

Students' Perceptions of and Attitudes towards Podcast-Based Learning – A Comparison of Two Language Podcast Projects

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Abstract

Podcasting is increasingly being exploited by language teachers as a tool for delivering educational content and to encourage learning outside of the traditional classroom. While some studies have explored the application of podcasting in language learning as well as students' response to podcast-based learning, there is still comparatively little research into effective podcast design and students' perceptions of and attitudes towards this medium. This paper looks at two podcast projects conducted at a university in Singapore, which were created to supplement classroom instruction for Chinese and Korean as a foreign language. It first describes the projects' background and target groups, and podcasts' design and content. It reports subsequently on a study conducted on these two projects to address the current lack of empirical research and to seek insights for the further development of language podcasting. Data were collected from questionnaires administered to 120 Chinese and 61 Korean language students as well as semi-structured interviews to ascertain their perceptions of the podcasts' quality and usefulness, and their attitudes towards podcast-based learning. It was found that there were statistically significant differences in the perceptions and attitudes of the two groups of students. The analysis of the data further uncovered that there are four possible reasons for these differences: 1) the podcasts' objectives and students' learning motivation; 2) a mismatch between podcast design and students' expectations, needs and preferences; 3) teacher encouragement and student preparation; and 4) the experience of mobile learning. The implications of the study for future practice and further research are also discussed.

1 Introduction

A podcast is a series of media files, typically consisting of audio and/or video materials, which are made available on the Internet for downloading onto one's computer. It is usually updated on a regular basis through the addition of new episodes and distributed with the help of a file called RSS Feed, which contains the metadata of the podcast and its constituent files. Software called 'podcatchers' (e.g. iTunes or Juice) will read a podcast's RSS Feed regularly and automatically download newly published files. These are then copied onto mobile players when they are synchronised with the podcatcher. This makes a podcast a mobile medium which can be accessed while on the move or away from the home computer.

Given its ability to "push" media files automatically to the end user and the rapidly increasing podcast audience worldwide (see e.g. Lewin, 2009), podcasting's potential as an educational medium seems obvious and many have advocated its application to foreign language learning (McCarty, 2005; Rosell-Aguilar, 2007; Young, 2007). Yet, as it is a relatively young medium, there have been to date comparatively few published reports of language learning podcast projects or studies on the design and effectiveness of such podcasts. The few studies that have appeared thus far (e.g. Abdous, Camarena, & Facer, 2009; Chan, Chen, & Döpel, 2011; Chi & Chan, 2011; Monk, Ozawa, & Thomas, 2006) have sought to evaluate such podcasts based on learners' self-reported perceptions and have produced mixed outcomes.

This paper reports on the results of a cross-language research collaboration which focused on two podcast projects at a university in Singapore, one for Chinese and the other for Korean language beginners. It will report on the objectives, design and content of both projects. It will also present and discuss the results from an analysis and comparison of usage and perception data collected for both podcast projects to determine possible factors for differences in students' use, acceptance and evaluation of the podcasts. It will then discuss how the insights achieved by this study into students' perceptions and attitudes will impact the design and implementation of future language learning podcasts.

2 Literature review

As mentioned above, there have been relatively few studies on the design of language learning podcasts. In his review of academic and commercial podcasts, Rosell-Aguilar (2007) concludes that a language learning podcast should: 1) provide exposure to the target language and culture; 2) include a range of (authentic) materials; 3) be engaging and of adequate length; and 4) take into account the characteristics of the podcast medium and media players, such as their portability and screen size. Edirisingha (2006) advocates the use of a radio magazine presentation style and is largely in agreement with Cebeci and Tekdal (2006), who propose that an educational podcast should contain a mix of speech, music and voice effects, which they believe will enhance its listenability and improve the efficiency of the learning processes.

One of the first studies to investigate students' use and perceptions of podcasting in language learning was conducted at a Japanese university which supplied all freshmen with iPods. Authentic news broadcasts were made available for downloading to help prepare learners of English for their semester examinations. Monk et al. (2006) report that the majority of the students were unaware of the resources, with 64.9% of them never or rarely downloading the audio files. Furthermore, 45.3% of the students found the resources not or not at all useful, and only 15.2% felt their teachers made effective use of the iPod. One reason for their negative perceptions could have been the fact the teachers did not apparently attempt to provide any pedagogical treatment to the listening materials (e.g. by designing and including customised exercises) to support and mediate students' learning.

Abdous et al. (2009) describe the use of podcasting in eight language and literature courses with small enrolments of 8–34 at an American university. Students were classified in two groups, namely those (80) enrolled in courses with integrated and compulsory podcasts (PIC), and those (33) in courses with supplementary, non-compulsory podcasts (PSM). The access rates were

mixed, with 72.5% of the PIC students and 45.5% of the PSM students having listened to at least one podcast unit. Though only slightly more than a quarter of the PIC students (27.5%) did not listen to the podcast, this nevertheless represents a considerable number, given that the podcasts were compulsory for them. The reasons reported by students for not accessing or accessing the podcasts only infrequently were: 1) the lack of time to download and listen to the podcasts (32.9%); 2) the expectation that the podcasts would be of little help to their learning (18.3%); 3) not knowing how to download the podcasts (11%); and 4) not having a PC, iPod or MP3 player (8.5%). Abdous et al. believe that “the respondents may have had more technical problems than they would admit, and reason that “in-class training about how to subscribe, download, and save podcasts may need to be provided to students” (p. 86). Both groups of students perceived the podcasts to be most useful for developing listening, vocabulary and speaking. The majority of the students reported a positive attitude towards podcast-based learning, with 65% of the PIC and 54.5% of the PSM students stating that they would be more likely to enrol in courses with a podcast.

In a study grounded on an information systems theory called “Unified Theory of Acceptance and Use of Technology”, Ho, Chou and O’Neill (2010) report that performance expectancy had the most significant impact on their respondents’ decision to learn a language through a podcast. This means that those who expect the podcast to have a positive effect on their performance in learning a language are more likely to access and use a language learning podcast. Another factor with a significant impact on the respondents’ podcast learning intent was social influence, which implies that other people’s attitudes towards podcasting will have a bearing on the users’ own attitude and intent. If people important to the users recommend the use of a podcast, then the users are more likely to access it. In the institutionalised learning context of the study reported in the current paper, the educational institution or teachers would likely be a source of such influence.

At the National University of Singapore (NUS), the site of the current study, several studies (Chan, in press; Chan et al., 2011; Chi & Chan, 2009; Chi & Chan, 2011; Chin, Lin, & Chan, 2010) have been conducted previously on Chinese, German and Korean language students’ podcast use, and their perceptions of the podcasts’ design and usefulness. All these podcasts achieved high access rates and students’ perceptions of the podcasts’ were mostly positive though only 11% or less of the respondents in each study had prior experience with educational podcasts. For example, in Chan et al.’s (2011) study, 97% of the 203 respondents listened to at least one of the 14 German 1 podcast lessons, while 56% accessed between eight to ten lessons. This podcast was offered as supplementary materials to students, while another podcast for Chinese 1 students was fully integrated into the course curriculum and students were tested on the podcast content in regular quizzes (Chin et al., 2010). This integrated podcast similarly achieved a high access rate, with 96.4% of the 166 respondents reported listening to at least three of the four units.

