Video Podcasting as a Supplementary Language Learning Tool – A Study of Its Use, Student Access and Perceptions

Wai Meng Chan
(chanwm@nus.edu.sg)
National University of Singapore, Singapore

Abstract

Since 2003, podcasting has quickly established itself and attracted a large worldwide audience, predicted to reach 37.6 million by the end of 2013. Mirroring this trend is its increasing use as an educational medium. Efforts in materials development and language education research have thus far focused mostly on audio podcasting, despite the fact that the growing proliferation of mobile devices with video capability has also made video podcasting (vodcasting) a viable pedagogical option. Given the relative novelty of vodcasting, it is not surprising that little research has thus far been carried out on the use of this medium. There are as yet little empirically supported insights into the use of vodcasts or students' preferences and perceptions. This paper outlines the design and development of a course vodcast for German language beginners at a university in Singapore as well as the findings of an accompanying study based on a mixed research design employing a questionnaire consisting of quantitative and qualitative items, and focus group discussions. The analysis of the data reveals that students had the necessary technical and Internet resources to receive and view the vodcast. While the access rate was high with 85.9% having viewed at least one unit of the vodcast, which was non-compulsory, and 65.0% at least half of the six units, these figures are lower than those reported in earlier studies for audio podcasts at NUS. Students' perceptions of the vodcast's design and quality were positive, although the mean ratings were slightly lower than those reported in previous studies for audio podcasts. Students would like to see improvements made to the technical quality of the units and to the design of the vodcast units, which they felt did not facilitate mobile use. A slim majority of the students preferred their course audio podcast to the vodcast, partly because the audio podcast had a broader coverage and contained more learning contents, but also because it was easier to access while on the move or performing other activities. The vodcast required more attentional capacity and was more distracting, making multitasking difficult.

1 Introduction

Given the immense popularity of podcasting among today's Internet users, with a predicted podcast audience of 37.6 million by the end of 2013 (Lewin, 2009), it is not surprising that educators and educational institutions have been making increasing use of this medium to facilitate learning, particularly in the area of foreign language education. Since 2006, the number of published empirical studies on the use of audio podcasting in language learning and learners' perceptions of its usefulness and effectiveness (e.g. Abdous, Camarena, & Facer, 2009; Chan, 2011; Chan, 2012a; Chan, 2012b; Chan, Chen, & Döpel, 2011a; Chan, Chi, Chin, & Lin, 2011b; Chi & Chan, 2009; Chi & Chan, 2011; Chin, Lin, & Chan, 2011; Monk, Ozawa, & Thomas, 2006) has been on the rise.

In the absence of a dedicated theory of podcast-based learning, Rosell-Aguilar (2007) attempts to provide theoretical support for foreign language podcasting by borrowing from a range of theo-

ries commonly cited in relation to mobile learning (see Kukulska-Hulme & Traxler, 2005; Nai-smith, Lonsdale, Vavoula, & Sharples, 2004). These range from constructivist theories of learning and theories of informal and lifelong learning to theories of mobile learning (see Kukulska-Hulme & Traxler, 2005). Though the straightforward transfer of such theories to podcast-based learning seems somewhat uncritical, podcasting does seem to have the potential to encourage more infor-mal and incidental learning beyond the classroom. This would be consistent with the recognition that much of adult learning actually occurs outside formal educational contexts, which has prompted researchers (e.g. Mitschian, 2010; Naismith, Lonsdale, Vavoula, & Sharples, 2004) to call for the seamless blending of learning with everyday life.

After a survey of institutional and commercial language podcasts available in the Internet, Ro-sell-Aguilar (2007) recommends that a language learning podcast should: 1) provide exposure to the tar-get language and culture; 2) include a range of (authentic) materials; 3) be engaging and of adequate length; 4) take into account the characteristics of the podcast medium and media players, such as their portability and screen size; and 5) provide learning support in the form of transcripts, grammar explanations, glossaries, online exercises and forums. Basing their conclusions on the results of a semester-long empirical study, Chan et al. (2011a) make a case for the use of audio podcasting not just for the development of listening skills, which is often and rightly advocated because of the auditory nature of the medium, but also for other language skills and areas, espe-cially the transmission of culture and country information. They further propose designing podcast tasks for dual use, that is, on mobile devices as well as on home desktop or laptop PCs. This im-plies that tasks must be of limited complexity and be suitable for learners on the move, who will have to do without the support of visual materials or learning aids.

In one of the first studies on the use of the iPod in language learning, Monk et al. (2006) report that freshmen at a university in Japan were given iPods so that they could download authentic lis-tening materials, mainly English news broadcasts, for practice ahead of their semester examina-tions. The access statistics were not encouraging, as the majority of the students (64.9%) did not or only made sporadic use of the audio files for their self-study. 45.3% found the audio resources not or not at all useful. One reason for the less than encouraging results could be that the teachers ap-parently did not provide customised exercises to support students' learning with the iPod materials. In another study, Abdous, Camarena and Facer (2009) describe the use of podcasting in eight dif-ferent courses for French, German, Japanese, Spanish Language and Literature, and World Litera-ture with small enrol-ments of 8–34 at an American university. For 80 of the students, the podcasts were integrated into the course curricula (PIC) and were thus compulsory, while the course pod-casts were offered as non-compulsory, supplementary materials (PSM) for 33 other students. While 72.5% of the PIC students listened to at least one unit, only 45.5% of the PSM students lis-tened to at least one unit. However, the majority of the students perceived the podcasts to be a use-ful and attractive option, as 65% of the PIC and 54.5% of the PSM students reported that they are more likely to enrol in courses with a podcast. In addition, students in both groups found the pod-casts to be useful for improving their listening, speaking and vocabulary.

Several studies (Chan, 2012a; Chan et al., 2011a; Chan et al., 2011b; Chi & Chan, 2009; Chi & Chan, 2011; Chin et al., 2011) conducted at the National University of Singapore (NUS), the site of the study reported in this paper, have collected extensive data on students' podcast access and usage patterns, their perceptions of the podcasts' quality and usefulness, as well as their sugges-tions for future podcasts. The NUS podcasts generally achieved higher access rates in comparison to those reported by other studies in the literature (e.g. Abdous et al., 2009). For example, in Chan et al.'s (2011a) study, 97% of the 203 respondents listened to at least one of the 14 podcast lessons broadcast for German language beginners. High access rates were also achieved for an intermedi-ate Korean language podcast, with 92% and 69% of the 26 respondents reported listening to at least six or even all ten lessons, respectively (Chi & Chan, 2009). While the majority of learners reported accessing the podcasts on their PCs at home, most likely because they had little or no previous experience with podcast-based or mobile learning, there were encouraging signs that mo-bile podcast access is on the rise. Chan (2012) found that 30% reported accessing it on the move, with further 22% doing so in locations on campus outside the classrooms. Chi and Chan (2009)

report that 46% of their intermediate Korean respondents listened to it on the move, while 39% did so at various locations on campus, including the library, canteens and even bus stops. Students' evaluations of the NUS podcasts were positive. The best ratings were achieved by the Korean language podcasts, with respondents reporting strong agreement (with mean ratings of 4.00 and above on a 5-point Likert scale) with most of the perception items on the podcasts' quality and usefulness. The respondents found them to be most useful in increasing their culture knowledge, and improving their listening, pronunciation and grasp of grammar structures (Chi & Chan, 2009; Chi & Chan, 2011). In Chan et al.'s (2011a) study, the German language respondents returned an average of 3.98 for all perception items included in the end-of-semester questionnaire.

