

Challenges Faced by Adult Learners in Online Distance Education: A Literature Review

Mehmet Kara 
Amasya University (Turkey)
m.kara@live.com

Fatih Erdođdu  & Mehmet Kokoç 
Trabzon University, Trabzon (Turkey)
fatiherdogdu67@gmail.com & kokoc@trabzon.edu.tr

Kursat Cagiltay 
Middle East Technical University (Turkey)
kursat@metu.edu.tr

Abstract

Although online distance education provides adult learners with an opportunity for life-long learning, there are still factors challenging them to engage in educational processes. The purpose of this study is to explore the challenges faced by adult learners in online distance education through the analysis of the relevant literature. The articles (N=36) published in the key journals in the fields of open and distance education, instructional technology, and adult education were reviewed and analyzed through constant comparative analysis in the current study. The findings reveal that adult learners have challenges related to internal, external, and program-related factors indicating the interrelated nature of these challenges. The findings also show that the challenges experienced by adult learners vary depending on their age, gender, knowledge and skills as well as the context in which they study. The findings of this study, which has an exploratory nature, have several implications for distance education stakeholders such as administrators, instructors, instructional designers, and policy makers.

Keywords: online distance education, adult learners, challenges

Introduction

It is clearly known that distance education provides adult learners with the advantage of life-long learning due to its flexibility. Distance education is defined as the planned teaching and learning activities provided through the use of a communication channel within an institutional organization without any time and place limitations (Moore & Kearsley, 2011, p. 2). With the widespread adoption of the Internet and online tools as the communication medium, online distance education empowered the flexibility of educational opportunities. Considering the advantages of online distance education, adults compose the largest audience for online distance education (Ke & Xie, 2009; Lim, 2001) and consequently the limits of the diversity expand in online distance education practices. Specifically, they display significant differences from traditional students in terms of their academic, psychological, and life characteristics (Richardson & King, 1998). Besides, their engagement in education is more irregular and varied compared with the traditional ones (McGivney, 2004). This variation and irregularity is due to the fact that they mostly continue their education with their work and family responsibilities. With all these in mind, adult learners' unique characteristics cause unique challenges for them, which affect the way they continue their education or participate in online distance educational processes.

Adult Learning

Adult learners have distinct characteristics in comparison to traditional students. Firstly, they are aware of why and what they need to learn (Knowles, 1996). It is also known that the adult learners, who have diverse educational background and goals, want to reflect their experiences on their educational process (Lindeman, 2015). They are different from other learners in terms of their responsibilities in their daily lives, which influence their educational experience (Cercone, 2008). For this reason, there is a need for an educational environment where adult learners are allowed to determine their own educational processes; to share their ideas comfortably; and to sustain their educational process alongside their private lives. Thus, online distance education environment offers appropriate opportunities through the flexibility it provides for adult learners, who are aware of their own learning responsibilities and are required to manage their own learning processes.

In spite of the increase in the number of adult learners and consequently in the diversity of the students in online distance education, the number of the studies related to them are fewer in the literature than those studies about traditional learners (Chu & Tsai, 2009; Ke, 2010; Remedios & Richardson, 2013). Adult learners can be classified as young and older adults depending on their ages. However, adult learner can be defined as the ones who continue their education by balancing their family and work and are generally older than 22 (Kahu, Stephens, Leach & Zepke, 2013) and these characteristics makes them quite different from traditional learners. Although these differences might provide adult learners with some advantages in educational processes, they might lead to various challenges as well. As a consequence, these point out the need to plan educational environments and processes in accordance with these learners' characteristics.

Adult Learners in Online Distance Education

Considering the learner-centered nature of all instructional design models, it is a necessity to design and implement online distance education programs that meet the needs of diverse learners including adults. This requires a sound understanding of the link between adult learners' characteristics and the appropriateness of the online environments for their online experiences.

Learners can manage learning processes wherever and whenever they desire through the online learning environments. Additionally, adult learners have an opportunity to engage in more interaction via the tools (e.g. discussion and chat) offered by online learning environments (Kim, Liu & Bonk, 2005). By this way, they can develop virtual teaming skills and control their own learning processes (Kim, Liu, & Bonk, 2005). Interaction is also considered as a key factor in online distance education and it is a good predictor of learning (Picciano, 2002). Online distance education also provides an opportunity for learners to engage in individualized instruction and thus learning processes can be planned in harmony with their characteristics (Means, Toyama, Murphy, Bakia & Jones, 2009). Furthermore, one of the most fundamental and crucial benefits of online distance education for adults is the opportunity for life-long learning.

In addition to the advantages of distance learning mentioned above, it is known that especially adult learners face particular challenges during their online education. Computer and Internet self-efficacy of adult learners play a significant role in online learning processes (Johnson, Morwane, Dada, Pretorius & Lotriet, 2018). The learners who have low perception of competency in these issues or the older adult learners might have challenges in this process and this might cause learner dropout (Appana, 2008). The problems related to learner support might also be experienced in

online distance education. It might be the case that adult learners do not have available support through the related resources and orientation programs as college students do. Therefore, they might feel isolated in their educational experience. The challenges they experienced in education might increase when they lack of adequate support from their families and workplaces. In addition, adults have multiple roles such as spouse, parent, colleague, and student, each of which means additional responsibilities and workload (Thompson & Porto, 2014). These challenges might affect their learning success as well as causing dropout in online distance education programs or courses (Park & Choi, 2009). Increasing dropout rates are considered as a crucial problem in distance adult education. One study by Choi and Kim (2018) examined meaningful factors affecting adult distance learners' decisions to drop out. Their study found that some of the factors affected adult learners' decisions to persist in or drop out of the online degree programs such as basic physical constraints from work, scholastic aptitude, family/personal issues, motivation for studying, academic integration, interaction, and motivation (Choi & Kim, 2018). In another major study, Lee, Choi and Kim (2013) found that academic locus of control and metacognitive self-regulation skills were the more important factors influencing the dropout of adult learners. Deschacht and Goeman (2015) emphasized that future studies should be focused on preventing the dropout of adult online learners. These studies showed that the external and internal challenges faced by adults increased the likelihood of adult learners' dropout. Due to the high rates of dropout, particularly by adult learners as a result of the challenges they faced, student retention is now considered as a success factor in online distance education programs (De Paepe, Zhu & DePryck, 2018; Martinez, 2003). Thus, there is also an immense need to focus on these challenges in online distance education practices.