All four NUS podcast projects received positive evaluations from students, who rated the listening exercises and culture/country information as the most useful. 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 scale) with most of the perception items in the post-project evaluations. For the Korean 3 podcast (Chi & Chan, 2009), students found it to be most useful in increasing their culture knowledge, improving their listening and their grasp of grammar structures, while the Korean 1 students perceived the culture information, pronunciation tips and exercises, and listening exercises as most beneficial (Chi & Chan, 2011). For the Chinese 1 podcast reported by Chin et al. (2010), students found the listening, vocabulary and pronunciation exercises to be most useful, though the mean ratings were lower and ranged between 3.83 and 3.88. In regard to students’ attitudes towards podcast-based learning, Korean 3 and Korean 1 students reported being more open to learning through podcasts in future, returning mean scores of 4.24 and 3.90, respectively. They also felt that the podcast had increased their motivation to learn the language, with mean scores of 3.92 and 3.83, respectively. In contrast, Chinese 1 students’ attitudes towards their podcast were comparatively less positive, with mean ratings of 3.21 and 3.03 for these two items, respectively.

While the findings of the Korean and Chinese podcast studies suggest that there were differences in the perceptions and attitudes of the two groups of students, there was no attempt to do a comparative study and to seek explanations for any variations in students' perceptions and attitudes. This opportunity presented itself in the Academic Year 2009/2010, with the concurrent development and implementation of two podcast projects for Chinese and Korean language beginners which were comparable in their objectives and design features, thus lending themselves to the comparative study reported in the following. The research questions for this study were:

- a. What are the perceptions and attitudes of Korean and Chinese language beginners at a Singapore university with regard to their course podcasts?
- b. Are there any differences in the perceptions and attitudes of the Korean and Chinese language beginners?
- c. If there are differences, what are the reasons for these differences?

3 Podcast projects

3.1 Project background and objectives

The students enrolled in the C1 and K1 courses were from different faculties at the university and in various years of study. Both courses had similar curricular structures, with six contact hours weekly, consisting of four hours of lectures (in groups of 30-40) and two hours of tutorials (in groups of 15-20). Both podcast projects were designed to supplement classroom teaching and were non-compulsory.

One distinctive difference between the programmes lies in the demographic background of the students. About a fifth of the C1 enrolment were non-graduating students (19.5%), essentially exchange students from other universities attached to NUS for one to two semesters, while the K1 had no non-graduating students. In general, students in C1 could also be categorised into two groups, namely, students with no prior knowledge of Chinese and those with some Chinese language background. The latter were mainly students of Chinese heritage (e.g. from Malaysia or Indonesia) with limited prior knowledge. In contrast, none of the K1 learners were of Korean heritage or had prior knowledge of the target language.

Both projects were designed to accomplish very similar objectives, as Table 1 shows. However, the K1 podcast focused in part on encouraging and enabling mobile learning, while the C1 podcast was also conceived as an attempt to introduce a new medium to allow students to learn in a more relaxing and less stressful manner.

Objectives	
Chinese 1 podcast	Korean 1 podcast
1. To provide more listening/speaking texts and exercises related to and beyond the Chinese 1 courseware;	1. To expose students to more listening texts and conversations and providing more practice in listening and speaking;
2. To give learners more exposure to Chinese culture and society;	2. To help students to review and practice grammar and vocabulary learned in class;
3. To encourage independent and autonomous learning after class hours;	3. To provide students with relevant information about Korea and its culture;
4. To introduce a new medium/tool to learn Chinese in a more relaxing and less stressful way.	4. To encourage students to engage in independent and more mobile learning beyond the classroom.

N.B. The differences in the objectives of both projects are emphasised through bold print.

Table 1: The objectives of Chinese 1 and Korean 1 podcasts

3.2 Design

Both the C1 and K1 podcasts were presented in the form of radio magazines hosted by moderator(s) in an informal, conversational manner. Typically, each unit was framed by an intro and an extro, both consisting of a short piece of music and spoken text identifying the course. The moderator(s) introduced the topics and learning content, and also provided explanations (e.g. for grammar and vocabulary items) and instructions (e.g. for exercises), where appropriate. Both podcasts were presented in a mixture of English and the target languages of Chinese and Korean, respectively, as the learners in both elementary courses would not have been able to comprehend a podcast entirely in the target languages. Handouts with instructions, exercises and solutions were included in the podcast. This enabled a wider range of exercise types (including those that require some form of writing or the supporting use of visuals such as a map) to be included and also provided visual support for learners' processing of the audio media. Students could access both podcasts by subscribing to the respective RSS Feeds or by downloading the audio and handout files from the respective podcast homepages. Table 2 provides a comparison of the key design characteristics of both podcasts.

	Chinese 1	Korean 1
Number of units	5	10
Frequency	fortnightly	weekly
Average length (in minutes)	13	10
Style of presentation	radio magazine	radio magazine
Moderators	1	2
Handouts (exercises and solutions)	yes	yes
Podcast scripts	no	yes

Table 2: Design comparison between the Chinese 1 and Korean 1 podcasts

3.3 Content

3.3.1 Chinese 1 podcast

The topics of the C1 podcast were related to but not limited to the textbook materials. A typical unit contained narrations by the moderator (including culture tips and information, different forms of texts and exercises for various learning purposes, new vocabulary, Chinese songs and music, and a handout (see Table 3 for an overview of the content).

Units	Topics/Communicative Situations/Language Skills
1	Hanyu pinyin (Chinese phonetics system) <ul style="list-style-type: none"> • Listening exercises • Direct learners to an interactive website for related listening exercises • Exercises in phonetics
2	Greetings <ul style="list-style-type: none"> • Listening comprehension exercises • Speaking exercises • Vocabulary • Culture information: Traditional Chinese New Year festival, tradition, customs and a song
3	Sports <ul style="list-style-type: none"> • Listening comprehension exercises • Speaking exercises • Vocabulary • Culture and society: China's national game (table tennis)
4	Beijing opera

Units	Topics/Communicative Situations/Language Skills
	<ul style="list-style-type: none"> • Listening exercises • Speaking exercises • Vocabulary • Culture information: Beijing Opera characters, vocals, face-painting
5	Chinese food <ul style="list-style-type: none"> • Listening exercises • Speaking exercises • Vocabulary • Culture information: Regional food characteristics and differences, reception formalities, seating arrangement, table manners

Table 3: An overview of the Chinese 1 podcast content

As data collected from a previous study (Chin et al., 2010) indicate that students are very keen to learn about Chinese culture, this semester's podcast incorporated culture topics related to the course content, such as Chinese New Year traditions, Beijing opera (see Fig. 1 for an excerpt of the handout on this topic), and Chinese food culture and table manners.




LAC1201 Podcast Unit 4: Beijing Opera Handout 2		
Color connotation chart:		
RED 红色		Strong warriors
BLACK 黑色	 包拯 張飛	Staunch, upright, brave, even reckless
YELLOW 黄色		Violent and savage
BLUE 蓝色 or GREEN 绿色		Rough and irascible characters

Fig. 1: Excerpt from the handout of Unit 4 with information on Beijing opera

As the first objective of the podcast was to provide learners with additional listening and speaking practice, listening practice consisting of appropriate texts and tasks as well as speaking/pronunciation exercises constitute a considerable part of each unit. There is a particular emphasis on listening in order to capitalize on the auditory nature of the podcast medium. As the study by Chin et al. (2010) reveals that students prefer easy and comprehensible texts, short dialogues and narrations were created for this podcast using vocabulary from the textbook. The new vocabulary was presented in word lists providing both pronunciation aids and English

translations. Some measure of learner differentiation was provided by making available two different versions of dialogues, one at normal speed and a second at a considerably lower speed to cater to learners of differing listening abilities. Task types for listening and speaking practice included recitation tasks, gapfill exercises and dialogue practice (see Fig. 2 for examples of such tasks). In some instances, learners were also asked to answer comprehension questions verbally in order to improve their oral proficiency.

LA1201 Podcast Unit 2 Handout 1

Exercise A: Please listen to Podcast Unit 2 again and fill in the blank with either Hanyu Pinyin or characters according to what you hear from unit 2:



: 您好! 王老师。

: (1) _____! 张老师。这是您 (2) _____吗?

