Distance education on digitization: evaluation of an application in Turkey

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Abstract

Purpose – The purpose of this paper is to evaluate a distance education program in the field of digitization which was carried out in Turkey in 2011. In total, 805 people, comprising librarians, archivists and museum specialists, applied for three certification programs. The paper evaluates the distance education in terms of content and organization on the basis of participants' opinions and determines how and to what extent the education has changed the awareness of participants on digitization and digital content management and their level of theoretical and practical knowledge.

Design/methodology/approach – The research questions of the study are: What are the qualities of the participants on digitization and digital content management? In other words, what is the level of education background of the participants and what level of education do they need? What are the qualifications (in terms of content, presentation of the content and general organization) of the distance education program? To what extent has the distance education contributed to the enhancement of participants' level of awareness on digitization and digital content management, and to the improvement of theoretical and practical knowledge?

Findings – In the research, the literature on the issue has been reviewed, and then a theoretical model has been developed. The research findings have been presented within the framework of the theoretical model. According to the research findings, the participants have poor educational background, and most of the participants had attended such an education program for the first time.

Originality/value – The participants were satisfied with the program in terms of content and organization. The program has improved their level of theoretical and practical knowledge and awareness on digitization.

Keywords Turkey, Librarians, Distance education, Digital technology, AccessIT Project, Digitization, Libraries, Museums, Archives

Paper type Research paper

Introduction

Continuing education has an important role in meeting the need of professionals for ever-growing amounts of new information. Education of information professionals, who are responsible for the introduction of various kinds of information sources and preserving historical and cultural values, as far as possible, for the benefit of society, should be continuous. Continuity of education is of top priority for those information professionals who are known to be primary users of information technologies.

The digital environment enables various kinds of information sources, historical and cultural values to be provided on the same platforms. Digitization of the content in libraries, archives and museums in similar forms is an example of interdisciplinary convergences. Developments lead to the convergence of educational expectations towards information and content management in digital environment. As can be observed in the findings of this study, the need of information professionals in Turkey

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for education is very high such as methods and tools of digitization, ingestion and definition of content, maintenance of content and publishing it in an electronic environment.

Distance education is of great importance in meeting the need of professionals working in various information centers, libraries, archives and museums for continuous education. The most advantageous side of distance education practices which have become more common with open source applications is that they can be conducted independent of time and place. It is a common thought that systems installed on platforms which are free such as Moodle will make professional education management more efficient in the near future. It is also important to put emphasis on the quality of the content of the education. Today, there is a huge accumulation of information due to the digitization practices followed since the 1990s. National and international regulations, standards and guidelines as well as the outputs of huge projects such as Europeana, with its membership of 32 countries, have important roles in the organization of this accumulation of information. Within this scope, depending on the distance education system developed within the framework of the AccessIT Project which was conducted as a part of the Europeana Project, this study investigates the vocational education needs of information professionals, to evaluate the sufficiency of the content and to analyze similar studies and future expectations.

Literature review

The individual is obliged by his or her environment to acquire abilities and qualifications that put him/her in a favored position compared to others and to maintain this advantage, thus creating a need for life-long learning. Life-long learning requires methods different from those of conventional education. Distance education, e-learning and online learning arise as a result of this need.

Liu (2008) defines distance education, unlike conventional classroom learning, as not bounded by space and time; Hrastinski (2008, p. 51) defines e-learning as learning and teaching online through network technologies.

Distance education is provided in two ways: synchronous and asynchronous. In synchronous distance education, the student and the educator are in mutual contact throughout the education. In asynchronous distance education, on the other hand, the educator disseminates the information through the electronic environment) and the student accesses the information any time and in any place. There is no interaction between the student and the educator. The information is open to access and use, and the student is free to receive or use the information, or not (Koçer, 2001, pp. 8-9).

There are many studies in the literature that compare distance education models. In the study carried out by Hrastinski (2008), synchronous and asynchronous e-learning are compared. Jahng *et al.* (2007)compared online distance education and face-to-face education, and found that there was no significant difference between the two in terms of student success.

Another study in which distance education and face-to-face education given by two universities in America are compared was carried out by Bender *et al.* (2004). It was found in the study that, except for the procedures such as student registration and evaluation, distance education took less time However, it is stated that since this was the first experience of distance education both for the university and the student, student concerns may have expanded the workload. It is emphasized in this study that

distance education would be more effective when factors such as technology are equalized. As stressed in the study, the main reason why distance education takes much more time is that this type of education is a new experience both for the educators and for the students. Therefore, many factors such as the transfer of course content to the electronic medium, hardware capacity, technological skills of the educator and the students can be listed as reasons for the time being spent at the outset.

Liu *et al.* (2006) state that distance education is more popular in higher education because there is no need to substitute students physically due to increasing numbers of students. Some data in a report that puts forth online learning approaches and the existing situation in US higher education (Allen and Seaman, 2010) support Liu *et al.*'s (2006) opinion. Online learning is defined in the report as delivering at least 80 percent of the course online. According to the report, 63 percent of the participants think that online learning is crucial for "long term strategies" of institutions. In the 2009 winter semester, more than 5.6 million students (approximately 30 percent of the total number of students in higher education) took at least one online course, and this figure is one million more than the previous year. 66 percent of academic leaders think that the learning outputs of online education are similar to or even better than face-to-face education. Economic problems have increased the demand for both types of education (face-to-face and online).

Croft *et al.* (2010) researched the problems, obstacles and isolation of students of the University of the West of England (UWE) in relation to online education. Several reasons for the students' preferring distance education were flexibility, convenience, time and cost; and distance education does not pose an obstacle to responsibilities concerning family and business. The negative sides of distance education relate to isolation and connectivity, tutor contact, interaction with peers and colleagues, motivation and self-discipline, material and delivery, and student expectations.

Beqiri and Chase (2010) studied expectations of business students from online education. It was found that graduate, married male students residing at least one mile from the campus are more content with this education. Other factors that affect this contentment are the convenience of the course delivered online and the degree of familiarity. It is emphasized that familiarity with online education is an important factor in contentment of the student. It has been suggested by the study that it is more appropriate to give elective courses online rather than core or prerequisite courses. It can also be stated that among occupational groups, those in management are especially suited to distance education as they are expected to constantly improve themselves and they have an intense business life.

