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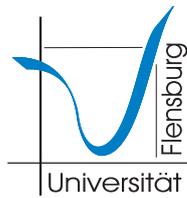
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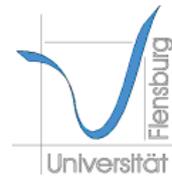
Joint Research Paper Series: International Institute of Management and Department of Border Region Studies

The Department of Border Region Studies at the University of Southern Denmark and the International Institute of Management at the University of Flensburg have established a joint research paper series to further institutionalise the long-standing relationships between the two departments that is reflected in joint teaching programmes as well as joint research activities. The aim of the joint series is to establish a platform to further foster and develop this cooperation in the border region of Sønderjylland/Schleswig. The joint research paper series is open to contributions from the field of business, regional economics, social sciences, linguistics and culture studies as well as other topics researched by colleagues from both institutions. For more details with regard to our research and teaching activities please see www.sdu.dk/ifg and http://www.iim.uni-flensburg.de.

Contributions to the Joint Research Paper Series are going through a review process, i.e. papers submitted by a colleague from the Department of Border Region Studies are reviewed by a colleague from the International Institute of Management and vice versa. Joint papers go to a third institution for review. The papers should be formatted according to the Academy of Management Journal Style Guide for Authors (http://journals.aomonline.org/amj/style_guide.html). Further, the papers if possible should be in English and contain a Danish and a German abstract as well as up to six relevant keywords.

Danish-German Research Paper No. 2:

Podcasting in Higher Education: Students' Usage Behaviour

Simon Fietze[*]

Zusammenfassung

At German universities, podcasting is still a relatively new method of teaching and learning, on which only few studies are available so far. The present report aims to describe students' usage behaviour and their assessment of podcasting. The findings are based on a survey of students at the University of Flensburg, who took part in lectures recorded and made available as podcasts during the 2007 summer term and 2007/08 winter term. A total of 148 students took part at the two survey sessions.

The majority of the surveyed students are inexperienced in the use of podcasts, as the descriptive results show. For most of the respondents, lecture podcasts were their first contact with this medium. Mainly a notebook is used to listen – at home – to the podcast of the recorded lecture. The focus in this regard is on playing back or catching up on the lecture at a later point in time. The main purpose for the students is to systematically prepare ahead of written tests and examinations. Slightly more than half of the respondents consider the opportunity to use podcasts to be no substitute for attending lectures. A clear factor in the success of lecture podcasts is that they are available with no cost involved. Another important factor is that the students can reuse and replay the recorded lecture. Podcasts are considered a possibility to assimilate the contents of lectures better and more efficiently. Students who do not use lecture podcasts justify this by stating that they have difficulties in learning with a computer.

Keywords: podcasting, podcast, higher education, usage behavior

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Zusammenfassung

Podcasting an Hochschulen in Deutschland ist noch eine relativ neue Lehr- und Lernmethode, zu der bisher wenige Untersuchungen vorliegen. Ziel des vorliegenden Berichts ist es, das Nutzungsverhalten und die Bewertung von Podcasting durch Studierende darzustellen. Die Ergebnisse basieren auf einer Befragung von Studierenden der Universität Flensburg, die im Sommersemester 2007 und Wintersemester 2007/08 an Vorlesungen teilgenommen haben, die als Podcast aufgezeichnet und bereitgestellt wurden. An den zwei Befragungszeitpunkten nahmen insgesamt 148 Studierende teil.

Die deskriptiven Ergebnisse zeigen, dass die Mehrheit der befragten Studierenden unerfahren im Umgang mit Podcasts ist. Der Veranstaltungspodcast war für die meisten Befragten der erste Kontakt mit diesem Medium. Überwiegend wird das Notebook genutzt, um die aufgezeichnete Vorlesung – zuhause – anzuhören. Das Wieder- oder Nachholen der Veranstaltung steht dabei im Mittelpunkt. Hauptzweck für die Studierenden ist die gezielte Vorbereitung vor der Klausur. Knapp über die Hälfte der befragten Studierenden sehen in dem Podcastangebot keinen Ersatz für den Besuch der Lehrveranstaltung. Klarer Erfolgsfaktor des Veranstaltungspodcast ist, dass er kostenlos angeboten wird. Ebenfalls wichtig sind den Studierenden die Wiederverwendbarkeit und Wiederholung der aufgezeichneten Lehrveranstaltung. Der Podcast wird als eine Möglichkeit angesehen, sich den Lernstoff der Veranstaltung besser und wirksamer aneignen zu können. Studierende, die den Veranstaltungspodcast nicht nutzen, begründen dies damit, dass ihnen die Wissensaneignung am Computer schwer fällt.

