

# Any voice will do: distance students' perceptions of audio lectures

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Technological advances have permitted wide-scale adoption of audio lectures in higher education as auxiliary learning resources for promoting connection, particularly in distance education. Although, pedagogically, audio lectures have been associated with increased time-on-task and positive learning outcomes, they remain commonly rebuked as suitable alternatives to face-to-face lectures. Little research, however, has examined students' perceptions about the relevance of *who* creates, or provides, audio lectures. Findings from 120 random telephone interviews with distance students in four university courses found 93% felt audio and internal lectures differed. Students exhibited a utilitarian approach towards audio lectures, as 75% noted that all that mattered was the audio lectures' capacity to provide relevant content that facilitated their independent revision, rather than perceive them as opportunities for 'getting-to-know' their subject coordinator/'real' lecturer. Hence, we question the institutional cost of locally-produced audio lectures and suggest that the creation of interactive learning experiences might be a more constructive use of time and effort.

Keywords: audio lectures, distance education, online learning, student perception

## Introduction

Distance and online education have come to refer to various educational settings worldwide, largely due to the explosion of technological capacity and access. The present study explores the role audio lectures play as learning tools offered to enhance distance or online educational experiences. The terms 'distance' and 'online' are used interchangeably here and refer specifically to a mode of university study. As a study mode, distance/online is distinguishable from 'internal' by the corresponding degree/course necessitating the majority of required subjects be completed without face-to-face classroom opportunities, with the exception of requiring short residential schools associated with the hands-on learning of course-specific skills, such as gun use by police or microscopes by science students.

The introduction of audio lectures to enhance both face-to-face and distance education is a contemporary social change enabled by information communication technology (ICT). Technologically sophisticated classrooms and advanced software, pioneered by leaders in American universities including MIT, Berkley and Purdue (Young, 2007), have ushered higher education into the world of high-tech for those keen, or able, to embrace technical revolutions in teaching. ICT growth and receptivity have been facilitated by a higher education sector seeking geographical market expansion and/or curriculum internationalisation, such as an American business school who found audio lectures advantageous for internationalising courses (Martell, 2005).

Over the past decade, audio lectures have been introduced to augment a plethora of undergraduate and postgraduate degrees, from professional reproductive medicine courses in the UK (Whittington, Cook, Barratt, & Jenkins, 2004), to teaching pandemic management in public health masters courses in the US (Rega & Fink, 2014). Research has noted that increased desire for audio lectures has arisen from both face-to-face and distance students (Whittington et al, 2004). The use of audio lectures in online and traditional classrooms was found to reduce the feeling of being 'overwhelmed' by subject materials, such as reading load (Liebhaber, 2010), while audio lectures produced to supplement traditional, correspondence-based distance education packages were largely designed to address variations in learning styles and students' desire for customised learning experiences (Ausburn, 2004).

Positive pedagogical outcomes have also been associated with the use of audio lectures. Research into how first year UK medical students used audio lectures demonstrated increased student engagement; audio lectures augmented other learning strategies and were used specifically to amend/write notes for lectures both attended and missed, as well as to assist the review of challenging material (Bickerdike, Whittle, & Pickering, 2014). Audio resources were posited as a key strategy for establishing and maintaining social presence in other courses (Aragon, 2003). Further, the finding that audio resources enhanced educators' social presence in online courses and positively impacted student engagement, achievement and satisfaction led to their being advocated as a desirable aim in course design (Sung & Mayer, 2012). Moreover, randomised trials with medical students in the

US that compared identical online lectures, with and without audio, not only found heightened satisfaction for those which included audio, but, importantly, students who used the audio lectures spent more time on task and earned higher post-lecture knowledge scores on screening when they used the audio-feed at the university where the learning materials were developed (Spickard, Smithers, Cordray, Gigante & Wofford, 2004, p. 788). The latter finding, however, was not reproduced when audio lectures were used at another institution. This led the researchers to speculate that “Vanderbilt students may have been more responsive to the voice of the lecturer, who is a popular teacher on the Vanderbilt faculty” (Spickard et al., 2004, p. 789).

The perceived relevance of interconnectivity between lecturer-and-student, in development and provision of audio lectures, is noticeably absent in the research literature. Generally, it is perceived that audio lectures should not replace face-to-face classroom lectures, where geography makes this possible. For example, in Germany, technicians working to improve the quality of distance lectures, with programs such as E-Chalk, identified positive student feedback for distance lectures. However, they found little call for ‘live transmissions’, professorial reservation and, while they advocated the benefits for remote students, preferred distance lectures to be used to support, rather than “substitute classroom lectures” (Friedland, Knipping, & Tapia, 2004, p. 380). The recommendation that distance lectures, with or without the provision of audio, should serve as an adjunct, not replacement, to classroom lectures was commonly asserted (Spickard et al., 2004). This was true even where research found American psychology students who *only* received audio lectures performed better than those who attended identical internal lectures, which prompted calls for further investigation about *how* audio lectures were/are utilised (McKinney, Dyck, & Luber, 2009).