Baltaci-Goktalay and Ocak (2006) investigated the factors affecting adaptation of academics to online technologies and their concerns about this adaptation process. The attitude of academic staff, who are among the most important component of distance education, towards this type of education is the foremost topic to be investigated. The report drawn up by the University Leadership Council (2010) also looks at the topic of "engaging faculty in online education".

Education for library and information science (LIS) has also experienced dramatic changes, and it has become an enormously vibrant field incorporating emerging elements like digital libraries, internet, e-commerce, knowledge management, web/library 2.0, etc. The rapid evolution of the discipline has a profound effect on

its education and practice, affecting both content and pedagogy (Roknuzzaman and Umemoto, 2009, p. 27). For this reason, distance education programs have a particular importance for schools that offer a LIS program. There are many studies in the literature about distance education programs given in schools offering LIS education.

Islam *et al.* (2011) did research on e-learning in schools that offer a LIS program. In this study, an online survey was conducted in 370 schools having an English homepage and offering LIS education (see the Appendix, Figure A1. It was found that only 85 (approximately 23 percent) of the schools benefitted from e-learning or offered e-learning, and in 73 of the programs out of 85 (86 percent) e-learning was offered asynchronously. The reasons for the trend of preferring e-learning systems were evaluated in respect to school and student. These reasons are listed by LIS schools as access to qualifications by professionals, overcoming geographical obstacles or borders, offering independent learning while students' reasons are seen to be economics, asynchronous, tailor-made and life-style-oriented (p. 19). The results of this study show similarities to results in the literature.

Chowdhury and Chowdhury (2006) describe in their study the eLLIS project (an investigation of the e-learning environments in the LIS departments in British universities), in which e-learning and the existing applications and support at LIS schools in the UK are researched. Wilde and Epperson (2006), on the other hand, carried out research on experiences of graduates of LIS distance education programs. It was indicated in this study that most of the participants in the survey were over the age of 40 and female, which described the present situation in library science. Like many other studies, this research shows that flexibility of time and space is a matter of preference. In another study on e-learning in LIS education (Bhabal, 2008) the curriculum, teaching and evaluation practices in the SHPT School of Library Science are discussed. The aim of the school is to educate the LIS students on the most recent technologies related to the library science profession and to raise awareness on the issue. Koehler and Blair (2003) studied the LIS distance education program in Valdosta State University (VSU) with asynchronous web course delivery, and researched LIS programs in North America which deliver synchronous or asynchronous distance education.

The rapid increase in the amount of content produced in the digital environment made digitization a primary agenda item at many institutions. Digitization, definition and management of printed materials require sophisticated approaches. Similarly, management of digital content requires new approaches beyond conventional linear definitions. For instance, formation of the content in digital environment or capturing, arranging, authorizing and distributing it require a combination of different specialties. In new environments, independent of space and time, new data entry, arrangement and protection or definition of security conditions are possible.

In general terms, digitization is defined as the conversion process of physical or analogue materials such as paper document, photograph or graphical materials into electronic environment or into images stored in an electronic environment (United Nations Archives and Records Management Section, 2006). In another definition, digitization is conversion of data in unconfigured form that cannot be detected by electronic systems into the configured form that can be detected in the electronic environment (Rieger, 2008).

On the other hand, word processors in the 1980s and automation applications in the 1990s, business process management and electronic information management practices in the 2000s have been the basis for solutions of enterprise content management (ECM). ECM requires the management of information and communication sources and intellectual assets of institutions. For this reason, digitization of the content presently in the analogue environment is of vital importance (Cimtech Ltd, 2009, pp. 10-12; Herrera-Viedma and Peis, 2003, pp. 234-238; Kampffmeyer, 2006, p. 3).

Digitization practices within the scope of ECM or strategies, tools, procedures and capabilities for the management of data produced in a digital environment have become an area in which information professionals need to specialize (Nordheim and Päivärinta, 2006, p. 648; Smith and McKeen, 2003).

This important issue forms a part of distance education for LIS schools. Hence there are studies in the literature that research digitization education in LIS schools. For instance, in a study carried out within the scope of the Bologna Process on integration of digitization into disciplines within the curricula of Library and Information Science in European higher education institutions, the existing education attitudes were revised, a conceptual framework was developed for digitization, and a model covering structure, scope, learning outputs and teaching methods was suggested for digitization studies (Manzuch *et al.*, 2005, p. 37). Perry (2005) analyzed the education programs on digitization in higher education, in library science in particular. Choi and Rasmussen (2006) investigated the education programs developed for training digital librarians.

Maroso (2005), on the other hand, explains in her study the three different training programs organized in the Illinois Digitization Institute. In this program, the first training is planned as a one-day workshop, the second as a three-week (15 days) web-based distance training, and the third as a two-day workshop and web-based distance training all of which are organized at certain times. In the study, the participants are asked questions about the subject measuring their level before and after the training. Participants of the second training were asked whether they have carried out any digitization project before. Although the participants have worked in a small-scale digitization project, 61 percent of the participants still have no or limited theoretical knowledge on digitization process. Quiz scores for each course are above 90 points. It is stated that the study is the first asynchronous but web-based education instructed by an educator.

