An Audio-Book Project for Blind Students at the Open Education System of Anadolu University

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Abstract

As a contemporary system to provide equal education rights to all learners, distance education gives different education opportunities to people who cannot get enough educational services because of the some limitations of traditional education. Distance education at the Open Education System of Anadolu University has been formed for all diverse people who have severely different educational needs and expectations from each other. Therefore, the system provides different educational programs and services to them, especially the people who need special education.

This study conducted to develop an audio-book project for the 362 blind students in Open Education Faculty of Anadolu University. The process to convert available traditional books to audio-books, commonly known as e-audio -books, will be explained in this paper. Also, the production and publication processes of e-audio-books will be discussed.

Introduction

Integrating novel technologies and their new capacities to increase educational productivity by considering individual differences in distance education are very essential phenomena in effective learning. To approach educational problems sensibly, contemporary education uses and integrates new technologies into distance education in many developed or developing countries. Also, it provides diverse opportunities to people from different environments, different ages, all income rates and/or all vocational groups. Therefore, these people can obtain an equal opportunity without losing their productivity and arrange their own pace and capacity for education as well as benefit from communication technology. The Open Education System of Anadolu University is one of the contemporary applications to provide higher education opportunity to the hundred thousands of students in Turkey, six West Europe countries and Turkish Republic of Northern Cyprus since 1982. It has been benefiting from communication technologies with undergraduate, graduate and certificate programs.

Problem Statement

Of approximately 1,5 million students in Turkish higher education, 658.000 students are registered to the Open Education System of Anadolu University, which provides all students with equal education opportunities. However, there is no any single study done about preparing distance materials to create a student-center environment for all the groups registered in the system, because of budget and/or administrative limitations.

It has become compulsory to prepare more original educational materials for the students according to the variety of communication means. Especially, designed course materials cannot be provided to those blind students, who register in the Open Education System of Anadolu University. Those students particularly cannot benefit from the books without other people's help while they are studying. In fact, the main part of creating an equal learning setting in education is to provide blind students in the open education system with e-audio-book, thus those students become independent individuals. In this study, it is to focus on creating an e-audio-book which will be presented to 362 students getting education at the Open Education System of Anadolu University in 2003-2004 academic years.

Purpose

E-audio-books are course materials, which facilitate blind students to study without other people's help. The aim of this study is to provide blind students in the Open Education System of Anadolu University. E-audio-books make blind students learn on their own in effective, productive and equal learning environments.

Creating e- audio-books is not only practical but also easily accessible and inexpensive as well as duplicable in different environments such as cassette, CD ROM, the Internet. This is another goal for us to help the blinds and also all students benefit from this.

Besides, Anadolu University contributes educational opportunities for disabled people, thus this project will have a good impression in constructing a public opinion about the blind students in Anadolu University.

How can E- Audio-Book Material be used?

E-audio-books are instruction materials that blind students can use in every situation and every time without being tied to any place or without other people's help. E-audio-books produced for blind students can create an environment to provide, enrich, inform, guide and teach subjects completely by creating an environment to learn and also develop independent learning skill to solve problems and answer question as well as discuss on different course related topics.

The benefits of e-audio-books in distance education provide an easy, access, low cost and quick change of the content when it is necessary. Since e-audio-books are educational tools to support learning, programs must be established with simple vocabulary, supported with music and sound effects and the length of program must last 15-20 minutes.

Additionally; blind students need to listen to e-audio–cassettes, etc. and like the idea of being heard on audio-book. Courses would gain status by having an e-audio-book. The "powers-that-be" think it would be a good idea for us to use audio. Learners can achieve some of our objectives only with the help of an e-audio-book.

- E-audio-book present 'raw sounds' for learners to experience; these sounds may be natural (e.g. the call birds or animals), mechanical (e.g. the grinding of gears), musical (e.g. the magic of Mozart), etc. and present foreign language dialogues. Also, it provides a spoken glossary of which are difficult to pronounce terms.
- To present some conversations to be analyzed, e.g. between doctor and patient, sales staff and criminals talking about their way of life.
- To provide an 'expert' talking in an informal, engaging style.

