Abstract

While emerging technologies such as interactive multimedia are increasingly being employed in computerised music instruction, understanding of participant music listening behaviours in interactive multimedia music instruction is currently very limited. With the aim of elucidating music listening behaviour, the central concern of this work is to identify and explain participant interactions with the audio components of interactive multimedia music instruction. The investigation employs a novel documentation procedure, which extends the application of digital audio recording technology, to provide a finely calibrated analysis of the audio activity of a sample of 20 undergraduate music education majors during individual sessions with two commercially-available interactive multimedia music instruction programs. Graphically-based Sound Activity Profiles, which the researcher developed specifically for the current investigation, characterise and summarise participant interactions with audio components, while an analysis of questionnaire responses and follow-up interview transcripts provides supplementary information that further explains participants' music listening behaviours.

The results of the investigation show that music listening behaviours during the study sessions were highly variable. While extensive participant interaction with music examples occasionally reflected attentive music listening behaviours, many study sessions were characterised by brief, fragmentary music excerpts and lengthy periods of silence. Participants spent as little as five percent of their session time listening to music and as much as 88 percent of the session time in silence. A substantial number of the study cohort frequently interrupted the music examples they had activated. Participants' perceptions of the extent of their interaction with music examples were frequently inaccurate, as subjects often substantially overestimated the amount of session time they had spent listening to music.

The study findings suggest that many interactive multimedia music instruction participants would benefit from interventions that elicit more extensive and prolonged interaction with music examples. Accordingly, recommendations include a call for research to develop and test software designs that incorporate automated monitoring of session audio activity so that dynamic on-screen information about music listening behaviour can be provided to interactive multimedia music instruction participants. Such information may encourage participants to modify inappropriate music listening behaviours.

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Abbreviations

APS	Apple Presentation System
CAI	Computer-Assisted Instruction
CD	Compact Disc
CD-ROM	Compact Disc Read Only Memory
DVD	Digital Versatile Disc
GUI	Graphical User Interface
HCI	Human-Computer Interface
IBM- PC	International Business Machines - Personal Computer
IMMI	Interactive Multimedia Music Instruction
IUMA	Internet Underground Music Archive
kHz	Kilohertz
MB	Megabytes
MDQ	Mozart Dissonant Quartet
MIDI	Musical Instrument Digital Interface
MMI	Microsoft Musical Instruments
NUD*IST	Non-numerical Unstructured Data Indexing Searching and Theorising
PLATO	Programed Logic for Automatic Teaching Operations
SAP	Sound Activity Profile
SSF	Structured Sound Function
Web CD	Web Compact Disc
WWW	World Wide Web