Former research has concentrated on what to do to improve quality and adult learners' performance in online distance education (Johnson et al., 2018; Thompson & Porto, 2014). In the review of the literature, it is observed that the relevant studies focus on a single component of distance adult education. For this reason, it seems significant to create a framework and explore current landscape regarding the mentioned challenges for the future studies in adult distance education. Recent studies addressed that a holistic understanding of the problems and challenges faced by adults in online distance education plays a key role in building effective online learning experiences (Wang, 2011; De Paepe et al., 2018). Therefore, the purpose of this study is to investigate the challenges faced by adult learners in online distance education through the review of the related literature so as to create such a framework. Specifically, the current study strives to answer the research question: What are the identified challenges faced by adult learners at a distance in the literature?

Method

The present study used systematic literature review procedures. The research studies in the literature reporting the challenges faced by adults were systematically reviewed and analyzed. The followed procedure was presented in the following sections.

Inclusion and Exclusion Criteria

Several criteria were determined for the inclusion of the studies. The main inclusion criterion was that the reviewed studies had to be conducted in the contexts of online distance education programs

offering academic degrees. Therefore, the studies about corporate trainings and Massive Open Online Courses (MOOCs) were excluded from the study because only the studies reporting the findings from the online distance education programs offering academic degrees were aimed to be included. Based on this main criterion, other inclusion and exclusion criteria were identified to review. Considering the developments in online distance education, the studies published since 2000 were included in this study. As another basic inclusion criterion, only the empirical journal articles were included; that is, the book reviews, literature reviews, meta-analysis studies, editorials, and conference proceedings were excluded in the current study. Furthermore, merely the articles published in peer-reviewed journals were included.

In accordance with the aim of this study, the journal articles aiming to investigate the challenges of adult learners in online distance education were included. As another criterion, the participants of the studies needed to be adult learners in that the studies either stated the ages of the participants explicitly or the participants were adult learners at a distance. The participants of the studies were accepted as adults only if they met the adult learner definition by Kahu et al. (2013). Since the focus of the current study is on reviewing the studies exploring adult learners' challenges, only the qualitative, mixed methods, or descriptive studies were included. Additionally, it is obvious in the literature that some challenges faced by adult learners cause dropouts in online distance education programs. For this reason, the journal articles aiming to investigate the reasons for dropout behavior of adult learners were also included in the present study.

Data Collection and Analysis

The data collection started with a comprehensive search on the electronic databases and the tables of contents of the key journals publishing distance education and adult learning articles. The e-databases on which the search was conducted are *Web of Science*, *SAGE Journals Online*, *Educational Resources Information Center (ERIC)*, *Wiley Online Library*, *ScienceDirect*, *SpringerLink*, and *Taylor & Francis Online Journals*. The search was conducted by using the keywords: *distance education*, *adult learning/learners*, *challenges*, *obstacles*, *dropout*, *persistence*, and *retention*.

The tables of the contents of the 36 key journals in distance education, instructional technology, adult and lifelong education were specifically reviewed. The journal articles were reviewed in terms of their aims, methods, contexts, and results. Finally, 36 journal articles included in this study were identified. The list of the journal articles reviewed in the current study are presented in Table 1. The demographics of the participants in the reviewed articles are also presented in Table 2.

The data analysis was conducted in three phases: organization of the articles, reduction of the findings in the articles through coding, and illustration of the findings via tables and a figure. The articles were firstly organized in an article database created by the researchers and were analyzed by using Constant Comparative Analysis method as suggested by Glaser (1965). Constant comparative analysis was used to compare and contrast the challenges that are encountered by adult learners at a distance reported in the studies. The challenges reported in the articles were coded and then categorized based on their similarities and differences. The analysis results were reported by comparing and contrasting the concepts and integrating the studies. The themes were created by adapting Willging and Johnson's (2009) category of dropout reasons. They were grouped as the internal challenges directly related to the adult learners' characteristics, the external challenges affected by the study conditions, and institutional challenges stemming from the educational organization responsible for the delivery of the instruction.

Table 1: Articles reviewed in this study

Number	Author(s)	Year	Research Type	Research Context
1	Calvin & Freeburg	2010	Qualitative	Undergraduate
2	Doherty	2006	Quantitative	Undergraduate
3	Dumais, Rizzuto, Cleary & Dowden	2013	Mixed Method	An online degree program
4	Dzakiria	2012	Qualitative	No information
5	Erickson & Noonan	2010	Quantitative	Graduate
6	Furnborough	2012	Qualitative	A language Course
7	Grace & Smith	2001	Qualitative	A vocational training course
8	Joo	2014	Qualitative	Undergraduate
9	Kahu, Stephens, Zepke & Leach	2014	Qualitative	Undergraduate
10	Nor	2011	Mixed Method	Undergraduate
11	Östlund	2005	Mixed Method	Undergraduate
12	Park & Choi	2009	Quantitative	High school, Undergraduate, and Graduate
13	Pierrakeas, Xeno, Panagiotakopoulos & Vergidis	2004	Qualitative	Undergraduate and graduate
14	Rao & Giuli	2010	Mixed Method	Graduate
15	Selwyn	2011	Qualitative	Undergraduate and graduate
16	Tekinarslan	2004	Qualitative	Graduate
17	Venter	2003	Qualitative	Graduate
18	Vergidis & Panagiotakopoulos	2002	Quantitative	Graduate
19	Willging & Johnson	2004	Qualitative	Graduate
20	Xenos, Pierrakeas & Pintelas	2002	Qualitative	Undergraduate
21	Yasmin	2013	Qualitative	Graduate
22	Zhang & Krug	2012	Qualitative	Graduate
23	Zembylas	2008	Qualitative	An online course
24	De Paepe et al.	2018	Qualitative	Educators
25	Vanslambrouck, Zhu, Tondeur, Philipsen & Lombaerts	2016	Qualitative	Teacher Training Program
26	Gravani	2015	Qualitative	Higher Education System
27	Choi & Kim	2018	Quantitative	Online Degree Program
28	Choi & Park	2018	Quantitative	Online Degree Program