For tutoring, i.e. guiding learners through a task or exercise that requires eyes and hands as well as ears, for example:

- To study a series of diagrams or photographs.
- To operate a machine or piece of equipment.
- To assemble a model.
- To deal with physical or biological specimens.
- To complete a form or questionnaire.
- To set up equipment and/or an experiment.
- To consult tables of statistics, accounts, etc.
- To examine a map, plan, blueprint, etc.
- To provide guidance in fieldwork situations, etc.

Using E-Audio-Book for Open Education

Audio-book is not so widespread but inexpensive that its potential in open education contexts is easily overlooked. In subject disciplines such as music, where sound is important for blind students, the use of an e-audio-book as an educational medium is already well developed. In multimedia packages, sound and images are often combined to with good effect, yet audio-book can sometimes play a similar role at much less cost. The use of audio-books to support open education can be extended to most disciplines. The following suggestions may help support learners by putting e-audio-books in good use. (Race, 1998, pp. 99-101).

- Have good reasons for using e-audio-books,
- Most learners have access to e-audio-books,
- Label e-audio-books informatively,

- Keep e-audio-book extracts short and sharp,
- Use e-audio-books where the tone of voice is important,
- Sound can help open education learners about the subject-related jargon,
- Use e-audio-books to bring open education to life,
- Clarify exactly when a recorded episode must be used,
- Turn open education learners' listening into an active process,
- When using e-audio-book to help your learners achieve particular outcomes, explain exactly what they must be getting out of listening to the tape,
- Consider using e-audio-book to give open learners feedback on their tutor-marked assignments, and
- Combine audio and visual learning.

E-audio-book must be clearly support learning objectives. To create attractive e-audio-books for blind students and other learners, the following given below must be considered: (Rowntree, 1994, p. 6)
- E-audio-book must be physically available to learners –where and when they need it and convenient for them to use– and to control the timing and pace of their learning,
- E-audio-book must be one for which they already have, or can quickly learn, the skills to use effectively and that relates the teacher/ trainer have the skills and know- how to use effectively, and
- E-audio-book must be one that relates clearly to the other course media- i.e. not appearing tacked on as an optional extra and afford to use.

Creating an Effective Learning Environment for Blind Students
What kind of learning environment an e-audio-book provides is that some criteria is listed below: (Rowntree, 1994, p. 7-9).

 Matching your learning objectives: Audio will be virtually chosen it if the learning objectives require earners to respond to sound. E-audio-book is one way of presenting necessary stimulus. It will be the best way for blind students.

Appeal to your learners: Any learner is likely to find some media more appealing than others. Older learners may be happier with printed materials or television; younger people liking high-tech ones, will like computer-based learning and multimedia. E-audio-book has always been a popular medium among blind students; because only this kind book helps them study without other people's assistances.

Physical access: E-audio-books are easier for blind students to get access to than others. For instance, learners may need to make a journey (and possibly an appointment) and the place and times may be inconvenient for them but more and more people have a tape or CD player at home, or can get access to one if necessary. Most people have own an audio-cassette player, some have one in their cars as well as at home.

Convenience in use: Few media can be superior a book to in terms of convenience in use, but audio-cassette player is very user-friendly, certainly. Because learners can study the material at any time they choose; stop and start the sound whenever they want; replay a passage as many times as they wish; and skip over any material they do not need.

Necessary learning skills: Different media require different learning skills and different attitudes. For example, e-audio-books require blind students to be good listeners. Learners have positive attitudes toward media; such as they used to be relaxed for entertainment often limit them in using those media for study purposes. Most learners can acquire necessary skills and attitudes, of course, if they want to. However, we have to be sure that it will be worth their time while within the time they have available for course or program they are working on. Clearly, e-audio-book can provide relief for learners who are not too keen on reading. We may need to support it with printed materials to help them develop the skills for using the audio medium effectively.

Your skills and know-how: Do you, as a trainer or teacher, have the know-how and skills you'll need to use the medium effectively? Do you know enough about its teaching capabilities to design effective materials? Do you have the technical skills needed to produce them?

E-audio-book is rather more demanding than printed materials for blind students. Most teachers and trainers are already familiar with what it can do and will rapidly acquire the know-how and skills to design effective teaching and even to produce usable cassettes that can be used. You can remain in control of the medium.