: 是啊, 我来 (3) _____一下, 这是Thompson 医生。她是美国人。

: 您好! 我 (4) _____Thompson, (5) _____Lily。请问您贵姓?

: Thompson 医生, 您好! 我姓王, 叫王娜娜。很高兴认识您!

: 认识您, 我也很 (6) _____。请问, 您是 (7) _____的老师吗?

: 王老师是新加坡国立大学语言学院的老师。她先生也是美国人。

: 是啊。我先生是(8)_____。他在新加坡学习(9)_____。
您的汉语真好。

: 谢谢, 我在新加坡国立大学学习汉语。

Vocabulary

Exercise B: Please find out the meaning of the terms you fill in.

Dialogue

Exercise C: Please practice the above dialogue with friends.

Answer of exercise A: (see next page)

Fig. 2: Excerpt from the handout of Unit 2 showing integrated listening, vocabulary and speaking tasks on Beijing opera

3.3.2 Korean 1 podcast

The coverage of the K1 podcast units were closely guided by the course syllabus. As mentioned above, the podcast was designed to provide further exposure to and practice in the topics, communicative functions and grammar covered by the K1 curriculum (see Table 4 for an overview of the content). Examples of these topics and functions are: introducing oneself; describing people and locations; making appointments; ordering food; and comparing Korean and Singaporean food.

Units	Topics/Communicative Situations/Language Skills
1	Topic: Introduction about LAK1201 podcast <ul style="list-style-type: none"> • Interview • Culture tip: Addressing a teacher • Korean language: Formal and informal styles in Korean language • Vocabulary and pronunciation exercises
2	Topics: Self-introduction and stating locations <ul style="list-style-type: none"> • Listening exercises • Vocabulary information • Culture tips: Korean names, Korean greeting manners
3	Topic: Introducing your friends. <ul style="list-style-type: none"> • Grammar information • Listening exercises • Culture tips: Greetings
4	Topic: Stating and describing locations <ul style="list-style-type: none"> • Grammar information and exercise • Speaking exercise • Listening exercises • Vocabulary exercise • Culture tip: Birthday
5	Topic: Describing activities <ul style="list-style-type: none"> • Pronunciation exercises • Listening exercises • Culture tip: Birthday song in Korean • Grammar information
6	Topics: Shopping and supermarket; Numbers <ul style="list-style-type: none"> • Listening exercises • Pronunciation information
7	Topic: Time <ul style="list-style-type: none"> • Grammar revision • Listening exercises
8	Topic: Making appointments <ul style="list-style-type: none"> • Listening exercises
9	Topic: Korean market <ul style="list-style-type: none"> • Listening exercises • Culture tip and expressions: About a Korean market
10	Topic: Korean food <ul style="list-style-type: none"> • Listening exercises • Culture tips: Korean food and table manners

Table 4: An overview of the Korean 1 podcast contents

In a striking parallel to the Chinese podcast projects, data collected from a previous study on an intermediate Korean podcast (Chi & Chan, 2009) similarly reveal a strong interest among students in Korean culture and society. In response to this finding, it was decided to increase the amount of culture information in the K1 podcast. Examples of culture topics are: formal and informal styles in the Korean language; Korean greeting etiquette; birthday customs and traditions; traditional food and beverages; and table etiquette. Figure 3 shows an example from Unit 10, a culture tip which informed students about Korean table etiquette. The inclusion of this culture tip was intended to complement a conversational situation taught in a previous lesson in class, and to enhance students' sociocultural knowledge and sociolinguistic competence.

[한국문화]



왕영: 선생님, 한국 음식을 먹어요. 그 때 에티켓이 있어요?

조 선생님: 네, 먼저 밥은 손가락으로 드세요. 그리고 반찬은 젓가락으로 드세요.


왕영 : 아참, 밥그릇을 들고 먹어요? 괜찮아요?

조 선생님: 밥 그릇을 들고 먹어요? 그러면 안 돼요.


왕영 : 네, 잘 알겠습니다.



밥그릇을 들다



손가락



젓가락

Fig. 3: Excerpt from the solutions sheet of Unit 10 showing a culture tip

Like the C1 podcast, another major objective of the K1 podcast was to develop students’ listening and speaking skills. Each unit thus contained conversations and narrations with listening tasks. Some of the comprehension questions were designed to be answered in speaking by the students to help improve their fluency. In the example in Figure 4, extracted from Unit 5, a student (played by an instructor) narrated about her teacher’s birthday party. The text was adapted from a similar reading text in the textbook. The narration was read twice, once at a normal, authentic speed and the second time at a lower speed. This was a design strategy first applied to an earlier intermediate Korean podcast (Chi & Chan, 2009) and was later adopted by the C1 podcast as well. Four comprehension questions were presented to students before and after listening. Figure 4 shows the solutions sheet with the exercise as well as the solutions and the transcript of the narration.

Typically, each unit also contained segments dedicated to grammar and vocabulary. These segments reviewed or elaborated on newly learned grammar from class, and were designed for students to reinforce their understanding of new structures and their usage. This was done in response to the findings from the earlier study conducted by Chi and Chan (2009), which indicate that students would like to have more grammar included in their podcast.

▶ Listening exercise 2

지금 한국어 선생님 집에 학생들이 많이 있어요. 무슨 일이 있어요? 그럼 다음을 잘 들어 보세요. 듣기 전에 질문을 들어 보세요. (before listening to it, listen to the following questions)

1) 어디에서 파티를 합니까? 2) 파티에 누가 갑니까? 3) 선생님은 무슨 선물을 받으셨습니까?

4) 무엇을 먹습니까?

오늘은 지 선생님 생일입니다. 지 선생님 거실에서 파티를 합니다. 초급반(beginner class) 친구들이 모두 갑니다. 선생님 집에 선생님 남편이 계십니다. 친구들이 모두 선물을 줍니다. 왕영 씨는 케이크를 줍니다. 선생님은 꽃을 좋아합니다. 그래서 밀리 씨하고 모하메드 씨는 장미꽃(rose)을 줍니다. 나오키 씨는 생일 축하 노래를 부릅니다.

“ 생일 축하합니다. 생일 축하합니다. 사랑하는 선생님, 생일 축하합니다.”

음식이 많습니다. 우리는 미역국하고 잡채를 먹습니다. 불고기도 먹습니다. 정말 맛있습니.

다 이해했어요? (did you understand all?) 다시 질문을 들어 보세요. 그리고 크게 대답해 보세요.

1) 어디에서 파티를 합니까? **지 선생님 집에서 파티를 합니다.**

2) 파티에 누가 갑니까? **초급반 학생들이 파티에 갑니다.**

Fig. 4: Excerpt from the solutions sheet of Unit 5 showing a listening task

4 Study

4.1 Objectives, participants and procedures

The current study drew on data collected by the Chinese and the Korean programmes through post-project evaluation questionnaires to seek answers to the research questions posed in Section 2 of this paper. 120 C1 students (71 females and 49 males out of the total enrolment of 179) and 61 K1 students (49 females and 12 males out of the total enrolment of 64) responded to respective questionnaires. Table 5 summarises the demographic background of the respondents. Further information about the participants had been reported in Section 3.1.

		Chinese 1	Korean 1
Average age		20.9	22.2
Gender	Male	49	12
	Female	71	49
Year of Study	1	64	2
	2	21	15
	3	14	29
	4	14	15
	Graduate and others	7	0
Faculty of Study	Arts and Social Sciences	21	22
	Engineering	23	7
	Science	27	17
	Design and Environment	16	2
	Business	17	5
	Computing	8	5
	Medicine	7	0
	Law	1	3

Table 5: Respondents' demographic information

The questionnaires used by both programmes were near-identical and were modelled after that used in a previous study conducted by Chan et al. (2011) at the same university. The anonymous questionnaires, comprising 57 items for Chinese and 55 items for Korean, were administered at the end of the semester to collect qualitative and quantitative data on: 1) the hardware, software and Internet resources available to students for podcast access; 2) students' podcast usage; 3) students' perceptions about the podcasts' usefulness and quality; and 4) students' attitudes towards podcast-based learning.

