

Chapter Two

Fostering learner autonomy: Key to advancing learning in post COVID-19

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Abstract

The pandemic has made us rethink how teaching should be carried out to ensure effective learning takes place despite all the constraints faced. To do this in ways that will be most supportive of the learner's readiness to learn and the teacher's capacity to understand and capitalize on that readiness, this paper proposes fostering learner autonomy as the key to advancing learning in post Covid-19. Theories related to the premises of learner autonomy were presented based on Fishbein and Ajzen's work on the relationship between beliefs, attitudes, behavioral intentions, and behavior and Bandura's self-efficacy. Three models which emphasize on understanding the learner's learning readiness and teacher's instructional constraint form the basis for addressing the issues faced. Last but not least, strategies for learner autonomy enhancement in the classroom were provided.

Keywords: Learner autonomy, Learning readiness, Behavioural intentions, Instructional constraints

Introduction

The pandemic has presented us opportunities to step away from the historically honored models of "teaching" that expect "teachers" to make detailed plans for the information, processes, and progressions by which students are expected to learn. The system of supervision and accountability requires that teachers develop and present such plans even before they meet the students they will be teaching. There are many problems with the effectiveness of such models, but the one that has always bothered us most is the practice of "grading" learner achievement in terms of the individual's success in meeting outcome goals as if it were the student's fault

for succeeding or failing to meet the curricular standards that were set without appropriate assessments of the readiness of the learners to undertake the learning prescribed, either in terms of their entry skill levels or the learning goals they may bring to the experience.

Teachers, from preschool to advanced graduate studies, usually make an effort to “motivate” their students to engage the topic at hand using the “carrot/stick” method ... learn this and something I value will be your reward or don’t meet the standard the system and I set and you will be judged to be a failure for not sharing our excitement regarding the topic at hand. There is a long history of students accepting the challenge to learn on the teacher’s terms, feeling “smart” because they got a good grade, or worse, laughing behind the teacher’s back about how little of value they learned while achieving the status of “good student.” There is an even longer history of students who are judged to be unable to learn simply because their teacher never asked them if they have questions or interests related, no matter how remotely, to the general reasons the topic at hand has been included in the curriculum. The “intellectual death toll” inflicted by this condition is documented by failures on national examinations and voluntary dropout rates worldwide across cultures, economic and political systems, and geographical conditions.

Some have urged educators, and those who influence the formal systems of education, to take a more “student-centered” approach. To be sure, society needs assurances that its investment in education provides a “reasonable return on investment.” But, throughout the history of humankind, the ratio of “successful learners” to “failed learners” has provided overwhelming evidence that our approach (CG1) has been unsuccessful. But that light at the end of the tunnel, provided by the constraints of the COVID-19 pandemic, may not just be an oncoming train. To do this in ways that will be most supportive of the learner's readiness to learn and the teacher's capacity to understand and capitalize on that readiness AND for the teacher to survive the longstanding practices of administrators, parents, employers as well as the learners themselves who expect the teacher to have "instructional plans and practices" that fit all their students as if one size fits all. The entire population of those who participate in any dimension of the learning enterprise will need to understand and implement the principles of learner autonomy.

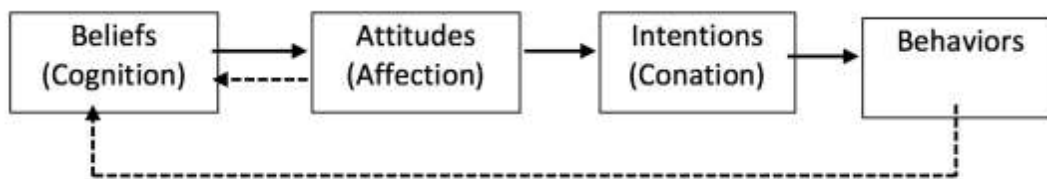
Understanding learner autonomy

So, what is learner autonomy? The concept of learner autonomy, as it is presented here, has deep historical roots. Over the years, several influential learning theorists used evolving terms to describe fundamental aspects of the phenomenon. For example, Margaret Fuller, the literary editor for the New York Herald Tribune in the 1940s, encouraged “self-cultivation” by means of reading. Malcolm Knowles further refined essential aspects of adult learning when, in 1967, he differentiated “andragogy” (learning in adulthood) from “pedagogy,” which had previously been applied to learning at all levels of maturity. Other important understandings were contributed by Albert Bandura, who in 1977, described the social cognitive influences of self-efficacy and behavioural change as they relate to learning, and Lucy Guglielmino, who in that same year, produce a survey instrument that has been widely utilized to assess the self-directed learning readiness of prospective learners. The term, “autodidaxy” had been in use for many

