



Levels of Interaction Provided by Online Distance Education Models

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ABSTRACT

Interaction plays a significant role to foster usability and quality in online education. It is one of the quality standard to reveal the evidence of practice in online distance education models. This research study aims to evaluate levels of interaction in the practices of distance education centres. It is aimed to provide online distance education models through provided levels of interaction. Interaction and Satisfaction Survey was used in this study to collect quantitative data. This survey consists of personal information, student-student interaction, student-teacher interaction, student-content interaction, student-interface interaction and student satisfaction. In addition, interview was conducted to gather qualitative data. This research study is significant by highlighting the importance of student satisfaction in order to catch quality in the online distance education models. In this respect, this research study revealed that there is an intensified need to make aware learners, teachers and other parties on student-student interaction, student-teacher interaction, student-content interaction, student-interface interaction.

Keywords: interaction, higher education, online distance education model, online learning, student satisfaction, quality

INTRODUCTION

Each individual within a society has equal rights to benefit from learning and educational activities. In this respect, distance education provides opportunities of meeting their educational needs for those who cannot benefit from face-to-face education (Fengliang, Mengying & Baolong, 2014). Distance education is one of fields which is closely influenced by the technological and digital developments. The distance education mediums used today are formed to serve this purpose (Digital Agenda for Europe, 2015).

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State of the literature

- Distance Education is crucial for learner's motivation and success.
- Multimedia tools such as video file, picture file, social media, two or three dimensional models and text files related to course content are considered as important factors in interaction.
- Teachers' continuing practice of traditional educational processes through distance education interaction mediums lead to misuse of chat mediums

Contribution of this paper to the literature

- Evaluating the levels of interaction of online distance education models is important to catch quality in services for the student satisfaction
- Interaction is one of the most important factors for success and to take one's self responsibility for the learning processes.
- Learners in the study are found to be passive and an external factor should encourage learners to initiate.

The main aim of online distance education is to minimize the limitations of providing education service to large audiences and enable individuals from different socio-economic backgrounds to benefit from equal educational services. Distance education supports lifelong learning by offering equal opportunities in education and technological opportunities provide to people from different geographical locations (Fengliang, Mengying & Baolong, 2014).

UNESCO (2015) defines open learning as:

“...a philosophy founded on the principle of flexibility concerning when, where and how the learner studies. This approach is especially relevant for learners who are physically and/or geographically challenged. Distance education is the use of specific instructional techniques, resources and media to facilitate learning and teaching between learners and teachers who are separated by time or place. Techniques, resources, and media are dependent on factors such as: subject matter; student needs and context; teacher skills and experience; instructional goals; available technologies; and institutional capacity. Despite the proliferation of technologies in education, distance education in developing economies is still heavily reliant on printed materials”.

Research by Ossiannilsson (2012); Williams, Kear, and Roswell (2012); and Ossiannilsson et al. (2015) shows explicit that interactivity, flexibility, accessibility, personalisation, transparency and presence are crucial success indicators, thus it is important to elaborate how those dimensions can be elaborated in open online courses. Hence this research study take it stance on levels of interaction.

Education activities in distance education are pursued in two different ways as asynchronous distance education and synchronous distance education. The two different types are described below.

Asynchronous distance education is the type of distance education where information is constructed prior and stocked and later on students reach the amount of information when they need (Karen, 2004; Simonson & Schlosser, 2009). Examples of such a distance education system include individual taking courses over the Internet or CD-ROM on their own; video-recorded courses; audio-visual presentation over the Web and online discussion groups. Asynchronous distance education mediums may include independent content such as forums, quizzes, messages, announcements, audio and video recordings (Karen, 2004).

Synchronous distance education is the type of education where teachers and students correspond in exchange, and information is delivered to target audience immediately when it is constructed (Simonson & Schlosser, 2009). Smart classrooms, audio and video conferences, phone connection over the Internet and live satellite broadcasts can be examples of such type of education. Synchronous education mediums provide opportunities for simultaneous feedback, discussions and question-answer activities as in traditional classrooms, benefit from multimedia tools and simultaneous communication among people included in the medium (Schwarz, Asterhan, 2011).