In comparison, very few studies have been published on second and foreign language learners' use and perceptions of video podcasts (vodcasts). Two exceptions are the studies reported by Hoven and Palalas (2011), and Weinberg, Knoerr and Vandergrift (2011). In the project described by Hoven and Palalas (2011), audio podcasts and vodcasts were produced for an English for Specific Purposes course at a college in Canada, which blended classroom instruction with online and mobile materials. While the podcasts and vodcasts were also made available on WebCT, they were primarily intended for mobile use and iPod Touch devices were loaned to students for this purpose. Included in the audio podcast lessons of 5–8 minute duration were essentially quizzes and practice exercises for vocabulary learning, while the 2–8 minute vodcast units presented conversational scenes based on topics covered in the course. The researchers concluded from the data collected through interviews, a focus group session and an online survey that the students were highly satisfied with the mobile materials and found them to be effective for their learning. They perceived the podcasts and vodcasts as flexible and convenient, and said that these enabled them to learn wherever they are and whenever they choose to. Both the course teachers and students were of the opinion that the vodcasts were most useful for the development of the students' listening skills. The main limitation reported by students to the use of these mobile media were the technical problems experienced by some (e.g. lack of familiarity with the mobile devices provided and issues involving technical support). Weinberg et al. (2011) employed vodcasts to record and disseminate lessons on learning strategies and study skills for French immersion students at a bilingual Canadian university to help them cope with their lectures in various subjects conducted in French. The seven vodcast lessons were played in class and were thus not used by the students in a mobile manner. Utilising weekly questionnaires, administered after each viewing, and a focus group session to collect data, they established that students found these vodcast lessons to be "mildly" enjoyable and "somewhat" useful (Weinberg et al., 2011. p. 601). While the students were apparently satisfied with the vodcast contents, they found the presentation to be "boring and not engaging," as the speakers were simply reading from prepared scripts and the videos did not have any fanciful visual effects (Weinberg et al., 2011. p. 599).

The project and study described in this paper were conceived and initiated before the publication of the papers by Hoven and Palalas (2011), and Weinberg et al. (2011). Respondents to previous studies at the NUS (see Chan et al., 2011b; Chi & Chan, 2011) had expressed a wish for the addition of vodcasts to the available audio podcast offerings. In response, some language programmes – namely, Chinese, German and Korean – began producing and broadcasting vodcasts from 2010 onwards, which presented the researcher with opportunities to gain data-based pedagogical insights into the use of vodcasting in foreign language learning, an area in which extensive empirical research is lacking. This paper will attempt to fill this void and present a study which accompanied a vodcast project for beginning learners of German as a foreign language. In the following sections of the paper, the author will first provide an overview of this vodcast project and its objectives, design and production, before describing the study and its findings with regard to students' readiness for vodcast learning, their vodcast access and use, as well as their perceptions of the vodcasts' quality and usefulness

2   Video podcast for German language beginners

The German Language Programme (GLP) at the NUS has been producing and broadcasting language podcasts to supplement classroom instruction in its elementary and intermediate courses since 2007. Adopting a two-prong approach of research and development, faculty members have been collecting quantitative and qualitative data on learners' podcast access and usage, and their perceptions of the podcasts' quality and usefulness. Such data afforded the instructors and podcast developers the opportunity to evaluate and refine the podcast design as well as to explore and study new pedagogical paths and instruments. Reacting largely to insights gained from previous studies about students' desire for more visual and video elements in their course podcasts (Chan et al., 2011b; Chi & Chan, 2011), plans for the introduction of vodcasting were first forged in early 2010. Furthermore, successive studies conducted from 2007 to 2010 (e.g. Chan, 2012a; Chan et al., 2011a; Chan et al., 2011b; Chi & Chan, 2011; Chin et al., 2012) have also revealed that student ownership of mobile devices capable of playing videos (e.g. smartphones, tablets and media players with video capability) is steadily increasing. In view of these findings, GLP began adding video units to its podcast offerings for elementary learners (German 1 and 2) from August 2010 onwards. The study described in Section 3 was based on the German 1 vodcast made available to students in the first semester of the academic year 2011/2012 (August to November 2011).

2.1   Course background and participants

The German 1 course is a beginners' module and the first in a progression of nine courses offered by GLP, which take students up to the C1 Level of the Common European Framework of Reference for Languages (CEFR). The course is conducted over 12.5 weeks with 5 contact hours per week and covers about two-thirds of the CEFR A1 level. The rather limited class contact hours are usually devoted to: 1) discourse activities, both meta-level discourse such as discussions of homework tasks as well as speaking practice in the form of guided and free conversations, role plays, interviews, interactional games, and so forth; and 2) the teaching of new vocabulary and grammatical structures, primarily through inductive means (i.e. by encouraging and facilitating students in the self-discovery of the formation, meaning and use of these structures). Exercises to internalize these linguistic elements and structures (i.e. vocabulary and grammar, and their use in communicative activities) are largely done independently (or in pairs or small groups, where appropriate) as homework assignments or out-of-class activities. Additional exercises are available to students on the GLP's electronic self-access centre ("Elektronisches Selbstlernzentrum für Deutsch als Fremdsprache" or "e-daf" in short) for their independent practice. Such additional resources are vital to the students' learning, especially in view of the fact that in each year about 100 or close to 40% of the German 1 students are enrolled through a special four-semester language preparation programme which is aimed at preparing these students linguistically for academic exchange at universities in Austria, Germany or Switzerland. As four semesters constitute a relatively short period of time for students who begin at the very elementary level to achieve CEFR B1 level, GLP has to find means to supplement classroom instruction, for example, through the additional materials in e-daf, voluntary three- to four-week language immersions in Germany, and audio and video podcasts.

In Semester 1 of Academic Year 2011/2012, a total of 260 students from different faculties and schools were enrolled in the course. This course, as with most other courses offered by GLP, is available to undergraduate students in Year 1 to 4, with a limited number of places allocated to graduate and non-graduating (mostly overseas exchange) students.

2.2   Project objectives

As mentioned, the German 1 audio and video podcast units were meant to supplement course instruction as well as other self-access resources available to the course participants. They were

not made compulsory for students. The specific objectives of the vodcast, which informed its design, were:

1. To provide students with more exposure to listening texts and practice in the target language;
2. To provide information and exercises for other language skills/areas (speaking, grammar, vocabulary and pronunciation);
3. To introduce students to aspects of the target language culture; and
4. To encourage independent and more mobile learning beyond the classroom.

2.3   Design and production of video podcasts

In all, six in-house produced vodcast units were broadcast fortnightly to students of German 1, who were encouraged to subscribe to the German 1 podcast, which included the vodcast units. In comparison, 12 weekly audio podcast units were broadcast in the same semester. Of the six vodcast units, the first five were produced in the previous academic year and were re-used, in some instances with revisions or extensions to the contents. The last unit was a new unit produced in the course of the semester. All units were scripted by the German 1 instructors and filmed with the help of two research assistants, who received some training in the handling of video cameras and video filming/editing techniques from university technicians. Actors in the films were volunteers recruited from the GLP faculty, GLP student population (especially more advanced students) and German exchange student community. With the exception of Unit 4, which contains a film shot in Germany, all the other video units were set in Singapore, mostly on the NUS campus.

Students could access the vodcast by subscribing to it through 'podcatcher' software such as iTunes or online readers such as Google Reader. Alternatively, they could download the units from the German 1 podcast homepage on the *e-daf* website onto their PCs or mobile devices.

Each unit was moderated by an instructor or an assistant, who introduced the unit and its contents, including the themes and tasks. Typically, the moderator appeared at the end of unit as well to provide a concluding summary. If the unit consisted of two or more distinct sections, the moderator would appear between sections to provide a smooth transition and to introduce the contents of the next section. As the target audience were elementary learners – and complete beginners at the beginning of the semester – the moderation was usually conducted in a mix of English, the first language in Singapore and the language medium at the NUS, and German, the target language. Instructions that are new to the audience were given bilingually, first in German, followed by English translations. This was necessary, as the vodcast was meant for students' independent work outside of the classroom and without the direct support of their teachers. The actual learning contents – that is, the conversations, narrations, tasks and exercises – were however all in the target language.

As the vodcast was considered an element of the overall course curriculum, its contents were de-signed to complement the contents of the classroom lessons, which is similar to the approach taken for other podcasts and vodcasts reviewed earlier in this paper (e.g. Chan et al, 2011a; Chi & Chan, 2011; Hoven & Palalas, 2011). Table 1 shows a summary of the units, their contents and other properties.

The vodcast design and content selection were generally consistent with recommendations made in the literature (e.g. Rosell-Aguilar, 2007; Chan et al., 2011a). In line with the findings from Chan et al. (2011a), who recommend that podcast tasks be designed for two-way use on PCs and mobile devices and should thus be of limited complexity and length, the exercise and task types selected for the vodcast units were deliberately kept simple so that they would not exert excessive cognitive demands on the users. This is important as mobile learners may have to accomplish these tasks on the move without learning aids and the support of teachers or more proficient others. In addition, the difficult ambient conditions (e.g. when one is in the subway) may have a disruptive effect on students' concentration and attention.