Keywords: Podcasting, Podcast, Hochschule, Nutzerverhalten

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Sammenfatning

På tyske universiteter er podcasting stadigvæk en forholdsvis ny metode for undervisning og lære, hvor der indtil videre kun foreligger få undersøgelser om. Målet med denne rapport er at beskrive studerendes brugeradfærd og vurdering af podcasting. Resultaterne baserer på en undersøgelse af studerende ved universitetet i Flensborg, som deltog i forelæsninger i sommer semesteret 2007 og vinter semesteret 2007/08, som blev stillet til rådighed som podcasts. I alt deltog 148 studerende på de to undersøgelses tidspunkter.

De deskriptive resultater viser, at de fleste af de adspurgte studerende er uden erfaring i brugen af podcasts. For de fleste af respondenterne var forelæsningspodcasten den første kontakt med denne medie. Hovedsagelig bruges en bærbar computer til at lytte - derhjemme - til podcasterne af den optagede forelæsning. Fokus for studerende er i denne forbindelse at høre igen eller indhente det forsømte stof af forelæsningen på et senere tidspunkt. Formålet for de studerende er systematisk at forberede sig til de skriftlige prøver og eksamener. Lidt mere end halvdelen af de adspurgte overvejer at bruge podcasten som substitut for at deltage i forelæsningen henholdsvis undervisningen. En klar succes faktor af forelæsningspodcasten er, at den er gratis tilgængeligt. Podcasten er for de adspurgte studerende en mulighed for at tilegne sig indholdet af forelæsningen bedre og mere effektivt, da den kan afspille den optagede forelæsning igen og igen. Studerende, som ikke bruger forelæsningspodcasten begrunder dette med, at de har problemer med at forberede sig på eksamen med en computer.

Keywords: podcasting, podcast, videregående uddannelse, bruger adfærd

1 Introduction

In the world of today, modern information and communication technologies (ICT) are an integral part of academic research and teaching. Lecturers and teaching staff prepare lecture materials and make presentation slides, texts and academic work available to the students via learning platforms and management systems. Another element of so-called e-learning is the recording of lectures, colloquia, etc., whereby the lecturer has an audio and/or video recording of his lecture made and places it at the disposal of the students via the Internet or a learning management system. The file formats and also the mode of distribution to the students may vary considerably. The recording of the lecture can be made available as an audio or video stream via a website, as a file to be downloaded, or as a podcast via RSS feeds[1].

Podcasting[2] is still a relatively new technology that, also in Germany, has found its way from the entertainment to the education sector in the last three to four years. Also German universities, for instance, are now showing a keen interest in podcasting as a teaching aid. This is reflected in, among other things, the fact that the number of podcasts publicly made available by universities and technical colleges has skyrocketed since 2008 (cf. iTunes list of podcasts, etc.). Interviews with German, Austrian and Swiss experts moreover have led to the finding that "the recording of academic lectures is widespread but not widely researched." (Breuer & Breitner, 2008, p. 25). In Germany, for example, 59% of the interviewed universities (also) use podcasts to record lectures etc. and to make them available to the students (Breuer & Breitner, 2008).

The blanket-coverage availability of high-speed Internet connections in the near future, the increasing number of MP3 players, as well as freely available and easy-to-use software give rise to the assumption that the use of podcasts will continue to increase in future (through "personal broadcasting"[3]), also in higher education. Personal broadcasting is "at the leading edge of a wave that will last for the next several years. [...] From podcasting to video blogging (vlogging), personal broadcasting is an increasingly popular trend that is already impacting campuses and museum audiences." (The New Media Consortium, 2006, p. 11).

So far, only little research has been conducted into usage behaviour and the support afforded by podcasts for the students' learning process (e.g. Hermann

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[1]An RSS feed is a so-called pulling method in which the computer automatically downloads updates of the RSS feeds subscribed to (Wikipedia, 2009d).

[2]The term podcasting is a portmanteau of the words "iPod" and "broadcasting" and denotes the production and publication of audio and video files on the Internet (Wikipedia, 2009c).