Interaction plays a crucial role for educational activities in distance education mediums. Frydenberg (2007) highlights the quality of interaction between representatives of the institutions and the students. In research by Ossiannilsson (2012) interaction is of crucial importance for success in e-learning courses and for students motivation for their own learning process. There have been various studies conducted on how interactions occur in distance education mediums. These studies, the types of interactions suggested and defined by Moore (1989) as student-content, student-student and student-teacher in distance education mediums are widely accepted and used by many others (Ling, 2007). With the rapid developments in technology and its reflections on distance education also involved student-medium (interface) interaction among those types.

Teachers' continuing practice of traditional educational processes through distance education interaction mediums lead to misuse of chat mediums which is an interaction tool in distance interaction. Maintaining the traditional education rather than using mediums enriched by audio or video contents are observed as causes for pulling interaction in the medium to minimum level.

The issue of the type of relationship between interaction levels in synchronous and asynchronous distance education and interaction in which medium is more effective has not yet been clarified. Johnson (2008) states that, in some cases synchronous interaction mediums are more effective while in other cases, asynchronous interaction mediums seem to be more effective. Mabrito (2006) stated that students showed more preference for participating in synchronous interaction mediums. Freire et al. (2010) found that more interaction takes places in synchronous learning mediums such as video conference or interactive white board. Wang and Sun (2000) found in their study that individuals have preference for synchronous applications rather than asynchronous ones and tendencies may be kept in the

same direction. Minocha (2009) discussed the significance of social media which increases interaction among students in distance education and that the increasing use of this medium leads to more motivation. In the following the three variations of interactions in online learning by Moore (1989) are outlined and discussed.

Multimedia tools such as video file, picture file, social media, two or three dimensional models and text files related to course content are considered as important factors in interaction. As they suggested in the implications section, steps taken in the virtual classroom, virtual laboratory and at the end, virtual university fields resulted in giving importance to content development. Concerning student-student interaction it has to be mentioned that this can take place at least in two different ways, namely formal interaction, build in into the course and learning design, and maybe even assessed and examined. The other part, as well of importance is the informal part of interaction between students, today very much through social media. This part of the student to student interaction is not visible to the formal academic structures, but maybe this is the most valuable part of interaction, and where learning take place. Probably this kind of interactions makes students to success and to stay in the course. It can be questioned if the academic structures can learn and use this kind of interactions in to formal structure. On the other hand this interaction works, just due to the informal character, build on intrinsic motivation. Hart (2011) argues that informal learning cant be managed. She also stress the importance to get to know more about the fundamentals about informal learning to make the most of it, not at least with the growing use and interaction of social media and personal and professional networks (Hart, 2014).

It is considered important that students learn the content and receive feedback when needed in distance education contexts. Jin's (2005) study stated that students experience problem when they cannot get immediate feedback. Gillies (2008) investigated student-teacher interaction in a video conference involved in synchronous learning found that students' lack of eye contact with the teacher, being unable to focus on the course due to communication breakdowns and teachers' monotonous instruction brought interaction to the minimum level. also found similar results. Mediums provided by the technological tools that offer chances for people to share their ideas, talk and discuss or communicate have resulted in student-medium (interface) interaction. Course management platforms, accessible library resources, web cam, search engines and web sites are only some of the objects in the student-medium interaction. It can be said that the well designing of these mediums will enable positive effects on the learning of students by interacting with friends, teachers and the content (Chou, 2000; Conole, 2013; Laurillard 2012; Salmon & Wright, 2014) argues all also on the importance of learning design and that this is crucial in online learning environments.

The main aim of this study is to examine the synchronous and asynchronous education models used in Web-based distance education in terms of student-content, student-student, student-teacher and student-medium (interaction) and to investigate whether these interaction types are influential or not. The research problems are stated below:

- To what extent, does synchronous distance education activities pursued through Web technologies meet the levels of interaction among student-content, student-student, student-teacher and student-medium (interface)?
- To what extent, does asynchronous distance education activities pursued through Web technologies meet the levels of interaction among student-content, student-student, student-teacher and student-medium (interface)?