Table 1. German 1 vodcast units

Text types	Tasks/exercises	Length	PDF materials
Unit 1 – Pronunciation of German Umlaut vowels (ä, ö, ü)			
• Narration (explanations and demonstrations of lips formation and movements)	• On-screen perception exercise (recognising *Umlaut* vowels in words)	• 6:42 min	• None
Unit 2 – German-speaking people on campus and self-introductions			
• Short conversations (with professors and students who speak German) • Interviews (with self-introductions by a non-native advanced learner and a German exchange student)	• On-screen perception task (recognising and noting international words in German)	• 5:35 min	• Transcript
Unit 3 – In the café and use of indefinite article and negation particle			
• Conversation (between a non-native and a German exchange student in a café)	• Gapfill exercise (summary of conversation) • On-screen speaking exercise on the use of the indefinite article and negation particle	• 7:59 min	• Handout • Transcript
Unit 4 – Residential living in Germany (Section 1) and Singapore (Section 2)			
• Narrations (descriptions of a house in Germany and an apartment in Singapore) • Interviews (with German occupants of the house and apartment)	• True/false exercise (on the house in Germany) • Multiple-choice exercise (on the apartment in Singapore)	• 8:00 min	• Handout • Transcript
Unit 5 – Daily routines of German students			
• Narrations (descriptions of German exchange students' daily routines at NUS) • Interviews (with German exchange students) • Conversations (between German exchange students in a café and in the library)	• True/false exercise (Section 1 of film) • Short-answer questions (Section 2 of film) • Gapfill exercise (Section 3 of film)	• 7:11 min	• Handout • Transcript
Unit 6 – Asking for and giving directions on campus			
• Narrations (description of the storyline) • Conversations (between a visitor to campus and students/professors) • E-mail (displayed on-screen)	• On-screen multiple-choice exercises	• 11:18 min	• Transcript

The vodcast units had an average length of 7:42 minutes, with the shortest unit, Unit 2, being 5:35 minutes and the longest unit, Unit 6, 11:18 minutes long. With the exception of Unit 1, which

demonstrated the pronunciation of German *Umlaut* vowels, which were new to the students, all other units were accompanied by PDF materials, consisting of handouts with exercises and/or transcripts of the target language contents.

3 Study

A mixed-methods study was carried out by the author with the support of two co-researchers and a research assistant. The study was conducted parallel to the development and publication of the vodcast in the course of the semester (i.e. from August to November 2011) to gather quantitative and qualitative data on vodcast-based learning.

3.1 Research objectives

The study was intended to gather empirical data on students'
- access to hardware, software and Internet resources for podcast use and access
- prior experience in learning languages through podcasting
- use of the German 1 vodcast and their patterns of use
- perceptions of the usefulness and quality of the German 1 vodcast.
- preference for the German 1 audio podcast or vodcast, and the reasons for their preference
- motivation for and attitudes towards learning through vodcasting
- suggestions for the design of future course vodcasts

As the results from the analysis of the complete data from the study will be too comprehensive for the scope of a single paper, this paper will focus on providing answers to the following research questions:
1. Which hardware, software and Internet resources are available to students for vodcast access?
2. To what extent and how do they access and use their course vodcast?
3. What are their perceptions of the quality and usefulness of their course vodcast?
4. Do they have a preference for their course audio or video podcast and what are the reasons for their preference?

Data pertaining to other areas covered by the overall study will be cited and discussed where they shed light on the four specific research questions of this paper.

3.2 Subjects and procedure

The subjects for this study were volunteers from the German 1 course in Semester 1 of the academic Year 2011/2012, the target audience of the vodcast described above. There were two phases in the data collection procedure. Ten students responded to the invitation of the researcher and consented to participating in Phase 1 of the study, which included focus group sessions, intended to collect data on their experiences working with the vodcast units, their views about the contents and tasks, the way they processed the tasks, as well as attitudinal and motivational aspects of their vodcast learning. Though four fortnightly focus group sessions were planned from the 6th to the 12th week of the semester, only three sessions could take place – in the 6th, 8th and 11th week – due to scheduling difficulties, as the participants had very different timetables and their workload increased towards the end of the semester when term papers and other assignments were due. In addition, the second and third sessions had to be divided into two sub-sessions each to accommodate the participants' schedules. The focus group sessions were conducted in a semi-structured manner. A list of 11 questions (see Appendix A) was drawn up to guide the sessions, but depending on the session proceedings and the participants' responses, ad hoc questions were added, where appropriate. The sessions were video-recorded and subsequently transcribed for analysis.

In Phase 2, in the 13th and last week of the semester, a questionnaire with 44 items (see Appendix B) was distributed to the 260 students enrolled in the German 1 course. 206 returned the questionnaire to the researcher, although only 177 of these respondents viewed the vodcast and

most of the statistical results reported below in regard to the students' vodcast access and perceptions are based on this base number of 177. Table 2 shows the demographics of the 206 respondents to the questionnaire, including those who did not access the vodcast.

Table 2. Demographic information of the respondents

Average age		20.6
Gender	Male	94
	Female	111
	Missing data	1
Year of Study	1	110
	2	37
	3	40
	4	16
	Graduate and others	2
	Missing data	1
Faculty of Study	Arts & Social Sciences	66
	Engineering	58
	Science	42
	Design & Environment	8
	Business	23
	Computing	6
	Medicine	2
	Music	1

N.B.: N = 206

The questionnaire comprised two parts with open-ended, multiple-choice, multiple-response and Likert-type items. Part 1 was designed to capture demographic data (e.g. age, gender, year of study, faculty in Section A) as well as information pertaining to their previous experience with podcasting and video podcasting, and the hardware, software and Internet resources available to them for podcast reception (Section B). Part 2 solicited data pertaining to their usage of the vodcast (Section A) as well as their perceptions of its design and usefulness (Section B). Besides 14 Likert-type items, six open-ended questions were also included in Section B of Part 2 to elicit qualitative data on their views of and attitudes towards the vodcast, preferences with regard to the individual vodcast units and their contents, preference for the audio or video podcasts, reasons for viewing and expectations of the vodcast, and suggestions for the design of future vodcasts.

Descriptive statistical analyses (frequency and means analyses) were carried out on the quantitative data using SPSS. The qualitative data from the focus group sessions and the relevant items of the questionnaire were read initially by the research assistant, who identified salient points and classified and sub-classified the data according to themes and sub-themes that emerged from these points. The results of this initial analysis were studied separately by the researcher and his co-researchers and then critically discussed in several rounds within the team. Based on the consensus achieved through these discussions, the data were then confirmed or re-classified, where necessary.

3.3 Results and discussions

3.3.1 Technology resources for video podcast access

The questionnaire data show that students had the necessary technology resources to access the vodcast. Most students owned a notebook PC and/or a desktop PC, while a substantial number also possessed a mobile device capable of playing MP3 audio or MP4 video files, such as an iPhone or other smartphones, an iPad or other tablets, or an iPod or iPod Touch. In addition, most students had broadband Internet access in their residence or on campus, which is required for downloading large video files quickly for use on the PC or for synchronisation with mobile devices. The data confirm the findings of previous podcast studies conducted at the NUS (Chan, 2012a; Chan et al., 2011a; Chan et al., 2011b; Chi & Chan, 2009; Chi & Chan, 2011; Chin et al., 2011), but suggest that ownership of mobile devices has been steadily on the rise since 2007, when the first study was conducted. Table 3 summarises the data on the available technology resources reported by the respondents (percentages in the table do not add up to 100%, as most respondents owned more than one PC and/or device, and had more than one means of Internet access.