Continued

Table 1: Continued

Number	Author(s)	Year	Research Type	Research Context
29	Knestrick et al.	2016	Quantitative	Graduate
30	Iloh	2018	Qualitative	Graduate
31	Musita, Ogange & Lugendo	2018	Qualitative	Graduate
32	Boateng	2015	Quantitative	Graduate
33	Chang & Kang	2016	Quantitative	Graduate
34	Kim & Park	2015	Quantitative	Graduate
35	Thistoll & Yates	2016	Qualitative	Distance Vocational Education
36	McGee, Windes & Torres	2017	Qualitative	Online Teaching Expert

Review Procedure

Following the identification of the research studies based on the relevant literature and inclusion criteria, the abstracts and findings sections of these studies were reviewed. The abstracts were firstly reviewed to find out an indicator or clue of a challenge causing problems or dropout for adults. When an indicator or clue was not found in the abstract, the findings section was reviewed. In the findings section, it was aimed to identify whether there were findings regarding the challenges and whether these findings were related with adults. Finally, the identified findings were coded.

Table 2: Participants in the articles reviewed in this study

Number	Age (Mean or Range)	Female-Male (N)	Location
1	36	174-336	USA
2	28	7103-3343	USA
3	29	Unavailable	USA
4	42-51	3-5	Malaysia
5	21-65	42-9	USA
6	Unavailable	28-15	UK
7	Unavailable	1-3	Australia
8	Unavailable	Unavailable	Korea
9	25-59	15-4	New Zealand
10	50-59	22-50	Malaysia
11	Unavailable	Unavailable	Sweden
12	20-Above 40	105-42	Korea

Continued

Table 2: Continued

Number	Age (Mean or Range)	Female-Male (N)	Location
13	23-45	357-873	Greece
14	Unavailable	Unavailable	USA
15	21-71	30-30	Africa, Asia, Australia, Europe, USA
16	Unavailable	Unavailable	Turkey
17	Unavailable	24-19	Europe, Asia Pacific
18	23-39	643-577	Greece
19	Unavailable	39-16	USA
20	31	217-535	Greece
21	25-45	6390-5758	India
22	20-50	3-9	Canada, Japan, China, USA
23	27-50	17-5	Cyprus
24	Unavailable	Unavailable	Belgium
25	23-53	4-5	Belgium
26	25-55	10-6	Cyprus
27	30-49	1377-2085	Korea
28	30-49	761-512	Korea
29	33	780-67	USA
30	25-51	21-13	USA
31	18-35	8-8	Kenya
32	Unavailable	Unavailable	Ghana
33	20-60	Unavailable	USA
34	Unavailable	Unavailable	Korea
35	Unavailable	Unavailable	New Zealand
36	Unavailable	Unavailable	USA

For the internal validity of the study, the reviewed studies and the findings were checked by a subject field expert along with the researchers and the required revisions were made, consequently. As for the external validity, the qualitative findings were analyzed according to Willging and Johnson's (2009) category of dropout reasons of adults. As for the reliability, the data collection procedure, including the databases and keywords and data analysis, were clearly reported so that the study can be easily replicated. Figure 1 illustrates the phases of the analysis of a reviewed article and how the findings were coded.

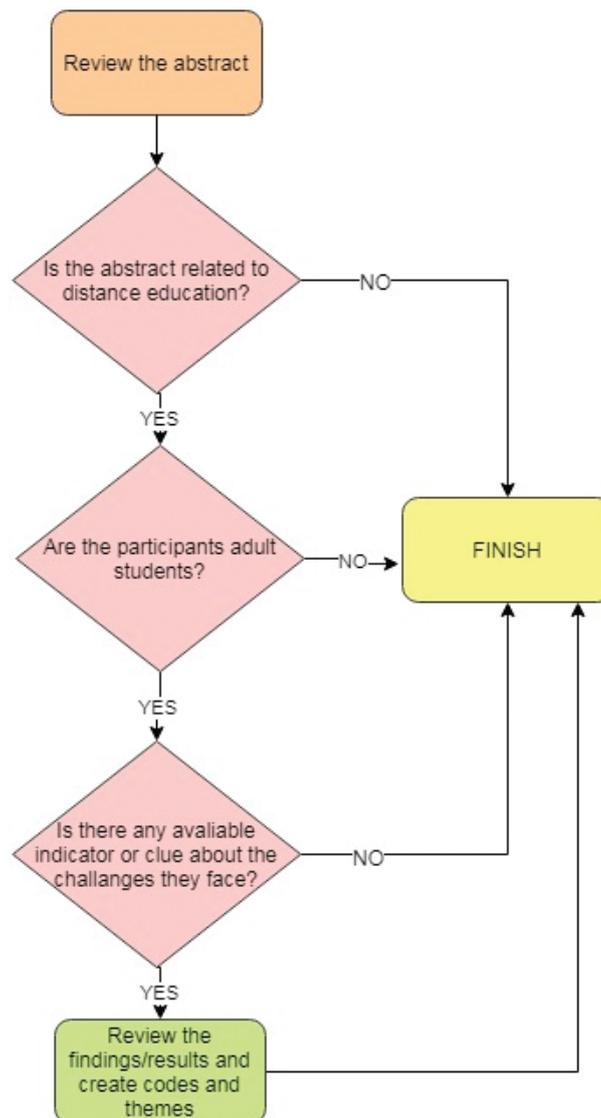


Figure 1: Data Collection Procedure and Decision-Making Process

Following the procedure demonstrated in Figure 1, 36 articles meeting the pre-determined inclusion criteria were identified and included in the current study. Diverse codes and themes were revealed through the detailed review of the abstracts and findings of these articles.

Findings and Discussion

The challenges experienced by adults were organized as themes depending on the properties of the challenges. The identified themes were internal, external, and program-related challenges.

Internal Challenges

The internal challenges include adult learners' individual challenges related to their own characteristics. The internal challenges experienced by adult learners are classified as Management Challenges, Learning Challenges, and Technical Challenges as demonstrated in Table 3.