The questionnaires consisted of a mix of multiple-choice, multiple-response and open-ended items, organised in two parts. In Part 1, data were sought on the students' demographic background, the technology available to them for podcast access (e.g. PC and/or MP3 player, and Internet resources), and their previous experience with (educational) podcasting. Part 2 comprised three sections, with the first section containing items about the respondents' podcast usage, such as frequency and locations of podcast access, and the hardware/software used. Included in the second section were 5-point Likert-type items to ascertain students' perceptions of the podcast's usefulness and quality, including its design, content and technical production, as well as their attitudes towards podcast-based learning. The third section contained open-ended questions to elicit qualitative data on students' perceptions, suggestions for improvements and reasons for listening. The quantitative data were analysed statistically, using both descriptive (frequency analysis and computation of means) and inferential (One-way ANOVA) procedures, while the qualitative data were read, coded and then categorised according to the themes that emerged.

To verify the findings from the analysis of the questionnaire data and to provide further data triangulation, individual interviews were also conducted with 17 volunteers (9 C1 and 8 K1 students) drawn from the pool of questionnaire respondents from both courses. The interviews sought to gain insights into students’ reasons for learning the respective languages, their podcast use and access, their views about the podcasts’ design and content, their notions of and previous experience with podcasting, and their attitudes towards mobile learning.

4.2 *Selected results*

The questionnaire surveys generated a number of interesting findings, but owing to limitations in space, only the most relevant results will be reported here. In the subsequent sections, a comparative approach is applied in presenting the results. The results reported in 4.2.1 and 4.2.2 do not directly pertain to the research questions but provide important information for the interpretation of the C1 and K1 students’ perceptions and attitudes.

4.2.1 *Technical resources and podcast learning experience*

The data collected reveal that both C1 and K1 students have the necessary hardware, software and Internet resources to access the podcasts, both in their residences and on the move. Almost all C1 and K1 respondents possessed a laptop or notebook PC, while more than twice as many K1 students owned a desktop PC (see Table 6 for detailed statistics). One difference lies in the MP3 player ownership, with a substantially larger number of K1 students possessing an MP3 player. As no more than 8.2% in each group reported having had previous experience with language learning podcasts, it would appear that the vast majority of the respondents were new to podcast-based language learning.

	Chinese 1	Korean 1
Own a laptop or notebook computer	96.7%	98.4%
Own a desktop PC	30.8%	65.6%
Have broadband internet access in place of residence	87.5%	96.7%
Own a MP3 player	77.5%	96.7%
Have previous experience with language learning podcasts	7.5%	8.2%

Table 6: Technical resources and podcast learning experience

4.2.2 *Podcast access and usage patterns*

Although both podcasts were non-compulsory, high access rates were reported for both projects. 85% of the C1 and 96% of the K1 respondents reported accessing at least one unit of their respective course podcasts. However, while 40% of the K1 respondents listened to at least 80% of the Korean podcast units (i.e. eight of ten), only 22.5% of the C1 respondents accessed the same percentage of the Chinese podcast units (i.e. four of five). Of the students who did not listen to any unit at all, both C1 and K1 respondents cited time pressure as the main reason, saying that they were either too busy or had too heavy a workload. There were also isolated reports from C1 respondents that technical difficulties (such as the lack of familiarity with the podcast homepage and difficulties in downloading the podcast), laziness, and the non-compulsory nature of the podcast prevented or dissuaded them from listening.

Given that 60% of the C1 respondents lived on campus, it is not surprising that 40% reported listening to the podcast in their hostel rooms (see Table 7 for a summary of the data). In contrast, only 15.3% of the K1 respondents accessed the podcast in the hostel. Conversely, far more K1 than C1 respondents listened to the podcast at home. However, some of these students also accessed the respective podcasts outside their abodes. Herein lies a noticeable difference with nearly two and a half times more K1 respondents (38.7%) listening to the podcast outside of their homes

or hostel rooms (i.e. on the move and/or at other places on or off the campus) than C1 respondents (15.5%). These students listened while travelling in buses, mass rapid transit trains or cars, walking or jogging, or studying in the university library or computer rooms.

Students who preferred listening at home or in the hostel cited the more conducive and quieter environment, which allowed them to concentrate better, as the main reason. Another frequently cited reason was that the computers they used to access the podcast were located at home. Those who listened on the move felt that this was more convenient and enabled better time utilisation.

	Chinese 1	Korean 1
Home	47.5%	78%
Hostel	40%	15.3%
Other places on campus	9.8%	8.2%
On the move	5.9%	28.8%
Other places	0.8%	3.4%

Table 7: Locations of access

4.2.3 Students' perceptions and attitudes

Table 8 shows the mean scores for a selection of the 5-point Likert-type items designed to gauge students' perceptions of the podcasts' quality and usefulness, and their attitudes towards podcast-based learning. A complete frequency table for the respondents' responses can be found in Appendix A. As these items were near-identical in both the C1 and K1 questionnaires, a comparison of the mean scores given by the respondents is possible and will provide an indication of the differences in the perceptions of both groups of students.

In general, there was moderate to strong agreement among the C1 respondents with most of the statements about the quality and usefulness of the podcast (statements 1-11, 13-14 & 17-18), with moderate agreement assumed at a mean score of 3.50-3.99 and strong agreement at 4.00 and above. They remained neutral (i.e. they neither agreed nor disagreed) for statement 13 about the appeal of the topics included in the podcast. K1 respondents agreed with all the statements, and strong agreement was registered for 11 of the 14 statements pertaining to the K1 podcast in Table 8.

The differences in mean scores as well as the statistical significance of these differences (as determined through a one-way ANOVA) are also indicated in Table 8. For all common or comparable statements on the podcasts' quality and usefulness, the mean ratings given by the K1 respondents were higher than that of their C1 counterparts. With the exception of statement 10 on the usefulness of the vocabulary information and exercises, the difference in the mean scores achieved statistical significance. The difference for 12 of the items was in fact significant at the .01 level. This suggests that the K1 students had significantly more positive perceptions of their own course podcast than the C1 students.

For the last two items on students' attitudes towards podcast-based learning, statements 19 and 20, K1 respondents reported moderate agreement, while C1 respondents were neutral about them. The difference in the mean ratings was also found to be significant at the .01 level for both items. This suggests that the K1 respondents were more open to learning through podcasts in future and more motivated in their learning by their course podcast.

