn but also how aware the learners are of their own ability to learn. Humanism also focuses on the affective domain apart from cognitive abilities (Jackson, 2009). Andragogy, as a form of humanism theory, focuses on helping adults learn. Cognitivists differ from humanists by focusing more on internal mind processes, assimilation and interpretation of knowledge (Rutherford-Hemming, 2012). Constructivists, similar to cognitivists, emphasize on learner understanding but emphasize on the role of mediations by social interactions (Jackson, 2009). Constructivism involves external help and intervention. Like cognitivism, constructivism stresses on internal mental processes and meaning-making. Unlike cognitivism, however, humanism is more holistically inclined in generating sense and developing individuals compared with the other four theories. These theories focus on enhancing learning through experience, cognitive abilities and skills.

Table I.
Comparison of theories' parameters

Construct	Andragogy	Behaviorism	Cognitivism	Constructivism	Humanism
Learning perspective	Learning can be achieved with or without help	Learning involves stimulus and response	Learning involves processing of information	Learning involves knowledge construction	Learning is a personal endeavor toward fulfillment
Focus of learning	Allowing learners to learn	Proper conditioning is needed to achieve learning	Cognitive domain	Generating sense from experience	Feelings, perspectives, affective domain
Aim of learning	Develop adults	Ensure learned behavior is remembered	Make learning engaging, motivating	Facilitate construction of knowledge	Support self-actualization, self-awareness, independence
Role of instructors	Support	Create right conditions by designing the environment	Present information in an organized manner	Facilitate and agree upon meanings with learners	Facilitate
Relevant learning principles and theories	Self-directed learning, cognitive development, transformational learning	Situated learning, conditioning, memory, stimulus and response	Learning the learning process, social role acquisition, age-connected learning, memory and intelligence	Transformational learning, reflective practice, communities of practice, situated learning	Self-directed learning, cognitive development, transformational learning, andragogy

Source: Merriam *et al.* (2007)

Cognitivism and constructivism seek immediate and short-term goals, as opposed to andragogy.

Andragogy emphasizes on individual motivation and proactivity more than imposing concepts and learning. Cognitivism and constructivism believe in and accept the gap in individual learning and that it can be bridged through various means. Nevertheless, the theories and concepts are unable to specify an individual's potential learning state and the way to reach it. Humanism (and andragogy) involves the most instructor involvement, whereas constructivism and cognitivism are at the other end. Humanism and andragogy emphasize individual motivation and proactivity more than imposing concepts and learning. Interestingly, the four theories and the andragogy model can be succinctly represented on a continuum of four parameters:

(1) instructor's role (presenter vs facilitator);

(2) self-awareness (less vs more self-awareness);

(3) type of learning (individual vs social learning); and

(4) domain of learning (cognitive vs affective).

As presented in Figures 1 and 2, no theory absolutely qualifies for placement in any one parameter mentioned above. Rather, the theories lie in a continuum and embrace every parameter more or less. For example, andragogy, placed in the fourth quadrant (Figure 1), focuses more on the instructor's role as a facilitator than as a presenter, social rather than

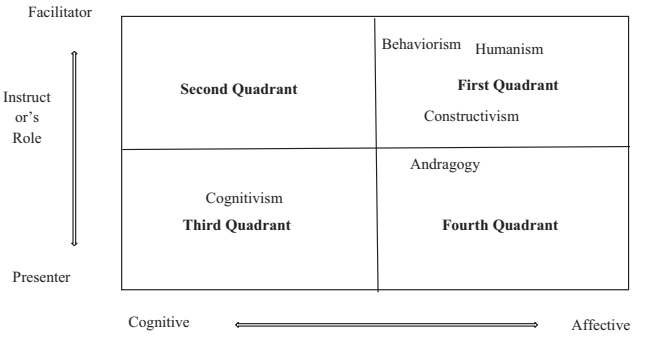

Figure 1.
Placement of theories depicting instructor's role and cognitive/ affective parameter