METHODOLOGY

The study has been designed as a mixed method research model that fits to its aim. Creswell (2008) described mixed method research as the collection and analysis of both qualitative and quantitative data during a research process. Survey method from quantitative methods and case study method from qualitative methods have been used to create a mixed design and analyze the research questions in more detail. Survey models are the research approaches that aim to describe a situation from the past or the present as they are. The case study method is defined as a research approach that tries to questions such as “what” or “how” within real-life contexts. Also, it can be said the qualitative and quantitative data will be collected simultaneously in this research.

Study Group

The population of the study consists of teachers working and students studying in the distance education. Judgmental sampling from the non-random sampling methods has been used in the study. In judgmental sampling, the researcher determines which samples will represent the main audience based on literature and expert opinions. Starting from this point, the sample of the study comprises of four teaching staff working at the Distance Education Centre and undergraduate students at their 7th semester studying in the Computer and Instructional Technologies Education department of the same center. The descriptive data of the participants are given in Table 1 and Table 2.

Table 1. Demographic features of the participants

Order	Teaching Staff	Gender	Status	Experience with Distance Education
1	TS1	Female (F)	Res. Assist.	5 years
2	TS2	Male (M)	Res. Assist.	3 years
3	TS3	Male (M)	Res. Assist.	5 years
4	TS4	Male (M)	Assist. Prof. Dr.	10 years

Table 2. Gender distribution of students

	N	%
Female	11	30,6
Male	25	69,4
Total	36	100

Data Collection Process

Interaction and Satisfaction Survey, developed by Laurie Ann Flass in 2007 for her Ph.D. thesis in Clemson University, South Carolina, USA was used in this study to collect quantitative data. The survey was translated into Turkish with some adaptations in order to avoid any misunderstanding. Survey consists of 40 questions in total, under 6 sections: Section A "Personal Information"; Section B "Student-Student Interaction"; Section C "Student-Teacher Interaction"; Section D "Student-Content Interaction"; Section E "Student-Interface Interaction" and Section F "Student Satisfaction". An interview form with eight questions was directed to the participants and a semi-structured interview setting was established. Interview questions were finalized after modifications resulting from the opinions of four experts.

Data Analysis

Data was entered into SPSS software for the analysis of quantitative data. Here, percentage (%) and frequency was used to gain a general insight about the interaction levels in distance education. The demographic data from the survey was analyzed through t-test and ANOVA was used for 3 or more variables.

Content analysis was used to analyze the qualitative data. During data analysis process, similar data was, firstly, categorized under certain groups and themes were created based on these categories. Later, these themes were cross-checked with the existing data. At the last stage, perspectives of the participants regarding the topic were interpreted and reported (Smith and Eatough, 2007).

RESULTS AND DISCUSSION

The interaction types have been categorized as follows based on the analyses of the semi-structures interviews with the teaching staff and the questionnaires given to students and they are supported with the available literature in this section.

Student-Student Interaction

The teaching staff firstly evaluated the student-student interaction in synchronous medium within the current Adobe Connect online virtual classroom software. They discussed the advantages the software offers for student-student interaction. Live chat and virtual classroom settings are been mentioned as important factors that increase student-student interaction in synchronous distance education. In addition to this, it was also focused on the fact that audio and visual systems increase communication thus, naturally resulting in increased interaction. The findings from the student-student interaction section showed that the average responses of male and female students to interaction are similar to each other and very close to the maximum score (24 points) (Table 3). There is no significant difference

between male and female students perceptions regarding student-student interaction ($p < 0,05$). Based on these findings it can be said that live chat, audio and visual communication, immediate feedback, virtual classroom setting provide communication and increase overall interaction.