Given existing debates over audio lectures’ pedagogical benefit, professional resistance, cost and development time, understanding how students use and/or value such resources is a contemporary issue for effective learning and economics. An analysis of *how* audio lectures are used and appreciated may assist learning design and course delivery, as well as focus efforts on what resources might produce the greatest benefit for all. If audio lectures may offer comparable content knowledge, social desirability and connectivity as internal lectures, then concentrating academic effort on their development, rather than intricate subject-site design, may be more effective and permit time for synchronous engagement focusing on interactive learning.

## Methods

A mixed-method research design was created with telephone interviews chosen as the best option to reach our random sample compiled from university course enrollment databases. Specifically, telephone interviews were chosen as our preferred method because of their capacity to reach the targeted sample in a timely, cost-effective manner that respected the non-traditional work hours completed many of the service professionals enrolled (i.e. police, paramedics, social workers) in the 4 courses sampled. Although typically associated with quantitative surveys and notably absent as a method of choice in much qualitative research, telephone interviews are renowned for their adaptability, with notable advantages for collecting qualitative, open-ended data and suitability for adaption to hard-to-reach populations (Novick, 2008). Further, with traditionally high response rates (when accompanied by sufficient callbacks), capacity to effectively and personally engage geographically-dispersed individuals and ability to tailor interview questions in light of individual responses (through employment of conditional responses and probes), telephone interviews offered numerous advantages over postal surveys and face-to-face interviews (Neuman, 2006).

The sampling frame targeted relatively equal numbers of distance education students, approximately 30, in each of the 4 undergraduate courses (Arts, Science, Policing and Paramedic) chosen. Students, including recent graduates, were randomly selected across all year levels with consideration given to obtain roughly equal representation of men and women in each course. All (N=120) structured telephone interviews were conducted in 2014 after Human Research Ethics approval (protocol #: 406/2013/18) was granted. Interview questions contained closed and open-ended questions. All interviews were electronically recorded for subsequent transcription and data entry into SPSS. This paper presents descriptive demographic data and findings from quantitative content analysis of 3 open-ended interview questions: i. Have you ever heard your lecturer’s voice via online lectures? ii. If yes, do you think audio differs from other learning styles? How so? iii. Does it matter if the voice was your lecturer’s, or, would it be just as good to receive an audio lecture from someone else at CSU or elsewhere?

## Results

Table 1 presents demographic data for the sample and is organised by course. Participation by gender was relatively consistent across Paramedic, Police and Science students, yet, despite weighted sampling efforts, only

20% of male Arts students participated. On average, Arts students were the oldest (mean=42 years), followed by Paramedics (33), Science (31), and Police (27) students. Half or more (50-66%) of all respondents had studied internally, in other university-level subjects, by the interview date.

**Table 1: Sample demographics (%)**

Demographics	Arts	Science	Police	Paramedic
Female	80	44	47	57
Male	20	56	53	43
Age				
17-24	7	28	13	13
25-40	33	53	83	70
40-60	50	19	3	13
60+	10	0	0	3
Internal Experience	66	66	50	60
Study time/week (hrs)*				
1-10	53	39	57	39
11-20	33	32	36	29
20+	13	29	7	32

Table 1 shows 25% of all respondents reported spending less than 10 hours per week on their studies. This is less than the hours recommended by university policy that requires 120-140 study hours for each 8 point subject taken during a 12 week teaching session. Comparison of total weekly hours of study time by course revealed little variation. Collectively, 88% of all distance students sampled had heard a lecturer's voice by the interview date. Experience with audio lectures varied little by course, with high familiarity reported: 97% Paramedics, 87% Arts, 84% Science, and 83% Police. The rate of audio usage also did not significantly vary by gender or age, although 93% of the sample felt audio lectures qualitatively differed from internal classroom lectures. Quantitative content analysis of student perceptions about how audio lectures differed, as a learning style, compared with internal lectures, exhibited 3 key trends. Audio was perceived to 1) enhance written information elsewhere provided (30%) 2) permit self-paced learning/ongoing review of material (13%) and, 3) offer a 'live-like' experience to students unable to attend internal lectures (10%). Overall, the mobile aspect of audio lectures was only mentioned by 8% of respondents, who elaborated how audio differed, particularly by permitting multitasking, with studying whilst child caring frequently mentioned.

Several respondents (N=93) elaborated on the third open-ended question about the relevance of audio lecture authorship and voice. Thirty-one percent of those who experienced audio lectures thought it would matter if the person giving audio lectures was not their actual subject lecturer/coordinator. The overwhelming majority, 75%, indicated who wrote, or gave, the audio lecture did not matter; 46% of those elaborating further noted 'all that mattered' was whether the content of audio lectures was relevant to the assessment topic and/or learning objectives. This finding was consistent across courses (77% Arts, 63% Science, 77% Police, 63% Paramedic), albeit several science students added a caveat that the audio lecture voice would have to be 'human' and not computer-generated. Among the 25% minority of respondents who had experienced audio lectures, and perceived that the author/voice communicating the audio lecture mattered, 74% said they felt connected to their lecturer. This was slightly higher than the 61% of respondents who experienced audio lectures and thought the origin of the voice did not matter. Although the role played by audio lectures in fostering a sense of connection between lecturer/subject coordinators and distance students failed to prove noteworthy, distance students advocated for provision of audio lectures with the capacity to assist their revision and learning of subject content, particularly related to assessment items. This reflects students' utilitarian approach taken towards the use and perceived benefit of audio lectures.