The first sub-theme found in the literature is management challenges. In the literature there is a consensus on the fact that adult learners are different from traditional students since they have family and work responsibilities. For this reason, they need to manage their family and work while continuing their education. This requisite is reported in many of the studies in the literature as the source of a major challenge for adults; creating balance between work and family or other social responsibilities (Doherty, 2006; Selwyn, 2011; Yasmin, 2013). Particularly, female learners are reported as the ones who are mostly challenged by such family responsibilities as childcare and domestic works as well as their work if they are employed (Selwyn, 2011). Correspondingly, adult learners are required to have time management skills or appropriately structure or schedule their studies to create this balance (Calvin & Freeburg, 2010; Zhang & Krug, 2012). If they have insufficient or lack of time management skills, then this causes another challenge for them to continue their education or to successfully complete distance education program. The review regarding the internal challenges indicated that middle-aged adults (between the ages of 36 and 55) are unable to create a balance between their education and work, family, and social life. Additionally, female learners who were married and had children generally have challenge to establish balance between their family and education and they could not give adequate importance to their education, accordingly (Selwyn, 2011).

Table 3: Internal challenges faced by Adult Learners in Distance Education

Sub-Themes	Concepts	Frequency
Management Challenges	Inability to create balance between education and work	14
	Inability to create balance between education and family or social life	14
	Difficulty in time management	6
Learning Challenges	Less commitment to education	6
	Lack of interest in program or materials	2
	Inability to understand course materials	1
	Lack of prerequisite knowledge	3
	Low concentration on study	1
	Low self-confidence	1
Technical Challenges	Difficulty in communication through the internet	3
	Insufficient computing skills	9
	Difficulty in accessing reliable information	1

The second sub-theme is learning challenges. The aforementioned management challenges influence adults' commitment to their education and less commitment to education poses one of the learning challenges for them as reported by Dumais et al. (2013). Yasmin (2013) found out that the adult learners who start to study after a long period of time have a difficulty focusing on studying. In addition to these personal challenges, some factors pertaining to distance education programs also pose learning challenges for adults when an inconsistency between the program and learners occurs. In their study, Willging and Johnson (2009) reported that lack of interest in a program or learning materials is a source of challenge for adults. Pierrakeas et al. (2004), on the other hand, indicated that learners' inability to understand course materials and their lack of prerequisite knowledge or skills for a course might be also challenges for traditional learners. The review showed that middle-aged adults have challenges to concentrate on studying and course materials owing to their busy work life.

The final sub-theme is technical challenges especially experienced by older adults. The studies conducted with older adults reported that technology usage poses a challenge for them. For example, in his study with undergraduate students who are 50 and older, Nor (2011) reported that communication on the Internet is a challenge for adult learners. In another study with graduate adult learners who are between 50 and 65 by Erickson and Noonan (2010), it was reported that the lack of technical skills makes the instructional process challenging for learners. The same finding was also reported in the study with the students who are between 41 and 51, by Dzakiria (2012). He additionally revealed that accessing reliable information via the Internet is another challenge for adults. The review findings demonstrated that the older adults who are 50 and above unlike the young and middle-aged adults have difficulty to participate in the collaborative activities satisfactorily due to the insufficient technical skills and insufficient interaction on the internet (Nor, 2011; Dzakiria, 2012; Chang & Kang, 2016).

External Challenges

The external challenges include the challenges stemming from work and domestic environments or from responsibilities of adult learners as independent from their personal characteristics. The external challenges are categorized into two sub-themes as Job-related and Domestic challenges as shown in Table 4.

Employed adults have challenges concerning their jobs. Even if they have the ability to create the balance between work and education, they could not find the needed time to meet the course or program requirements when they were overloaded with their works as reported by Dumais et al. (2013). Likewise, Willging and Johnson (2009) revealed that varying job responsibilities are also a challenge for adult learners. They also reported that when the adults had jobs that did not have a pre-determined work schedule or had financial problems, there were high rates of dropout in the distance education programs. It was observed that this challenge was faced by the employed middle-aged adults who lived in the countries with high population (e.g. USA, China, India, and Canada), and thereby who had busy work schedule. In this regard, they needed support from the organizations where they worked to meet the educational requirements. Lack of organizational support was reported as either the main source of the challenges or as a factor that made it difficult for adults to deal with these challenges in several studies (Joo, 2014; Park & Choi, 2009; Willging & Johnson, 2009). Due to heavy workload, lack of organizational support, schedule conflicts or, sometimes, family responsibilities –especially for female learners–, adults tend to have limited time to allocate for their education (Erickson & Noonan, 2010; Kahu et al., 2014; Rao & Giuli, 2010; Venter, 2003; Willging & Johnson, 2009; Zembylas, 2008).

Table 4: External challenges faced by Adult Learners in Distance Education

Sub-Themes	Concepts	Frequency
Job-Related Challenges	Work overload	1
	Lack of employing organization's support	2
	Schedule conflicts	1
	Financial problems	1
	Limited time to study	6
Domestic Challenges	Technical problems	6
	Limited environment to study	5
	Lack of family support	4

One of the domestic challenges is concerned with technical problems such as disconnection problems and lack of broadband Internet speed experienced by adults in their study locations (Dzakiria, 2012; Kahu et al., 2014; Ostlund, 2005; Rao & Giuli, 2010). For example, in their study with mature age learners, Kahu et al. (2014) reported that some of the learners had technical problems in participating in the educational activities at their home and they could not study in their workplaces. This challenge is partially a source of another challenge, which is limited physical environment to study (Kahu et al., 2014; Selwyn, 2011; Zembylas, 2008; Zhang & Krug, 2012). In his study with undergraduate and graduate adults, Selwyn (2011) indicated that the lack of suitable physical environment to study is particularly a challenge for females since they have multiple responsibilities aside from their education such as childcare, household works, and their job-related works if they are employed. In this respect, adults need to have family support for their education as well as organizational support. Otherwise, lack of family support becomes another domestic challenge (Willging & Johnson, 2009; Zembylas, 2008). In his study with graduate students, Zembylas (2008) reported that family support served to help adult learners to deal with many of the problems they encountered and to create a balance between their family responsibilities and education.

Program-related Challenges

In online distance education, the context of each program might be also a source of challenge itself for learners, which is called in this study as program-related challenges. These sorts of challenges include the ones pertained to the distance education program in which adults participate in educational activities. Within this theme, there were two sub-themes called 'tutor-related' and 'institutional challenges' as demonstrated in Table 5.