Another common issue that brings library science, information science and digitization together is digitization of cultural inheritance. All physical and abstract cultural values that have emerged as a result of human creativity and intersocietal interactions since the beginning of history of humanity and that needs to be transferred to future generations and to be protected are called cultural inheritance (Deren, 2006, p. 7). Digitizing cultural heritage refers to a dynamic and progressive interdisciplinary field covering philosophical, social, cultural, economic and administrative aspects and the results of administration of cultural heritage in technological environment (Manzuch *et al.*, 2005, p. 37). The issue of digitizing cultural heritage is one of the fields on which many projects have been developed and many investments made. The European Union supports many projects about digitization under the program of Society Technologies. Cultural Applications: Local Institutions Mediating Electronic Resources (CALIMERA), Cultural Objects in Networked Environments (COINE),

Electronic Resources Preservation and Access Network (ERPANET) and Networked European Digital Library (NEDLIB) are only a number of such projects developed to protect cultural heritage and to access it through a network (Tonta, 2008, p. 7). Minerva Europe, Canadian Heritage Information Network (CHIN), Council on Libraries and Information Resources (CLIR), European Cultural Heritage Online (ECHO), Online Archive of California (OAC) are other projects within this scope (Deren, 2006, s. 8). Minerva project (www.minervaeurope.org) is a network established with the objective of enabling digitization of cultural and scientific content by European Union member states, cooperating in this field, creating a common European platform, metadata and protection. It aims at formation of national digital archives of member states of the Union and coordination of these archives (Deren, 2006, p. 8). It also aims to build a common European platform for digitizing, metadata, long-term accessibility and protection; to offer suggestions and to prepare a guideline (Minerva EC, 2011). European Digital Library, Europeana in other words, and AccessIT Project are also projects which are supported by the European Union and evaluated within this scope.

Dahlström and Doracic (2009) investigated the program of Swedish School of Library and Information Science, which has been giving distance education since 2004, on digitization of cultural heritage and the difficulties encountered in courses in the program.

The application of distance education program whose findings are presented and discussed in this study is the first example to LIS in Turkey. This education program which was organized by Hacettepe University, Department of Information Management within the scope of an EU Project (AccessIT) is noteworthy for the number of students in the education, the geographical area it covers, diversity of students; targeting libraries, museums and archives all together, its outputs and highly successful results.

Theoretical framework

It is thought that there should be four basic components in distance education practices of digitization. These components, namely qualifications of the students participated in the education, their education expectations, qualification of the distance education and its education outputs are also affected by various sub-elements (see Figure 1).

According to the model designed for distance education, measuring qualifications of students and the degree of their need for such an education is the starting point in the distance education on digitization. The factors determining the existing qualifications on digitization are the history of education about the subject at university or other schools, the in-house education they received after starting their profession as well as their self-education on digitization. The degree of students' need for digitization determines their expectations from the education. Nevertheless, the educators who have organized the education have initially some expectations as well, primarily aiming at the success of the students. Then, the education is applied within this framework in order to meet the expectations. The quality of the education is composed of scientific content of the courses, qualifications of course presentation, the systematic structure of the education program and organization of the education in general terms. The degree of fulfillment of expectations is calculated at the end of the education. The determined expectations refer to the students' level of awareness that change at the end of the education, the change in theoretical and practical knowledge on the issue and

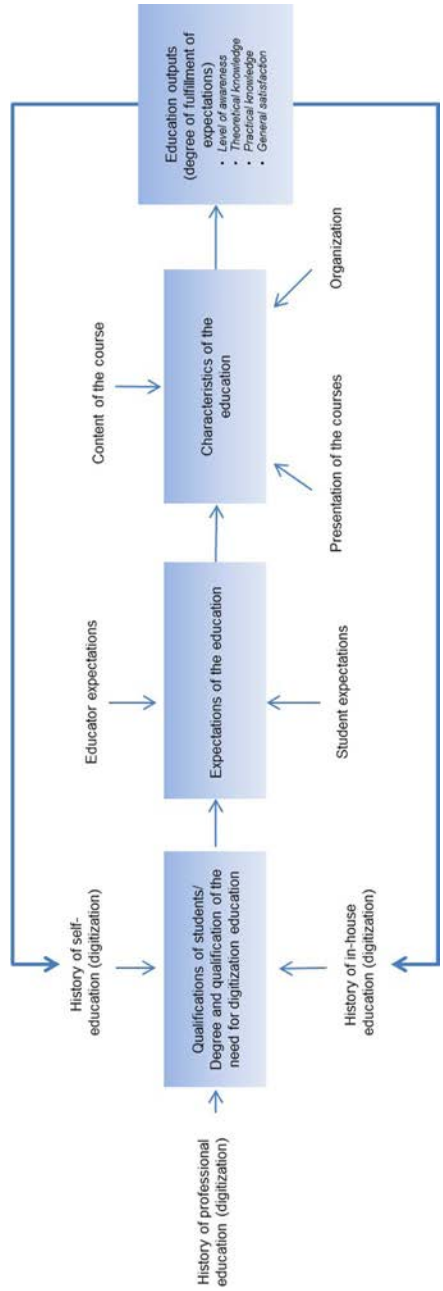

Figure 1.
AccessIT project digitization distance education model

general satisfaction on the program. Outputs of education program return to the students as new qualifications on digitization.

Research design

There was an active participation in the distance education program by administrators and professionals working in middle and large scale libraries, archives and museums in Turkey. It is though that analyzing the evaluations of the participants, who carry out and/or guide studies in the field, on the education program about digitization and digital content management will serve as guidance for future studies.

In this respect, the research questions of the study that seek to determine the effect of the education program on the participants are as follows:

- What are the qualities of the participants on digitization and digital content management? In other words, what is the level of education background of the participants and what level of education do they need?
- What are the qualifications (in terms of content, presentation of the content and general organization) of the distance education program?
- To what extent has the distance education contributed to the enhancement of participants' level of awareness on digitization and digital content management, and to the improvement of theoretical and practical knowledge?

Description method is used in order to answer the research questions in the study. In this framework, it is aimed with a survey study conducted among 544 subjects to find out the level of awareness of professionals on digitization and digital content management, the level of theoretical and practical knowledge and the success of the education program with respect to its content and organization.

Data collection

The data required for evaluation of the distance education program in terms of participants, content and organization have been obtained using a web-based questionnaire. The web-based questionnaire consists of 30 likert scale and multiple choice questions including seven demographic questions such as gender, working environments, working experience, age, etc.

A total number of 544 participants replied the questionnaire opened to access at the last weeks of the certificate programs; and 273 of these participants were registered at the Certificate Program I, 92 participants at Certificate Program II and 179 participants at Certificate Program III.

