

Autonomous Learning in a Virtual Environment

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The educational community is seizing the opportunity to link interdependent members from distant locations. Universities, colleges, and other adult education media are supplementing traditional classroom settings with virtual classrooms thereby broadening their local and regional markets. The authors argue a virtual learning paradigm can satisfy efficacious autonomous learning more effectively when social support and affective management conditions are available. Based on a qualitative analysis of data from a group of doctoral students required to engage in learning through asynchronous communications, the authors recommend conditions that are most conducive to efficacious autonomous learning.

The advent of the technological era has enabled industries to tap global markets because of the ability to transmit voluminous information in rapid fashion. Because of this capability, organizations have the ability to achieve organizational goals by placing personnel in geographically diverse locales while maintaining the effective communications necessary to synergize work efforts. One market that is unequivocally seizing the opportunity to link interdependent members from distant locations is the educational industry. Universities, colleges, and other adult educational media are augmenting traditional classroom settings with virtual classrooms allowing these institutions to reach a global market. The global span requires a virtual forum that enables students to interact in ways which stimulate learning. This endeavor can be achieved in a format which draws upon the strengths of both the individualistic and collectivistic learning paradigms.

Studies on learning in a virtual environment have largely overlooked the autonomous learning process. This oversight is unequivocally paramount because of the explosion of corporations integrating organizational structures in diverse locations. These organizational designs necessitate human resource development professionals train and equip employees through a virtual medium.

The authors argue a virtual learning paradigm can be advantageous to satisfy efficacious autonomous learning but is most effective when social support and affective management conditions are present. These prescribed conditions originate from the qualitative analysis of data collected from two groups of doctoral students who matriculated through a rigorous online Ph.D. program, which ubiquitously solicited the students to engage in learning through asynchronous communications.

LITERATUR REVIEW

Learning is a process that unites three influences: (a) cognitive, (b) emotional, and (c) environmental (Merriam et al., 2007). The aim of learning is to integrate or change the learner's skills, attitudes, values, knowledge, and perspectives (Illeris, 2000; Ormrod, 1995). Learning focuses on the process rather than the outcome such as the right answer (Merriam et al; Railton and Watson, 2005). Accordingly, variables contributing to initiate and to sustain learning serve as important indicators to construct a viable learning theory.

An additional approach for analyzing the learning process is by differentiating learners as either surface or deep learners. Important to this discussion is recognizing that surface and deep learning are not attributes of learners (Atherton, 2005); rather, these descriptors explicate the process of learning so that learners can participate in either learning approach. In general, deep learning occurs because of intrinsic motivation such as the need to learn; in contrast, surface learning occurs because of extrinsic motivation such as the need to complete a task. Deep learning produces feeling of satisfaction and excitement as the learner engages in activities of interest. Surface learning produces feelings of fatigue and frustration as the

learner engages in activities of necessity (Atherton). Accordingly, stimulating a learner to engage in deep learning is efficacious to perseverance.

Derrick (2002) argues persistence, which is comprised of three intrinsic factors, is a crucial component to successful learning because it delineates why some learners are successful and why some learners are unsuccessful in their learning endeavors. Ponton et al., (2000) posit that persistence is one of the three primal traits to learning in an autonomous environment. Derrick (2001) constructed an instrument to measure persistence. Three subscales are present under persistence: (a) goal directedness, (b) self-regulation, and (c) volition. Each of these subscales has undergone scholarly scrutiny and revisions. The central focus of persistence resides within the individual learner and does not seem to account for environmental forces, which may contribute to the learner's persistence.

Specifically, autonomous learning is "a manifestation of the learner's autonomy" (Ponton et al., 2005, p. 117). Thus, autonomous learning is the physical attribute of internalized intentions. These intentions refer to learner autonomy. Learner autonomy is "the characteristic of the person who independently exhibits agency in learning activities" (Ponton, 1999, p. 13-14). Railton and Watson (2005) further assert that autonomous learning implies the learners engage in independent study without interjections from others. The attributes of learner autonomy function as a subset to self-directed learning (Ponton), which is central to the exploration of autonomous learning.