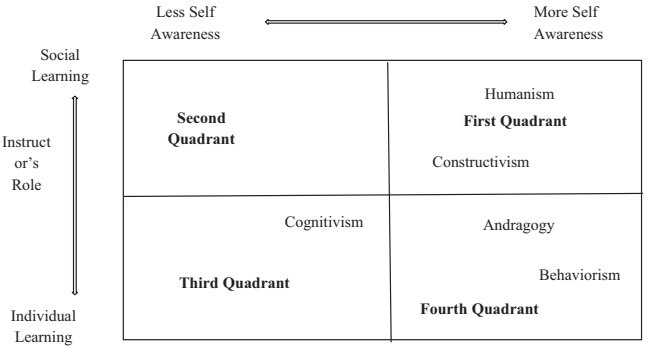

Figure 2.
Placement of theories depicting instructor's role and less/more self-awareness

individual learning (Figure 2), cognitive rather than affective domain (Figure 1) and self-awareness rather than less self-awareness (Figure 2). Humanism and constructivism are placed in the first quadrant (Figure 1). Both humanism and constructivism are predominantly in the affective rather than the cognitive domain, as opposed to cognitivism that lies in the third quadrant (Figure 1). We used the figures to compare the theories that can be compared relative to each other using the parameters described above. The next section highlights learning theories' strengths and weaknesses.

Core beliefs, weaknesses and implications for adult online learning

In the following section, we present each theory's core beliefs, weaknesses and implications for adult online learning (Table II).

Behaviorism

The central premise of behaviorism is that learners can be conditioned to learn. Therefore, instructors should create a conducive but controlled learning environment. Students are conditioned to provide the desired response for a given stimulus. Learning occurs through knowledge of results, reinforcing desired responses and providing corrective feedback for non-desired responses. There is little attention to the affective domain, unlike in the case of constructivism.

Behaviorism seems to have the greatest application to learning a repetitive skill. It is necessary when applied to a physical skill, such as keyboarding or playing the piano. It is also widely used when applied to online learning in which the learning is branched. When students are presented with a question, they are allowed to move to the next screen when they provide the correct answer. When they choose the wrong answer, they are given an explanation of why their answer was incorrect, and then they are allowed to answer the question again. Looping through learning based on student responses is an excellent example of the application of behaviorism in distance learning.

Cognitivism

Cognitivism emphasizes on facilitating learning through organized, structured and simple presentations. Cognitivists believe a learner can be extrinsically motivated to learn. Cognitivism thus strives to engage learners through motivating, interesting and appealing instruction. Lyons (2009, p. 353) emphasized "cognitive style information to assist trainees improve their self-reflections". Unlike other instructional theories emphasizing intrinsic motivation, constructivism espouses the belief that individuals need to construct their own meaning to learn, while andragogy seeks to empower adult learners. Cognitivism differs from the above theories and asserts that all learners can be engaged fruitfully in the learning process regardless of their motivation. To engage online learners, cognitivists believe, it is imperative to develop online learning activities, videos and forums in a structured systematic manner to promote learners' interests and engagement.

Online instructional situations present opportunities for reflection-based adult learning. Traditional classroom settings typically follow an instructor-centered approach to introducing class discussion. Critical reflection in an online environment can be an effective way to elicit optimal performance from students and can promote deep, long-lasting learning (Glowacki-Dudka and Barnett, 2007). Sinclair (2009) stressed that online instruction often includes asynchronous discussion activities that afford opportunities for students to review the writing of their colleagues and reflect on their writing before posting to the discussion. Sinclair (2009) indicated that a high-level, provocative pedagogical approach in