The distance education program was open to library, archive and museum personnel as well as undergraduate students of the related departments. A great majority (72.8 percent) of the participants was between 18-35 ages while the rate of participants at and over 46 years old was only 5.4 percent. Young librarians, archivists, museum staff and students can be said to have been interested in the program. The similar tendency can be seen in all certificate programs. Of the participants who completed the CPIII, which covers the whole program, 40.2 percent are under the age of 25. In contrast to Wilde and Epperson's (2006) study conducted on the alumni of LIS distance education program, participants of this training are mostly youngs. This high rate can be explained by the fact that young generations are more skilled at technology. Similar to Wilde and Epperson's (2006) study results, women's participation in the

program is significantly high (63.8 percent female and 36.2 percent male participants). More than two-thirds of the participants (76.1 percent) completed undergraduate education in the related fields. They are followed by master graduates in the same fields (18.8 percent).

More than half of the participants (54 percent) are working in library. They are followed by students from the Department of Information Management (23 percent). 9.1 percent of the participants are archivists or museum personnel. It is clear that librarians showed a great more interest in the program. Approximately one-third of the participants (30.5 percent) have just started working (1 or 1,5 years of professional experience). Rate of the participants who have been working in their profession for 16 or more years is low (13.1 percent). It is seen that the participants who have just started working on their profession showed a great more interest. The fact that participant rate among students and employees are high, and that these participants are either registered in an education program or working full-time in a corporation, works toward the goal of the distance education not bounded by time-space. Besides, those who choose to practice this profession must adapt to emerging technologies and conditions. Digitization is one of these innovations. Thus the fact that this education is on digitization and it is not bounded by time and space increases the rate of participation.

According to responses, 91 percent of the participants had experienced distance education for the first time, and 98 percent of the participants had experienced distance education on digitization for the first time in their lives. As stated in Islam *et al.* (2011), only 23 percent of the departments offering LIS training with an English website provide e-learning. Departments in Turkey which offer LIS training fall outside this percentage. 90.6 percent of the participants attended the program on the ground of their "professional interest", while 8.1 percent did so for their "personal interest". A great majority of the participants indicated that they had not received any information on digitization and had not developed themselves seriously in this field. Among the participants, there are no one who received a regular in-house education on digitization. The fact that 91 percent of the participants attend the program due to their "professional interest" demonstrates the need for training in this profession.

Data analysis

Findings obtained from the questionnaires within the scope of the research were analyzed using the program PASW (Predictive Analytics SoftWare). Data that were gathered via questionnaires matched with thirty variables in PASW Software and cross-tables and descriptive statistics were used for analyses. The participants who replied the questionnaire compose 67.8 percent of the registered participants, and 67.6 percent of the participants who actively continue the program. The level of universal representation of the sample used in the survey was calculated by means of the following formula[1] (Yazıcıoğlu and Erdoğan, 2004, p. 50):

$$n = \frac{N.t^2.p.q}{d^2.(N-1) + t^2.p.q}.$$

According to this formula, participation rate of the survey has a 95 percent reliability of universal representation.

In the framework of analyses carried out with PASW Software, initially the level of reliability for internal consistency was calculated with Cronbach alpha value. The fact

that the values obtained from these tests ranged close to 1 showed that reliability of the variables was significantly high. In Cronbach alpha value distribution, values ranging between 0.00 and 0.40 shows that the data are not reliable; values between 0.40 and 0.60 represent low reliability; values between 0.60 and 0.80 represent significant reliability; and values ranging between 0.80 and 1.0 represent high reliability (Özdamar, 2004, p. 633). In our study, Cronbach alpha value was measured 0.70 which proved that internal consistency of the survey was significantly reliable. Variables which might affect the internal consistency negatively were used out of the demographic findings in the research.

Results

In this section, feedbacks from the participants of the distance education program carried out for the first time in Turkey and realized within the scope of AccessIT Project will be evaluated. Accelerate the Circulation of Culture through Exchange of Skills in Technology (AccessIT) Project is an international project held between May 1, 2009 and April 30, 2011 which was funded under the European Union 7th Framework Program. Turkey, the UK, Poland, Greece and Serbia are among the partners of the project. The main objective of the Project is to digitize a certain amount of item from cultural heritage of partner countries Turkey, Greece and Serbia, to transfer it into Europeana, and to create the required education infrastructure. Hacettepe University is the institutional owner of the project in the name of Turkey.

Developed by the European Union in November 2008 to access the European cultural heritage from a single center, Europeana is a digital library where many projects, including AccessIT, on issues such as content transfer, refinement, introduction, etc. are carried out. Europeana is an access point for more than 20 million (2012, March) objects obtained from 1500 institutions including many well-known libraries, museums, archives and galleries such as British Library, Rijksmuseum, Louvre Museum.

One of the objectives of AccessIT Project is to build an education infrastructure in the field of digitization in partner countries, Turkey, Greece and Serbia. To this end, content for a distance education program was established by Poznań Supercomputing and Networking Center in Poland, one of the partner countries to the project. The Turkish Team, on the other hand, developed a "Moodle-based" distance education program, and adapted the distance education program developed by the Polish Team into three different certificate programs. The 1st Certificate Program was wholly translated into Turkish, while the other two certificate programs were presented in English.

The 1st Certificate Program (CPI), titled Digitization, includes topics such as introduction to digitization, digitization equipment and software, bases for digital libraries, forming digital collection and defining digital objects. The 2nd Certificate Program (CPII), titled Digitization and Content Management, includes, in addition to the topics of the 1st Certificate Program, preparing digital versions of cultural heritage objects, publication of objects in online environment, evaluation and monitoring of digital library. The 3rd Certificate Program (CPIII), titled Partnership to Europeana, includes all topics presented in the 1st and 2nd Certificate Programs (totally nine topics) as well as three different topics about partnership to Europeana: overview of

Europeana, introduction to metadata aggregation and Europeana Semantic Elements, establishing connection with Europeana.

Qualifications of the education: participants' opinion about distance education program on digitization

As it is clearly seen in the education model (Figure 1), there are four qualities that comprise the qualifications of the distance education. These are scientific content of courses delivered in the education, presentation qualifications of courses, systematic (technical) structure of distance education program and organization of the education in general terms.