Integration with other media: Some of the high-tech media relate uneasily to other media. Either because their producers believe that chosen medium can do everything by itself or because producers of other media are unsure of what the high-tech media are doing, so they can get sidelined. Audio-book can be connected closely to other media. They can be used in class as well as for individual learning, and learners can (and often should) use them alongside internet and computer-based learning or practices

Can we afford it? Apart from printed material, no medium will cost less to use than e-audio-book-for both you and the learners. Designing effective audio takes no more time than writing a book and producing an audio-cassette needs negligible investment in equipment compared with video-or computer-based packages (an audio package might cost between one sixth and one tenth of a video on a similar topic). Learners are equally fortunate. They don't have to buy or rent expensive equipment themselves; nor do they incur costs and waste time traveling to a center to use someone else's.

How can We Teach with E- Audio- Book?
E-audio-book seems to have some special practical advantages. Thus, e-audio-book is better educational tool than other media. (Rowntree, 1994, p. 10).
- To provide "aural source material" e.g.: A conversation with a client or colleague for learner to analyze or react to.
- To bring ideas into life presented elsewhere in the course.
- To talk with learners through tasks during which it would be disruptive for them to keep consulting by means of written guidance.
- To help learners practice skills.
- To make teaching more human and personal.
- To be very easily expressed.
- To encourage or motivate learners.
- To influence learners' feelings and attitudes.
- To get valuable contributions to teaching from people who would be unlikely to contribute by means of writing.
- To let learners hear the voices of experts, users, clients, other learners, etc.
- To present new ideas to learners who are unable or unwilling to read or whose circumstances prevent them from reading.
- To provide necessary variety in learners' learning.
- To act as a trigger for group sharing of ideas and experience.

Tutoring or Coaching with Audio-Book
Some e-audio-books use audio simply to give guidance and reinforcement by leading a tutoring and/or coaching package: (Rowntree, 1994, p. 22-23):
- You talk to your learners rather than expressing your teaching points in writing.
- While they are listening, you may be getting them to turn the pages of a workbook, which you have laid out with text and pictures. (Similarly, they may be operating a piece of equipment or handling real objects).
- Anytime you will ask them (on the audio-book) to answer a questions or carry out some exercise perhaps writing their answers in the workbook or doing something with equipment they are working with.
- Each time you set such an activity, you will say "Stop tape now, and start it again when you have finished…" You may record a tone or a few seconds of music at this point, as another signal for the learner to switch off.
- When learners switch on again, they hear your feedback and comments on activity. You will talk about the kind of results they must have come up with. Or, if they're not the kind of results that can easily be described in word (e.g. diagrams or complex calculations), you may direct your learners to a page in the workbook where your sample answers have been printed.
- Having finished commenting on the previous activity, you go on to the next teaching point you want to talk about, as in 1 and 2 above.
- Learner carries on working with tape guidance, even when the cassette player is switched off: "20 minutes of tape time might provide for an hour or more of learning time."

Other Uses of E-Audio-Book
E-audio-cassettes can be used in open and distance education in different ways; for instance: (Rowntree, 1994, p. 25)

- You may want to record a commentary or study guidance for many set books or other sources your learners are using.
- Tutors and distance learners may sometimes choose to communicate with one another using cassettes as well as, or instead of, by sending letters or phoning.
- Your learners may be interested in recording their own ideas about certain topics as a way of preparing for the exams.
- You may want to try an evaluation technique and ask distance learners to interview themselves, talking about responses in an evaluation questionnaire into their own tape recorders.
- E-audio may also be used for assessment purposes, if you get learners to record examples of their work (e.g. foreign language speaking) or their reflections about some other project they have been engaged in.
- Organizers in open or distance education program can consider sending round a regular "audio-newsletter" cassette to keep both learners and their supporters aware of what is going on in the system.

What Kind of Structure will be Involved in E-Audio-Books?
In e-audio-books, besides a professional narrator, there must be music and sound effects as well. Structured format elements in e-audio-books to help blind students are listed below: (Ozgur, 1999)

Presenter or Teacher Talking Directly
Subject taught in this format is given with the style of direct talking by a presenter or teacher. In this format, it must be paid attention to the fact that there is only one subject to be taught and it is supported by means of music and sound effects. In presenter/teacher format, presenter-teacher is the voice and personality in program. Teacher-presenter must influence students/listeners by means of his/her tone of voice, style of talking, reliability, intimacy but not physical properties and (the most important this is flat) s/he must be convincing establishing emotional relations with students.