Self-directed learning refers to "the degree of choice that learners have within an instructional situation" (Grow, 1991, p. 128). Self-directed learners decide what areas of study warrant exploration. This philosophical approach to learning is largely humanistic (Merriam et al., 2007) and accentuates personal growth as the primal goal of education. The implication of this goal ostensibly infers an exclusively individualistic perspective, which Long (1989) advocates when defining learning as an endeavor primarily self-initiated, self-directed, and self-sustained. However, some self-directed learning scholars reject the notion that self-directed learning is exclusively an individualized endeavor (Brookfield, 1986; Mezirow, 1985). Instead, a principal goal of self-directed learning is to stimulate transformational learning, which embraces the interaction of others (Mezirow). The aim of this form of learning is to critically reflect on experiences and then to engage in critical debate with other learners so that new understandings emerge (Mezirow, 1996). Therefore, is autonomous learning an activity largely driven by cognitive, social, or a blend of cognitive and social motivators?

Motivational theorists argue learners engage in learning experiences for various reasons (Houle, 1961; Morstain and Smart, 1977). These reasons explicate both cognitive and affective learner needs, which agree with classical theories of motivation (Alderfer, 1972; Herzberg et al., 1959; Maslow, 1954). These motivational theories emphasize an intersection of cognitive and affective domains.

Because the autonomous learner is responsible to decide which course of action to take in the learning endeavor (Railton and Watson, 2005), the decision-making process serves a vital role in initiating and sustaining the learning venture. Decision-making seeks to satisfy both the cognitive and affective concerns of the decision-maker (Beach and Connolly, (2005). Much of the literature pertaining to the decision-making process within autonomous learning has centered on the cognitive considerations.

During the matriculation of two groups of doctoral students studying in a rigorous online program, one group of learners demonstrated an unusually high "success" rate, success meaning completion of coursework and passing the comprehensive examinations at the earliest possible opportunity, compared to the other group. Accordingly, the research question emerged, what factor or factors contributed to this difference? The following exploratory study of the group exhibiting the high level of success suggests the possible role of affective and collective considerations in the autonomous learning process operating within a virtual environment.

Data Collection and Analysis

Researchers in the field of qualitative studies propose they can excavate the perspectives of the participant through detailed interviewing techniques more effectively than utilizing quantitative methods because quantitative methods utilize more remote and inferential techniques to collect the perspectives of

the participants (Denzin and Lincoln, 2000). Therefore, the primary means of collecting data is using an interviewing technique (Morse, 2003; Van Manen, 1990).

Accordingly, the eight students in the high success group were asked to describe their learning experiences and, in particular, address why the group was unusually successful. This type of questioning is categorized as theorizing questions. The goal of theorizing questions is to encourage the participants to create balance from their discourses (Flick, 2006). Participants seek to reduce “the ‘meaning’ of the whole to its common denominator” (Hermanns, 1995, p. 184). Typically, these questions are rather abstract and pursue answering how and why aspects of the narrative account.

In order to reduce researcher bias, the students responded to the questions by providing one and a half to three pages of textual description/explanation in an environment free from distraction or distress. Bryman (1988) encouraged freedom be given to participants to explain their perspectives with minimal interference and encouraged the use of open-ended questions so the participants can pursue their own agendas. Furthermore utilizing a written account increased the reliability and accuracy of the narrative accounts and equally broadened and deepened the precision of the subsequent analysis because of the ease to assess the data on multiple occasions (Heritage, 1984). Following the collection and analysis of the data, the participants were requested to review their comments to ensure proper interpretation of their comments (Flick, 2006).

In order to identify common themes, the texts were collectively subjected to a content analysis. Analyzing qualitative data requires the data to be reduced into significant statements and themes, and then these statements and themes are structured through a textual description to explicate the phenomenon (Cresswell et al., 2007). The reduction of themes is captioned in key quotations and is the shared thoughts of the participants (Peräkylä, 2004). Oftentimes, the statements of the participants are sifted through to identify the descriptive accounts, which are non-judgmental and non-deceptive, so that the actual experience and the motives of the participants are explored rather than exploring the descriptions of the motives of other individuals whom the participants are describing (Churchill, 2000).