It can be understood from the findings on scientific content of courses, half of the participants, think that the education program had a "substantial" contribution to increase their professional knowledge and skills, while one-third of the participants think that it had "moderate" contribution. A tota; of 83.8 percent of the participants thought that the education program was "informative".

According to the feedback on presentation of courses, 45.2 percent thought that it was "fluent", 15.8 percent "enjoyable", 9.7 percent "boring" and 14.5 percent "monotonous". The content of the programs is considered on a great scale to be fluent and clear (97.4 percent)

Participants' general evaluations on content and presentation qualifications of the education program are shown in Table I.

According to the opinions of participants, the strongest point of the training is its content, whereas visual items are less strong. For each item, the rates of "excellent" and "good" are above 80 percent. Therefore, it can be presumed that the program was found satisfying for its content, visual items and easy to follow. The rate of "poor" is observed to be low in each of the three items, which shows that the program was appreciated. In brief, the training program was found adequate in terms of each program item. The third quality of the education model is determined as organization of the education program. The data including the participants' opinions about the organization of the education are shown in Table II. The organization includes items, besides general arrangement of the education program, such as "announcements", "communication" and "responding to the participants' questions".

The training program was appreciated and found adequate in terms of process items (organization, announcement, communication and responding to the participants' questions). The most favored item is organization. In other words, the training program was well-organized. The program was not considered a failure. On the contrary, high rates of "excellent" and "good" points at its success. Favorable

Table I. Evaluation of the education program in terms of the program items

	Program items					
	Content		Visual items		Easy to follow	
How was the program?	*n*	%	*n*	%	*n*	%
Excellent	160	29.4	132	24.3	106	19.5
Good	346	63.6	309	56.8	364	66.9
Fair	37	6.8	71	13.1	68	12.5
Poor	1	0.2	32	5.9	6	1.1
Total	544	100.0	544	100.1	544	100.0

How was the program?	Evaluation on the process of the program: Organization *n*	Organization %	Announcement *n*	Announcement %	Communication *n*	Communication %	Responding to the participants' questions *n*	Responding to the participants' questions %
Excellent	159	29.2	155	28.5	158	29.0	156	28.7
Good	303	55.7	262	48.2	259	47.6	288	52.9
Fair	72	13.2	97	17.8	94	17.3	71	13.1
Poor	10	1.8	30	5.5	33	6.1	29	5.3
Total	544	99.9	544	100.0	544	100.0	544	100.0

Note: The percentage of total use is not 100 percent due to rounding

Table II. Evaluation of the education program in terms of its process

opinions of the participants on the process items enhance the efficiency of the program. High rates of excellent and good in terms of "communication" and "responding to the participants questions", shows that asynchronous training does not pose a major problem.

Another important component of the program is the examinations. The content structure and the difficulty degree of the examinations take an important place in the evaluation of the participants about the program. A great majority of the participants (80 percent) thought that "content" and "difficulty degree" of the examinations taken during the program were "appropriate". There were other participants who criticized the program for its "difficulty degree".

Education outputs, degree of meeting participants' expectations and general success of the program

At the beginning of the program, both students and educators had expectations from the education program. The degree of meeting participants' expectations, which are the education outputs at the same time, is a scale for general success of the program.

There have been a great many applications for Distance Education Program of Digitizing which have been carried out in Turkey for the first time within the framework of AccessIT Project. Of the 881 preregistered users, 805 participants continued the program and 544 participants deserved to have certificates. Participation and success rates of the certificate programs are shown in Table III.

	Success of programs *n*	Success of programs %	Total participant number
Preregistered users			881
Active participants			805
Certificate Program I	273	63.9	427
Certificate Program II	92	58.3	158
Certificate Program III	179	81.3	220
Total	544	67.7	805

Table III. Participation and success rates of AccessIT project

The largest amount of participation has been in the 1st Certificate Program most probably because its language is Turkish. The fact that 3rd Certificate Program, which concerns partnership with Europeana, had more participants than the 2nd Certificate Program can be interpreted as the participants were interested in Europeana. Another interesting result is that the highest success rate belongs to the 3rd Certificate Program. Success rates depend on the Certificate Programs. A portion of the participants could not complete the programs, while another portion could not do so because the participants could not take the sufficient grade. The participants took 59.3 points in the 1st Certificate Program, 66.2 points in the 2nd Certificate Program and 61.7 points in the 3rd Certificate Program over a scale of 100. Electronic certificates were sent to the participants who succeeded the program.

The data on to what extent education program met the participants' expectations are shown in Table IV.

According to the data, the education program met the expectations of the participants substantially. It cannot be expected from such a program to meet expectations "precisely" or not to meet them anyhow. It is still a positive point for the programs that only about 10 percent of the participants responded as the programs met their expectations "partially" or not met them anyhow. The above-mentioned rates do not show meaningful variation among the certificate programs. According to some other data, 92 percent of the participants stated that they could "suggest the education program to a friend".

Discussion

The reason for young and inexperienced librarians, archivists and museum personnel to show more interest in the distance education program of digitization can be explained by that the young are more inclined and open to technological advances. As the time of working increases, the interest for, and adaptation to, issues on technology decrease. According to archivists and museum personnel, the fact that librarians showed much more interest in the education program reveals that digitization is not a well-known and interesting issue, among museum personnel in particular. The fact that there were more female participants to the education program than male participants partially results from that the majority of the staff in the related institutions was composed of women. That the largest participatory group to the education program was composed of professional workers who have undergraduate

	Certificate programs							
	CPI		CPII		CPIII		Total	
Meet the expectations	*n*	%	*n*	%	*n*	%	*n*	%
Precisely	9	3.3	3	3.3	4	2.2	16	2.9
Substantially	155	56.8	44	47.8	97	54.2	296	54.4
Moderately	81	29.7	33	35.9	61	34.1	175	32.2
Partially	27	9.9	12	13.0	16	8.9	55	10.1
None	1	0.4	0	0	1	0.6	2	0.4
Total	273	100.1	92	100.0	179	100.0	544	100.0

Note: The percentage of total use is not 100 percent due to rounding

Table IV.
How the education program meets the participants' expectations

degree in the field shows that archivists and museum personnel are not familiar to digitization yet. The intense participations of undergraduate students can be explained on the one hand by that they are aware of the importance of the digitization and they want to improve themselves on the issue because they are lack of knowledge about it in their education process; on the other hand, they think that it should be wise to have a certificate for their curriculum vitae. Considering the rate of those who completed the program with success, it was seen that the participants were generally successful and the highest success rate was of 3rd Certificate Program which was the most difficult and intense program. Nevertheless, the average grade on the scale of 100 is not high in general sense. The reason for this might be that the participants experienced distance education for the first time and the issue is a new and highly technical one. Experience of library, archive and museum personnel on distance education and distance education of digitization is desperately limited in Turkey. For this reason, this education program was in high demand and drew a great interest.