Theory/model	Core beliefs	Critique	Implications for online instruction
Andragogy	Adults are self-directed learners and learn through experience Adults want immediate application Adults learn best when they choose content and method of learning	Assumes all adults learn identically Focus on intrinsic motivation Ignores variations among adult learners Focus more on process, less on content An ideology not theory Not empirically based Incomplete; leaves many questions unanswered Pedagogy and andragogy not discrete Overlooks serendipity and play in adult lives Prior conditioning of adults may not align well with andragogy tenets	Create online discussion forums to encourage self-directed learning Design online instruction to provide unique learning opportunities Allow flexibility for learners to learn at their own pace Blogs, online activities, videos can help online educators design activities to encourage self-directed learning
Behaviorism	Learning is achieved through external stimuli and the subsequent response Focuses on learner compliance exhibited by desirable behavior Emphasizes knowledge acquisition more than construction Principle of contiguity: how closely spaced are stimulus, response and knowledge of results	Relies heavily on stimulus and response Do not account for individual differences in learning Observable behavior is emphasized more than individual characteristics	Immediate feedback can be provided for improved learning Assessment activities should be in-built into online instruction The content can be designed to promote learning through improved practice
Cognitivism	Focuses on organized, structured and logical presentations All learners can be engaged regardless of their motivation	Focuses only on cognitive aspects Neglects the affective domain in learning Places more emphasis on the instructors to engage learners	The presentation of material should be interesting to grab learners' attention and videos should be of appropriate length to maintain learners' attention Online activities should be structured logically and systematically to grab learners' attention
Constructivism	Emphasis on learner involvement Learners create their own meaning Conceptual understanding may differ among learners Places importance on experiences and	Relies on learners' abilities to construct meaning Focus more on experiential learning, some learners may not be inclined to learn through experiences	Online activities can be designed to promote creative thinking encouraging learners to create meaning. Although some guidance is needed to utilize constructivism principles, online educators may focus on problem-solving,

(*continued*)

Table II.
Comparison of theories' core beliefs, shortcomings and implications for online instruction

Theory/model	Core beliefs	Critique	Implications for online instruction
	promoting learning through experiential learning		creative writing and meaning-making
Humanism	Human beings control their own destiny People are inherently good and are free to act Behavior is a consequence of human choice People have unlimited potential for growth	Focuses more on affective than cognitive domain Believes learners are self-motivated Focus on behavior	Online learning content should be made relevant to learners' interests, feelings and attitudes. In online environment, it may be difficult to decipher learners' interests, as feedback and interaction are asynchronous

Table II.

the online classroom would allow adult students to become part of a community of adult online learners. The pedagogical model used by Sinclair (2009) followed the Smyth (1989) framework of reflection that utilizes four forms of action when responding to group discussion activity: describe, inform, confront and reconstruct. Participants indicated that the use of critical reflection and positive, yet challenging, instructor feedback aided in gaining a better understanding of the self as related to the discussion and material.

Constructivism

A constructivist approach is effective in online learning and distance education where many students are adult learners. Adult students bring a different set of experiences as well as needs to an instructional setting. Many institutions in higher education have adopted constructivist instructional strategies that require online students to engage in collaborative learning activities in online discussion boards. These types of activities are typically collaborative and represent authentic assessment in format. The student activities can be situations where the students assume a role that is something they are likely to encounter in reality or place of work (Huang, 2002). Huang (2002) emphasizes that when designing effective social constructivist pedagogy for online adult learners, key strategies to align with andragogy include interactive learning, collaborative learning, facilitating learning, authentic learning and student-centered learning. Adults taking online courses can introduce new dynamics for which online instructors need to remain flexible. A constructivist pedagogy can introduce new view points from peers during online weekly discussions, increase learner confidence and utilize peers for technology support (Ruey, 2010). Adult students also approach instruction with high expectations. In a case study by Ruey (2010), constructivist-based instructional design helped adult online learners on two fronts. The study found that instructional activities requiring collaboration and interaction encouraged adult students to support one another. Additionally, constructivist-based online instruction assisted adult learners to develop a sense of becoming more self-directed in their learning and broadening the role of the student.