Two experienced researchers in the field of qualitative students completed the content analysis and compared their findings with near identical outcomes. Upon eliminating superfluous words such as prepositions, conjunctions, articles, and verbs of being, the content analysis yielded 336 words with a combined frequency of 1501 words. These words were then organized into themes. Table 1 shows these themes and total frequencies of the words comprising the themes.

Table 1: Collective Themes

Theme	Frequency	Percent
Students as a collective group (e.g. we, us, team)	375	25
Positive affective aspects of group	223	15
Building virtual community/Intragroup communication	149	10
Specific mention of profs/other students	75	5

Without exception, the students identified their peers, both collectively and individually, as the single most important aspect to their success. An important aspect of the group experience was not just the quantity of communication activities, but the affective aspects of those communications. Many were focused on relationship building - words like support, supportive, encourage, encouraging, and help.

One student summarized his experience in the themes calling, proximity, and intentionality. He saw his classmates as sharing a relationship with God and a sense of purpose that created an immediate group identity. The cohort model provided virtual proximity. This same student who offices from home said that over the 2½ years of course work he interacted with members of his cohort more than anyone at work or his place of worship. Multiple individuals “facilitated actions that led to relationships and support. We had multiple team phone calls, instant messaging, shared calendars and other support documents, and Google spreadsheets to track progress. There were at least four subgroups that I know of within the group. The subgroups were study groups, support groups, mentoring groups, prayer groups, etc. Two of them were based on homophily (i.e. a women's support and mentoring group and a group who shared work experiences), but the others were cross-boundary groups.”

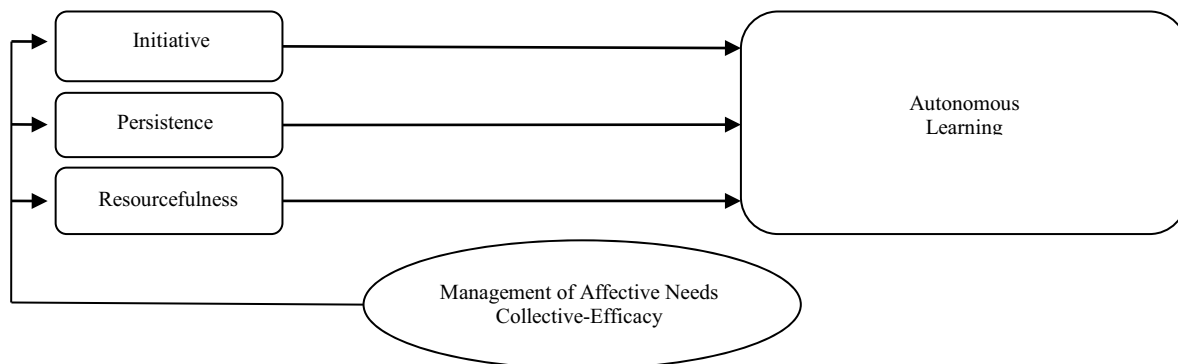
Several students credited a leave no one behind attitude. One student expressed this as an attitude of one for all, all for one and we all rise and sink together. “There was a supportive, encouraging culture from very early on. I think it helped that people were humble, willing to share their fears and failures as fast as their successes.... We genuinely cared for each other, and there was a sense that collectively we could do more than we could individually.” Yet another commented, “Whenever anyone was "absent" for a period of time, someone always noted and initiated contact, be it via email or phone.... An overall sense of care prevailed. That cohesive spirit prompted me to do my best.”

Students credited group cohesiveness with their learning successes. “I think group cohesiveness had a tremendous impact on learning.... I felt more comfortable to let my guard down and to ask for help. In prior learning environments, I sensed a more competitive climate. In a competitive environment, one is not willing to share resources or to be vulnerable. Because we were so close, the opposite happened - we shared resources and tips and felt comfortable to be ourselves, weaknesses included.”