The responses for the questions put forth in the methodology section were obtained. Accordingly, education background and level of knowledge of the participants on digitization are significantly poor. This situation which increased the participants' expectations from this education program on distance education most probably results from that digitization is a new field and cultural memory institutions lack awareness on education dimension of the issue. As a response to the second question, it was understood that the program was successful in terms of its qualifications, content and presentation of courses and general organization. As for the last research question, the distance education program can be said to have met expectations of students and educators to a great extent and become successful. It was stated in the literature review that a new method of life-long learning is distance education and that this type of education does not impose time and place restrictions. Most important advantages of distance education studied in this paper are that neither educators nor participants are restricted by time and place and that the program is highly flexible. Participants have completed this training while leading their regular family and professional lives. The distance education experience within the framework of AccessIT Project has also demonstrated that no strict limitations on number of students are necessary.

Underlined within the literature review, this study also concludes that the process of life-long learning can be sustained with ease and quality via information and communication technologies. With this study, it is understood that only with a server, adequate content and some experts, this training can be offered to hundreds of people in the country, even in the world. The type of the distance education was asynchronous, which has proven not to be disadvantageous.

In the literature review, it is emphasized that online education is more economical that face-to-face education. Our study results also reveal that no fee was charged for participation and this provided an advantageous opportunity.

Within the framework of this project, the distance education program carried out by Department of Information Management, Hacettepe University has proved to be an invaluable experience for the department. Distance education for master's and doctoral programs is being considered.

The importance of the content of digitization, which has been emphasized in the literature review, was recognized in this study. The need to update the ever-changing content was acknowledged.

The results of this study are limited to the outputs of digitization and digital content management training within the framework of AccessIT, a project of the European Union and findings obtained from the questionnaire administered to 544 participants. The participants of the training program and of the questionnaire are working in various libraries, archives and museums all around Turkey. This expands the influence of the training; on the other hand it hinders the generalization of the evaluations. This training program is an example of the implementation of the accumulation of knowledge of European Union, particularly the Europeana Project on digital content management. The results of the questionnaires administered by other partner countries in the Project can set an example for international implementation of similar topics. They can also be used for comparative studies. The publication of questionnaire results in countries where digitization trainings are jointly conducted will provide the opportunity to draw comparisons and to make comprehensive evaluations.

Conclusion and further research

In respect of its results, the distance education program of digitization has had, and will have, reflections on Turkish librarianship. These effects can be listed briefly as follows:

- An interest and awareness has been created on digitization for the participants to the education program, the institutions they work for and their colleagues in those institutions. In the course of the education, the issue of digitization was widely discussed in Turkey.
- Similarly, a serious awareness on Europeana has been created. Europeana has become popular for the first time in Turkey.
- The librarians, archivists and museum personnel's lack of knowledge on digitization have been compensated for to a certain degree. In other words, education background of these groups on digitization has been strengthened.
- It is the first time in Turkey that such a distance education on librarianship in this dimension has been carried out. Many institutions have been interested in the education program, and its possible use as a model, for in-house training in particular, has been in question. That is, another type of awareness has been on distance education.
- The participants who experienced distance education for the first time were pleased with the program, and they asked such education activities to recur. The program was approved in terms of various aspects.
- The librarians, archivists and museum personnel were gathered under the same program for the first time in Turkey. Museology, in particular, is not accepted as close to these fields in Turkey. With this education program, however, this point-of-view has been considerably changed.
- This research has had national implications. The General Directory of Libraries and Publications in Turkey has begun to plan in-house trainings via distance education on various vocational issues for its staff working in 1,150 public libraries in 81 cities. Similarly, Hacettepe University, Department of Information

Management has begun to consider distance education possibilities for master's and doctoral programs.

However, some adverse events were also encountered during the education program:

- The participants in the distance education program experienced some clumsiness such as missing the examinations, not studying the topics on time, etc.
- The museum administrators in particular did not encourage their personnel in attending the education program. They were "loose" in notifying their personnel about the program.
- High-ranking bureaucrats were indifferent to the education program. This indifference can be said to have derived from the lack of awareness on digitization and distance education. It was seen that high-ranking bureaucrats did not have a strong vision for the international point-of-view, involving the Europeana. In addition, conservatism and shyness was observed in these groups in relation to the issue.

As a result, AccessIT distance education program of digitization can be said to have been a good example of experience and application in Turkey. What is important with such education programs is their sustainability. To ensure this, Libraries and General Directorates of Publications under Ministry of Culture and Tourism, General Directorate of Cultural Entities and Museums, Presidency of National Library with Turkish Librarians' Association, Association of University and Research Librarians and Departments of Information Management of universities have great responsibilities. As a further research, an evaluation can be carried out on how often the participants use what they have learned during the trainings, how useful the training was, in other words how much they have applied what they have been taught via another questionnaire. Furthermore, a comparative study can be carried out with the partner countries on their results of the same training.

Note

1. N: number of individuals in universe.
   n: number of individuals taken to sampling.
   t: the theoretical value that is obtained from the t table according to particular degree of freedom and fallibility.
   p: the possibility of appearance of the examined event.
   q: the possibility of disappearance of the examined event $(1 - p)$,
   d: $\pm$ deviation that is intended to be performed according to the possibility of appearance of the examined event.

