

# Articles

## Age Matters: Student Experiences with Audio Learning Guides in University-based Continuing Education

Lorraine Mercer, *Huntington University, Sudbury, ON*

Birgit Pianosi, *Huntington University, Sudbury, ON*

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### ABSTRACT

The primary objective of this research was to explore the experiences of undergraduate distance education students using sample audio versions (provided on compact disc) of the learning guides for their courses. The results of this study indicated that students responded positively to the opportunity to have word-for-word audio versions of their printed learning guides. Students found the audio guides functioned as a way to review course content. After careful review of the comments, the researchers found students want access to additional learning tools that elaborate on the written course content and

### RÉSUMÉ

L'objectif principal de cette recherche était d'explorer les expériences d'étudiants de premier cycle en formation à distance qui utilisent des échantillons de versions audio (sur disque compact) des guides d'apprentissage de leurs cours. Les résultats de cette étude ont démontré que les étudiants répondaient favorablement à l'opportunité d'obtenir des versions audio intégrales de leurs guides d'apprentissage imprimés. En effet, les guides audio leur permettaient de revoir le contenu des cours. Après une révision attentive des commentaires, les chercheurs ont découvert que les étudiants désirent obtenir un accès supplémentaire aux outils d'apprentissage qui

connect them to traditional classroom lectures and discussions. Additional statistical analysis of the data collected in this study demonstrated a difference between traditional-age students (up to 25 years) and mature-age students (older than 25 years) in their response to the audio versions of the learning guides. More of the mature-age students found the audio version of their study guide to be helpful to their learning. The implications for the findings are numerous, including the need to review existing distance course offerings and incorporate additional audio and visual learning tools for undergraduate university students who are studying through distance education.

approfondissent le contenu imprimé du cours et qui les lient aux discussions et aux exposés traditionnels en classe. Une analyse statistique complémentaire des données colligées lors de cette étude a démontré une différence entre les étudiants traditionnels (âgés de 25 ans ou moins) et les étudiants âgés de plus de 25 ans, dans leurs réactions aux versions audio des guides d'apprentissage. Ainsi, les étudiants âgés de plus de 25 ans étaient plus nombreux que les étudiants traditionnels à apprécier l'aide que leur apporte leur guide de l'autodidacte dans leur apprentissage. Les répercussions de ces découvertes sont nombreuses, dont le besoin de revoir l'offre actuelle des cours à distance et d'inclure des outils d'apprentissages audio-visuels supplémentaires pour les universitaires de premier cycle qui étudient par le truchement de l'enseignement à distance.

## INTRODUCTION

Communication technologies are not only accessible, they are ubiquitous in Canada. One need only walk across a campus, sit in a coffee shop, or jog along a walking trail to see the ever-present headset. While many of these listeners are enjoying music, some others are listening to audio books. Audio books for educational purposes are not a new phenomenon; they have a well-established history, particularly in serving the learning and leisure needs of children and youth as well as vision-impaired and learning-disabled students in Canada. With the implementation and advancement of computer technology, software development, and Internet communications, opportunities for production and distribution of audio files for educational purposes are almost limitless.

This potentially infinite opportunity for providing audio books and audio files is occurring at a time when undergraduate students at universities are more technologically savvy and experienced with multiple learning tools than those of prior generations. The "Net Generation" (those born in 1982 or later) has grown up with access to the Internet, video gaming, and computers in the school classrooms; their lives are imbued with technological connectivity and they have an expectation for access and activity via technology (Oblinger & Oblinger, 2005).

It is in this context that two faculty members at a university in northern Ontario piloted the use of digitally audio-recorded versions of course learning guides to three print-based gerontology distance education courses. Enrolment in these courses includes both the traditional-age university students and mature-age university students. Therefore the researchers intended to explore whether there was a difference in how these two groups of students experienced, employed, and responded to the audio versions of their learning guides. The researchers asked

whether the university students would adopt this potential resource. Further, how would they use it? And finally, would they perceive it to be helpful to their learning in higher education? The broader question that guided the research was, "What are university students' perceptions of and experiences with audio learning guides in courses offered through distance education?" For the purpose of this research, "audio version of the learning guide" is an interchangeable term for "audio book."