Table 3. Value table for student-student interaction

	Gender	N	Average Value	P
Student-student interaction	Male	25	18,44	0,959
	Female	11	18,64	
	Total	36		

Bahçekapılı (2010) provided live, video and audio interviews in the IOLM (Interactive Online Learning Medium) he created and made the medium as user-friendly as possible to enable maximum student-student interaction and thus, found that this increases interaction. It was found that the speed of this online visual, audio and text-based communication synchronization and immediate feedback influences interaction. Yildiz (2011) found in his study with prospective teachers, that immediate feedback opportunity of synchronous learning increases communication and interaction. The following were said on this issue during the interviews with the teaching staff:

“...it can be handled from the speed of interaction angle. From this point of view, the immediate interaction that occurs in synchronous education model can be seen as an advantage, specifically for feedback” (TS2 - M, line 1-3).

Certain limitations of synchronous systems that provide student-student interaction were also discussed. These were based on reasons such as limited time that is provided for participants and not being able to present during the set time period due to the person's current psychological and health state reasons. It is said that this is not appropriate for the nature of distance education and creates a disadvantage for interaction. Güngör (2013) found in his study in online foreign language teaching settings, that personal factors such as different motives for participating in education process, differences in learning needs, individual differences are undeniable for interaction. This result also supports our study. The responses from teaching staff on this issue are as follows:

“Synchronous, due to its nature, should take place immediately however, as I said, many psychological factors affect the immediate messaging or feedback. The effects can be positive or negative” (TS2 - M, line 12-14).

According to the results, it can be said that if learners participate the courses compulsorily in distance education system (synchronous or asynchronous); they also take part in interaction on a compulsory basis. According to the questionnaire results, the features of initiating an interaction by learners have a lower percentage (49%) compared to participating in other

interaction criteria (average 70%). The reason for this can be that learners must attend the distance education setting thus, they are not enthusiastic for taking part in compulsory interaction. According to Carr’s (2001) study, it is highlighted that learners are expected to show active participation and communication in online learning settings. This practice will lead to an increase in interaction. However, if the learners are passive, an external factor should encourage learners to initiate. Teaching staff said the following regarding this issue:

“In planned distance education, learning activities are controlled over different software; they are monitored; learners necessarily will login; keep logs; see their grades; read course notes; attend lessons and exams in order to pursue distance education activities. Thus, student-interface interaction occurs. This is valid for both synchronous and asynchronous education” (TS4 – M, line 74-77).

The result shows that a system, administration and other factors that trigger the learners to form student-student interaction is created. As such systems can be beneficial from time to time, they can also lead to negative results due to personal, social and environmental constraints.

Soo and Bonk (1998) found in their study that learners preferred asynchronous interaction for student-student interaction. The present study showed that learners do not have such preferences and have a positive interaction with other students for the courses. More than 50% of the responses given by learners show positive interaction, as can be seen from Table 4.

Table 4. *Perspectives of students regarding student-student interaction*

		F	%
“There is a positive interaction between me and the other students in the courses.”	Never	1	2,8
	Rarely	2	5,6
	Sometimes	18	50,0
	Always	15	41,7
	Total	36	100,0

According to the data gathered from the teaching staff, existence of student-student interaction is not only significant within the synchronous or asynchronous mediums provided by distance education but also within the different mediums students use through various technologies for interaction. These technologies are generally social media (facebook group, etc.), online interview platforms (Skype, etc.), e-mail groups and phone applications (sms, whatsapp, etc.). The opinions of teaching staff are as follows:

“Learners interact with each other on informal basis over Facebook. From that perspective, Facebook group is an incredibly strong platform. This is very important for student-student interaction! They use that medium on their own; independent from us” (TS3 – M, line 22-25).

Minocha (2009) emphasized in her study that use of social media in distance education is important as they ease student-student interaction and increases motivation of the learners.

Akbıyık (2012) also found that learners prefer to interact with each other over social media via exchange of information and documents. These studies support the findings of this study as well.