years before Alan Tough operationalized the concept in a way that made it possible to study the phenomenon systematically. His insights were derived from his studies of adult learning projects which he defined as “a major, highly deliberate effort to gain certain knowledge of skill (or to change in some other way.)” (Tough, 1979: 1).

In 1981, George Spear and Donald Mocker provided a very useful model for understanding the ways in which self-directed learning is influenced by environmental determinants. In 1991, Gary Confessore produced a ten-year follow-up study of talented adolescents that revealed relationships among desire, resourcefulness, initiative and persistence as they are associated with learner autonomy in adulthood. His studies of talented adolescents led directly to the development of the Learner Profile Questionnaire (Confessore & Confessore, 1994) and to its expansion and refinement in the Learner Autonomy Profile. Taken together, and elaborated in the work of many more, these works have led directly to the construct of learner autonomy as it is presented here as a matter of connotation or the learner’s behavioural intentions. Indeed, Ponton (1999) provides a model of learner autonomy derived from a general behavioural model that posits an interactive relationship of beliefs (cognition), attitudes (affection), intentions (conation) and behaviors originally described by Fishbein and Ajzen in 1975. See Figure 1.

Figure 1: A Simple Behavioral Model



Within this model, beliefs represent the cognitive process of assigning attributes to objects where "the terms 'object' and 'attribute' are used in a generic sense, and they refer to any discriminable aspect of the individual's world" (Fishbein & Ajzen, 1975: 12). They further assert, "the object of a belief may be a person, a group of people, an institution, a behavior, a policy, an event, etc., and the associated attribute may be any object, trait, property, quality, characteristic, outcome, or event" (Fishbein & Ajzen, 1975: 12). Building upon Long’s (1989a, 1998) work, Confessore (1992), Carr (1999), Ponton (1999), Meyer (2000) and Derrick (2001) assert that autonomous learning focuses on the psychological and cognitive conditions necessary for understanding the learner who continues to engage in learning throughout life. Further, Confessore (1992) contends that in order for a learner to engage in autonomous learning, the learner must exhibit desire, initiative, resourcefulness and persistence in learning. These constructs are described as conative factors because each is predicated on an individual’s internal motivation to engage in learning activity. It is a balance of these connotative behaviors that leads to the development of desire, which then leads to the self-perception of being a lifelong learner and, as a consequence of this development, persists in educational pursuits (Confessore & Confessore, 1994). Confessore and Park (2004) further emphasized that “learner autonomy focuses on understanding the capacity to productively participate in learning experiences. This capacity consists of a range of functional learner autonomy that is bounded

by two relatively dysfunctional learner states, which are dysfunctional learner dependence and dysfunctional learner independence. Confessore and Park (2004: 41), postulate that functional learner autonomy is a range of ability and willingness to participate in selecting and shaping learning experiences in which the learner may function independently or in concert with others. Besides, the degree to which an individual is engaged in functional learner autonomy is expressed in the extent that the learner optimizes the learning process by making efficient and appropriate use of their personal resources and the resources of others”.

Merriam and Caffarella (1999) assert that the situational variables of technical skill set, experience with the subject at hand, determination to learn, and degree of self-efficacy regarding the learning event, are the greatest influencers as to whether individuals exhibit autonomous behaviors. However, it is important to heed Candy’s (1991) admonishment that skill set, experience, determination to learn, self-efficacy, and other related influencers are likely to vary from one setting to another, educators should not assume that a learner’s success in one learning event, either in a formal instructional setting or other settings, reliably predicts success in a different setting. Four major variables appear to have the most influence on whether individual adult learners exhibit autonomous behaviour in learning situations; their technical skills related to the learning process, their familiarity with the subject-matter, their sense of personal competence as learners and their commitment to learning at this point in time (Merriam & Caffarella, 1999). Since this combination will vary from situation to situation, a learner’s autonomy is also likely to vary from one context to another, and educators must avoid the automatic assumption that simply because a person has successfully learned something in the past, either in an instructional setting or outside it, he or she will be able to succeed in a new area (Candy, 1991).