## LITERATURE

Audio books are digitally recorded professional narrations of a written and, most often, published text (Moyer, 2011). They are readily accessible via digital recorded compact discs or via Internet audio sites and libraries (Peters, Bell, Sussman, & Ruda, 2005). A review of audio books available for purchase online indicates a substantial offering of audio books for leisure reading, learning languages, and self-help. Academics-related resources focus on literature and study notes on great works of literature. A broader selection of audio books is available to people with vision impairments through organizations like the Canadian National Institute for the Blind and, in the U.S., Learning Ally. In fact, an online review of Learning Ally's holdings indicates it offers a CD audio version of *Social Gerontology: A Multidisciplinary Perspective*, a required textbook in one of the distance courses examined in this study. The textbook publisher Pearson Education has partnered with Audible.com to provide audio versions of textbooks and study guides to accompany a number of its textbooks (Daily, 2005). This product, called Vangonotes, provides summaries, key ideas, quizzes, and drills for each chapter of selected Pearson textbooks; the audio books and audio learning guides are available by downloading the file(s) from the Audible.com website or iTunes.

Despite the growing availability of audio books, the literature examining the use of audio books in university-level education is extremely limited, particularly in comparison with the substantial body of work that has been conducted with audio books in schools and with children (Byrom, 1998; Grover & Hannegan, 2005; Wolfson, 2008). Only one small study involving audio books and university-age students was found in the literature. This study directly compared listening to audio books with reading ebooks and reading print books; the results indicated no significant difference between these forms of books in terms of students' motivation, engagement, or comprehension (Moyer, 2011). Given the limited research on audio books specifically, this review includes research on related audio tools such as audio files, audio lecture capture, and podcasts. In this expanded review of literature, it was found that audio files are employed as complementary tools to other learning devices such as textbooks, lectures, and discussions and that positive outcomes are attributed to listening to the audio files as a means of review. For example, Williams and Fardon (2007) explored university students' use of digitally recorded lectures and highlighted the strengthening of comprehension of content due to the students' reviewing lectures on their iPods. This review function of audio-assisted learning is identified in other studies as well (Klemes, Epstein, Zuker, Grinberg, & Ilovitch, 2006). The opportunity to repeatedly employ audio learning tools such as audio books, audio guides, and podcasts enhances understanding by assisting in remembering and memorizing (Marton, Wen, & Wong, 2005).

The literature, therefore, identifies the availability and efficacy of audio learning opportunities, but what about the students themselves? The literature indicates that students are interested in accessing learning resources beyond the textbook and printed learning guides. The Net Generation students who are entering university are primed for and even expectant of multiple technological tools for learning in higher education (Smith & Caruso, 2010). In contrast, the

mature-age students in university are more varied in their experiences with technology; some of these students may be primed and ready to go, but others will not have had the same level of experience with technological tools in education. Caution is required when attributing essential qualities to any age group, however, as this results in stereotyping and can lead to missed opportunities as well as misspent resources. As the research demonstrates, university distant education students indicate an interest in using media tools, but these students do not always use these additional tools (Ellis & Cohen, 2001).

Thus, a research project was initiated to investigate undergraduate distance education students' interest and experiences with one particular technology to augment their learning: an audio version of a chapter in their course learning guide.

This study was conducted by two faculty members of the gerontology program in a university in northern Ontario. The university has a long history with continuing education, and the program offers a credit-based gerontology certificate and a bachelor of arts degree in gerontology through distance education.

## METHOD

### *Description of the Research*

A quantitative survey design was selected as the best approach for exploring university undergraduate distance education students' experiences with audio tools for learning. This research method is operational in gaining general information from a large number of participants, and it is effective in including a participant group such as distance education students who are dispersed across a wide geographic area.

Preparations for the research required a professional narration of a printed publication; a digital audio recording of the selected course learning guides' second module was made and duplicated onto CDs. The selected courses were second-term, core courses for years 1, 2, and 3 of the gerontology program; these were selected to capture the maximum number of students at varied levels in their academic career. These CDs were mailed to all enrolled students with a letter of invitation to participate in the research through an online survey and provide feedback on their experience in listening to the CD. The project received prior approval from the university's Research Ethics Committee.