## Discussion

The present study lends support for past research that found students use audio lectures to support independent learning strategies, particularly note-taking and revision, to complement subject reading, enhance resource provision and offer opportunities for self-paced learning (Bickerdike, Whittle, & Pickering, 2014; Bolliger, Supanakorn & Boggs, 2010; McKee, 2010). Similarly, the purported low use of the mobile/multi-tasking affordances of audio lectures identified in the present study is consistent with previous research (Roberts, 2008). Examination of how the provision of near-live lecture experiences for students unable to study internally affects

perceived social connection with lecturers/subject coordinators, and whether this is contingent on the author/voice providing audio lectures, has not been widely discussed or researched. With 93% of distance students interviewed perceiving audio lectures were qualitatively different from internal classroom lectures, our findings contrast with Borup, West and Graham's (2012) finding that online asynchronous lectures were perceived by distance students to offer an experience similar to a 'real classroom'. How important this perception is to student satisfaction, and the impact of previous experience as an internal student on perception of audio lectures, remain worthy of future investigation.

The majority, 75%, of the whole sample thought the voice providing the audio lecture did not matter. The further 46% who elaborated noted that audio lecturers must ensure that content is relevant to learning objectives, particularly 'what's on the exam', which was all that mattered for many students. This is perhaps good news for the plethora of online content producers, such as Kahn academy and various commercial publishers of e-texts, but perhaps not such good news for lecturers who spend many hours creating, editing and delivering content they likely feel offers a unique, personalised learning experience. This finding, however, contradicts Bolliger's (2010) results which found students who heard their own lecturer's voice both experienced an increased sense of connection and believed, by providing audio lectures, their lecturer was doing more for them as distance students. Regardless of student perceptions of audio lectures, whether their use produces better academic performance outcomes, as Spickard et al (2004) found in an American university, in contrast with students who completed the same subjects/degrees using identical internal lectures, is a worthwhile exercise for Australian universities to undertake, particularly given the increased cost of higher education for students and increased production costs facing universities globally.

First-hand experience with university-level internal classroom lectures made little difference to students' expectations or perceptions of audio lectures in our study. Seventy-two percent of students with internal study experience and 67% without internal university-level classroom experience were unconcerned about the origin of their audio lectures. Thus, the lived experience with 'live' undergraduate internal classroom lectures appeared irrelevant to student expectations or receptivity to audio lectures. The outcome-driven focus of lecture experience, namely ability to facilitate degree completion/subject 'passing', challenges the commonly perceived relevance of students' social connection with their learning provider. The lecturer's 'social presence' (Tu & McIsaac, 2002), an attribute positively linked to affective learning and performance (Chun-Wang, 2012), was not articulated by students interviewed in this study. Indeed, several science students noted, so long as the audio lecture came from a 'qualified' human, and not computer, voice, who was speaking, as many academics might find unfortunate, did not matter. When our research is considered alongside Berner and Adams' (2004) finding that adding video to audio presentations was not worth the extra expense or effort involved, despite technical capacity, we must ask if locally-produced audio lectures are worth the cost and effort when suitable alternatives are readily available online, for instance via iTunes and YouTube.

## Conclusions

There are three key take-away recommendations from this research. First, given that present and past research have found that students perceive audio lectures to enhance their learning of subject content, the finding that audio authorship and voice were thought to be irrelevant should not be construed as a reason for the 'reluctant' to further disengage from the provision of quality online learning resources. It should, however, serve as a caution to both individuals and institutions about the amount of time, money and resources one puts into developing audio lectures that may be elsewhere available and suitable for adaptation. Indeed, students failed to associate any stigma with receiving audio lectures provided by other universities or lecturers.

Second, the reminder from technicians that tools alone will not improve teaching quality remains poignant (Friedland, Knipping, & Tapia, 2004). The quality of online learning experiences remains reliant on faculty interest and engagement (Schneckenberg, 2009). Students who perceived that their lecturers were disengaged with their teaching practice offered the most negative comments about learning resources provided. Thus, we suggest that the results of our research should be used not to dissuade staff from engaging with multimedia, but to inform the design of engaging learning experiences.

Third, students' utilitarian approach towards engagement with learning material is instructive. Our findings failed to find that audio lectures were used by distance students to enhance connection with their lecturers. Audio lectures were used to assist degree completions. Therefore, where a clear link was made and understood about the relevance of audio lecture content to assessment tasks, specifically whether the material in audio lectures was related to exam content, essay writing, or another 'examinable' task, students perceived the resources as most useful. Hence, the time academics may save by incorporating existing audio resources into

the basic content and delivery of their subject material could be used to create interactive learning experiences, which research has shown promotes social connection (Lear, 2007). Taking a utilitarian approach to audio lecture design and use, rather than perceiving it as a vehicle for enhancing connectivity, may facilitate development and delivery of authentic and well-resourced assessment, all of which may enhance student learning and overall experience.

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