The pandemic and current learning

The pandemic has changed the way we learn. The COVID-19 has forced universities and colleges to close doors to campuses across the world. In addition, institutions have switched classes to online learning. As a result, education has changed dramatically, e-learning has increased dramatically and the learning setting is much more likely to involve elements of remote and or asynchronous learning than was traditional prior to the onset of the pandemic.

Online learning faces many challenges. Some students without reliable Internet access and/or technology, struggle to participate in digital learning; this gap is seen across countries and between income brackets within countries. According to OECD 2018 data, 95% of students in Switzerland, Norway, and Austria have a computer to use for their schoolwork, only 34% in Indonesia do. In the US, there is a significant gap between those from privileged and disadvantaged backgrounds. It was reported that virtually all 15-year-olds from a privileged background said they had a computer to work on, nearly 25% of those from disadvantaged backgrounds did not. However, with the current trend of Covid-19 cases still surging, this pandemic will definitely widen the digital gap. In terms of learning effectiveness, some research has shown some positive impact with online learning. Research shows that on average, students retain 25-60% more material when learning online compared to only 8-10% in a

classroom. Students are found to be able to learn faster online as e-learning needs only 40-60% less time to learn than in a traditional classroom setting. In addition, there are many advantages via e-learning as students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose (World Economic Forum, 2020).

Learner readiness and instructional constraints

Confessore (1992) asserts that success in learning is ultimately dependent upon the individual's psycho-social characteristics of agency and self-regulation, which contribute to behavioural intentions to learn. He also notes, as did Merriam and Caffarella (1999), that differences in experience, skills and commitment influence how any given individual approaches learning, especially as the circumstances of the learning event vary. Ponton, Carr and Derrick (2004: 4) reaffirm that "understanding an individual's strength and weaknesses with regard to learner autonomy will provide insight into learners who are able to continue to learn throughout the lifespan with or without the presence of a teacher". In addition, adult learners come from different backgrounds, skills and experiences and thus, may contribute to the different approaches and attitudes towards learning. The learners' diversified background in terms of their learning styles, perception towards learning environment, computer technology experiences and English language proficiency may influence their learner autonomy or intentions to participate actively and productively in a learning process (Ng & Confessore, 2011).

Learning is a life-long process. The COVID-19 has changed the way education is being perceived. As remote and asynchronous learning has become a more substantial portion of many formal learning programs, the need for educators to facilitate their students' capacity for autonomous learning. Learner autonomy, however, needs to be understood as a psycho-social construct as differentiated from autonomous learning, which is a pattern of observable behaviors. It is often confused with encouraging self-instruction, and this could certainly be one of the consequences, but the idea goes far beyond that: by taking control of their learning, we want students to become more actively and deeply involved, try more difficult tasks, have a higher achievement, and know how to learn so that they can learn more efficiently. What's more, it should help to boost their capacity to learn as they gain their own voice. There are some interesting and effective models suggested in the literature that educators may wish to consider as they strive to understand the learners' autonomy and address the issues faced by them. We have chosen three such models to present here.

Model 1: Houle (1961), understanding the reasons individuals have for engaging in learning activities

Houle (1961: 19-29) describes three categories of learner orientation that accounted for most adult learners in his study. These are: (1) activity-oriented learning -- "The activity-oriented take part in learning primarily for reasons unrelated to the purposes or content of the activities in which they engage" (19). He asserts, the person "who takes courses simply for the credits themselves or for the diplomas, certificates, or degrees which may eventually be won by piling up the proper number of credits," is an activity-oriented learner (21). (2) Goal-oriented learners

– He explains, "... are the easiest to understand, chiefly because their views accord so well with the usual beliefs about education. Knowledge is to be put to use, and, if it is not, why bother to pursue it?" (16.) "The continuing education of the goal-oriented is in episodes, each of which begins with the realization of a need or the identification of an interest" (18). "The need or interest appears and they satisfy it by taking a course, or joining a group, or reading a book, or going on a trip" (18). (3) Learning-oriented adults are those who are involved for the sheer pleasure of learning something new. What they do has continuity, a flow, and a spread that establish the basic nature of their participation in continuing education. For the most part, "they are avid readers and have been since childhood: they join groups and classes and organizations for educational reasons; they select the serious programs on television and radio" (24). Houle found this group to be the most homogeneous. "They have goals; they enjoy participation, and they like to learn. Their differences are matters of emphasis" (29).