S/N	Statement	Chinese 1		Korean 1		Diff. in mean	One-way ANOVA	
		Mean	SD	Mean	SD		F	Sig
1	I find the number of podcast units to be appropriate.	3.59	.89	3.92	.677	-0.33	5.828	0.017*
2	I find the frequency of the podcast units to be appropriate.	3.73	.744	4.08	.501	-0.35	10.755	0.001**
3	I find the length of the podcast units to be appropriate.	3.66	.735	3.97	.715	-0.31	7.291	0.008**
4	I enjoy listening to the podcast	3.51	.850	3.92	.651	-0.41	9.803	0.002**
5	I find the listening exercises to be useful.	3.81	.687	4.12	.560	-0.31	8.86	0.003**
6	I find the speaking exercises to be useful	3.65	.801	4.03	.556	-0.38	10.586	0.001**
7	I find the pronunciation tips and exercises to be useful.	3.78	.625	4.20	.446	-0.42	21.25	<0.001**
8	The podcast lessons increase my grasp of new grammar structures/I find the grammar information and exercises to be useful.	3.53	.802	4.08	.501	-0.55	22.699	<0.001**
9	I find the information about Chinese/Korean culture and society to be useful.	3.72	.821	4.24	.625	-0.52	17.656	<0.001**
10	I find the vocabulary information and exercises to be useful.	3.90	.619	4.08	.566	-0.18	3.445	0.065
11	I find the topics on the whole to be relevant to my learning.	3.73	.689	4.24	.567	-0.51	23.198	<0.001**
13	The topics of the podcast appeal to my interest.†	3.37	.816					
14	I find the overall technical quality to be good.	4.02	.610	4.27	.485	-0.25	7.37	0.007**
17	I find the handout to be useful.	3.78	.828	4.27	.611	-0.52	16.035	<0.001**
18	I find the handout to be well-designed.	3.61	.822	4.07	.691	-0.46	13.091	<0.001**
19	After working with the Chinese 1/Korean 1 podcast, I am now more open to learning through podcasts in future.	3.35	.893	3.90	.712	-0.55	16.313	<0.001**
20	Listening to the Chinese 1/Korean 1 podcast has made me more motivated to learn the language.	3.33	.833	3.83	.723	-0.50	14.869	<0.001**

* significant at .05 level; ** significant at .01 level; † This item was included only in the C1 questionnaire.

Table 8: Students' perceptions of and attitudes towards Chinese 1/Korean 1 podcast

As the access and usage data had indicated that a much larger number of K1 students accessed the podcast on the move and outside their abodes (including places on and off campus), a one-way ANOVA was carried out to ascertain if there is a difference between the attitudes of those respondents who listened on the move/outside their abodes and of those who did not. The results are summarised in Tables 9 & 10. An interesting observation arising from this analysis is that respondents who learned on the move or outside their abodes had a significantly more positive attitude and were more open to podcast-based learning after the exposure to their course podcasts (see Table 9). Table 10 shows that the attitudes of those who listened on the move were even more positive and the differences in mean scores achieved significance for both attitudinal items.

Statement	Listened on the move, elsewhere on campus and other places		Listened at home/in hostel		Diff. in mean	One-way ANOVA	
	Mean	SD	Mean	SD		F	Sig
After working with the Chinese 1/Korean 1 podcast, I am now more open to learning through podcasts in future.	3.89	.854	3.45	.840	.44	7.508	.007**
Listening to the Chinese 1/Korean 1 podcast has made me more motivated to learn the language.	3.75	.770	3.46	.830	.29	3.520	.062

* significant at .05 level; ** significant at .01 level

Table 9: Differences in attitudes by location of access (on the move, elsewhere on campus and other places)

Statement	Listened on the move		Listened at home/in hostel		Diff. in mean	One-way ANOVA	
	Mean	SD	Mean	SD		F	Sig
After working with the Chinese 1/Korean 1 podcast, I am now more open to learning through podcasts in future.	4.17	.8650	3.46	.855	.71	14.727	<.001**
Listening to the Chinese 1/Korean 1 podcast has made me more motivated to learn the language.	3.87	.694	3.46	.830	.41	4.919	.028*

* significant at .05 level; ** significant at .01 level

Table 10: Differences in attitudes by location of access (on the move)

The qualitative data collected through the open-ended items provided evidence that corroborated the findings from the quantitative analysis. The qualitative statements indicate that both C1 and K1 respondents were generally positive about the quality and usefulness of the podcasts' design and content. Examples of such statements are:

C1

The podcast units are enjoyable and relaxing to listen to. The frequency is reasonable. The length is just fine and the quality is excellent.

The quality is quite good and clear. Interesting content as well.

The content is useful.

K1

Overall they are useful and interesting.

The content is quite comprehensive and impressive for students to get a clear concept on grammar and pronunciation.

The length is just nice.

However, some of the C1 respondents felt that the podcast added to their heavy course workload, as the following comments indicate:

C1

The podcast units are well-organized. The only problem is that students might not have enough time for studying the podcasts. Textbook itself could be a burden.

I find that we already have a lot of work in Chinese and it is hard to keep up. So I don't have time or the want to put any more effort into the podcast units.

In addition, some of the statements seem to suggest that the podcast contents did not quite meet the C1 respondents' learning needs and expectations. These respondents were apparently hoping that the podcast would help improve their ability to use the Chinese language in their daily lives in the Singapore context:

C1

Content should focus more on the usage of the language in Singapore.

I think the topics should be more relevant to our daily lives. I do not find knowing more about the culture useful even though it's interesting to know.

In comparison, critical comments from K1 respondents were more isolated and did not seem to indicate any specific trend. Two examples of such statements are reproduced below. While one felt that the podcast duplicated the classroom lessons, another expressed his/her dislike for auditory learning:

K1

Practice in class makes the podcast somewhat redundant.

The podcast, as it is a foreign language to us, needs high concentration. Thus I find it really uncomfortable to learn a language by listening.

The respondents were also asked for their reasons for listening and their expectations of the podcasts. Many stated multiple reasons or expectations. Of these, the single most important reason is the desire to improve their language skills, cited by 54.2% of C1 respondents and 95% of K1 respondents. Among the specific skills stated explicitly, listening was the most frequently mentioned (by 20% of the C1 and 36.1% of the K1 respondents). This was followed by speaking, vocabulary (both at 10%) and pronunciation (8.3%) for C1, and pronunciation (29.5%) and speaking (11.5%) for K1. In the following is a selection of such statements:

C1

Chinese is a very new language to me and I hope to improve my listening and speaking skills.

Expected to memorize new vocabulary better/even though I am a visual learner. I've found that listening somehow allows me to recall vocabulary better. Increase listening and pronunciation ability.

K1

To help me improve in my listening.

To brush up on pronunciation and listening.

To see how to carry out conversations in Korean fluently.

In addition, a considerable number of the K1 respondents expressed an interest in learning more about the Korean culture, with 18% stating this as their reason for listening and 14.8% suggesting more culture topics for future podcasts, including Korean pop culture, lifestyle and society. Among the C1 respondents, 10% cited this as one of their reasons for listening and 19.2% suggested including more culture information in future podcasts. Some of these statements are as follows:

C1

More about the Chinese culture, older and current. Perhaps pop culture too.

I would prefer to listen to more cultural tips so that I learn more about the Chinese culture.

K1

More knowledge about Korean culture.

More cultural tips

4.3 Discussion

The comparison of the quantitative data from both projects has revealed that K1 students had more positive perceptions of the quality and usefulness of their course podcast and a more positive attitude towards podcast-based learning than their C1 counterparts. The K1 podcast also achieved a higher access rate; almost twice as many K1 students (40%) listened to 80% of the podcast units as the C1 students (22.5%). There is evidence from the questionnaire and interview data to suggest that there may be four main reasons for this situation: 1) differences in the podcast objectives and learning motivation; 2) relevance of podcast design and topics; 3) teacher encouragement; and 4) the experience of mobile learning.

4.3.1 Podcast objectives and learning motivation

There are a number of similarities in the objectives of both the C1 and K1 podcasts (see Sections 3.1 and 3.2). Both podcasts are non-compulsory and intended to supplement students' classroom learning, but one potentially crucial difference lies in the aim of the C1 podcast to promote podcasting as a relaxing and less stressful means of learning, while the K1 podcast had an emphasis on enabling mobile learning (see also Chi & Chan, 2011). C1 lecturers had informed their students about the podcast, but did not play the units in class or provide constant reminders or encouragement to listen to it, as they wanted to avoid creating additional pressure and thus a stress situation for students. They also did not inform students explicitly about the mobile capabilities of a podcast or demonstrated how it can be subscribed to and synchronized with mobile devices. The effects of this will be discussed at greater length in Section 4.3.3 which looks at the significance of teacher encouragement.