Dialogues
Radio education program presented to students is given using characters' voices to be found out with helping radio playwright written about subject to be taught.

Testimony
Radio is a personal media. In general, students are alone while they are listening to radio. Sometimes, the point of teaching can be told with those people's testimonies related to that subject. In other words, when real people talk about their experiences, they can realize learning.

Story
Radio education programs telling story are realized with help at a story, which has been starting, developing and ending; such as radiophonic plays. Drawing listeners' attention to story developing, educational goals and/or subject is presented to students in program that story is resourced from teaching subject itself.

Recorded Programs
Recorded programs are prepared in advance, cover certain periods and designed in units and involve music and sound effect. Sometimes, converting TV-based education programs to radio-based education program technology also contributes to support subject taught in TV with radio. The advantages of recorded programs are that they are creative and it can be controlled in each phase of preparation.

Educational Environments in the Open Education System of Anadolu University Education
The educational materials, environment and services used in the Open Education System of Anadolu University are classified below:
- Printed materials,
- Radio and Television Programs,
- Academic Counseling Services,
- Computer Based Instruction Services,
- Test Research Center,
- Student Affairs and Interaction Center,
- Interaction Center,
- Advanced Technology Use: Videoconferencing,
- Web Services, and
- Trial Tests.

Starting from the 2003-2004 academic years, e-audio-book project will be put into practice as addition to the educational materials for blind students in the Open Education Faculty of Anadolu University. The numbers of the handicapped students in the Open Education Faculty are as indicated below.

In the 2002-2003 academic years, 741 out of 658.000 students in the Open Education Faculty of Anadolu University are handicapped students. In Table 1, the number of handicapped students based on handicap groups is presented.

Departments in Open Education Faculty	The Number of Handicapped Students in the Open Education of Anadolu University based on Handicap Groups			
	Foot	Hand	Eye	Total
Banking And Insurance Program	6	5	14	25
Information Management	1			1
Office Management & Secretarial	5		5	10
Office Management Program	1	1		2
Foreign Trade Program			2	2
Home Management Program	7	3	8	18
Public Relations Program	32	16	61	109
Theology Program	15	23	33	71
English Language Teaching B.A. (Adana)			1	1
English Language Teaching B.A. (Ankara)		1	1	2
English Language Teaching B.A. (Eskişehir)			1	1
Laboratory Assistants and Terinary Health Associate Program	2	2	6	10
Local Administrations	4	1	2	7
Accounting Program	9	8	22	39
Pre-School Teacher Program			3	3
Administration Of Medical Organizations	8	4	23	35
Sales Management		1		1
Social Sciences Program	10	2	16	28
Agriculture Associasse Programme			1	1
Tourism & Hotel Management		1	7	8
Tourism & Hotel		1	1	2
Working Economy & Industrial Relations	5	2	12	19
Economy	20	8	7	35
Public Management	47	18	64	129
Finance	7	4	8	19
Business Administration	74	25	64	163
Total	253	126	362	741

Table 1: The numbers of handicapped students in the Open Education System of Anadolu University

PROGRAMS	School Years					
	0	1	2	3	4	Total
Banking & Insurance		14				14
Office Management And Secretarial		5				5
Foreign Trade		2				2
Home Management		6	2			8
Public Relations		37	24			61
Theology		32	1			33
English Language Teaching B.A. (Adana)		1				1
English Language Teaching B.A. (Ankara)		1				1
English Language Teaching B.A. (Eskişehir)		1				1

Laboratory Assistants And Terinary Health Associate Program		6				**6**
Local Administrations		2				**2**
Accounting		21	1			**22**
Pre-School Teacher		1		2		**3**
Administration Of Medical Organizations		23				**23**
Social Sciences Programme		6	10			**16**
Agriculture Associasse		1				**1**
Tourism & Hotel Management		7				**7**
Tourism & Hotel Program			1			**1**
Working Economy & Industrial Relations		10	1	1		**12**
Economy		3	2		2	**7**
Public Management		45	13	5	1	**64**
Finance		6		2		**8**
Business Administration	9	29	6	17	3	**64**
TOTAL	9	259	61	27	6	**362**

Table 2. The Numbers of Blind Students in the Open Education Faculty of Anadolu University

The courses prepared as e-audio-book consider vast number of freshmen blind students in the content of e-audio-book project at the Open Education Faculty of Anadolu University. Firstly, not only have shared courses in all programs been, but also Theology and Public Relations Programs have been included in this project. The courses having eudio-book are listed below:

General Management, Introduction to Law, History of Civilization, Introduction to Communication, Atatürk's Principles and History of Innovation, Basics of Islam Religion, Principles of Islam, History of First Era of Islam, Communication and Public Affairs in Religious Services, Basic Terms in Social Sciences.