Confessore and Park (2000) found that Houle's learning-orientation and goal-orientation categories appeared to include very homogeneous constellations of reasons for engaging in learning. However, the constellation of reasons for engaging in learning seemed not to account for two important considerations. They concluded that individuals Houle included in the activity-orientation categories were better understood as learners when they were distributed into three categories: social-orientation, required orientation and goal orientation. Houle had labelled those "who take courses simply for the credits themselves or for the diplomas, certificates, or degrees which may eventually be won by piling up the proper number of credits." However, based upon interviews conducted with subjects in their study, Confessore and Park (2000) concluded that such individuals were better understood to be goal-oriented learners, since their reasons for engaging in the learning activity at hand was to achieve "goals" related to the benefits of "certifications."

Their study also revealed that those who reported that they were engaging in selected learning activities for "social" reasons such as seeking opportunities to spend time in learning activity where the social interaction was more important than the subject at hand formed a distinct sub-group of Houle's activity-oriented learners. Hence, they created a social-orientation category. Further, they found a relatively large number of individuals who reported that the main, if not only, reason they were engaged in the learning activity they described was that they were "required" by their employer to do so. Although it is clear that such learners could be placed in the goal-orientation category given that they had a "goal" of keeping the job, there is a clear sub-group who asserted they were just meeting the requirements established by some authority figure. Hence, they created a "required-orientation" category. Figure 2 presents the flow of changes to Houle's typology proposed by Confessore and Park (2000).

Figure 2: Proposed changes to Houle's typology

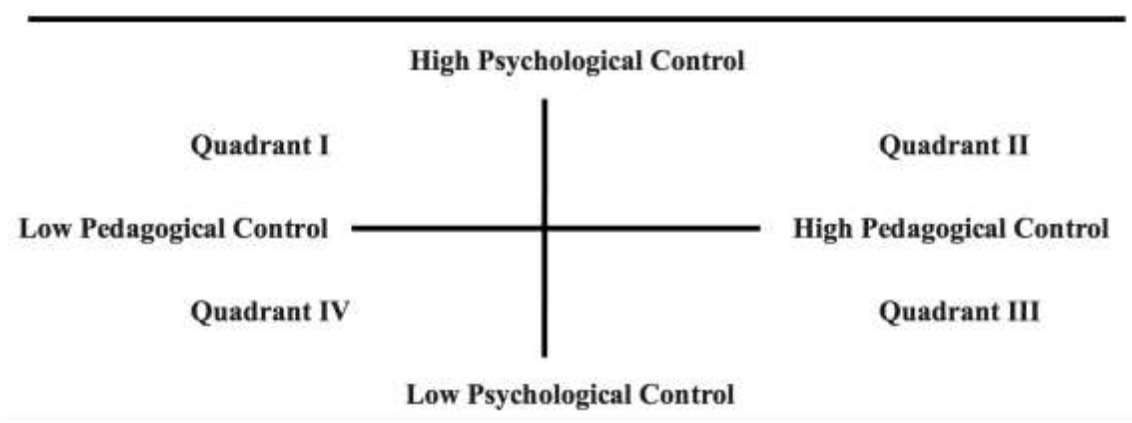
Houle's Typology			
Learning-Oriented	Activity-Oriented		Goal-Oriented
Learning-Oriented	Social-Oriented	Required-Response	Goal-Oriented
Confessore & Park Typology			

The cells in this figure are not intended to be proportional. Neither Houle nor Confessore and Park assert that the various orientations cannot overlap.