Table 3. Technical resources

	Percentage of respondents
PC and mobile devices owned	
Notebook PC	92.7
Desktop PC	30.6
iPad	10.2
Other tablets	5.8
iPhone	33.0
Other smartphones	35.9
iPod	23.8
iPod Touch	24.3
Internet access	
Broadband	86.4
Modem	16.5
3G mobile	34.0

N.B.: N = 206

3.3.2 Access rates and usage patterns

The vodcast was meant only to provide supplementary materials and was not made compulsory for students. While 85.9% of the respondents (N = 206) viewed at least one unit of the vodcast, the access rate was nevertheless lower than that reported for audio podcasts for German and other languages in previous NUS studies – for instance, 97.0% in Chan et al.'s (2011a) study and 96.7% in Chi & Chan's (2011) study listened to at least one unit of their course audio podcasts. However, it was marginally higher than the 85.0% reported by Chan et al. (2011b) for a Chinese 1 audio podcast. Table 4 summarises the access rates reported for the German vodcast in the current study. It should be noted that 65.0% or nearly two-thirds of the respondents viewed at least three units, while 21.8% or slightly more than a fifth actually accessed all six units.

68.0% of the respondents subscribed to their vodcast using a PC client-based or web-based podcatcher application. iTunes, the podcatcher software recommended by the course instructors, was used by the overwhelming majority (90%) of those who subscribed. The high subscription rate among the respondents can most likely be attributed to the fact that the instructors had been proactive in encouraging the learners and demonstrating to them how they could subscribe using iTunes.

Table 4. Vodcast access rates

Number of units viewed	Percentage
0	14.1
1	85.9
2	76.2
3	65.0
4	47.6
5	37.4
6	21.8

N.B.: N = 206

The main reason cited by respondents for not accessing the vodcasts was that they had little or no time to do so mainly because of their heavy workload in their other university courses. A few reported not watching the vodcast because of technology-related issues (e.g. hardware/software compatibility issues), which were also identified in other studies as a factor limiting students' use of their course podcasts and vodcasts (e.g. Abdous et al., 2009; Hoven & Palalas, 2011). Some stated that they did not perceive the need for supplementary learning beyond their standard coursework or prefer other learning resources available to them (such as interactive exercises available on the GLP's self-access website, *e*-daf). The respondents alluded to these reasons in statements such as the following drawn from the qualitative data collected through the question-naire:

> Sometimes our deadlines are very tight, so I have no time to watch video podcasts.

> I was busy with other modules.

> It seems complicated to access (e.g.: needs i-Tunes) and I don't have time.

> Lack of time and the format of the video file is not compatible with the software in my personal computer.

> In the beginning, I did not realize there were video podcasts. After I realised there were video podcasts, I also did not have time or felt that it could help me [...] I feel that the *e*-daf web exercises are more helpful for me.

> Thought that the online exercises and worksheets were sufficient.

Though one of the objectives of the vodcast project was to enable and encourage students to engage in more mobile learning and to make better use of their time by integrating their learning with their daily activities, the majority of the students accessed the vodcast units either at home or in their hostel rooms. Table 5 presents the locations at which students accessed the vodcast, with many students accessing them at more than one location (percentages thus do not add up to 100%).

Table 5. Locations of access

	Percentage of respondents
Home	56.7
Hostel	41.6
Other places on campus	11.8
On the move	22.6
Other places	2.9

N.B.: N = 177

The results indicate that most respondents had viewed the vodcast at home. The next most popular location of access was the respondents' hostel room. Slightly more than one-fifth of the respondents viewed on the move, while slightly more than a tenth did so at places on campus other

than their classrooms. While these statistics translate into a considerable number of students who listened on the move or outside their domiciles and compare favourably with the 5.9% and 9.8% access rates for both these locations reported by Chan et al. (2011b) for a Chinese 1 audio podcast, they are lower than the 30% and 22% for an intermediate German audio podcast produced in 2008 (Chan, 2012a). They are also considerably lower than the access rates of 46% and 39% reported by Chi and Chan (2009) for the same two locations for an intermediate Korean audio podcast.

The reasons given by the respondents for preferring to view the vodcast at home were related to environmental factors (more comfortable, less noisy and more conducive for students to focus on the vodcast), convenience because of the availability of more complete computer, Internet and other resources, and the students' usual study habits, as the following selection of statements from the respondents indicates:

> A quiet room allows me to focus more and speak out.
>
> At home: sometimes the connection on the move is too slow. So I can only watch when I have a better connection back home.
>
> It is the only place I can listen to the podcast at a leisurely pace. As I do not have earphones, I cannot listen to it in the library.
>
> More stable internet access. I can work on the worksheet provided.
>
> I watch them when I was doing my revision which is always in my hostel room.
>
> It's where I study most of the time.

Another possible reason for the respondents' preference to work with the vodcast in their own domiciles can be discerned from one of the statements above and is related to the design of the vodcast. The vodcast is accompanied by PDF handouts with exercises, pictures, word glosses and transcripts, which students could only access at home with their PCs, unless they were to print these materials beforehand for use on the move or at other locations outside their domiciles. This would have been rather impractical and had most likely encouraged access in their homes or hostel rooms. Furthermore, as one respondent stated above, it was more conducive for him/her to do the exercises in their own rooms, especially since some of these would require them to speak aloud.

For the smaller groups of respondents who viewed on the move or outside of their domiciles, the main reasons given were the greater convenience and better time utilisation that the vodcast afforded them, as the following statements show:

> Greater convenience and better use of time.
>
> Worried for exams and making use of all the available time.
>
> The journey to school is quite long, make use of the time to watch the video podcast.

In comparison, the respondents in Hoven & Palalas' (2011) study reported similar reasons and found their course podcast and vodcast to be convenient for mobile use and enabled them to learn wherever and whenever they wanted or had to access practice materials.

3.3.3 *Students' perceptions of the vodcast contents and design*

The evaluation results presented here are based on 15 five-point Likert-type items and six open-ended questions in Part 2 of the questionnaire. For the Likert-type items, frequencies and mean scores were computed and are reported in Tables 6–8. To interpret the mean scores, the 5-point scale was divided into the following three zones:
- 3.67 and above   Agree with statement
- 2.33 – 3.66   Neither agree nor disagree with the statement (Neutral)

- 1 – 2.32   Disagree with statement

In the following discussion, data from the focus group discussions/interviews will also be cited as corroborating evidence, where relevant.

Table 6. Respondents' ratings of the video podcasts' design and technical quality

No.	Statement	Percentages of responses					Mean	SD
		1	2	3	4	5		
1	I find the number of video podcast units to be appropriate.	1.7	3.4	13.0	68.4	13.6	3.89	.738
2	I find the frequency of the video podcast units (once every two weeks) to be appropriate.	0.6	6.2	9.0	68.9	14.7	3. 91	.732
3	I find the technical quality to be good.	0.6	5.6	15.3	62.7	15.8	3.98	.759
4	I find the topics to be relevant to my learning.	0.0	0.6	7.9	70.1	21.5	4.12	.550
5	I find the video podcast useful for revising what I learned in class.	0.0	3.4	23.2	55.4	18.1	3.88	.733
6	I find the handout to be useful.	0.6	1.1	21.0	59.7	17.6	3.93	.693

N.B.: N = 177; 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree; SD – standard deviation

As evident in Table 6, the respondents' perceptions of the design and technical quality were positive, agreeing with all six statements, with mean scores of between 3.88 and 4.12. The average of all six mean scores is 3.96. The percentage of students who agreed or strongly agreed with the statements ranges from 73.5% for Item 5 to a high of 91.6% for Item 4. It is not surprising that Item 4, which pertains to the relevance of the vodcast topics, also received the highest mean rating of 4.12, as the vodcast was designed to complement the course curriculum and the units were based on essentially the same themes. Nevertheless, in comparison with the results of previous audio podcast studies conducted at the NUS, the ratings for the vodcast design and technical quality were generally a shade lower, as the same items had achieved ratings averaging 4.0 previously (see e.g. Chan, 2012a; Chan et al., 2011a; Chi & Chan, 2009; Chi & Chan, 2011).

The qualitative comments collected through the open-ended items in Part 2 mirrored the generally positive quantitative ratings and confirmed essentially the vodcast's overall usefulness and the relevance of the included topics in the students' perceptions, as evidenced by the selected statements below:

> Very informative and useful.
>
> The length was appropriate and just nice. The contents were interesting as well.
>
> The presentation is good and they are rather enjoyable to watch.
>
> They were generally well-structured and produced.
>
> I think the podcasts are of high quality. The presentation format varies, which is good.

One respondent noted in fact the instructors' efforts to modify and improve the vodcast's contents and design as the semester progressed, particularly in response to the data collected during the first two focus group sessions. This respondent wrote on the questionnaire: "Quite acceptable, I see that changes have been made to improve the video podcasts."