Student-content interaction

The results from the interviews with the teaching staff revealed that student-content interaction in synchronous mediums occur through content shared; different media tools used; posts during the course; discussions and things that were said. For asynchronous mediums in addition to all tools listed above, learners access to different content through their own efforts. Having specific time period in synchronous mediums means that interaction is limited to that specified time period. From this view, asynchronous mediums are more advantageous.

The opinions of the teaching staff on student-content interaction as follows:

“It may not be possible to gather all students at the same place all at once but offline mediums allow students expanded time 1 day, 2 days, 3 hours, 5 hours to reflect their opinion when they are ready. They can do more research and think about it more before expressing” (TS4 - M, line 10-13).

“...Synchronous systems limit us to a certain time period. In other words, that interaction or communication should occur within a given time frame. This is not adaptable with the nature of distance education. Why? Because individuals are limited to certain things” (TS2 - M, line 6-9).

According to the findings, using teaching materials that are enriched by dynamic and multi-media medium components in synchronous and asynchronous settings can increase student-content interaction. Some studies that seem to support this argument have been reviewed. Güngör (2013) discusses that course contents that are enriched by multi-media and provides immediate feedback for learners largely contribute to the structuring of information by learners. Yıldız (2011) stated that contents that include multi-media and interactive objects in synchronous mediums influence learners' performances and increases interaction between student and content.

It was mentioned by different teaching staff that enriched contents may have a different influence on learners when they are shared on synchronous and asynchronous mediums. The interaction of a simulation shared on synchronous medium will be lower than a one shared on asynchronous medium and while the individual will be able to use the simulation in the way he want in asynchronous medium; this action will be limited in synchronous medium. Reasons for this can be one-way use, problems with Internet connection or bandwidth. The following have been said on this issue:

“...If we take the simulation example; if I'm able to see how those values change in the simulation; then, I can try it out on asynchronous as I wish. However, think about moving this to synchronous medium and that we interfere there. There, one person will do it and others will watch; but on asynchronous medium everyone will be able to try out” (TS1 - F, line 97-101).

According to the questionnaire data, when students rated the student-content interaction based on their own distance education programs, they rated it at 47,38%. As this rating is

below fifty per cent, it can be concluded that the contents shared within the programs the learners encounter for the sake of student-content interaction are not very effective. The data that is parallel to the opinions of the teaching staff are also supported by relevant literature.

Işık (2010) discusses that there is a band width problem while delivering comprehensive content to learners in synchronous learning medium and this causes a slowing down. The time wasted while waiting to upload these documents in synchronous medium has a negative effect on learners and this loss should be prevented. Bahçekapılı (2010) enabled learners to use the simulations and content over and over again in the system he developed for synchronous mediums and avoided one-way use thus, increasing learners' interaction with the content.

As a result, these can be said: It should be aimed to provide appropriate conditions, share comprehensive content, follow a controlled process based on learners' wants in both synchronous and asynchronous mediums in order to have effective and productive student-content interaction in distance education.

Student-teacher interaction

Teachers discussed that synchronous learning mediums are more effective compared to asynchronous ones and talked about factors increasing interaction such as enabling students to be present at the same time with the teacher, audio and visual communication opportunities and speed of feedback. The reason for this can be that in synchronous mediums students and the teacher are present in the same setting just like traditional classrooms and this increases student-teacher interaction. Bahçekapılı (2010) developed a virtual classroom in order to increase student-teacher interaction and provided opportunities for audio and visual communication between them; thus, leading to increased student-teacher interaction.

Use of different methods such as question-answer and group work by the teacher can increase both student-teacher interactions along with student-student interaction. TS3 said the following on this issue by referring to a previous practice they used:

"We sometimes put students into groups of 4 in order to increase student-teacher and student-student interaction. We provided spaces for all of them to work together by using the camera. They share the slide within their own working space. We divide that into 4 through the camera view. This enables to connect both visually and audio although they are at different places. This is how we do group work. Groups can have presentations on there just like regular group presentations in a traditional classroom. This is a practice that increases interaction" (TS3 - M, line 73-78).