Model 2: Long (1989), understanding the relationships of instructional constraints and learner readiness

Among the many important constraints experienced in formal, corporate or institutional instructional settings is the necessity to ensure that instructional goals and activities contribute to achievement of the sponsoring agencies' reasons for providing the learning experience. Yet, it is clear that not all learners thrive in the same instructional environment and responsible educators seek to accommodate learner differences while striving to conform to agreed upon standards of instructional outcomes. Long (1989) and Grow (1991) provide helpful insights into these concerns. Long (1989) asserted that the extent to which the psychological and pedagogical control levels of the teacher and the learner are complimentary or at odds has a substantial effect on the efficacy of the learning outcomes of any given interaction. He expressed his impressions in terms of the learner's level of "psychological control" and the teachers' level of "pedagogical control" using a "quadrant model" which is replicated here in Figure 3.

Figure 3: Long's representation of teacher/student relationships



Quadrant I represents a relationship in which the learner needs a relatively high level of direction or support in order to have a successful learning experience and the teacher has not prepared or does not feel the learning event should include a high level of support for the learner. In such cases, the learner is less likely to have a successful learning experience. Quadrant II represents a relationship in which the learner needs a relatively high level of direction or support in order to have a successful learning experience and the teacher is prepared to provide a high level of support for the learner. In such cases, the learner is more likely to have a successful learning experience. Quadrant III represents a relationship in which the learner needs a relatively low level of direction or support in order to have a successful learning experience, yet the teacher feels the learning event should include a high level of support for the learner. If the student welcomes the higher level of support than is needed, this need not be a problem. However, if the student feels the teacher is exercising unnecessary control over the student’s learning experience, this could diminish the success of the learning experience. Quadrant IV represents a relationship in which the learner needs a relatively low level of direction or support in order to have a successful learning experience and the teacher feels the learning event need not include a high level of support for the learner. If the student welcomes the lower level of support as providing opportunities to exercise higher degrees of learner autonomy, this may contribute to greater satisfaction for both the teacher and the student. The message to be taken from understanding Long’s model is that both the teacher and the student will be in a better position to produce a successful learning experience if they engage in open frank consideration of the degree to which their separate and joint expectations are accommodated in the course of the learning experience.

Model 3: Grow (1991), understanding the relationships of instructional constraints and learner readiness

Grow (1991) went a step further in providing guidance as to how to minimize mismatches between the control levels of the learner and the teacher. He provided a very helpful table to convey his “staged self-directed learning model, which is presented here as Table 1.

Table 1: Grow’s Staged self-directed learning model

	Student	Teacher	Examples
Stage 1	Dependent	Authority-Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistance.
Stage 2	Interested	Motivator-Guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by a teacher who participates as an equal. Seminar. Group projects.
Stage 4	Self-Directed	Consultant-Delegator	Internship, dissertation, individual work or self-directed study group.

Replicated from the table presented in Grow (1991: 129).

Every teacher must believe and understand that all their learners have the capacity to learn and the capacity to be autonomous in their learning. The above three models are essential to help teachers to understand the reasons learners have for engaging in learning activities and the important relationship of instructional constraints and learner readiness to ensure meaningful teaching and learning. These understandings are even more essential in this period of uncertainty as learners need more guidance and motivation than ever. Besides the models stated, we also recommend some strategies to encourage learner autonomy in our classrooms.

Fostering Learner Autonomy Strategies

Activating students’ prior knowledge

All teachers and learners must account for the fact that readiness for new learning depends on the specific conditions of the new learning event and that it proceeds from the learner’s established skill set, prior experience, self-efficacy, and commitment to learn the material at hand. These conditions directly influence the learner’s beliefs, attitudes and behavioural intentions to learn in the present event. Therefore, instruction for students must be carefully designed and planned with specific knowledge of the learner’s prior related experience and degree of interest in the topic at hand so that students are able to access the content without readiness becoming a barrier. Activating prior knowledge means that teachers need to take into consideration what knowledge and skills learners bring to the task. Teachers should understand what students know before they plan their lessons. This understanding is essential to help

teachers to choose contexts and topics that they find meaningful. Choosing engaging contexts and topics based on students' prior knowledge will boost meaningful interaction and encourage curiosity in learning.