Students credited the same group cohesiveness with contributing to motivation. “Motivation-there is something about knowing someone is in the barrel with you to keep you going. As we are online, we sometimes post the weather where we are at or what we are working on.” Others noted that the same sense of care and community was lacking in the other group. “In discussion with those outside [our group] it became apparent that such a relationship with other students was lacking and left individuals feeling alone in the program.”

Discussion

The results of the content analysis support the findings of the linear causal model proposed by Ponton et al., (2005). In particular, the data support the fourth stage of the model arguing that autonomous learners engage in solving problems that interfere with learning. The comments from the autonomous learners in this study reveal a need for addressing affective concerns, which may function as barriers to persisting in their learning activities. This need suggests the inclusion of an affective management and collective-efficacy component within the autonomous learning process (Figure 1).



Persisting in Online Learning Model

Modified from the work of Ponton, Derrick, and Carr, 2005

Figure 1

Ponton et al., (2005) surmise that learners persist in a learning activity because of their initiative and resourcefulness. Specifically, learner resourcefulness includes four subscales: (a) anticipate future reward, (b) prioritize learning over nonlearning, (c) choose learning over nonlearning, and (d) solve problems that interfere. Learner resourcefulness, initiative, and persistence are dynamically interactive in the learning process to enter and sustain the learning activity. A learner’s need for affectivity serves to enhance learner resourcefulness, initiative, and persistence. This study suggests that as learners identified affective needs

they sought to fulfill those needs through relationships and communications outside of the immediate learning endeavor. Furthermore, by fulfilling their affective needs they were able to enter and sustain in their learning activities.

A second contribution of this study is the efficacious role of collective efficacy in sustaining and enhancing autonomous learning in a virtual environment. Bandura (1997) defines perceived collective efficacy as the ability of a group to believe in its collective capabilities to organize and implement courses of action to reach specific levels of attainment. "Collective efficacy involves interactive, coordinative, and synergetic social dynamics" (Fernandez-Ballesteros et al., 2002, p. 108). The level of collective efficacy crystallizes from the personal judgments of higher status members within the group rather than low status members (Earley, 1999). Fernandez-Ballesteros et al. suggest the actual number of members within the group may influence the level of collective efficacy, which corresponds to greater confidence in the group's capability to achieve targeted ends. The frequency of plural verbiage in the individual learners' responses in this study suggests a high level of collective efficacy was a motivating factor of the autonomous learning experience in a virtual environment.

A final contribution of this study suggests that the virtual environment may create a heightened need for learner interdependence compared to the need for learner interdependence in face-to-face learning environments. Research pertaining to the influence of collective efficacy on group performance supports that collective efficacy influences group performance when group members are dependent upon other members for achieving success (Katz-Navon and Erez, 2005). However, in situations where learners are not interdependent, levels of collective efficacy are minimal. Thus, the autonomous learning in a virtual environment may stimulate learners to seek out the support and the conjoining efforts of other learners to increase collective efficacy and the desire to engage and sustain in the learning activity.

In short, this study suggests that managing the affective needs of the learner may be a contributing factor to sustaining autonomous learning in a virtual environment. In addition, the presence of collective efficacy may surface as an outcome because of the virtual environment and may assist in enhancing autonomous learning activities.

Limitations and Further Research

The chief limitation of this study is the characteristics of the participants. The students were doctoral students in the final stages of their matriculating process and functioned within a cohort model. Therefore, these findings may not be generalizable to other levels of education and at other stages within education. However, the findings do suggest that developing strategies to foster collective efficacy may be advantageous to efficacious learning outcomes such as fostering deep learning tendencies.

This primal limitation suggests that researchers build upon this explorative study to verify or dispute the importance of addressing the affective needs of autonomous learners in a virtual environment and in other learning environments. In addition, this study suggests the role of collective efficacy is significant in initiating and sustaining autonomous learning in a virtual environment. Additional research studying autonomous learning with learners who are not members of a cohort may substantiate or contradict the importance of collective efficacy to motivating learner success in autonomous learning activities.

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