However, a number of respondents felt that certain aspects could be improved. Though there were some statements complimenting the technical and video quality, these were outweighed by more critical statements calling for improvements to the video, in particular, its sound quality. Other statements expressed a desire for a higher vodcast frequency (weekly instead of fortnightly) and suggested improvements to the vodcast design for better mobile use (the use of subtitles instead of handouts and transcripts). The following statements are representative of these critical views:

> The contents are interesting and length is appropriate. However, the video can have a poor audio quality when filming is done such that spoken voices are hard to hear.

> Quality of videos shot in outdoor locations was not very good.

> The frequency of the video podcast can be increased. If subtitles are on the videos, that will be better. The sound quality of some of the videos can be improved.

> Uploading of videos was not as frequent as can be. Once a week as lecture revision will be good.

> If possible, add in the subtitles in the vodcast instead of having a transcript. Make it able for the students to switch the subtitles on/off when they want.

> The questions and answers should be given in the video (like powerpoint) for easy viewing. Printing out the handout was quite troublesome.

With regard to the sound quality, the instructors acknowledged the technical difficulties involved in producing videos of high quality, particularly since they did not have the resources to hire a professional production team and had to produce the videos on their own with the assistance of student assistants. The equipment available to them was limited to two video cameras and tripods as well as an external microphone which did not help significantly in filtering ambient noise during the video shoot. The option to film the video without audio and subsequently dub the conversations in the recording studio was also tested, but it was eventually ascertained that a dedicated dubbing studio with the proper equipment would be necessary and that dubbing was furthermore a highly professional activity which cannot be mastered quickly or easily. It thus became clear that, though the instructors and their assistants had been aware of the inadequacies in the technical quality and had attempted several possible solutions, this was a drawback that had to be accepted in view of the limited resources available for the video production.

Table 7. Student responses on the video podcasts' learning contents

No.	Statement	Percentages of responses					Mean	SD
		1	2	3	4	5		
7	The video podcast helped improve my listening.	0.6	5.1	13.0	61.0	20.3	3.95	0.767
8	The video podcast helped improve my pronunciation.	0.0	6.2	18.1	58.8	16.9	3.86	0.764
9	The video podcast helped improve my speaking.	1.1	10.7	32.8	44.6	10.7	3.53	0.886
10	The video podcast helped improve my vocabulary.	0.0	6.8	43.5	42.9	6.8	3.50	0.724
11	The video podcast helped improve my grasp of grammar.	0.0	12.4	37.9	43.5	6.2	3.44	0.789
12	I find the information about German culture and society to be useful.	0.6	3.4	11.3	64.4	20.3	4.01	0.711

N.B.: N = 177; 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree; SD – standard deviation

The respondents' perceptions of the contents' usefulness and effectiveness were mixed, as the mean ratings indicate that they agreed with three statements but were neutral (neither agree nor disagree) in relation to three other (see Table 7). For statements No. 9, 10 and 11 – with regard to the vodcast's usefulness for speaking (3.53), vocabulary (3.49) and grammar learning (3.43) – the ratings were just a shade below the agreement threshold at 3.67. This is not surprising, considering that the vodcast focused more on the development of listening proficiency and the transmission of culture and country information; there was only one exercise that required students to apply vocabulary and grammar knowledge in speaking (in Vodcast Unit 3). In contrast, the respondents rated the culture information (4.01) and the effectiveness of the units for improving listening ability (3.95) most highly. The vodcast's usefulness for pronunciation improvement received the third highest rating from the respondents (3.86). However, again, the mean scores (average of all six items = 3.72) were lower than those reported in earlier studies for audio podcasts for German and other language courses at the NUS (Chan, 2012a; Chan et al., 2011a; Chi & Chan, 2009; Chi & Chan, 2011), where the ratings were usually 4.0 or higher for the same learning contents.

The qualitative data corroborate the quantitative ratings, providing further confirmation that the respondents appreciated the usefulness of the learning contents for culture and listening. For instance, commenting on the overall quality of the vodcast, a student said, "The contents are very interesting, a very good way to motivate me to learn about language and culture of another country." Another found it "very useful, especially for [learning about] German culture." The respondents were asked to identify the vodcast units they remembered particularly well and found to be most useful. 30 respondents voted for Unit 4 on the topic "Residential Living," which introduced students to the domiciles of two native German teachers, a house in a village in Germany and an apartment in Singapore. Here is what some of the students wrote about this unit:

> The video on living in Germany and Singapore. It was interesting because we got to see beautiful homes in the German country.

> Wohnen [transl.: residential living] in Germany and Singapore, it helps me to know more about German culture.

> Lesson 4. This shows the real life of German people.

> Lesson four. It gives me the real impression of a German's house and home.

Perhaps the respondents rated the culture information and listening practice most highly, because this matched their initial expectations and objectives for watching the vodcast. There is evidence of this in the responses to an open-ended item asking for the respondents' reasons for and objectives in viewing the vodcast. A fairly large number of statements (15 on culture, including sociolinguistic aspects, 32 on listening, and 14 on pronunciation) would support this conclusion, some of which are reproduced below:

> Gain more knowledge about the German culture.

> I wanted to know how Germans behave when they are in a situation e.g.: in a café, or meeting a friend. How they react in a situation with the right phrases.

> Basically, I want to know more about German culture and society apart from improving my listening and speaking.

> It was good tool to have continually listened to the German language, else finding German media is difficult in Singapore, listening to it over time helps me understand German speech better.

> Listen to intonation and pronunciation. "Google translate" pronunciation is not always correct.

During the first focus group session, the participants' strong interest in German culture – albeit mainly more superficial elements of its culture – came to the fore. When discussing possible future topics for the vodcast, two of them proposed focusing on the Oktoberfest in Munich as well as

introducing more German pop music to provide more information on German (pop) culture, as the following excerpt reveals[1]:

Excerpt 1 (Focus Group Session 1)

Researcher 3:   […] if you were the one who needs to create a unit for the other students, what other components would you add to this video other than what we had already provided? Is there anything that you think …?

Researcher 1:   For lesson 2, a particular topic?

Arlene: Yes, I was thinking … one thing may be about the culture, like you are telling the class about the Septemberfest?

Researcher 3:   Oktoberfest!

Arlene: Sorry ...

Researcher 3:   But it is in September. You are right!

Arlene: Maybe a few things about it … and like these songs that I want to know about in Germany, tell me about the different bands. So, maybe about the culture?

Researcher 1:   Ok.

Yolanda: Especially for video podcast … it has this visual effect. If you want to show something on the culture or the geography of Germany, it would be very easy, compared to the audio podcast. The video can add more … maybe visual effect?

Researcher 1:   It is true. Yes. But our problem is, we cannot just grab from the Internet. So, I cannot grab an Oktoberfest video and …

Yolanda: Maybe just pictures about the Oktoberfest and you can explain to us in the video podcast or maybe … examples, history or culture of Germany. Like … maybe … there is this culture … maybe just a few slides …

Table 8. Student responses on the video podcasts' motivational effects

No.	Statement	Percentages of responses					Mean	SD
		1	2	3	4	5		
13	I enjoy watching the video podcast.	0.6	2.3	15.3	60.5	21.5	4.00	0.715
14	After working with the video podcast in this semester, I am now more open to learning through video podcast in future.	0.6	3.4	18.1	54.2	23.7	3.97	0.779
15	Watching the German video podcast in this semester has made me more motivated to learn the language.	0.6	4.0	35.2	44.9	15.3	3.70	0.795

N.B.: N = 177; 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree; SD – standard deviation

As Table 8 reveals, the respondents gave positive responses to the three items pertaining to motivation, as evidenced by the mean scores between 3.70 and 4.00 (average of all three items = 3.89). These scores are generally comparable to those given for the vodcasts' design, technical quality and learning contents. Interestingly, these scores were the only ones that could match the ratings reported by previous NUS audio podcasts studies (Chan, 2012b; Chi & Chan, 2009; Chi & Chan, 2011), which reported ratings mostly in the same range of 3.5 to 4.0, with an average of 3.90. The qualitative statements cited above, which show that the vodcast contents were generally perceived by the respondents to be useful and to have fulfilled their expectations, provide some evidence to corroborate the positive quantitative results. The following excerpt from a focus group session shows that the culture content appealed to the students and thus contributed to their enjoyment and motivation:

Excerpt 2 (Focus Group Session 2a)

Researcher 1:	Do you find this [video] podcast unit 4 enjoyable?
Yolanda:	It is quite amazing when I got a "wow" effect when I see how it is really in Germany.
Robert:	Yes. Got the flowers [in the garden] … I am thinking about … what is this about? Then suddenly after the flowers, it shows the house, right? It makes me quite amazed for the first time.
Researcher 1:	Why amazed?
Robert:	I think because I have never gone to Germany before and then I see the German house. It is quite amazing.
Researcher 1:	So, its gives you insights into the country?
Robert:	Something like that.
Researcher 1:	How did you like the house?
Robert:	It is very nice …
Yolanda:	*Groß und hell* [transl.: large and bright].
Felicia:	I like the garden.