Creating flexible learning

Flexible learning will change the task and techniques of class instruction, and interactivity is the key to the transition. Tasks are designed to encourage students to make connections, think critically and explore different possibilities. Instructors are encouraged to use open-ended questions to encourage participation while accepting all sorts of answers equally. Learners have to become actively involved in the educational experience. No matter what interactive media (PC's, CD-ROMs, the Internet, audio/video-conferencing, email, web-chat) are utilized, it is imperative that the instructor inspires participation and requires interaction. Frequent questioning, probing and checks of understanding should be built-in throughout the course. Formal and informal feedback and positive reinforcement should occur at regular intervals and critical junctures throughout the course. Dialog and debate among the students and with the instructor should be encouraged. As noted by researchers and practitioners alike, the "key to successful (flexible) learning lies in changing the way courses are taught. Flexible tasks in engaging contexts built upon their interests and knowledge are the first steps in making students active members in the learning process. Indeed, learner-centred interactive strategies provide extra motivation as they give students some control over the learning process.

Learning collaboratively

Learning through collaboration promotes active learning, student empowerment, and cognitive enhancement as students collaboratively construct knowledge. According to Dillenbourg (1999), learners acquire skills of negotiating, analysing and synthesizing solutions to problems constructively through collaborative learning. Little (1995) argues that collaboration is indispensable to the proliferation of learner autonomy as a psychological capacity. Collaborative learning does not necessarily refer to learning more but to enhancing the strategies of learning and assisting learners to become more self-reliant, creative and autonomous. In the course of collaborative learner autonomy, learners participate in social interactions and interdependently negotiate and perform tasks with their peers.

Learning collaboratively

Learning to take risks

The pandemic has oriented learning towards the future with uncertainty and insecurity. Educators and learners are being confronted with the dilemma of how effective learning should take place. Whether we like it or not we are taking blind risks with the learning processes we design for our students. The pandemic has presented us with the necessity to expand opportunities for students to learn in ways that rely less on the traditional, face-to-face instructional models that have been the historical mainstay of formal education. We must take risks with new approaches and we must take care to carefully evaluate the efficacy of the resultant new mix of instructional models to be sure we are improving, or at least sustaining,

the quality of the learning opportunities we create. It is critical, at times like these, for teachers and students alike to embrace risk-taking, balanced with careful assessment of outcomes, as we seek to optimize learning in the pandemic and post pandemic world. Simply put, we cannot meet the changed conditions of our world without changing ourselves. Thus, it is paramount to encourage teachers and learners to become risk-takers who are ready to objectively separate their successes from their failures, keeping the improvements and walking away resolutely and without recriminations from their failures

Creating opportunities for learning reflection

Creating opportunities for learning reflection is essential in fostering learner autonomy. Students need to become aware of the beliefs and attitudes they hold that strengthen their capacity for learner autonomy. They need to consciously remind themselves of these strengths and apply them as they strive to acquire new knowledge and master new skills. Similarly, they need to become aware of the beliefs and attitudes they hold that undermine their capacity for learner autonomy. They need to consciously remind themselves of these influences and strive to quiet them when they begin to retard their progress as learners. Instructors have to create tasks that can help students to reflect on different aspects of a lesson while allowing choice. Reflection is one step towards self-assessment. Peer-assessment is another one: students often need to be exposed to other types of feedback before they can assess themselves in an effective manner.

Conclusion

The theories and models presented here provide food for thought about what we have learned so far during the COVID-19 pandemic. They are reminders to learners, teachers and all who have a role to play in optimizing the learning experiences in which we engage in the future.