The literature indicates that adults suffer from insufficient interaction with both tutors and other students. Tutors clearly influence learners' satisfaction and success in both distance education and traditional education settings. Tutors' ineffective interaction with learners brings about several learning challenges (Dumais et al., 2013; Dzakiria, 2012; Joo, 2014; Ostlund, 2005; Venter, 2003). Tutors' interaction problems with learners might arise when the tutors have limited communication with learners (Joo, 2014), or fail to provide them with any response (Dumais et al., 2013), or with timely response (Dzakiria, 2012). The lack of sufficient feedback (Östlund, 2005), the needed tutor assistance (Pierrakeas et al., 2004), and the lack of synchronous communication with tutors (Joo, 2014) are also among other interaction problems between the tutor and the learners.

Table 5: Program-related challenges faced by Adult Learners in Distance Education

Sub-themes	Concepts	Frequency
Tutor-related Challenges	Low interaction with tutors	7
	Low interaction with learners	8
	Feeling of isolation	5
	Unsuitable course requirements	6
Institutional Challenges	Unsuitable learning materials	4
	Too difficult or demanding program	3
	Lack of institutional support	9

Interaction among learners emerges as another interaction challenge. Studies show that interaction among adults or their engagement in the social learning groups is quite low (Furnborough, 2012; Östlund, 2005; Venter, 2003; Zhang & Krug, 2012). The reason for the insufficient interaction among the learners varied in different studies. For example, in Furnborough's (2012) study, the adults stated that they could not interact with their peers because of their work and family responsibilities. The participants in Zhang and Krug's (2012) study, on the other hand, showed that the reason for their lack of interaction was related to their belief that establishing a social relationship was difficult at a distance.

In some studies, feeling of isolation is reported as a challenge faced by adults. The sources of this feeling might include a single or multiple reasons. For example, in the study conducted with graduate adults, Zembylas (2008) revealed that the lack or insufficiency of communication between the learners and the instructors and among learners tended to act as a source of isolation on part of the learners. In another study with graduate students, Venter (2003) listed the sources of isolation as "inadequate structure, discipline, and guidance by tutors", "inadequate interaction with tutors and among learners", "lack of feeling of belonging to institution or being a student", and "lack of time due to work and family responsibilities".

The final tutor-related challenge is found to be unsuitable course requirements. These sorts of challenges include too difficult assignments (Rao & Giuli, 2010; Willging & Johnson, 2009), lack of clarity in assignments (Dumais et al., 2013), and too difficult or demanding courses or programs (Willging & Johnson, 2009; Xenos et al., 2002). These challenges might stem from either institutional challenges (Dumais et al., 2013; Willging & Johnson, 2009) or internal challenges such as the incongruences between the course materials and learners' preferences, learners' lack of prerequisite knowledge about courses and programs (Grace & Smith, 2001; Pierrakeas et al., 2004) or their lack of interest in the course materials (Willging & Johnson, 2009).

The institutional challenges, on the other hand, are unsuitable learning materials, too difficult or demanding programs, and the lack or inefficiency of technological and pedagogical support in distance education institutions. Firstly, the learning materials provided by distance education institutions might not fit learners' expectations depending on the various reasons and this situation might cause learning challenges. According to the related literature, the learning materials provided by distance education institutions are unsuitable since they do not meet learners' learning preferences (Grace & Smith, 2001). It is also often the case that the learners have a lack of interest in the materials (Willging & Johnson, 2004) or they are unable to understand them (Pierrakeas et al., 2004). Additionally, the materials might have heavy academic language or be unsuited to learners' worldview and experiences (Joo, 2014). As a common finding, the adult learners experiencing these challenges are generally employed females, who continue their education by dealing with housework and childcare and thus having a great deal of responsibility in both family and work life.

The second challenge is presented as unsuitable course requirements under the tutor-related challenges theme above. Program difficulty or difficulty of the courses in general are also reported as a challenge that brings about dropouts in distance education programs (Xenos et al., 2002; Willging & Johnson, 2009). For this reason, the study conducted by Dumais et al., (2013) implies that it is crucial to take learners' generational status into consideration during the development of distance education programs as well as services.

The final challenge is found as the lack of technological and pedagogical support. Studies indicate that adults need both technological (Erickson & Noonan, 2010; Willging & Johnson,

2009) and pedagogical support for learning materials (Dumais et al., 2013). Since some studies show that some learners, especially older adults have a challenge in using technology (Dzakiria, 2012; Nor, 2011), it appears that these learners need technological support from their distance education institutions. For example, in their study with graduate adult learners who are between 50 and 65, Erickson and Noonan (2010) revealed that adults needed a higher level of technological support to be successful in distance education courses. Additionally, Park and Choi (2009) reported that organizational support was one of the predictive factors of dropout in distance education courses.

Conclusion

The results of the study revealed three main categories, which comprise internal, external, and program-related challenges. These challenges are found to be generally interrelated. Additionally, the review yielded a classification of the challenges faced by adult learners in online distance education (see Figure 2). It was also demonstrated that the challenges perceived by adults depend on individual characteristics such as age, gender, knowledge, skills, and the context.

The theme of internal challenges presents those challenges that are caused by the learners' individual characteristics or by their lack of some required skills to cope with these challenges. They are classified as management, learning, and technical challenges. It arises from the review that the internal challenges are closely related with the external challenges, which stem from their job and domestic conditions. The job-related challenges include work overload, lack of organizational support, schedule conflicts, financial problems, and limited time to study. Domestic challenges, on the other hand, consist of technical problems, limited environment to study, and lack of family support. In addition, program-related challenges are categorized as tutor-related and institutional challenges. Tutor-related challenges comprise low interaction with tutors, low interaction among learners, feeling of isolation, and unsuitable course requirements. Institutional challenges are shown to be constituted by unsuitable learning materials, too difficult or demanding program, and lack of institutional support. These challenges tend to be strongly related with each other and one challenge might become the source of another as independent from their classifications in this study.

The study has several practical implications for distance education administrators, practitioners, and policy makers as well as theoretical implications for the researchers. First of all, each challenge faced by the adults might be individual and contextual. For this reason, the distance education administrators are required to get student feedback in terms of the effectiveness of their distance learning experience in addition to learning about students' entry characteristics.