3.3.4 Comparison of audio and video podcasts

Some interesting insights were registered during a focus group session of the G1 participants about the comparative advantages of the audio and video podcasts and how these influenced their access and use of the podcasts. Two of the seven participants at the first focus group session stated a preference for the audio podcast over the vodcast for mobile access, as the following excerpt indicates:

Excerpt 3 (Focus Group Session 1)

Yolanda:	I found the audio podcast is … like … somehow more important than video podcast to me, because I can listen to it again and again on the move. Because when I just listen to it, I won't be distracted by other visual effects. And the audio podcast, I don't know where you make it. I feel the quality is better, I mean, in terms of the sound. There is no background noise. In the video podcast, there is quite an amount of background noise which distracts us.
[…]	
Researcher 1:	[…] You said on the move. So, do you transfer it to your mobile phone, to your smartphone?
Yolanda:	Yes.
Researcher 1:	So, where are you listening on the move? You live on campus; you can't be moving around a lot.
Yolanda:	Every week when I am going to [give] tuition, I will just listen on the bus. One hour to go there, one hour to come back. I can actually listen many times.
Researcher 1:	But how many times do you listen to it? Do you listen to it more than once?
Yolanda:	Yes. I just start listening when I get on the bus and I stop listening maybe one hour later.
Researcher 1:	Am I right to say that you would be quite happy to listen to the audio podcast on the bus, but with the video podcast, you will find it more difficult?
Yolanda:	Yes.
Researcher 1:	Is it because of technical problems or because you feel that it is distracting to view it?
Yolanda:	No, I just don't like to read anything or watch anything on the move. My eyes will pain and I want to faint.
Researcher 1:	You may be like me. When I try to read on the bus, I also feel faint. But listening is ok?
Yolanda:	Yes.
Robert:	I also agree, because when I am listening to the audio podcast, I can do other things like … maybe I am doing something and I suddenly hear the podcast, then I can repeat it many times. I am more like an audio person, because when I listen to the au-

dio podcast, it will easily be inside my mind. I can even multitask. But if I am view-
ing a video, then I can't do other things.

Researcher 1:   Because your eyes will have to be on the screen?

Robert: Yeah, exactly!

Yolanda's and Robert's inputs provide an important clue to the considerably lower mobile us-
age of the vodcast, as compared to that reported in the previous audio podcast studies (Chan,
2012a; Chi & Chan, 2009; Chi & Chan, 2011), for it would seem that students find a video too
distracting and taxing, as it requires far more attentional capacity, making it difficult for them to
multitask or remain alert to their environment, which is important while one is travelling. In
Yolanda's case, watching a video on the move will even cause her to feel faint, which is not an
uncommon phenomenon.

At the same session, two other participants pointed out that they did not actually view the video
or saw the need to do so when they were using the vodcast to try to improve their pronunciation
and listening ability. Instead, they placed more value on reading the transcript in the handout while
listening to (but not viewing) the vodcast. This essentially prevented them from viewing the video
images. The following is the relevant excerpt from the focus group session:

Excerpt 4 (Focus Group Session 1)

Ken: Actually, I didn't watch the video. I just opened the transcript and played the video
                and I just looked at the transcript.

Researcher 1:   So, you were listening to the video. It is interesting. Why didn't you watch it? Why
                did you prefer to listen?

Ken: I know it is just an introduction. From the first video is … like … how you pro-
                nounce, I had no need to look at the video.

Researcher 1:   […] Don't you want to see the persons who are being interviewed? Those are real
                per-sons.

Ken: Yup, but … more concerned with what they are saying.

Researcher 1:   More concerned with the learning than getting to know the people? OK, that's an in-
                teresting thing.

Arlene: For me, I will say that the transcript is the most important, because I'd rather read. I
                think I learn better when I read the thing myself. So, the transcript along with the
                video or transcript along with the audio – either is fine.

For learners like Arlene, who rely very much on visual text inputs, it would seem that the vod-
cast makes no or only a minimal difference vis-à-vis an audio podcast. In contrast, for another par-
ticipant, Zane, who identifies himself as a visual learner, the video helps him in focusing on and
comprehending conversations: "I am not an audio person. I can understand a conversation better
when I look at it rather than just listen to the conversation. […] You have to just focus on the video.
So, for me video is better."

Because of these observations from the focus group sessions, an item was subsequently added
to the end-of-semester questionnaire to ask respondents to state and explain their preference for
either the audio or video podcast. The responses to this open-ended question confirmed largely the
insights gained from the focus group data. There was a slim majority of students who expressed a
preference for the audio podcast; of the 126 students who responded to this question, 47 said they
preferred the audio podcast, 37 the vodcast, and 32 had no preference or found both to be equally
useful or satisfactory. Among the 47 who preferred the audio podcast, six justified their preference
by saying that the audio podcast contents appeared more relevant to them or fulfilled their learning
needs better (the audio podcast units were longer, had a wider topical coverage and included con-
siderably more exercises than the vodcast). Another six found the sound quality of the audio pod-
cast to be superior (as the audio units were recorded entirely in a studio and were free from the
ambient noise that interfered with the video recordings), while seven pointed to the lower demands
in terms of the technical resources required (e.g. shorter downloading times, and the less sophisti-
cated devices required). The majority however stated the same reasons as mentioned by Yolanda

and Robert during the focus group session: eight respondents preferred it, because it was easier to listen to it on the move; and 16 others found it more convenient in that it is less distracting and allows them to engage in other activities simultaneously, as the following selection of statements suggest:

> Audio podcast, because it is easier to listen to while on the move.

> I prefer audio podcast, as it is more accessible for one and can be listened on the bus.

> Audio podcast → improves listening and I can actually listen without being distracted, although pictures help when I don't understand what they are saying.

> Prefer audio. Don't have to look at the screen/display all the time.

> Audio podcast. Listening to the audio podcast enables me to multitask, e.g.: listen and surf the net for vocab words or reading the transcript.

Of the 37 who expressed a preference for the vodcast, most explained that they found the video more interesting and entertaining, or that the visual mode of learning suited them better or enhances comprehension and retention, as evidenced by the following sample statements:

> I prefer the video podcast. It's always more fun to watch things while hearing something.

> Video podcast please! It was more interesting (& sustained interest better) & better, because you could see how they pronounce things directly etc. Furthermore, visual + audio tends to stick in my memory more than just audio alone.

> Video podcast. I am a visual person.

> Prefer video. Visual aids enhance learning.

4   Conclusion and implications

This paper described the design and development of a supplementary – and thus non-compulsory – vodcast for a German 1 course at a university in Singapore, NUS, and also reported on a study that collected qualitative and quantitative data through focus group discussions and an end-of-semester questionnaire on students' vodcast access and use as well as their perceptions of its quality and usefulness. It was found that students had the necessary technology resources to access the vodcast, with almost all students owning a PC and/or mobile devices and having broadband or mobile Internet access. Access rates were generally high with 85.9% having accessed at least one of six vodcast units, 65% at least three and 21.8% all six, though these rates were slightly lower than those reported for previous audio podcast studies conducted at the same university. Those who did not access the vodcast cited their heavy semester workload as the main reason for forgoing the vodcast, while a few attributed their non-access to technology-related issues or stated that they did not see the need to supplement their learning through the vodcast. The vast majority of the respondents accessed the vodcast at home or in their hostel rooms, with only slightly more than a fifth of them viewing it on the move, which is considerably lower than the mobile usage reported for previous podcasts for German and Korean courses at the same university. The questionnaire and focus group data suggest that the lower mobile access rates may be attributable to the design of the vodcast, which included a PDF handout with exercises and/or transcripts for most units, and thus encouraged student access with a PC rather than a mobile device. Another reason was the fact that a vodcast requires more attentional capacity and is thus less suited for mobile use than an audio podcast. A slim majority of the students stated a preference for the course audio podcast over the vodcast because of its broader content coverage and because it is easier to access on the move or while performing other activities.