Distance education and online learning increase access to education for working adults and provide opportunity for flexible and effective instruction rooted in adult constructivism. Constructivism emphasizes learner involvement to achieve learning (Anderson and Gilmore,

2010). Constructivists believe that, as learners create their own meanings, the conceptual understanding may differ among learners (Altman, 2009). In some learning situations, it is difficult to engage learners. For example, in large classes, the instructors may focus more on presenting the information than interacting with the learners. Constructivism also places importance on experiences and promoting learning through experiential learning. There is value in promoting learning by involving real-life experiences, even though it slows down the learning process (Arghode and Wang, 2016). Anecdotal evidence suggests that learning achieved through practice is more concrete than through mere exposure to knowledge. Instructional designers and instructors alike should design online learning to include weekly collaborative discussion activities that elicit students' sharing of past experiences, with openings for instructor feedback and guidance as well as instructor-to-student reflection assignments (Huang, 2002).

Humanism

The focus on affective parameters in humanism makes it difficult to gauge, assess and objectify learner development and understanding. Humanism focuses on self-actualization and personal growth that is difficult to ascertain and quantify in a learning situation. For humanists, learning is not merely cognitive and behavioral processing; it includes motivation, decision-making and exhibiting responsiveness (Merriam *et al.*, 2007). Humanism thus informs andragogy and other adult learning theories (Merriam *et al.*, 2007). Humanists support increasing learners' potential and inclination to learn to promote lifelong learning, judgment and ability to make decisions (Jackson, 2009).

Humanism envisions a holistic perspective by emphasizing how individuals learn, develop and attain an ideal self-actualization state. Humanists visualize undergoing learning in ideal conditions and striving for the ultimate goal by focusing on the affective rather than the cognitive domain. Humanism thus has implications for online learning, as it encourages online educators to design the content considering the affective domain and not just cognitive principles. If educators design online activities, blogs and discussion forums while taking into consideration how learners can relate well with the concepts, for example, by incorporating relevant examples, an improved learning state can be achieved.

Andragogy

Andragogy espouses the idea of adults as self-directed learners who require little help from instructors (Merriam *et al.*, 2007). The above assumption is challenged by Merriam (2001, p. 5): "Some adults are highly dependent on a teacher for structure, while some children are independent, self-directed learners". In adult classrooms, some students require little help and direction from the instructors, whereas others cannot progress without appropriate guidance. Similarly, adults may be extrinsically motivated, whereas children may have intrinsic motivation. On the one hand, andragogy supports adult learners' abilities and willingness to take initiatives; on the other hand, andragogy fails to account for variations among adult learners, including differences that arise from socio-cultural background (Merriam, 2001). Educators and researchers acknowledge that adult learners cannot be stereotyped for their learning abilities and motivation to learn (McClellan and Conti, 2008). Based on the andragogy model, online educators can design activities to encourage self-directed learning. Educators may benefit by investing time and effort in designing and developing videos and activities which the learners can then utilize to improve learning at their own pace. If educators design online activities, blogs and discussion forums while taking into consideration how learners can relate well with the concepts, for example, by incorporating relevant examples, an improved learning state can be achieved.

Flexible online learning is a ubiquitous modality choice for military students. Military students have access to abundant scholarships and can continue to work toward degree completion even while they change locations. Instructional design should follow best practices in andragogy when offering online instruction to military students. When compared to non-military learners of similar age and background, military learners often have more experience adjusting to change, experience with global travel and knowledge of different cultures, and typically have strong motivation when learning in an online, autonomous classroom (Starr-Glass, 2015).

Designing an online learning environment for adults

Instructors should apply learning theory principles and motivation of learning to design a simple, easy and effective online instruction for better learner engagement (Higgins and Elliott, 2011). Learner engagement is integral for instructing effectively; nevertheless, excellent instructional delivery should be matched equally well with relevance and depth in the content (Korte, 2006). Instructors should realize that learning is non-linear and occurs in multiple ways. Sometimes the learning gets stifled by learners' prior experiences, while at other times, it is supported (Ravn, 2007). While learners are keen to learn, their own previous experiences sometimes interfere with learning.