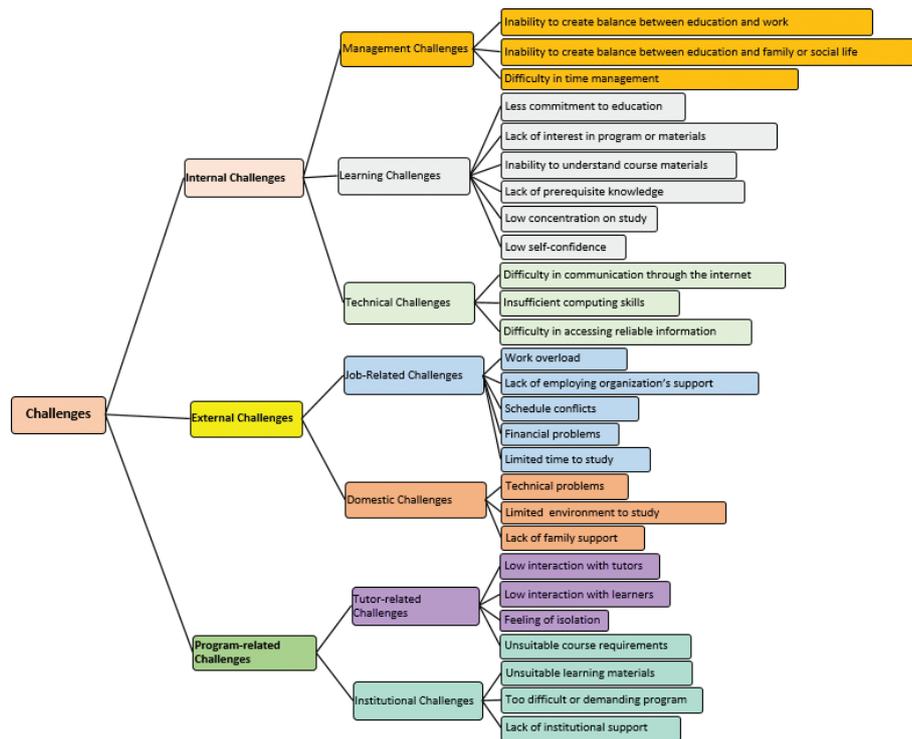


Figure 2: Challenges Faced by Adult Learners in Distance Education

The findings related to the internal challenges demonstrate that adult learners' participation and their persistence in distance education courses and programs can be increased with the provision of some guidance. This guidance can be focused on effective time management and learning strategies as well as how to handle frequently faced technical problems. It can be in the form of orientation programs, student guides, and ongoing guidance and support. It can be argued that administrators have little chances of overcoming the external challenges. However, these challenges can be overcome by providing flexible course and program requirements in addition to developing contextual solutions for each challenge relying on the characteristics of the learners. Student orientation and mentoring can also be useful in overcoming the identified external challenges. Distance education administrators especially can cope with the institutional challenges faced by the adult learners. For the tutor-related challenges, continuing faculty professional development and performance improvement are essential. An accreditation policy can be adopted for faculty before their recruitment in online distance programs. The study findings particularly underline the importance of faculty's andragogical and pedagogical competencies in addition to their technological literacy. This can be done through such faculty professional development strategies as student feedback, communities of practice, ongoing support, electronic performance support systems, and so on.

The principal theoretical implication of the study is that instructional technologists and practitioners should focus on personal traits of adult online learners and contextual factors instead of one-size-fits-all approach in adult learning design. There is, therefore, a definite need for employing dynamic assessment tools and learning analytics dashboards which can improve learning and optimize online distance learning environments for adults. This might serve to play a key role in both building effective online learning experiences of adult learners and overcoming learning and program-related challenges. In addition, the findings of the study provide insights for the challenges that prevent the adults from engaging in distance education programs. Thus, educational practitioners should

make reasonable effort to create flexible learning environments and course content considering the individual differences and challenges of adult learners. It is considered that a detailed examination of these challenges might have a positive influence on adult learners' dropout decisions.

Limitations and Recommendations for Future Research

The present study has several limitations, which point at a need for future studies. The study was limited to the articles published after 2000. Future research can also draw a more comprehensive picture of the challenges faced by adult learners in distance education programs with the inclusion of more e-databases or educational journals in the search process. Furthermore, the thesis and dissertations on this issue can also be incorporated into the study to provide an understanding of the adult challenges in local or national contexts. Each of the identified challenges implies a call for the intervention studies. Therefore, in further studies, interventions can be designed and implemented to overcome the currently identified challenges.

References

- Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor and the tenured faculty. *International Journal on E-learning*, 7(1), 5–22. Retrieved from <https://www.learntechlib.org/primary/p/22909>
- Boateng, J. K. (2015). Adults Pursuing E-Learning in Ghana--Opportunities, Challenges and Expectations. *Journal of Education and e-Learning Research*, 2(4), 64–71. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1148655.pdf>
- Calvin, J. & Freeburg, B. W. (2010). Exploring adult learners' perceptions of technology competence and retention in web-based courses. *Quarterly Review of Distance Education*, 11(2), 63–72. Retrieved from <https://www.learntechlib.org/p/53206>
- Cercone, K. (2008). Characteristics of Adult Learners With Implications for Online Learning Design. *AACE Journal*, 16(2), 137–159. Retrieved from <https://www.learntechlib.org/primary/p/24286>
- Chang, B., & Kang, H. (2016). Challenges facing group work online. *Distance Education*, 37(1), 73–88. <https://doi.org/10.1080/01587919.2016.1154781>
- Choi, H. J., & Kim, B. U. (2018). Factors Affecting Adult Student Dropout Rates in the Korean Cyber-University Degree Programs. *The Journal of Continuing Higher Education*, 66(1), 1–12. <https://doi.org/10.1080/07377363.2017.1400357>
- Choi, H. J., & Park, J. H. (2018). Testing a path-analytic model of adult dropout in online degree programs. *Computers & Education*, 116(1), 130–138. <https://doi.org/10.1016/j.compedu.2017.09.005>
- Chu, R. & Tsai, C. C. (2009). Self-directed learning readiness, Internet self-efficacy and preferences towards constructivist Internet-based learning environments among higher-aged adults. *Journal of Computer Assisted Learning*, 25(5), 489–501. <https://doi.org/10.1111/j.1365-2729.2009.00324>
- De Paepe, L., Zhu, C., & DePryck, K. (2018). Drop-out, Retention, Satisfaction and Attainment of Online Learners of Dutch in Adult Education. *International Journal on E-Learning*, 17(3), 303–323. Retrieved from <https://www.learntechlib.org/primary/p/174173>
- Deschacht, N., & Goeman, K. (2015). The effect of blended learning on course persistence and performance of adult learners: A difference-in-differences analysis. *Computers & Education*, 87, 83–89. <https://doi.org/10.1016/j.compedu.2015.03.020>
- Doherty, W. (2006). An analysis of multiple factors affecting retention in Web-based community college courses. *The Internet and Higher Education*, 9(4), 245–255. <https://doi.org/10.1016/j.iheduc.2006.08.004>
- Dumais, S. A., Rizzuto, T. E., Cleary, J. & Dowden, L. (2013). Stressors and supports for adult online learners: comparing first-and continuing-generation college students. *American Journal of Distance Education*, 27(2), 100–110. <https://doi.org/10.1080/08923647.2013.783265>