Data analysis of the survey results provided descriptive statistics relative to the participant group. Additionally, correlational tests were conducted to determine associative patterns of enhanced learning experiences in relation to age category. The final open-ended question was reviewed and analyzed for clustered responses; it was then further examined for themes.

### *Description of the Sample*

A convenience sample of all undergraduate students enrolled in three distance education courses—Introduction to Gerontology II, Optimal Aging II, and Critical Skills of a Gerontologist II—during the winter and summer terms of 2010 were invited to participate in this research ( $N = 130$ ). A total of 45 students responded and 43 students completed the survey in full during the two terms, resulting in a return rate of 33.1%. A majority of the participating students spoke English as their first language ( $n = 36, 83.7\%$ ), and only one participant indicated having a learning disability. There was an almost equal representation of traditional-age gerontology students (15–25 years of age;  $n = 21$ ) and mature gerontology students (26 years of age and older;  $n = 22$ ).

There was a relatively even representation of participants from the three course enrolment lists. There were 18 respondents taking the first-year course, 15 taking the second-year course, and 15 taking the third-year course. This number ( $n = 48$ ) surpassed the actual number of surveys completed, which was 45. This was possible as some students were enrolled in several of the three courses; they were asked to check "all that apply." Therefore, three respondents were enrolled in more than one of the courses.

### *Description of the Survey*

The survey consisted of 14 closed-ended questions and one open-ended question. Limited information on participants was collected: age, course(s) in which they were currently enrolled, and whether they registered with special needs. Questions addressed the participants' practical experiences using the audio learning module: did they listen before, while, or after reading the module; where were they when they listened to the module; how did they respond to the voice reading the module; and what did they feel while listening (motivated, bored, information overloaded, helped, or other). Participants were asked if the module enhanced learning: was it a review of the contents, was it helpful/not helpful, was it helpful alone or as complementary to the written module, and did it help understanding of the content. The final open-ended question afforded the participants the opportunity to express their thoughts or opinions on supplementary audio learning guides.

The online survey tool SurveyMonkey was employed in administering this survey, sending out timely reminders, and recording the survey responses. This survey tool also allowed for participants to remain anonymous, ensuring that the confidentiality of respondents' answers was maintained.

## RESULTS AND ANALYSIS

The survey asked 10 questions about the participants' use of the audio learning guides; the responses were tabulated and are reproduced in Table 1. The results indicate that participants' experiences were varied; they listened to the audio version of the selected learning modules multiple times before, during, and/or after completing the reading of the module. They were most likely to listen while at home ( $n = 39$ ; 90.7%) or in the car ( $n = 5$ ; 11.6%). The majority found the audio guides were helpful in combination with the printed learning guide ( $n = 30$ ; 69.8%). This was emphasized in the comments section, where participants indicated they would not want to do away with the printed guides. A general finding of the survey was that 30 (69.8%) participants found the audio learning guides to be generally helpful to their learning while 13 did not (30.2%). This may be explained in part by the comments of participants who identified themselves as visual or non-audio learners. For example, "I am not really an audio type learner. I feel as though the audio learning version of this course was not particularly helpful for me and my learning strategies."

The correlation between the experience of using the audio learning guides and the participants' age was explored via statistical analysis. Tests of significance revealed that traditional-age (students under the age of 26) and mature students (those 26 years and older) differ in their opinions about the helpfulness of the audio version ( $p = .040$ ). More mature-age students indicated that the audio versions were generally helpful to their learning as compared with traditional-age students. This finding was supported by the frequency of positive comments made by mature-age students as compared with traditional-age students.

The review of the open-ended question about participants' thoughts on supplementary audio versions of the study guides resulted in four types of responses: negative, neutral, positive, and positive with requests for additional course delivery tools and methods. The interrater reliability for the review was 91.3%.