Bahçekapılı (2010), also, made the live feed of teacher and students to appear during the lesson and created a social environment by enabling the teacher to have various activities such as teacher controlled question-answers. Gillies (2008) said that teachers solely presenting the lecture on distance education courses will have a negative influence on students' interaction. Turgut's (2011) study stated that learners feel reluctant to take part in

the lesson and interact although the teacher uses different methods such as question-answer, case study, etc. There is a parallelism with the results of the questionnaire used in this study as well.

It was seen that the rate of learners' willingness to initiate an interaction with the teacher is lower than the rest of the student-teacher interaction problems. It can be seen that 63,9% of the students lack to initiate an interaction with the teacher. (Table 5). There is no difference in regards to this attitude between male and female learners (Table 6, $p=0,403 > p=0,05$).

Table 5. Perspectives of students regarding student-teacher interaction

		F	%	Total Percentage
"I initiate the interaction with the instructor during the course."	Never	6	16,7	16,7
	Rarely	17	47,2	63,9
	Sometimes	12	33,3	97,2
	Always	1	2,8	100,0
	Total	36	100,0	

Table 6. Value table for student-teacher interaction

	Gender	N	Average Value	P
Student-teacher interaction	Male	25	17,60	0,403
		11	20,55	
	Female			
	Total	36		

Teachers' attitude can provide the increasing effect to help student interact with their teachers. Knowing the advantages of the distance education medium being used, having the skills to effectively use the medium, having adequate pedagogic knowledge, knowing the learners and their individual characteristics are only some of the characteristics that a distance education teacher should possess. The opinions of the teaching staff are as follows:

"...these teachers or the teaching staff who do not use immediate feedback, do not ask questions, do not involve their students in the lessons will minimize the interaction. However, the lack of interaction will not be a result of synchronous systems but rather the problems caused by the teachers" (TS2 - M, line 81-83).

"...If the teacher know his students, forms an efficient course content for them and uses different media for within that course content; then, he can overcome these problems" (TS2 - M, line 88-90).

The results of Yıldız's (2011) study say that teachers should know the distance education system features and have the skills to use those features of the system as well as being able to carry out a careful planning. He also stated that teachers who can effectively use synchronous distance education technologies directly increase student-teacher interaction and there is a need in distance education sector for such teachers. Similar situations are also in consideration in light of the findings of this study. Teachers' competencies and learners'

willingness will contribute greatly to both synchronous and asynchronous medium interaction. Conole (2013) argues for the importance of learning design to optimize learner-teacher interactions. Ossiannilssons (2012) research also shows that presence of the academics is crucial for learners motivation to stay in the course as well as to keep on track.

Student-interface interaction

According to the interview results with the teaching staff; the first condition for students to have any kind of interaction with the interface is that the encountered interface should be simple, plain, and user-friendly and completed orientation. Chou (2000) in his own study stated that distance education mediums should be well-designed in order to encourage student-student, student-teacher, student-content and student-interface interaction. Ossiannilsson (2012) as well as Conole (2013) revealed that transparency of the course outline, its requirements and assessment is crucial, so students can get an overview and to navigate and find motivation and pleasure to interact with the course, its media, academics and peer learners. The views of the teaching staff regarding this issue are as follows:

“...for me, right at the foundation, the interface should have a simple design for student-interface interaction. It should not be very complicated. Because, not everyone have the same level of proficiency level. In order to increase students’ interaction with a current interface; learners’ awareness should be raised. Because, learners need to be aware which feature is where for example if there is chat option where it is, or where is the forum. They should be able to find it easily and interface should be simple designed. This is not enough, learners should be aware of the simplicity. I believe that students should be given an orientation in order to be aware of all these. This is valid for both synchronous and asynchronous mediums” (TS1 -F, line 158-165).

Students are expected to be familiar with the technology and information network and they should adapt to the constantly changing technologies as well as having interaction with the medium they are using. According to the results of the survey which measured the level of this type of interaction, students are able to use the medium (interface, technology) they are provided with effectively at 78,4%.