- Dzakiria, H. (2012). Illuminating the Importance of Learning Interaction to Open Distance Learning (ODL) Success: A Qualitative Perspectives of Adult Learners in Perlis, Malaysia. *European Journal of Open, Distance and E-Learning*. Retrieved from <http://www.eurodl.org/materials/contrib/2012/Dzakiria.pdf>
- Erickson, A. S. G. & Noonan, P. M. (2010). Late-career adults in online education: A rewarding experience for individuals aged 50 to 65. *MERLOT Journal of Online Learning and Teaching*, 6(2), 388–397. Retrieved from http://jolt.merlot.org/vol6no2/erickson_0610.pdf
- Furnborough, C. (2012). Making the most of others: autonomous interdependence in adult beginner distance language learners. *Distance Education*, 33(1), 99–116. <https://doi.org/10.1080/01587919.2012.667962>
- Glaser, B.G. (1965) The Constant Comparative Method of Qualitative Analysis. *Social Problems*, 12(4), 436–445. <https://doi.org/10.2307/798843>
- Grace, L. J. & Smith, P. J. (2001). Flexible delivery in the Australian vocational education and training sector: Barriers to success identified in case studies of four adult learners. *Distance education*, 22(2), 196–211. <https://doi.org/10.1080/0158791010220202>
- Gravani, M. N. (2015). Adult learning in a distance education context: Theoretical and methodological challenges. *International Journal of Lifelong Education*, 34(2), 172–193. <https://doi.org/10.1080/02601370.2014.982728>
- Iloh, C. (2018). Does distance education go the distance for adult learners? Evidence from a qualitative study at an American community college. *Journal of Adult and Continuing Education*, 1–18. <https://doi.org/10.1177/1477971418785384>
- Johnson, E., Morwane, R., Dada, S., Pretorius, G., & Lotriet, M. (2018). Adult Learners' Perspectives on Their Engagement in a Hybrid Learning Postgraduate Programme. *The journal of continuing higher education*, 66(2), 88–105. <https://doi.org/10.1080/07377363.2018.1469071>
- Joo, K. P. (2014). A cultural-historical activity theory investigation of contradictions in open and distance higher education among alienated adult learners in Korea National Open University. *The International Review of Research in Open and Distance Learning*, 15(1). <https://doi.org/10.19173/irrodl.v15i1.1605>
- Kahu, E. R., Stephens, C., Leach, L. & Zepke, N. (2013). The engagement of mature distance students. *Higher Education Research & Development*, 32(5), 791–804. <https://doi.org/10.1080/07294360.2013.777036>
- Kahu, E. R., Stephens, C., Zepke, N. & Leach, L. (2014). Space and time to engage: mature-aged distance students learn to fit study into their lives. *International Journal of Lifelong Education*, 33(4), 523–540. <https://doi.org/10.1080/02601370.2014.884177>
- Ke, F. (2010). Examining online teaching, cognitive, and social presence for adult students. *Computers & Education*, 55(2), 808–820. <https://doi.org/10.1016/j.compedu.2010.03.013>
- Ke, F. & Xie, K. (2009). Toward deep learning for adult students in online courses. *The Internet and Higher Education*, 12(3), 136–145. <https://doi.org/10.1016/j.iheduc.2009.08.001>
- Kim, K. J., Liu, S., & Bonk, C. J. (2005). Online MBA students' perceptions of online learning: Benefits, challenges, and suggestions. *The Internet and Higher Education*, 8(4), 335–344. <https://doi.org/10.1016/j.iheduc.2005.09.005>
- Kim, S. W., & Park, S. S. (2015). Analysis of Factors Causing Adult Female Learners to Drop Out of E-Learning Courses in Korea. *International Journal on E-Learning*, 14(2), 223–233. Retrieved from <https://www.learntechlib.org/p/41505>
- Knestrick, J. M., Wilkinson, M. R., Pellathy, T. P., Lange-Kessler, J., Katz, R., & Compton, P. (2016). Predictors of retention of students in an online nurse practitioner program. *The Journal for Nurse Practitioners*, 12(9), 635–640. <https://doi.org/10.1016/j.nurpra.2016.06.011>
- Knowles, M. (1996). Adult Learning. In Robert L. Craig (Ed.), *The ASTD Training and Development Handbook* (pp. 253–264). NY: McGraw-Hill.