In addition to motivation, additional principles of andragogy should be considered, especially in online learning. A case study by Johnson (2014) adapted an appreciative inquiry model for organizational engagement in what Johnson (2014) called *appreciative andragogy* to strengthen the instructor-to-student relationship, identify online student resources and identify learning goals. The appreciative andragogy model includes four instructor-to-student contact interventions over the first four weeks of an online course that align with learner performance, engagement and motivation and are meant to build relationships. Johnson (2014) found that after the implementation period, 73 per cent of the students experienced a positive change in their performance level, 51 per cent of the students experienced a positive change in their motivation level and 68 per cent of the students experienced a positive change in student engagement.

Instructors and instructional designers should develop online discussion activities in a way that meets adult learner needs. Activities are more effective if they are designed to be authentic in nature, that is activities in which each learner brings their own background to a discussion activity that applies to real-world situations. Research findings from McDougall (2015, p. 110) indicate that adult students engaged in authentic discussion activities:

> [. . .] really listened to each other as they discussed the changing nature of the Australian family, they could acknowledge multiple viewpoints, build on ideas of each other, but also challenge each other if they did not agree.

Authentic discussion topics can empower adult learners to take past learning and construct new takeaways to be applied to real-world situations. The asynchronous nature of online discussion can also provide an opportunity for critical reflection before crafting a response.

The developments in social internet media present opportunities for new synchronous communication for online adults to form more cohesive learning groups so as to promote significant learning. Davies (2016) explored the use of mobile internet-associated technologies or MIATs coupled with online learning to promote phatic communication and boost stronger group development. Phatic communication is the daily small talk that has potential in establishing and maintaining bonds of sociality between students. This communication is a common part of face-to-face learning but can be a challenge in the online classroom. While more empirical research is necessary, there has been wide support for the

idea that relationships are helpful to improve student-to-student engagement in the online classroom (as supported by social learning theory). As a proponent for encouraging stronger student relationships, Davies (2016) suggested that online instructors and instructional designers consider the power of MIATs to facilitate easy, rapid and phatic conversation to promote group development of the learning group. The use of MIATs can facilitate the stages of group development (Tuckman, 1965) so that stronger relationships are formed. As a result, Davies (2016) posited that developing phatic aspects of online learning by utilizing MIATs can present online students with an opportunity for more meaningful experiences when working through formal online activities.

Salient features of online instruction for adults

Online instructional situations present opportunities for self-directed learning for adults. Garrison (2003) explained the flexible nature of online learning programs with regard to time, space and learning pace, affording online adult students the opportunity to take charge of their learning experience through self-directed learning and autonomy while still utilizing the instructor for guidance. Bonk *et al.* (2015) explained that the findings of their own recent research indicated a central theme of adult students preferring online instruction that offers choice in how the learning happens and how it is constructed. Another implication from their findings is that "some opportunity for personal fun and building or generating something is also important" (p. 362). Online learning designers should utilize online learning activities that scaffold adult students through the design and meet the learning outcomes at a comfortable pace. Online instruction for the adult learner should offer minimum instruction and maximum autonomy. Moreover, online self-directed learning activities do not have to be designed as an individual activity intended for completion in isolation. The instructor can serve as a facilitator within the community of online learners through authentic online activities, so students can be engaged while at the same time have a sense of control and the direction their work is taking (Yamagata-Lynch *et al.*, 2015).

Favor and Kulp (2015) offered a different view of adult learning online. The authors, comparing students' perceptions of learning teams in online and campus accelerated adult programs, while acknowledging that the study was conducted at only one institution, reported that online adult students were more likely to prefer individual work compared with campus students and believed that working in teams did not enhance their learning experience (Favor and Kulp, 2015).

Recommendations for future research

Learning theories deserve more attention in an online learning environment. The study of learning theories combined with an in-depth analysis of psychological and human resource literature will enable researchers to delve deeply into the subject. More qualitative studies are needed to explore further how an instructor's ability to utilize theoretical principles to improve instruction can make a difference in learning. There are more opportunities for research to be done to study the importance of the instructor's role regarding online instruction for adults and strategies to provide effective instructor presence. Moreover, more research should be done to understand how educators can focus more on the philosophy of adult education to design online instruction, as most of the emphases is on online content. More research should be done on the design of online instruction with regard to cultural attentiveness for adult learners to broaden the online learning experience (Milheim, 2011).