References

1. Bandura, A. (1977). "Self-efficacy: Toward a unifying theory of behavioral change." *Psychological Review*. 84 (2), 191-215.
2. Candy, P. C. (1991). *Self-direction for lifelong learning*. San Francisco: Jossey-Bass
3. Carr, P. B. (1999). *The measurement of resourcefulness intentions in the adult autonomous Learner*. Doctoral Dissertation, The Graduate School of Education and Human Development of The George Washington University.
4. Confessore, G. J. (1991). What became of the kids who participated in the 1981 Johnson State early college program? *Journal for the Education of the Gifted*. 15 (1).
5. Confessore, G. J., & Confessore, S. J. (1992). *Guideposts to self-directed learning*. King of Prussia: Organization Design and Development.
6. Confessore, G. J., & Park, E. (2004). Factor validation of the Learner Autonomy Profile, version 3.0 and extraction of the short form. *International Journal of Self-directed Learning*, 1 (1), pp. 39 -58.
7. Confessore, G., & Park, E. (2000). The distribution of Houle's learner orientation typology among baccalaureate students. A comparative study of traditional and non-traditional students in Korea and the United States. *Practice & theory in self-directed learning*, 39-58.
8. Confessore, G.J. & Park, EunMi, Factor validation of the Learner Autonomy Profile Version 3.0, and extraction of the Short Form. In H.B. Long & Associates *International Journal of Self-directed Learning, Volume 1, (1)*, Spring 2004. pp. 39-58.
9. Confessore, S. J. & Confessore, G. J. (1994). Learner profiles: A cross-sectional study of selected factors associated with self-directed learning. In H.B. Long & Associates. *New ideas about self-directed learning*. Norman, OK: Research Center for Continuing Professional and Higher Education.
10. Confessore, S. J. & Confessore, G. J. (1994). Learner profiles: A cross-sectional study of selected factors associated with self-directed learning. In H.B. Long and Associates, *New ideas about self-directed learning*. (pp. 201-227). Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education.
11. Derrick, M. G. (2000). *The measurement of intentions to exhibit persistence in adult autonomous learners*. Doctoral dissertation, The Graduate School of Education and Human Development of The George Washington University
12. Dillenbourg, P. (1999). What do you mean by collaborative learning? In P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and Computational Approaches*. (pp. 1-19). Oxford; UK, Elsevier Publishing.
13. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
14. Grow, G. (1991). Teaching learners to be self-directed. *Adult Education Quarterly*. 41:3 Spring 1991, pp. 125-149.
15. Guglielmino, L. M. (1978). *Development of the Self-Directed Learning Readiness Scale*. (Doctoral dissertation, University of Georgia, 1977). *Dissertation Abstracts International*, 38, 6467A.

16. Houle, C. O. (1961). *The inquiring mind: A study of the adult who continues to learn*. Madison, WI: University of Wisconsin Press.
17. Knowles, M. S. (1967). *Andragogy not pedagogy*. Delbert Clark Award Address, West Georgia College, Carrollton, GA.
18. Li, C., & Lelani, F. (2020). The COVID-19 pandemic has changed education forever 2020. Available at: <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
19. Little, D. (1995). Learning as Dialogue The Dependence of Learner Autonomy on Teacher Autonomy. *System*, 23, pp. 175-182.
20. Long, H. B. (1989a). Self-directed learning: Emerging theory and practice. In H. B. Long and Associates, *Self-directed learning: Emerging theory and practice*. (pp.1-11) Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education.
21. Long, H. B. (1992). Philosophical, psychological and practical justifications for the study of self-directed learning. In H.B. Long and Associates, *Self-directed learning: Application and research*. (pp. 9-24) Norman, OK: Oklahoma Research Center for Continuing Professional and Higher Education.
22. Merriam S. B., & Caffarella, R. S. (1999). *Learning in Adulthood: A Comprehensive Guide* (2nd ed.). San Francisco: Jossey Bass
23. Meyer, D. A. (2001). *The measurement of intentional behavior as a prerequisite to autonomous learning* Doctoral dissertation, The Graduate School of Education and Human Development of The George Washington University.
24. Ng, S. F., & Confessore, G. J. (2011). Assessing the Capacity for Success in Distance Learning in Malaysia. *Procedia - Social and Behavioral Sciences*, 15, pp. 1742–1750
25. Ponton, M. K. (1999). *The Measurement of an adult's intention to exhibit personal initiative in autonomous learning*. Doctoral dissertation, The Graduate School of Education and Human Development of The George Washington University.
26. Ponton, M.K., & Carr, P.B., & Derrick, M.G. (2004). A path analysis of the conative factors associated with autonomous learning. *International Journal of Self-directed Learning*, 1 (1), pp.59-69.
27. Spear, G. E., & Mocker, D. W. (1981). "The organizing circumstance: Environmental determinants in self-directed learning." *Adult Education Quarterly*, 35, pp.1-10.
28. Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult learning* (2nd ed). Toronto: Ontario Institute for Studies in Education.
29. Tough, A. M (1981). *Learning without a teacher: A study of tasks and assistance during adult self-teaching projects*. Toronto, Ontario: The Ontario Institute for the Study of Learning.
30. World Economic Forum. (2020). The COVID-19 pandemic has changed education forever. *Global Agenda*.