The respondents rated the vodcast positively for its design (number of units and frequency), technical quality and relevance. They also found the vodcast useful in providing them with infor-

mation about German culture and society, and helping them improve their listening and pronunciation, though the mean scores were again slightly lower than those reported in previous NUS studies. The generally positive ratings could not however conceal the criticism voiced by students about the sound quality of the vodcast, which was affected by the lack of professional equipment and expertise in filming the units. Nevertheless, the vodcast apparently had a positive effect on the students' motivation and attitudes towards learning through a vodcast. They reported enjoying the vodcast, and becoming more motivated to learn the target language and more open to vodcast-based learning at the end of the semester.

The study yielded insightful information on students' preferences with regard to language vodcast design and presentation. Some respondents had suggested more frequent vodcast units, which they felt should be broadcast weekly or even twice weekly. While this would require substantial investments of time and logistical resources, it is conceivable that a more comprehensive course vodcast may be developed and gradually expanded over a period of several years. The contents of lengthier units, such as those longer than 5–6 minutes, can also be re-distributed and possibly combined with new contents to create more units.

Another implication, arising from the students' statements about the disadvantages of the video medium for mobile access, would be to modify the design of vodcasts to make them more mobile-friendly. This could be achieved, for instance, by replacing PDF handouts, which are best used when printed and are thus unsuited to mobile use, with tasks and information that are integrated into the video and can be presented on-screen. This was in fact done for the sixth and last unit of the German 1 vodcast in response to suggestions from participants of the focus group sessions, prompting one questionnaire respondent to remark that (s)he noticed and appreciated the improvements made to the vodcast in the course of the semester. I would also suggest that vodcast designers should likewise seek means to provide on-screen learner support, currently provided for some units in the form of word explanations or transcripts in the PDF handouts. Subtitles could be provided to aid students' comprehension, and alternative versions of vodcast units can be provided – with and without subtitling. This would give learners options to choose their own learning paths, and also to monitor and evaluate their own comprehension and progress.

The findings reveal that students are sensitive to quality issues in the technical production of podcasts. Both the focus group participants and questionnaire respondents pointed out the poorer sound quality of the vodcast in comparison to the audio podcast. As explained earlier in the paper, the distinct quality difference is due to difficulties encountered by the vodcast production team in filtering or reducing ambient noise during filming. To secure the professional expertise necessary to produce high quality videos would require substantial funding, for example, through a materials development or research grant. Such funding would also allow developers to film in the target language countries (e.g. Austria, Germany and Switzerland for German language learners), and depict cultural aspects more closely and thus better satisfy learners' strong interest in the foreign cultures. However, developmental or research funding of this magnitude may not be readily available to practitioners, particularly to those teaching outside the university context or in less wealthy countries or regions. This begs perhaps a more fundamental question, namely, if individual or small groups of teachers without strong funding support should invest the considerable time and effort required for the production of educational vodcasts. It may perhaps be wiser for them to focus on the production of materials more commensurate with the resources available to them – for instance, audio podcasts which can be created with lower demands on their time and effort, and which, as this study shows, may even be preferred by learners.

As mentioned in the introduction to this paper, few empirical studies dedicated to the design and use of vodcasting in foreign language learning have been published. There is a distinct need for more empirical data to be collected to further our understanding of how students work or prefer to work with language learning vodcasts, particularly as a mobile medium. Future studies could address questions related to vodcast task designs for mobile use, such as the integration and possible functions of subtitles or the provision of interactive on-screen tasks (e.g. with the aid of a dedicated mobile app that can integrate video and learning tasks on the same user interface). Moreover, findings from such studies would contribute towards the development of a comprehensive taxon-

omy of vodcast tasks. Further studies measuring the performance gains of vodcast users will help to shed light on the effectiveness of vodcast-based learning in general and of individual task types in particular.

Notes

[1] All student names given in this paper are randomly assigned pseudonyms.

Acknowledgement

References

Abdous, M., Camarena, M. M., & Facer, B. R. (2009). MALL technology: Use of academic podcasting in the foreign language classroom. *ReCALL, 21*(1), 76–95.

Chan, W. M. (2011). Fremdsprachenlernen mittels der Mobiltechnologie: Der Einsatz von Lernpod-casts im universitären DaF-Unterricht. In H. Barkowski, S. Demmig, H. Funk & U. Würz (Eds.), *Deutsch bewegt – Entwicklungen in der Auslandsgermanistik und Deutsch als Fremd- und Zweitsprache* (pp. 93–106). Baltmannsweiler: Schneider Verlag Hohengehren.

Chan, W. M. (2012a). Der Einsatz vom Podcast im DaF-Unterricht: Ein Vehikel zur Landeskundevermittlung. In R. Maeda (Ed.), *Transkulturalität: Identitäten in neuem Licht* (pp. 767–774). Munich: Iudicium.

Chan, W. M. (2012b). The promise of mobile technologies for foreign language learning: With a special focus on the use of language podcasting in higher education in Singapore. In N. Tomimori, M. Furihata, K. Haida, N. Kurosawa & M. Negishi (Eds.), *New perspectives for foreign language teaching in higher education: Exploring the possibilities of application of CEFR* (pp. 33–55). Tokyo: WOLSEC, Tokyo University of Foreign Studies.

Chan, W. M., Chen, I. R., & Döpel, M. (2011a). Podcasting in foreign language learning: Insights for podcast design from a developmental research project. In M. Levy, F. Blin, C. Bradin Siskin & O. Takeuchi (Eds.), *WorldCALL: Global perspectives on computer-assisted language learning* (pp. 19–37). New York & London: Routledge.

Chan, W. M., Chi, S. W., Chin, K. N., & Lin, C. Y. (2011b). Students' perceptions of and attitudes to-wards podcast-based learning – A comparison of two language podcast projects. *Electronic Journal of Foreign Language Teaching, 8*(Suppl. 1), 312–335.

Chi, S. W., & Chan, W. M. (2009). Mobile Korean language learning: Podcasting as an educational medium. In *Proceedings of the International Academic Conference of Korean Language for Kyung-Hee Alumni and International Symposium for Korean Language Education* (pp. 55–73). Seoul: Kyung-Hee University.

Chi, S. W., & Chan, W. M. (2011). Learning beyond the classroom: Language podcast as supplementary learning material. *Ubiquitous Learning, 3*(2), 21–40.

Chin, K. N., Lin, C. Y., & Chan, W. M. (2011). Mobile learning – Podcasting for Chinese language learning. *Journal for Technology and Chinese Language Teaching, 2*(2), 37–49.

Hoven, D., & Palalas, A. (2011). (Re)Conceptualizing design approaches for mobile language learning. *CALICO Journal, 28*(3), 699–720.

Kukulska-Hulme, A., & Traxler, J. (2005). Mobile teaching and learning. In A. Kukulska-Hulme & J. Traxler (Eds.), *Mobile learning. A handbook for educators and trainers* (pp. 25–43). London & New York: Routledge.

Lewin, J. (2009, March 4). Podcasting goes mainstream. *Podcasting News. New Media Update.* Retrieved from http://www.podcastingnews.com/2009/03/04/podcasting-goes-mainstream/

Mitschian, H. (2010). m-Learning – die neue Welle? Mobiles Lernen für Deutsch als Fremdsprache. Kassel: Kassel University Press.

Monk, B., Ozawa, K., & Thomas, M. (2006). iPods in English language education: A case study of English listening and reading students. *NUCB Journal of Language Culture and Communication, 8*(3), 85–102.

Naismith, L., Lonsdale, P., Vavoula, G. & Sharples, M. (2004). *Literature review in mobile technologies and learning*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.136.2203&rep=rep1&type=pdf

Rosell-Aguilar, F. (2007). Top of the pods – In search of a podcasting 'podagogy' for language learning. *Computer Assisted Language Learning, 20*(5), 471–492.