**Table 1:** Participants' Experiences with the Audio Learning Guide

Questions	Answers
1. I hereby consent to participation.	45
2. I have listened to some or all of the audio version of Module 2 of the Learning Guide.	45
3. I listened to the audio version of Module 2 (check all that apply)	
<input checked="" type="checkbox"/> Before reading Module 2	15
<input checked="" type="checkbox"/> While reading Module 2	13
<input checked="" type="checkbox"/> After reading Module 2	23
<input checked="" type="checkbox"/> I have not read Module 2	2
4. Where did you listen to the audio version of Module 2? (check all that apply)	
<input checked="" type="checkbox"/> At school	1
<input checked="" type="checkbox"/> In the library	1
<input checked="" type="checkbox"/> At home	39
<input checked="" type="checkbox"/> In the car	5
<input type="checkbox"/> Outdoors	0
<input type="checkbox"/> In the gym	0
<input checked="" type="checkbox"/> At work	1
<input type="checkbox"/> In a waiting room	0
<input type="checkbox"/> Other	0
5. Generally, I found the audio version of Module 2 to be	
<input checked="" type="checkbox"/> Helpful to my learning	30
<input checked="" type="checkbox"/> Not helpful to my learning	13
6. Did you find it helpful:	
<input checked="" type="checkbox"/> By itself?	5
<input checked="" type="checkbox"/> In combination with the written material?	30

Questions	Answers
7. Do you think listening to this audio version helped you to attain a deeper understanding of the Module's contents?	
<input checked="" type="checkbox"/> Yes	25
<input checked="" type="checkbox"/> No	18
8. Do you think listening to this audio version was a review of the Module's contents for you?	
<input checked="" type="checkbox"/> Yes	34
No	8
9. When listening to this audio version, I felt... (check all that apply)	
<input checked="" type="checkbox"/> Motivated	8
<input checked="" type="checkbox"/> Bored	12
<input checked="" type="checkbox"/> Information overload	5
<input checked="" type="checkbox"/> Helped	23
<input type="checkbox"/> Other	0
10. Generally, I found the voice of the audio version of Module 2 to be	
<input checked="" type="checkbox"/> Always easy to listen to	12
<input checked="" type="checkbox"/> Mostly easy to listen to	19
<input checked="" type="checkbox"/> Sometimes easy, sometimes not	7
<input checked="" type="checkbox"/> Rarely easy to listen to	3
<input checked="" type="checkbox"/> Never easy to listen to	1

Four participants suggested additional strategies to assist their learning, including podcasts of in-class lectures and discussions, visual demonstrations of role-playing, web seminars, and learning exercises not already included in the learning guides. The following are two examples of such comments:

Excellent idea! The module provided happened to be a fairly heavy topic, which is not necessarily easy to read or listen to but the portability (iPod) of the module in this format made it convenient. I think it is a great idea as an addition to the printed study guide, but not a replacement. A DVD with audio/visual component would be even better.

I think the audio versions are great; however, I think it can be taken one step further and take the form of a video to simulate being in an actual class. Perhaps video tape the actual class sessions being taught and send it to part-time/distance students taking the same classes. That way we get the full benefit of the interaction between the students and the professor (questions asked, examples etc.).

Ten participants provided positive responses, as in the following examples:

I think the audio version of the study guide is an added enhancement to the written study guide. I would not just want the audio version—I like having both.

I found this audio CD could be very helpful in regards to the content that is at times difficult to comprehend. Sometimes listening to someone else verbalize the content helps me grasp the overall picture.

Four participants provided requests for additional learning tools without commenting on the audio guides:

It would be helpful if the speaker slowed down slightly to facilitate note taking. Combining a power point presentation along with the narration may be helpful as well. It would be great to have audio tapes of actual lectures given at the university.

It's an interesting idea for those who struggle with learning on their own. It would save you time and money (shipping costs, CD costs, labeling etc) if you just made it into a podcast on iTunes or on a website so people would just have to download it instead of using a CD which is kind of dated.

Five responses to the open-ended question demonstrated negative perceptions:

I did not feel that it helped more than reading the chapter. It is also hard to stay focused and only listen.

I thought that it was a waste of time. I learned more from reading the module than listening to the CD. I think that if you presented different helpful information rather than the same information in the module it would be more helpful.

The overall results of this study indicated that participants responded positively to the opportunity to have audio versions of their written learning guide. Furthermore, the participants provided helpful comments to the final open-ended question that expressed interest in additional resources that go beyond audio versions of the written learning guides.