To create e-audio-book project for blind students requires teamwork. Those people given below will be in this team:
1. Project director
2. Producer director (for all the courses)
3. Field expert
4. Education technologist
5. Text writer
6. Sound artists
7. Studio technical team
8. A person in charge of duplications

Director of Project: She/He is responsible for carrying out the project, planning all activities and providing coordinators.

Producer Director: She/He is responsible for designing and applying e-audio-books in accordance with instructional objectives.
Field Expert: She/He designs content and takes a scientific responsibility in realizing the book.

Education Technologist: She/He is an expert deciding on which techniques, format and styles to be used to present the book to the students.

Text Writes: She/He is preparing a text for the book according to determined format in coordination with the director.

Sound Artist: These people have been trained in this field and they have microphonic voice. They will be in charge of making a sound recording.

Studio Technical Team: (a person who records, music director and technical care). This team will make it possible to record to book and match the music and sound effects.

The person in charge of duplication: She/He is in charge of duplication of e-audio-books in technical formats (cassette, CD ROMs, etc.) as students want.

The Process of an E-Audio-Book Production in the Open Education System of Anadolu University
The process of e-audio-book production consists of pre-production, production and post-production steps, like any audio, cinema and television program productions.

Pre-Production: In the beginning, to verify courses with e-audio-books, the number of the disabled students in the Open Education System of Anadolu University was determined. This research was conducted on the demographic, psychological and social backgrounds of the blind students, and the communication tools they have. Research on how e-audio-books support student learning can be carried out in the future. This is a weakness at the beginning at the project. In the Open Education System of Anadolu University, the books consist of units (chapters). Therefore, every unit can be accepted as an individual module while e-audio-books are produced. The books will be recorded as a direct lecture with the readings from different narrators. Music and sound effects will be mixed in the appropriate parts. The parts in e-books (title of the unit, its number, its objectives, pre-test, introduction, text, summary, self-test, through life, sample events, a self-test key) will get ready one by one. No special text will be written for the e-audio-books.

Production: To product e-audio-books, a professional sound recording studio is needed. It requires a professional sound control room, and must be planned every studio individually in these studios in the Open Education Faculty Radio & TV Production Center of Anadolu University, which have been equipped with professional recording machines with a soundproof technology.

While recording e-audio-books, the students and instructors from the State Conservatoire Theatre of Anadolu University will collaborate with the researcher in this study. To avoid waste of time, rehearsal will not be carried out in studios. They will be recorded as a "dat" system, and they can be changed to every format wanted. It will approximately take one month to record a book. Units are regarded as individual programs while recording e-audio-books. The e-books in the Open Education Faculty is approximately fifteen units, and these books is around 300-350 pages long. Each unit is about 20-25 pages. It will take two days to record each unit, and a month to produce an e-audio-book.

Post-Production: This stage is montage step mishmashed and matched with musical and natural sounds. Each unit has 20-25 pages long, and a 45-minute-program. Each e-audio-book is a 16-unit-book, and produced on CD ROMs and adapted to the Internet.

Budget and Timing
There is no extra financial cost to produce e-audio-books in this project, because the studio and technical personnel infrastructure of Anadolu University can make this project possible by an effective planning and productive working. However, it takes long time to transmit in the format that students want. The answer of this situation was gained from the survey results from the students whom we asked which format e-audio books they would like to listen after this project completed. At the first stage, only seven books will be designed for e-audio-books between April and September 2003.

Conclusion
E-audio-books produced for the blind students in the Open Education System of Anadolu University are quite important for all students to study on their own whenever and wherever they want with a more productive and efficient way. Anadolu University is the first and unique university to support disabled students with this project. There is no equivalent open system in Turkey and the world.

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