Weinberg, A., Knoerr, H., & Vandergrift, L. (2011). Creating podcasts for academic listening in French: Student perceptions of enjoyment and usefulness. *CALICO Journal, 28*(3), 588–605.

Appendices

Appendix A

Questions for Focus Group Discussion

a) Did you view the latest video podcast unit in the LAG1201 German 1 module?

b) Where and when did you view it? (Did you view it at home or in your hostel room, on the move or somewhere on campus?)

c) Which equipment or device did you use to view it? Which software did you use to subscribe to or to access the video podcast?

d) Did you encounter any problems related to the location, time or equipment/device used? Can you tell us about the problems? Did you manage to solve the problems? If so, how?

e) Did you view the video podcast unit in one session? Or did you complete it in more than one session? If so, in how many sessions and why was that so?

f) Did you do the tasks included in the video and/or the podcast handout? Did you find the tasks useful? Why (not)? Did you find the tasks difficult to manage? Why (not)?

g) Did you encounter any linguistic, task design or technical problems while doing the tasks?

h) Can you describe how you completed the task(s)? What steps did you take and in which sequence?

i) How would you characterize the video podcast unit? Which adjectives would you use to describe the video podcast unit and its content/quality? (How do you find the content and quality of the video podcast unit?)

j) Did you find the video podcast unit enjoyable? If so/not, what did you find (not) enjoyable? Would you recommend the video podcast to your classmates in the course? If so/not why (not)?

k) Are there improvements to the design and contents (e.g. the topics and tasks) that you would suggest?

Appendix B

Questionnaire

This survey is designed to investigate how German language learners learn using a video podcast. Your support will be very much appreciated, and the results of this survey will support our research. It will also help us eventually in improving the video podcasts produced by the Centre for Language Studies for its students in various language programmes. The information you provide below is anonymous. We therefore urge you to be truthful in responding to the items in this questionnaire.

The items are related to the video podcast you have received in the LAG1201 German 1 module in this semester.

Part 1

The items below are general questions related to your personal particulars and use of computer hardware and software. Please tick as appropriate or write an answer, where applicable.

Section A

Please provide the following information about yourself, the hardware and Internet resources available to you, and your previous podcast learning experience.

1. How old are you? _____

2. Please state your gender.   ☐female   ☐ male

3. What is your year of study?   Undergraduate: ☐Year 1 ☐Year 2 ☐Year 3 ☐Year 4
                                  Graduate: ☐Master's programme   ☐PhD programme

4. Are you a non-graduating student (e.g. an exchange student)?   ☐yes   ☐no

5. Which faculty are you from? _____

6. Do you live on campus?   ☐yes   ☐no

7. If you don't live on campus, how long do you need to travel to campus?
         ☐less than 30 min   ☐30 – 60 min   ☐1 – 2 hrs   ☐more than 2hrs

Section B

8. Which of the following device(s) do you have? (You may tick more than one option.)
   PC: ☐desktop PC   ☐notebook PC   ☐netbook PC
   Tablet: ☐iPad   ☐other tablet
   Mobile phone: ☐iPhone   ☐other smartphone   ☐other mobile phone
   Mobile Media Player: ☐iPod   ☐iPod Touch   ☐other media player

9. Do you have Internet access? (If "no", skip Question 10 and proceed to Question 11.)
                           ☐yes   ☐no

10. What kind of Internet access do you have?
                    ☐ broadband (residence)   ☐ modem (residence)   ☐ 3G mobile

11. Did you learn any languages through video podcasts (before your German course)?
                    ☐ yes   ☐ no
    If you say 'yes', please specify the following:
                    ☐ audio podcast(s) ☐video podcast(s) ☐ audio and video podcasts
    Languages learned: _____

Part 2

Section A

Item 12 pertain to the German 1 audio podcast units in this semester.

12. Did you listen to the audio podcast? If yes, how many of the 12 units did you listen to?
    ☐ no   ☐ yes   If yes, number of units listened to: _____ (max. 12)

The subsequent items pertain to the German 1 video podcast units in this semester. Please tick as appropriate or write an answer, where applicable.

13. Which of the 6 video podcast units did you watch? Please tick as appropriate.
    ☐ none
    ☐ Lesson 1:   Pronunciation of ä, ö and ü
    ☐ Lesson 2:   Self-introduction: German-speaking students on campus
    ☐ Lesson 3:   Conversation in a café / Grammar and speaking task: ein und kein
    ☐ Lesson 4:   How Germans live in Germany and Singapore (Wohnen)
    ☐ Lesson 5:   Daily routine of German exchange students (Tagesablauf)
    ☐ Lesson 6:   A visit to the NUS / Asking the way (Wegbeschreibung)

If you ticked "none" above, please answer Question 14 and you may stop filling out the questionnaire.

14. If you did not watch any of the German 1 video podcast units, please state the reason(s).
    _____
    _____

If you watched at least one video podcast unit, please answer the following questions.

15. How frequently did you watch the video podcast units?
    ☐ regularly – once a fortnight
    ☐ regularly – once a month
    ☐ only occasionally – less than once a month
    ☐ only before the semester tests

16. How frequently did you watch a single video podcast unit?
☐ only once   ☐ repeated 2-3 times   ☐ repeated more than 3 times

17. Did you subscribe to the video podcast?
☐ yes   ☐ no
If yes, please specify which software you used to subscribe (e.g. iTunes, Google Reader, Juice etc.):
_____

18. Which hardware did you use to watch the podcast and rank them?

(The term "PC" below includes desktops, laptops and netbooks and the term "mobile device" includes any mobile device player, mobile phones and tablets.)

☐ PC only
☐ mobile device only
☐ usually PC, but sometimes mobile device
☐ usually mobile device, but sometimes PC
☐ PC and mobile device about equally

19. Where did you watch the video podcast? (You may tick more than one option, if applicable.)
☐ at home
☐ in my hostel room
☐ elsewhere on campus   Please specify: _____
☐ on the move   Please specify: _____
☐ other places   Please specify: _____

Please state the reason(s) for watching in the above places.
_____

20. Did you print the handouts included with the video podcast?
☐ no   ☐ yes, always   ☐ yes, for some units

21. Did you read the handouts?
☐ no   ☐ yes, always   ☐ yes, for some units

22. Did you check the solutions for the exercises?
☐ no   ☐ yes, always   ☐ yes, for some units

23. Did you read the transcripts, where available?
☐ no   ☐ yes, always   ☐ yes, for some units

Section B

For the items below, please tick as appropriate.

24. I find the number of video podcast units to be appropriate.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

25. I find the frequency of the video podcast units (once every two weeks) to be appropriate.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

26. I enjoy watching the video podcast.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

27. The video podcast helped improve my listening.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

28. The video podcast helped improve my pronunciation.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

29. The video podcast helped improve my speaking.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

30. The video podcast helped improve my vocabulary.
☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

31. The video podcast helped improve my grasp of grammar.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

32. I find the information about German culture and society to be useful.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

33. I find the topics to be relevant to my learning.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

34. I find the video podcast useful for revising what I learned in class.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

35. I find the technical quality to be good.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

36. I find the handout to be useful.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

37. After working with the German video podcast in this semester, I am now more open to learning through video podcasts in future.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

38. Watching the German video podcast in this semester has made me more motivated to learn the language.
    ☐ strongly disagree   ☐ disagree   ☐ neither disagree nor agree   ☐ agree   ☐ strongly agree

Section C

For the items below, please write an answer as appropriate.

39. Is/are there any unit(s) or topic(s) that you remember particularly well? Please explain why (e.g. if a unit or topic is particularly useful or interesting).
    _____
    _____

40. Was there a particular task type or exercise format (e.g. fill-in-the-blank exercise, true-false exercise) that you found particularly useful or appropriate?
    _____
    _____

41. Do you have any comments on the video podcast units (e.g. their contents, quality, frequency, length and presentation format)?
    _____
    _____

42. Which suggestions (including additional topics, exercises or language skills) do you have for improving the video podcast?
    _____
    _____

43. Please tell us your reason(s) for watching the video podcast. What did you expect to gain from it?
    _____
    _____

44. Do you have a preference for the video or the audio podcast? If yes, please explain your preference.
    _____
    _____

Thank you for filling out the questionnaire!