- Lee, Y.; Choi, J. & Kim, T. (2013). Discriminating factors between completers of and dropouts from online learning courses. *British Journal of Educational Technology*, 44(2), 328–337. <https://doi.org/10.1111/j.1467-8535.2012.01306.x>
- Lim, C. K. (2001). Computer self-efficacy, academic self-concept, and other predictors of satisfaction and future participation of adult distance learners. *American Journal of Distance Education*, 15(2), 41–51. <https://doi.org/10.1080/08923640109527083>
- Lindeman, E. (2015). *The meaning of adult education*. Andesite Press.
- Martinez, M. (2003). High attrition rates in e-learning: Challenges, predictors and solutions. *The E-Learning Developers' Journal*. Retrieved from <https://www.elearningguild.com/pdf/2/071403MGT-L.pdf>
- McGee, P., Windes, D., & Torres, M. (2017). Experienced online instructors: beliefs and preferred supports regarding online teaching. *Journal of Computing in Higher Education*, 29(2), 331–352. <https://doi.org/10.1007/s12528-017-9140-6>
- McGivney, V. (2004). Understanding persistence in adult learning. *Open Learning: The Journal of Open, Distance and e-Learning*, 19(1), 33–46. <https://doi.org/10.1080/0268051042000177836>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. Washington, DC: US Department of Education. Retrieved from http://repository.alt.ac.uk/629/1/US_DepEdu_Final_report_2009.pdf
- Moore, M. G., & Kearsley, G. (2011). *Distance education: A systems view of online learning*. Belmont, CA: Wadsworth Cengage Learning.
- Musita, R., Ogange, B. O., & Lugendo, D. (2018). A second chance to dream: initiating ODeL in secondary school re-entry programs for young adult secondary school dropouts the case of Mumias District, Western Kenya. *Distance Education*, 39(1), 122–133. <https://doi.org/10.1080/01587919.2018.1429896>
- Nor, N. M. M. (2011). Understanding older adult learners in distance education: The case of Universiti Sains Malaysia. *Turkish Online Journal of Distance Education*, 12(3), 229–340. Retrieved from <http://dergipark.gov.tr/tojde/issue/16905/176282>
- Östlund, B. (2005). Stress, disruption and community-Adult learners' experiences of obstacles and opportunities in distance education. *European Journal of Open, Distance and E-learning*, 8(1). Retrieved from <http://www.eurodl.org/materials/contrib/2005/Ostlund.pdf>
- Park, J. H., & Choi, H. J. (2009). Factors Influencing Adult Learners' Decision to Drop Out or Persist in Online Learning. *Educational Technology & Society*, 12(4), 207–217. Retrieved from <https://www.jstor.org/stable/10.2307/jeductechsoci.12.4.207>
- Picciano, A. G. (2002). Beyond student perceptions: Issues of interaction, presence, and performance in an online course. *Journal of Asynchronous Learning Networks*, 6(1), 21–40. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.98.6506>
- Pierrakeas, C., Xenos, M., Panagiotakopoulos, C., & Vergidis, D. (2004). A comparative study of dropout rates and causes for two different distance education courses. *The International Review of Research in Open and Distributed Learning*, 5(2), 1–15. <https://doi.org/10.19173/irrodl.v5i2.183>
- Rao, K. & Giuli, C. (2010). Reaching remote learners: Successes and challenges for students in an online graduate degree program in the Pacific Islands. *The International Review of Research in Open and Distance Learning*, 11(1), 141–160. <https://doi.org/10.19173/irrodl.v11i1.785>
- Remedios, R. & Richardson, J. T. (2013). Achievement goals and approaches to studying: evidence from adult learners in distance education. *Distance Education*, 34(3), 271–289. <https://doi.org/10.1080/01587919.2013.835776>
- Richardson, J. T. E., & King, E. (1998). Adult students in higher education: Burden or boon? *The Journal of Higher Education*, 69(1), 65–88. <https://doi.org/10.1080/00221546.1998.11775125>

- Selwyn, N. (2011). 'Finding an appropriate fit for me': examining the (in) flexibilities of international distance learning. *International Journal of Lifelong Education*, 30(3), 367–383. <https://doi.org/10.1080/02601370.2011.570873>
- Tekinarslan, E. (2004). Project-based distributed learning and adult learners. *Turkish Online Journal of Distance Education*, 5(2), 74–80. Retrieved from http://tojde.anadolu.edu.tr/makale_goster.php?id=136
- Thisstoll, T., & Yates, A. (2016). Improving course completions in distance education: an institutional case study. *Distance Education*, 37(2), 180–195. <https://doi.org/10.1080/01587919.2016.1184398>
- Thompson, J., & Porto, S. (2014). Supporting wellness in adult online education. *Open Praxis*, 6(1), 17–28. <https://doi.org/10.5944/openpraxis.6.1.100>
- Vanslambrouck, S., Zhu, C., Tondeur, J., Philipsen, B., & Lombaerts, K. (2016). Adult learners' motivation to participate and perception of online and blended environments. In *15th European Conference on E-Learning (ECEL)* (pp. 750–757). Academic Conferences and Publishing International. Retrieved from <https://biblio.ugent.be/publication/8518172/file/8518175>
- Venter, K. (2003). Coping with isolation: The role of culture in adult distance learners' use of surrogates. *Open Learning: The Journal of Open, Distance and e-Learning*, 18(3), 271–287. <https://doi.org/10.1080/0268051032000131035>
- Vergidis, D., & Panagiotakopoulos, C. (2002). Student Dropout at the Hellenic Open University: Evaluation of the Graduate Program: Studies in Education. *The International Review of Research in Open and Distributed Learning*, 3(2), 1–15. <https://doi.org/10.19173/irrodl.v3i2.101>
- Wang, V. C. (2011). Online Adult Education: Policy, Access, Completion and Equity. In *Encyclopedia of Information Communication Technologies and Adult Education Integration* (pp. 506–520). IGI Global.
- Willging, P. A. & Johnson, S. D. (2009). Factors that influence students' decision to dropout of online courses. *Journal of Asynchronous Learning Networks*, 13(3), 115–127. Retrieved from <https://files.eric.ed.gov/fulltext/EJ862360.pdf>
- Xenos, M., Pierrakeas, C. & Pintelas, P. (2002). A survey on student dropout rates and dropout causes concerning the students in the Course of Informatics of the Hellenic Open University. *Computers & Education*, 39(4), 361–377. [https://doi.org/10.1016/S0360-1315\(02\)00072-6](https://doi.org/10.1016/S0360-1315(02)00072-6)
- Yasmin, D. (2013). Application of the classification tree model in predicting learner dropout behaviour in open and distance learning. *Distance Education*, 34(2), 218–231. <https://doi.org/10.1080/01587919.2013.793642>
- Zembylas, M. (2008). Adult learners' emotions in online learning. *Distance Education*, 29(1), 71–87. <https://doi.org/10.1080/01587910802004852>
- Zhang, Z. & Krug, D. (2012). Virtual Educational Spaces: Adult Learners' Cultural Conditions and Practices in an Online Learning Environment. *International Journal of Instructional Technology and Distance Learning*, 9(7), 3–12. Retrieved from http://www.itdl.org/Journal/Jul_12/Jul_12.pdf