## DISCUSSION

This exploration of students' experiences with an audio learning guide affirms the current direction of distance education: that is, students find additional learning tools, in this case audio versions of their learning guides, to be helpful, and additional learning tools are desired by many students. Specifically, a majority of the students reported they had a deeper understanding of the module contents as a result of listening to the audio presentations, and they experienced the audio presentation as a review of their learning. The review function of audio files is consistent with previous research findings (Klemes et al., 2006; Williams & Fardon 2007). Variation in learning via different learning tools has been demonstrated to enhance understanding by assisting in remembering and memorizing (Marton et al., 2005).

Of particular interest in this study is the finding that mature students are more interested than traditional-age students in the additional learning tools. This difference in perception may be explained in the context of adult learning theory or andragogy (Knowles, 1980). This perspective posits that mature students are highly internally motivated, prefer self-directed learning, base their learning on the need to know (understand) something, and exhibit a task- or problem-centred learning style (Ross-Gordon, 2011). In addition, mature students are generally clear

about what they want to get out of their institution and are more likely to use many academic resources to achieve their learning goals (Worth & Stephens, 2011). This may help to explain the greater number of the mature-age students who expressed interest in the audio learning guides. Further, these results expand the limited research on mature-age students' interest and their interest in multimedia technology for learning.

Given the growing numbers of mature-age students in higher education and distance education, it is incumbent upon the educational community to extend the research in adult learning. Currently, only 0.33% to 1.3% of articles within the higher education journals include or address mature learners (Plageman, 2011). Scholarship in university-based adult learning is required in order to achieve the best integration of these supplemental academic resources into curriculum and course delivery.

### *Limitations of the Research*

The primary limitations of this research are a result of the sampling method and the related response rate to the survey. The student response rate to the survey was 33%, an acceptable response rate for an online survey; however, it is far from robust and causes one to question the reliability of the findings. The students who elected to respond to an online survey may be significantly different from those students who did not. For example, survey participants could have been computer-savvy, interested in learning with technology, and, perhaps, engaged in their learning to a different degree than non-participants.

The limitations serve as a reminder of potentially missed opportunities that might have been overcome had the project included optional methods for responding to the survey questions. Optional methods for survey completion might have included offering a mailed survey and return envelope or offering a telephone interview survey. These multiple data collection methods might have enhanced the response rate and the potential heterogeneity of the responding sample and thus increased the reliability of the findings.

## CONCLUSION

Consistent with the literature, the participants indicated positive experiences with the audio file and a desire for continued audio versions of course materials as well as other multimedia technologies to augment course content. Additional comparative analysis of the responses of traditional-age and mature-age students indicated a statistically significant difference between the two cohorts; mature-age students found the audio files to be more helpful to their learning than did the traditional-age students.

This research contributes to the growing body of literature on technology and learning in distance education. It demonstrates students' interest in alternative learning tools, and it validates mature-age university students' interest in these learning tools. After careful review of the comments provided by students, the study indicates that students want access to additional learning tools that elaborate on the written course content and connect the student to traditional classroom lectures and discussions.

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## BIOGRAPHIES

Lorraine Mercer is an assistant professor in the Gerontology Department at Huntington University in Sudbury, Ontario. She is also the director of the Lougheed Teaching and Learning Centre of Excellence at Huntington University. Her current research interests are in intercultural curriculum development for gerontology.

Lorraine Mercer est professeure adjointe au Département de gérontologie de l'Université Huntington à Sudbury, en Ontario. Elle dirige également le Lougheed Teaching and Learning Centre of Excellence de l'Université Huntington. Présentement, ses sujets de recherche portent sur la préparation de programmes d'études interculturelles en gérontologie.

Birgit Pianosi is an associate professor and the chair of the Gerontology Department and the Centre for Research in Gerontology at Huntington University in Sudbury, Ontario. She is also the chair of the Ontario Interdisciplinary Council for Aging and Health with the Council of Ontario Universities. Her main research interest is in gerontology competencies and professionalization of the discipline of gerontology.

Birgit Pianosi est professeure agrégée et directrice du Département de gérontologie, de même que du Centre de recherche en gérontologie de l'Université Huntington à Sudbury, en Ontario. Elle est également présidente de l'Ontario Interdisciplinary Council for Aging and Health du Conseil des universités de l'Ontario. Ses principaux sujets de recherche sont les compétences en gérontologie et la professionnalisation de la gérontologie en tant que discipline.