[3]Personal broadcasting denotes participatory journalism with a focus on television via Internet. Anyone can participate in public discussion about social issues via videos on the (mobile) Internet (Wikipedia, 2009a,b).

et al., 2006; Hürst & Waizenegger, 2006; Lauer et al., 2004). In most cases it relates to the description of pilot projects in conjunction with information on the use of podcasts in e-learning at universities (e.g. Ebner & Walder, 2007; Edirisingha et al., 2006; Muppala & Kong, 2007; Universität Zürich, 2006). Further, the use of podcasting in higher education in general is discussed, and advantages and disadvantages from the perspective of universities and students are given (e.g. Klee, 2006). The first to look into the general usage behaviour of podcast users in general was Rampf (2008) who identified eight different types of podcast users.

There is a need for more knowledge in this area given the growing importance of podcasting and, to date, inadequate research into the use of podcasts, especially in higher education (in Germany). The aim of the present study is therefore to describe the usage behaviour of students and give their assessment of podcasting. For this purpose the following questions were formulated in advance as a basis for the research:

1. How do students use university podcasts? In which situations are the lecture podcasts used?

2. For what purpose are the lecture podcasts used? What influence does the availability of podcasts have on physically attending classes?

3. What characteristics of a lecture podcast do students consider important (success factors)?

4. What reasons do students have for not using podcasts?

Described first of all, in Section 2, is the use of audio recordings and podcasts in teaching. Section 3 describes the methodology and approach used in the study. The findings of the surveys are presented in Section 4, looking firstly at the usage behaviour in connection with podcasts in general and then at the usage behaviour in connection with the podcasts of recorded lectures. Also, the students' evaluations of lecture podcasts are given, as well as possible reasons for not using podcasts. Lastly, the insights thus gained are summarised and possible developments pointed out (Section 5).

2 Audio Recordings and Podcasts in Teaching

The recording of lectures became a new element in teaching even before modern information and communication technologies found their way into universities. The "Telekolleg" programme in Germany, for example, looks back on a long tradition in adult education and since as far back as 1963 has offered the possibility to obtain, extra-occupationally, the intermediate school-leaving certificate or the

entrance qualification for a technical college. Part of the knowledge is imparted by means of accompanying television broadcasts (Wikipedia, 2009e). Also, radio has long been among the technologies used besides television to offer a broad section of the population opportunities for further education (Potashnik & Capper, 1998). Audio cassettes and CDs are used to additionally reach audiences outside reception areas or, as is in developing countries for instance, those that do not have the necessary terminal equipment. Students, moreover, perceive a cassette or CD recording as being more personal and informal than radio Bates (1981), with it offering the added possibility of flexible learning. Dubridge (1984) also pointed out the advantages of audio recordings over print media:"As compared with a written text, the spoken word can influence both cognition (adding clarity and meaning) and motivation (by conveying directly a sense of the person creating those words)." (Dubridge, 1984, quoted in: Chan et al. (2006)).

Podcasts offer both aspects: firstly, they are similar to the audio and video contents broadcast on television or radio and, secondly, they offer the consumer flexible and personalised learning. This makes podcasts interesting also for enterprises looking particularly to realise a global and standardised transfer of knowledge (Haimerl & Schwind, 2008). The development of software and hardware for private use means that the production of recordings is not reserved solely for institutions with appropriate resources. Anyone with a normal PC and a microphone can publish audio contents over the Internet Rubens (2008). For higher education this means that podcasting does not have to be limited to recording and making lectures available. Further opportunities open up to enhance teaching with spoken contents and/or moving images. Popova & Kirscher (2007) summarise a variety of existing and possible scenarios for podcast use:

- recording of lectures,

- feedback on students' work (France & Wheeler, 2007),

- additional material for physically attended classes, such as interviews, speeches, or music, special learning situations, e.g. in medicine (recording of a heartbeat, Barrett et al., 2004) or in language training (pronunciation of syllables and words, Thompson, 2007),

- homework handed in by students as video or audio recordings, and

- creative activities such as music or plays, or extracts from them, created as part of academic studies.

Wichelhaus (2008), in a qualitative evaluation conducted at Osnabrück Technical College, examined the acceptance of media-supported lectures from the subjective perspective of students. The findings show, on the one hand, the value added by

recorded lectures and, on the other hand, that the students broadly accept flexible and self-organised learning which is supported by podcasts.

The contents recorded and made available as podcasts most frequently in higher education are lectures. A large proportion of the students using the availability of podcasts consider them to have a positive effect on their marks (Brittain et al., 2006). A study conducted at the State University of New York confirms this view. McKinney et al. (2009) examined the effectiveness of podcasts on the basis of a lecture. The test participants who prepared for their examination using the podcast obtained significantly better results than the group who physically attended. The best examination results were achieved by the students who took notes and listened to the recording several times.