Students stated that they do not have interaction problems with the other students in the course due to the synchronous instructional setting (Table 7).

Table 7. Perspectives of students regarding student-interface interaction

		f	%	Total Percentage
“My communication with the other students ends up with negative results due to the problems arising from the interface used in the course.”	Never	4	11,1	11,1
	Rarely	19	52,8	63,9
	Sometimes	12	33,3	97,2
	Always	1	2,8	100,0
	Total	36	100,0	

The perspectives of the teaching staff are as follows:

“User-friendly and easy to use mediums should be designed. There is a road to this. All institutions try to do this within the studies on increasing quality in distance education. Of course, these require cost and time. For example, we opted for such a change in our system.

We developed an easier-to-use interface. System can be used more easily now. The solution from this drives from here. Of course, if the student feel comfortable there and does not encounter any problems, this will increase the learner's activities on the interface in a positive way" (TS4 - M, line 84-89).

Taking this point, it can be said that the level of efficiency students receive from the interface depends on the qualities of the provided technologies and learners' skills for using these technologies. Thurmond and Wambach (2004) said in their study that a similar student-interface interaction depends on learners' computer literacy skills and their attitudes towards technology. Arbaugh (2001) mentioned that learners' awareness on the provided opportunities and their willingness to effectively use these opportunities increase student-interface interaction. Arbaugh (2001) in his study also mentioned student satisfaction and argued that learners' previous technology experiences positively influence their satisfaction in terms of interaction in distance education. Similarly, this study also found that learners are satisfied with the interface, communication tools, technical support, relationship with other people and other opportunities provided in this system at 65,2%. Learners provided a positive response to the question in the survey on "I would prefer distance education courses that can provide face-to-face education" by 67,6%. This preference for face-to-face education may be the result of their need for increased interaction in the current system. The asynchronous and synchronous learning settings; contexts provide face-to-face education will also contribute to learners' learning and their interaction.

CONCLUSION

As a result, in distance education settings interaction at different levels is crucial for learners motivation and success in their course. First, as had been discussed, there are different levels of interactions i.e. synchronous and asynchronous. Second, considerations have to be taken on as described already by Moore (1989), the three levels of interactions, namely, interaction with the media, interaction with the academics, and finally interactions with peer learners. Thirdly, formal and informal interactions have to be considered, as Hart (2011, 2014) is discussing one can't manage informal learning, just the way one use it, especially related to social media and peer learning. Fourth, and finally current research show success indicators for motivation, progress, retention, and not at least for staying in the course (Ossiannilsson, 2012, Ossiannilsson et al., 2015, Williams, et al., (2012) and Baxter, 2012). This research study has implications for learning design in open online distance education as it has shown different levels of interaction, and as earlier research has revealed interaction is one of the most important success factors for success and to keep motivation and to take ones own responsibility for the learning processes.

A number of researchers (Baxter, 2012; Frydenberg 2007; Ossiannilsson 2012; Williams, Kear & Rosewell, 2012) reveals that student success in distance education, related both to progression and retention essential depends on expectations, support, feedback, and involvement. In a global research study on quality in open online learning around the globe by Ossiannilsson, Williams, Camilleri, & Brown (2015) this was also confirmed. Furthermore this study showed that independent which quality models are used, there are some global common understanding on quality in open online learning and education. First it has to be

highlighted that quality has to be understood with a holistic contextualised approach. Second there are some common characteristics, finally and thirdly both management, visions and leadership, the course as such, and support for students and staff have to be taken into consideration for student success, motivation so students can manage to orchestrate their own learning. Although research shows success factors in online open learning, considerations even have to be taken on success factors that encourage learners to stay in the course. Baxter (2012) highlights insights linked to expectations, identities, and support of students which proved influential in terms of their resilience and motivation to stay in the course. It is crucial to evaluate the levels of interaction of online distance education models in order to catch quality in services for the student satisfaction. In this respect, in further studies, making comparative analysis of different contexts through their services and goals is essential.

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