The C1 objective of promoting podcasting a relaxing means of learning may have led students to perceive the podcast as a form of light, leisure listening and less as a tool of learning. This may have had an adverse effect on their perceptions. As Weidenmann (2006) asserts, if learners view a medium essentially as a form of entertainment rather than serious learning, they will 'consume' the medium rather than engage in deep processing of the learning content transmitted by the medium. He argues that learners are far more likely to associate learning and educational content with print media materials than with media like television or film. Kosbiech (1976) concludes through his study that, given a choice, learners would prefer to learn from text-based rather than film-based materials when they have to study the materials for a subsequent test. There is corroborating evidence from the interviews conducted for the current study that many C1 students may not have fully grasped the podcast's potential for learning as they perceived it as a form of light and easy listening or associated it with radio entertainment and/or news. Such notions of a podcast were expressed by four of the nine interviewees¹. In the following are statements from two of them about their notions of a podcast:

Something nice to listen to, I hope. Yeah... it has to be nice to listen to... and definitely easier to listen to... nice as in like... entertaining? (Andrew)

Oh, before this, I didn't expect... academic content. Like I said, just I listened to the football commentators on podcast... and entertainment stuff like that... I never associated academic material with a podcast. (Joshua)

This view of podcasting was less evident in the K1 interview data. Only one student vaguely associated it with "music" and "practical issues" (meaning possibly current affairs), while others cited keywords like "technology", "on the move", "audio recording", "voice recording", "conversations" and "people talking", which are closer to the common definitions of a podcast in the Internet².

The impact of the C1 students' notions of a podcast may have been exacerbated by a strong instrumental orientation towards learning, which seems evident in the following C1 interview excerpts:

Actually I listened, but I just focused on the textbook one [audio], which is the official one. She [the teacher] said that, "I will test you [on this]". So, sometimes for my own reason... oh, [I] see, we are not tested [on the podcast], then I will come back [to it] later. I will come back [to it] when I have time later. Now I will just focus on what she will test me, not on this one [podcast]... Test, assignment, quiz will be a very big motivation for me to self-study. (Nancy)

I prefer that it [the podcast] can help my module... so when I have the exam, right, I can remember either the podcast or the lecture or the tutorial. (Yenni)

In all, five of the interviewees seemed to be largely motivated by the expectancy of better academic performance in deciding if they would listen to the podcast. There was also evidence in the qualitative questionnaire data which suggest that grades and academic success are important as motivational factors:

C1

I listened only once because I wanted to know what it is like. Then I don't listen anymore because I found out it wasn't included in the test.

Listened to only 1. I found the podcast to be quite interesting but since it wasn't tested I stopped listening to it.

It would not be surprising that students with a strong instrumental orientation towards their studies would be less motivated to access a podcast which does not directly contribute towards their course assessment and is perceived as light listening and entertainment. This is consistent with Ho et al.'s (2010) finding that performance expectancy has the most significant impact on learners' intent to use a podcast. This may also have had a negative effect on their perceptions and attitudes regarding the C1 podcast.

4.3.2 Podcast design and topics

While both the C1 and K1 podcasts employed a radio magazine presentation style, there were a number of distinct differences in the design of both podcasts. As Table 2 shows, the K1 podcast had twice as many units as the C1 podcast (ten vs. five), and was broadcast weekly rather than fortnightly. The K1 podcast was also shorter, averaging 10 minutes per unit to the C1 podcast's 13 minutes.

Data from the interviews with C1 and K1 students suggest that there is a clear preference for shorter but more frequent podcast units. Five C1 and six K1 students stated a preference for weekly podcasts, while five C1 and three K1 students were of the opinion that a podcast unit should ideally be no longer than ten minutes. This seems consistent with suggestions given by respondents to the C1 questionnaire that called for more (eight comments) and shorter (five comments) podcast units:

C1

Weekly podcasting would be better.

Maybe increase the frequency but shorten the podcast.

Podcasts should not be too lengthy. About 5-10 minutes at best. To compensate, we can have more than 5 podcasts, that is, small bite but more frequent.

In contrast, only two of the K1 respondents had expressed a wish for a shorter podcast and there were no negative statements about the weekly frequency of the K1 podcast. It would appear that the design of the K1 podcast had met the audience's general expectations better than that of the C1 podcast, particularly with regard to frequency and length. This could have been one factor that contributed to the differences in the perceptions of both groups of respondents.

In planning the content, the C1 lecturer producing the podcast had reacted to the findings of an earlier study (Chin et al., 2010) which recommended the addition of more information on Chinese culture and society, and more language practice. In selecting topics, the lecturer had followed mainly the progression of the C1 textbook, which was authored in Beijing for a broad, international target group of learners and was thus not geared to meet the specific needs of C1 students in the local Singaporean context. The qualitative questionnaire data collected suggest that many students had hoped to be informed about Chinese language usage in the local context to enable them to communicate better in daily situations:

C1

Content could focus more on the usage of the language in Singapore.

Conversational exercises (actual conversations of students/locals).

I think more everyday topics, such as purchasing things, taking public transport etc. to make them a little more useful, teaching expressions to use the language practically.

Besides the heritage learners of Chinese descent, all the other four interviewees cited the wish to use the language in their social circle or the local community as a key reason for learning Chinese. In the following are excerpts from two interviews:

[...] when I come to Singapore, I feel that not knowing anything about Chinese [is] my biggest disadvantage. Yeah, at school I still can communicate with friends and lecturers, but when you are outside ... oops, big problem. (Angela)

Actually, I took it for a very practical reason, as I live in Singapore and the majority of Singaporeans are Chinese. (Ranjit)

The C1 podcast included mainly topics that were related to the Beijing-produced textbook and tended to focus more on traditional Chinese culture such as the New Year festival, Beijing Opera and regional cuisine in China rather than the local culture or daily communication in the local context. While previous research findings (Chin et al., 2010) and a substantial number of qualitative comments from the C1 questionnaire data point to a considerable interest in Chinese culture and society, it would appear that these topics would meet the needs and expectations of only a part of the listeners.

4.3.3 Teacher encouragement

As podcasting is still a relatively young medium and the vast majority of C1 and K1 students had no previous podcast learning experience (only app. 8% of students in each group reported having previously learned a language through podcasts), teacher encouragement and guidance

becomes an important element in promoting the use of the course podcasts and a positive attitude towards them. Chan et al. (2011) have recommended preparing learners by demonstrating course podcasts and their features in class, and equipping them with the technical knowledge to use and subscribe to them. They also propose that the podcasts be integrated with classroom lessons to enhance learners' motivation to access the podcasts. Abdous et al. (2009) have similarly concluded that in-class training on podcast subscription and downloading may be necessary to promoting podcast use.

Communications with the C1 and K1 lecturers has revealed that K1 lecturers had promoted the K1 podcast more actively during the lectures and demonstrated how students can access the podcast homepage and subscribe to the podcast through "iTunes". Chi and Chan (2011) have previously reported that this can have a motivating effect on students. They have ascertained that students in a class which received more encouragement to engage in mobile learning listened more frequently on the move and used their MP3 players more than students in another class. In addition, the students who received more encouragement displayed a more positive overall attitude towards the podcast. In their study, Ho et al. (2010) conclude that the influence of people important to potential users can have a significant positive impact on their podcast access intent. We thus reason that, for the university courses discussed in this paper, lecturers' encouragement and personal commitment can make a telling difference.

There is evidence from the interview data to support this view. Six of the eight K1 interviewees agreed that their lecturers' encouragement was an important motivational factor. In fact, three of these six said they listened to the podcast out of appreciation for their lecturers' effort. The following excerpts confirm the importance of teacher encouragement to these students:

K1

Yes, Ms C [the Korean lecturer] encouraged us to listen to the podcasts, almost every lesson. I felt that I would be letting her down and her effort to produce the podcasts would go to waste if I didn't listen. I guess her encouragement does help to influence more students to listen. (Kim Yong)

We knew she put a lot of work in it [the podcast] and when she encouraged us more, she wanted it for the best of our interest. So, it actually motivated us more. (Jamilah)

Four of the nine C1 interviewees also pointed to the importance of teacher encouragement, though the C1 lecturers apparently did not try as hard to encourage students. The reason for this was reported in Section 4.3.1 and was related to one of the podcast objectives. The podcast was played in class only relatively late in the semester, after four of five units had been published.