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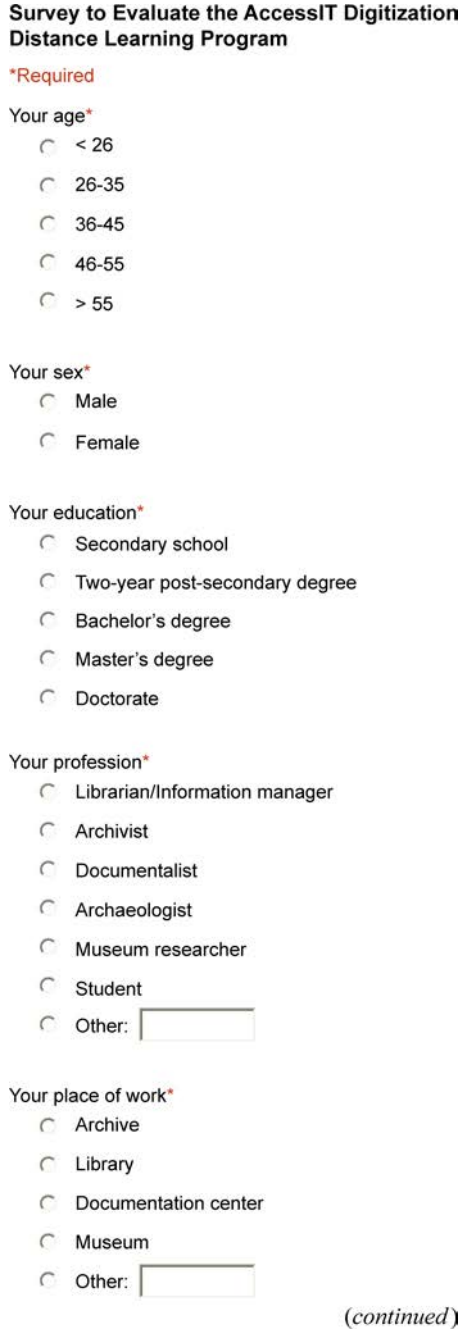
Appendix



Survey to Evaluate the AccessIT Digitization Distance Learning Program

*Required

Your age*
- < 26
- 26-35
- 36-45
- 46-55
- > 55

Your sex*
- Male
- Female

Your education*
- Secondary school
- Two-year post-secondary degree
- Bachelor's degree
- Master's degree
- Doctorate

Your profession*
- Librarian/Information manager
- Archivist
- Documentalist
- Archaeologist
- Museum researcher
- Student
- Other:

Your place of work*
- Archive
- Library
- Documentation center
- Museum
- Other:

(*continued*)

Figure A1.
Survey to evaluate the AccessIT digitization distance learning program

Your position*

- Administrator
- Specialist/assistant specialist
- Officer
- Student
- Other:

Your work experience*

- 1-5 years
- 6-10 years
- 11-15 years
- 16 years or more
- None
- Student

Had you previously taken a distance learning course?*

- Yes
- No

Had you previously taken a course giving a certificate in digitization?*

- Yes
- No

Your Evaluation of the Digitization Distance Learning Program

Do you find the division of the program into 3 Certificate Programs appropriate?*

- Yes
- No

What language would you prefer this program to be offered in?*

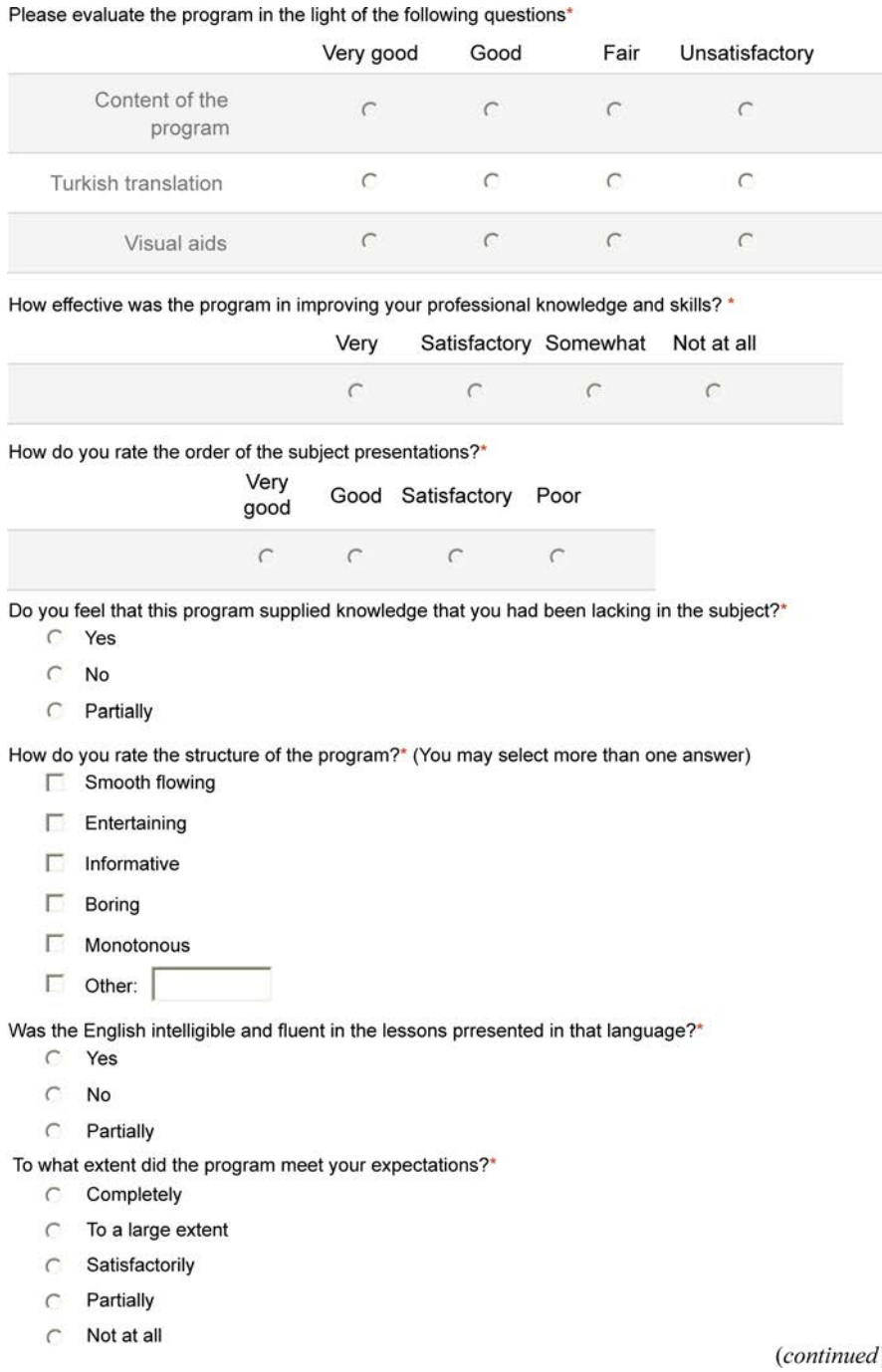
- Turkish
- English
- Both
- Other:

Why did you register for this program?*

- Personal interest
- Professional interest
- Other:

(*continued*)

Figure A1.



Please evaluate the program in the light of the following questions*

	Very good	Good	Fair	Unsatisfactory
Content of the program	○	○	○	○
Turkish translation	○	○	○	○
Visual aids	○	○	○	○

How effective was the program in improving your professional knowledge and skills? *

	Very	Satisfactory	Somewhat	Not at all
	○	○	○	○

How do you rate the order of the subject presentations?*

	Very good	Good	Satisfactory	Poor
	○	○	○	○

Do you feel that this program supplied knowledge that you had been lacking in the subject?*

- ○ Yes
- ○ No
- ○ Partially

How do you rate the structure of the program?* (You may select more than one answer)

- ☐ Smooth flowing
- ☐ Entertaining
- ☐ Informative
- ☐ Boring
- ☐ Monotonous
- ☐ Other:

Was the English intelligible and fluent in the lessons prresented in that language?*

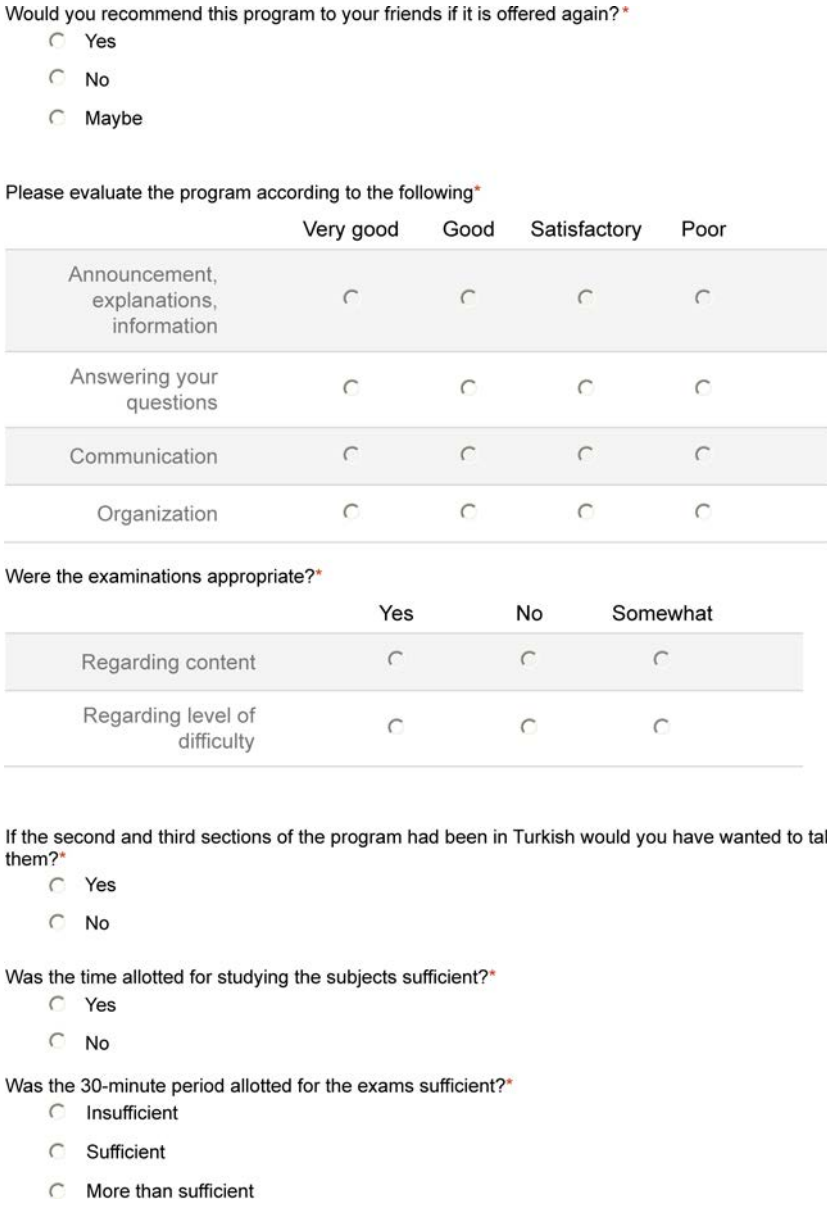
- ○ Yes
- ○ No
- ○ Partially

To what extent did the program meet your expectations?*

- ○ Completely
- ○ To a large extent
- ○ Satisfactorily
- ○ Partially
- ○ Not at all

Figure A1.

(*continued*)



Would you recommend this program to your friends if it is offered again? *

- Yes
- No
- Maybe

Please evaluate the program according to the following*

	Very good	Good	Satisfactory	Poor
Announcement, explanations, information				
Answering your questions				
Communication				
Organization				

Were the examinations appropriate?*

	Yes	No	Somewhat
Regarding content			
Regarding level of difficulty			

If the second and third sections of the program had been in Turkish would you have wanted to take them?*

- Yes
- No

Was the time allotted for studying the subjects sufficient?*

- Yes
- No

Was the 30-minute period allotted for the exams sufficient?*

- Insufficient
- Sufficient
- More than sufficient

Figure A1.

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