More studies are needed to explore the extent to which learning theories focus on engaged versus disengaged learners. Anecdotal evidence suggests that engaged learners receive more attention from instructors. This is ironic because engaged learners are already

engaged in the assigned tasks, and giving them more attention will not make them more engaged. On the contrary, disengaged learners need instructor and peer support to achieve their learning goals, but instructors may refrain from doing so because involving disengaged learners is risky and time-consuming. This vital aspect of focusing on engaged versus disengaged learners warrants further exploration in the literature, as it may hold cues about maximizing student learning outcomes.

Practice implications

Learning is central to human resource development (HRD) (Swanson and Holton, 2009; Yang, 2004) and "involves the interplay between two interdependent dimensions of knowledge: acquisition and transformation" (Lyons, 2009, p. 347). Researchers attribute great importance to learning and instructional theories (Yang, 2004). McGuire and Cseh (2006) emphasized that sound instructional design is integral to HRD, and HRD practitioners' roles are pivotal in improving individual learning in organizations (Koornneef *et al.*, 2005).

Instructor presence and feedback appears to be necessary regardless of which adult learning approach is used in the online classroom. This is a critical component of the learning process. Online instructor presence can take many forms, including providing guidance in a discussion activity, answering student questions or providing formal assessment feedback. Ekmekci (2013) submits that course design and structure should include integrated teaching presence that informs how and when communication will happen in an asynchronous course. Ekmekci (2013) presents a model to integrate online teaching presence across four phases: define learning objectives, plan learning intervention, design learning evaluation and implement intervention. These four phases answer key fundamental questions that both inform the design of the instruction and demand active engagement from the instructor. More than short bursts of feedback for appearance, systematic, integrated instructor feedback and engagement assists adult students, as they continue to co-create their own learning experience with the instructor and their peers (Ekmekci, 2013).

Effective instruction requires proper content knowledge and conceptual understanding coupled with engaging and appealing presentation (Arghode, 2013; Fayolle and Gailly, 2008; Higgins and Elliott, 2011). Therefore, instructional designers should have a conceptual framework (Merrill, 2001). Researchers have connected learning to both practice and social interaction (Lawless and McQue, 2008).

Conclusion

Improving instruction is central to learning and teaching. While perusing the relevant literature, we struggled to find a theory of effective instruction. All theories of instruction presume that instruction will be more engaging and effective for learners; in other words, the theories suggest that learning cannot have the desired impact on learners unless the instruction is engaging and effective. Therefore, although the theories do not openly define the constituents of effective instruction, the theories' underlying premise is that instruction should effectively improve learning. Considering these points, we selected five theories of instruction that provide a theoretical background to the discussion. Finally, in-depth critical analysis of the theories presented in this article clarifies the conceptual relevance and applicability of the theories in the presented theoretical framework. As discussed in this article, each theory contributes uniquely in designing and conducting improved classroom and online instruction even though no single theory completely informs how adults learn. Augmenting learning still remains one of the most challenging yet fascinating

experiences for HRD practitioners. Researchers and practitioners continue to research and enrich the instructional theory field (Ravn, 2007). With the concerted efforts of researchers, educators and practitioners, the field will continue to evolve further.

The similarity among all theories is their emphasis on instructor role and learner development. All theories described in this article espouse the belief that learning can be facilitated and achieved through appropriate interventions and results in an enhanced learner state. For example, cognitivism believes that a learner can learn better if the information is presented logically, making it easier for the learners to assimilate the knowledge, whereas constructivism promotes meaning-making by learners. In behaviorism, the instructor's role is to provide the desired stimuli and assuring that appropriate feedback is provided to learner responses. Andragogy and humanism hold a holistic view of overall development and growth.

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