The strong appreciation that the K1 students had for their lecturers' efforts and constant encouragement may have created a positive disposition among them, resulting in more positive perceptions and attitudes regarding the podcast. This would explain the fact that the K1 podcast received significantly better mean ratings than the C1 podcast for almost all items in the questionnaire – even for technical quality, which was found to be of negligible difference for both podcasts.

4.3.4 Mobile learning and attitude towards podcast-based learning encouragement

The results of the quantitative analysis suggest that those students who engaged in mobile learning (i.e. those who listened to the podcast on the move and/or outside their abodes) were significantly more open to learning through podcasts after the exposure to their course podcasts (see Tables 9 and 10). In addition, students who listened on the move were also more motivated by the podcasts to learn the respective target languages (see Table 10).

We propose that this link can be explained by the fact that the portability of the podcast medium is one of its most distinctive features and advantages. This makes it easy for learning content to be transported and accessed on a mobile device, be it a basic MP3 player, an iPod or an iPhone with its advanced features (such as on-screen iPod notes). Students who have experienced

and become accustomed to learning on the move are more likely to appreciate the mobility and portability of this medium, which allows them to better utilize their time, as the following explanations for listening on the move indicate:

C1

Make use of the travelling time to school and back home.

On the move – to repeat and use the time in the MRT.

K1

Make use of whatever time I have to listen.

Convenient to listen while on the bus when there's nothing much to do.

The current study has established that a larger percentage of K1 students had listened on the move. 28.8% of the K1 students had done so, compared to only 5.9% of the C1 students. This may have been in part due to the students' background, with the C1 course having a larger number of non-graduating students who lived mostly on campus and thus had no need to travel for long hours. However, it appears likely that it was also related to the K1 lecturer's efforts in encouraging mobile learning, which may have led to more students listening on the move and thus to more positive attitudes towards podcast-based learning. The converse may also be true; that is, by influencing students' attitude towards podcast-based learning in a positive manner (e.g. by informing them about the benefits), it may also make them more amenable to mobile learning

5 Conclusion and implications

The fact that no more than 7.5% and 8.2% of the C1 and K1 students had previously learned a language through a podcast, respectively, is a clear indication that educational podcasting is still very much in its infancy. There have been to date few attempts in the literature to put forward pedagogical principles for the design of language learning podcasts that are based on extensive empirical data. The current study was premised on the belief that data on students' perceptions of and attitudes towards language learning podcasts can provide insightful indicators of their usefulness for students' learning and their relevance in relation to students' learning needs and expectations. It compared data collected from C1 and K1 students through questionnaire surveys and semi-structured interviews to: ascertain their perceptions and attitudes regarding their course podcasts; establish if there were differences in their perceptions and attitudes; and determine the reasons for these differences. The findings are expected to provide insights for the design and implementation of future podcast projects and to contribute towards the development of a pedagogy of foreign language podcasting.

This study has revealed that both C1 and K1 students had positive perceptions of the quality and usefulness of their course podcasts, though the K1 students' perceptions were significantly more positive than that of their C1 counterparts. In addition, K1 students also reported being significantly more open to podcast-based learning after their semester-long exposure to podcasting. Based on the analysis of the questionnaire and interview data, this paper would like to propose the following four factors to explain the differences in the perceptions of the C1 and K1 students: 1) the C1 podcast objectives and students' instrumental learning motivation; 2) the mismatch between some aspects of the C1 podcast design (length, frequency and topics) and students' expectations, needs and preferences; 3) differences in the level of teacher encouragement and student preparation; and 4) the influence of the experience of mobile learning on students' attitudes.

One obvious implication for podcast design is the need to match learners' needs and expectations better. As a considerable number of learners had indicated a wish for shorter podcasts, the C1 lecturers might wish to consider reducing the length of their podcast units to ten minutes or less. Yet, pedagogical needs might dictate otherwise. For instance, it might be difficult for the intended learning content to be accommodated in a podcast of less than ten minutes, especially if it is to

cover the range of language practice, culture and everyday conversational topics desired by the C1 students. While this is not impossible, it will require careful planning. It can be accomplished, for example, by increasing the frequency of the podcast (e.g. from fortnightly to weekly units). This will in fact help meet another preference expressed by the C1 students, namely for more frequent podcast units. At the same time, listening on a more regular basis may in fact help learners cultivate the habit of learning through podcasts and make them more receptive to this medium.

Another frequent suggestion by some C1 students concerns the 'localization' of the podcast content to help learners apply what they have learned in the local context. Most likely, this can be attributed to the fact that the course textbook, produced in Beijing, does not include materials directly related to the variant of the language spoken in Singapore or to communicative situations in the local context. However, this does not mean that topics with a local flavour should entirely replace the more traditional cultural topics included in the current podcast, as there were as many, if not more, students who expressed an interest in traditional culture. In fact, three of the eight interviewees had reported finding the unit on Beijing opera to be appealing. It would appear that striking the right balance between different topics of interest would be the best approach to take in selecting and determining podcast content. Surveys of learners' perceptions or a needs analysis prior to the semester would represent constructive means to elicit information to plan a podcast's content.

Consideration should also be given to the common notions held by students about podcasting. Many of the students had apparently associated the medium with radio programmes containing entertainment or news content rather than with education. We would however caution against the premature conclusion that educational podcasts must be made decidedly unentertaining in order to counter such notions of podcasting. Instead, one should aim to create podcasts that fulfil both serious pedagogical objectives as well as students' expectations of an enjoyable listening experience. After all, research has long acknowledged that affective and cognitive variables such as emotions, curiosity and interest can have significant bearing on learning and learning motivation (see e.g. Reinmann, 2004). Weidenmann (2006) points to an increasing trend towards edutainment and describes how developers of educational materials, especially e-learning materials, are increasingly incorporating elements from the entertainment industry in their materials to stimulate learner interest. Finding the right balance of content to match learners' expectations, as proposed above, will surely be one way to make the podcast more enjoyable to them. Another possible way to enhance a learning podcast's attractiveness would be to intersperse the learning content with music and songs that appeal to learners, but are also relevant to the content (e.g. a song which contains multiple instances of a target structure or is thematically related to a particular topic).

To ensure that learners realise the learning potential of their podcast, it is vital that teachers inform them about the objectives, content and benefits of the podcast. As we have seen from our study, constant and strong teacher encouragement can predispose learners positively towards a language podcast and possibly lead to more positive perceptions and attitudes. The K1 lecturers' encouragement to their students to access the podcast and to do so on the move may have helped them gain a better appreciation of the mobility and portability of podcast-based learning, and made them more receptive to podcasting. As proposed by Chan et al. (2011), teachers should provide clear and comprehensive information about the technical requirements and knowledge necessary for podcast access and subscription. In addition, by integrating the podcast with classroom lessons, teachers can not only demonstrate its relevance for their students' learning, but also express their own commitment to this new educational medium.

Even as an increasing number of studies in recent literature have started to address the dearth of empirical research on educational podcasting, much more needs to be done for a complete picture of how podcasting can contribute to meaningful and effective language learning. More extensive data need to be collected on podcast projects based on different design objectives and principles, and for learners of different backgrounds. This is necessary to develop a comprehensive pedagogy of foreign language podcasting. The usage and perception data presented in this paper have informed us about how learners use and perceive language learning podcasts, and – to some

extent – what motivates them in accessing such podcasts. However, studies based on perception data do not offer conclusive evidence of the effectiveness of different podcast designs in improving learning outcomes. To achieve this, effectiveness studies are called for which systematically control various variables contributing to learning outcomes and employ objective proficiency measures (such as pre- and post-treatment proficiency tests). Given the growing interest in the use of podcasting in language learning, it will just be a matter of time before this and other issues – such as learners' processing of podcast tasks, and motivational and affective aspects of podcast-based learning – are more intensely studied and documented.

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Notes

¹ The interviewees' names have been replaced by randomly selected pseudonyms.

² A collation of such definitions can be obtained by typing the keywords "define:podcast" on the Google search engine (<http://www.google.com>). The search results are too extensive to be reproduced here.

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.
- Cebeci, Z., & Tekdal, M. (2006). Using podcasts as audio learning objects. *Interdisciplinary Journal of Knowledge and Learning Objects*, 2, 47–57.
- Chan, W.M. (in press). *Der Einsatz vom Podcast im DaF-Unterricht: Ein Vehikel zur Landeskunde-vermittlung*. In R. Maeda (Ed.), *Transkulturalität: Identitäten in neuem Licht*. Munich: Iudicium.
- Chan, W.M., Chen, I.R., & Döpel, M. (2011). *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). London: Routledge.
- Chi, S.W., & Chan, W.M. (2009, December). Mobile Korean language learning: Podcasting as an educational medium. Paper presented at the Korean Language International Symposium to celebrate the 60th Anniversary of Kyung-Hee University, Seoul, South Korea.
- Chi, S.W., & Chan, W.M. (2011). Learning beyond the classroom: Language podcast as supplementary learning material. *Ubiquitous Learning*, 3(2), 21–39.
- Chin, K.N., Lin, C.Y., & Chan, W.M. (2010). Mobile learning – Podcasting for Chinese language learning. In D.B. Xu, J. Da & P. Zhang (Eds.), *Conference Proceedings of the Sixth International Conference and Workshops on Technology and Chinese Language Teaching* (pp. 26–34). Columbus, OH: National East Asian Language Resource Center, Ohio State University.
- Edirisingha, P. (2006). The "double life" of an i-Pod: a case study of the educational potential of new technologies. Paper presented at Online Educa 2006, Berlin, Germany. Retrieved from <http://hdl.handle.net/2381/406>
- Ho, C.-T.B., Chou, Y.-T., & O'Neill, P. (2010). Technology adoption of mobile learning: A study of podcasting. *International Journal of Mobile Communications*, 8(4), 468–485.
- Kosbiech, K. (1976). The importance of perceived task and type of representation in student response to instructional television. *Audiovisual Communication Review*, 24, 401–411.
- 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/>
- McCarty, S. (2005). Spoken Internet to go: Popularization through podcasting. *The JALT CALL Journal*, 1(2), 67–74.
- 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.
- Reinmann, G. (2004). *Gestaltung von E-Learning-Umgebungen unter emotionalen Gesichtspunkten*. In D. Euler & S. Seufert (Eds.), *E-Learning in Hochschulen und Bildungszentren* (pp. 353–371). Munich: Oldenbourg.

- 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.
- Weidenmann, B. (2006). *Lernen mit Medien*. In A. Krapp & B. Weidenmann (Eds.), *Pädagogische Psychologie* (5th ed., pp. 423–476). Weinheim: Beltz.
- Young, D.J. (2007). iPods, MP3 players and podcasts for FL learning: Current practices and future considerations. *The NECTFL Review*, 60, 39–49.

Appendix A

Frequency and means for questionnaire items on students' perceptions and attitudes regarding the Chinese 1 (C1) and Korean 1 (K1) podcasts

S/N	Statement	Course	Frequency of responses (percentages)					Mean	SD
			1	2	3	4	5		
1	I find the number of podcast units to be appropriate.	C1	3.9	7.8	21.4	59.2	7.8	3.59	.890
		K1	0	5.1	11.9	69.5	13.6	3.92	.677
2	I find the frequency of the podcast units (once a week) to be appropriate.	C1	1.9	2.9	24.3	62.1	8.7	3.73	.744
		K1	0	1.7	3.4	79.7	15.3	4.08	.501
3	I find the length of the podcast units to be appropriate.	C1	1.0	7.8	20.4	66.0	4.9	3.66	.735
		K1	0	5.1	5.1	78.0	11.9	3.97	.615
4	I enjoy listening to the podcast units.	C1	1.9	8.7	34.0	46.6	8.7	3.51	.850
		K1	0	1.7	20.3	62.7	15.3	3.92	.651
5	I find the listening exercises to be useful.	C1	0	5.8	17.5	67.0	9.7	3.81	.687
		K1	0	1.7	5.1	72.9	20.3	4.12	.560
6	I find the speaking exercises to be useful.	C1	1.9	6.8	23.3	60.2	7.8	3.65	.801
		K1	0	0	13.6	69.5	16.9	4.03	.556
7	I find the pronunciation tips and exercises to be useful.	C1	0	3.9	21.4	68.0	6.8	3.78	.625
		K1	0	0	1.7	76.3	22	4.20	.446
8	The podcast lessons increased my grasp of new grammar structures/I find the grammar information and exercises to be useful.	C1	1.9	7.8	31.1	53.4	5.8	3.53	.802
		K1	0	0	8.5	74.6	16.9	4.08	.501
9	I find the information about Chinese/Korean culture and society to be useful.	C1	1.0	5.8	28.2	50.5	14.6	3.72	.821
		K1	0	0	10.2	55.9	33.9	4.24	.625
10	I find the vocabulary information and exercises to be useful.	C1	0	2.9	15.5	69.9	11.7	3.90	.619
		K1	0	1.7	6.8	72.9	18.6	4.08	.566
11	I find the topics on the whole to be relevant to my learning.	C1	1.0	3.9	23.3	65.0	6.8	3.73	.689
		K1	0	0	6.8	62.7	30.5	4.24	.567
12	I find the songs to be appealing.	C1	3.9	21.4	39.8	29.1	5.8	3.12	.942
		K1	-	-	-	-	-	-	-
13	The topics of the podcast appeal to my interest.	C1	1.9	13.6	32.0	50.5	1.9	3.37	.816
		K1	-	-	-	-	-	-	-
14	I find the overall technical quality to be good.	C1	0	1.9	11.7	68.9	17.5	4.02	.610
		K1	0	0	1.7	69.5	28.8	4.27	.485
15	I find the audio to be sufficiently clear.	C1	0	1.9	9.7	58.3	30.1	4.17	.673
		K1	0	0	0	57.6	42.4	4.42	.498
16	I find the intro/extro music and the musical interludes appropriate/enjoyable.	C1	2.9	11.7	43.7	36.9	4.9	3.29	.847
		K1	-	-	-	-	-	-	-
17	I find the handout to be useful.	C1	1.9	2.9	27.2	51.5	16.5	3.78	.828
		K1	0	0	8.5	55.9	35.6	4.27	.611
18	I find the handout to be well-designed.	C1	2.9	2.9	34.3	50.0	9.8	3.61	.822
		K1	0	0	20.3	52.5	27.1	4.07	.691
19	After working with the Chinese/Korean podcast this semester, I am now more open to learning through podcasts in future.	C1	2.9	13.6	35.0	42.7	5.8	3.35	.893
		K1	0	1.7	25.4	54.2	18.6	3.90	.712
20	Listening to the Chinese/Korean podcast in this semester has made me more motivated to learn the language.	C1	2.9	9.7	43.7	38.8	4.9	3.33	.833
		K1	0	0	35.6	45.8	18.6	3.83	.723

N.B. n = 120 (C1) & 61 (K1); 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree; SD – standard deviation; statements 12, 13 and 16 were included only in the C1 questionnaire.