3   Methodology and Approach

The University of Flensburg took the decision in the 2006/07 winter term to start a pilot project and produce first lectures as podcasts and make them available to students. The guideline in this regard was that the production should involve relatively little cost in terms of investment and support as well as little work effort for the participating lecturers. A decision was therefore made to record with Prof-Cast software[4]. The advantage of this software is that it can be handled easily and intuitively.

After receiving a first evaluation and feedback from both students and lecturers, the university management decided to continue the project and broaden what was on offer. In the 2007 summer term thereafter, a total of seven lectures[5], and in the 2007/08 winter term eight lectures[6] were recorded. All the podcasts related to lectures.

At the end of either term (July 2007 and February/March 2008, respectively), all the students that had attended one of these 15 lectures were asked to complete a questionnaire about the use of the relevant lecture podcast, irrespective of whether

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[4]ProfCast is a software from Humble Daisy Inc. that makes it possible to record PowerPoint presentations synchronously with the spoken word, for example during a lecture, and publish them (see www.profcast.com).

[5]Included were the following lectures: Einführung in die Arbeitspsychologie (Introduction to Industrial Psychology), Sozialwissenschaftliche Methoden 2 (Social Science Methods 2), Movement Science and Sport, Sport und Psychologie (Sport and Psychology), Umweltökonomie 2 (Environmental Economy 2), Statistik 2 (Statistics 2), Intermediate International Economics.

[6]Included were the following lectures: Einführung in die Organisationspsychologie (Introduction to Organisational Psychology), Movement Science and Sport, VWL 1 – Mikroökonomie (Economics 1 – Microeconomics), Sozialwissenschaftliche Methoden 1 (Social Science Methods 1), Statistik 1 (Statistics 1), BWL – Externes Rechnungswesen (Business Economics – External Accounting), Energy: Economics and Policy, Media Management.

they made use of it or not. In the period from 15 July to 31 August 2008, a total of 92 students completed the questionnaire, and in the period from 15 February to 31 March 2008, 54 questionnaires were completed. Both surveys were carried out using a password-protected online questionnaire.

The same questionnaire was used for both survey phases. Only for three of the statements to be evaluated were there changes between the two surveys regarding the scale used, which was adapted accordingly.

The questionnaire includes a total of six sections (cf. the Annex). The variables used are based mainly on an evaluation sheet developed by Prof. Alexander Klee of Flensburg Technical College. Further items were taken from the questionnaire developed by Rampf (2008) and adapted to the survey. Collected in the first section of the questionnaire were demographic details and information on the lecture attended. The second section deals with general podcast usage behaviour in order to determine the students' prior knowledge of this medium. The third questionnaire section then deals with the use of lecture podcasts, and is to be completed only by those who also use the lecture podcasts or intend to do so. This section looks at the frequency, location, terminal equipment used, and software installed to download the podcasts. It also asks the purpose for which the students use the lecture podcasts. Possible success factors deriving from the lecture podcasts are determined in the fourth section of the questionnaire, in which the students evaluate the different aspects regarding their importance. An assessment of the students' own learning behaviour and of the usefulness of the podcasts in regard to their own lectures is the subject of the section after that. In the sixth and last section, possible reasons stated by the students for not using, or not wishing to use, the podcasts are assessed.

4   Findings

All in all, 148 students took part in the surveys on podcast usage behaviour: 92 in the first survey in the 2007 summer term, and 54 in the second survey in the 2007/2008 winter term. Females accounted for 61.2% of the interviewed students, and males for 38.8%. At the time of taking part in the survey, the students were, on average, in their third term and were between 19 and 33 years of age (22 years on average).

4.1   Usage Behaviour Regarding Podcasts in General

The interviewed students tended to have little experience of using podcasts. More than a quarter (27.9%) had already used podcasts prior to the availability of the lecture podcasts. For 72.1% of the students the podcasts at the University of Flens-

How or by what means did you become aware of podcasting?
(multiple answers are possible)

through the podcats offered by the University of Flensburg	66,9%
through iTunes	16,9%
while surfing the Internet	11,5%
through reports in the media	10,1%
through Apple/iPod	8,1%
through personal recommendations by friends	7,4%
throught podcasts themselves	4,7%
don't know	3,4%
by chance	2,7%
through blogs	1,4%

0% 10% 20% 30% 40% 50% 60% 70%
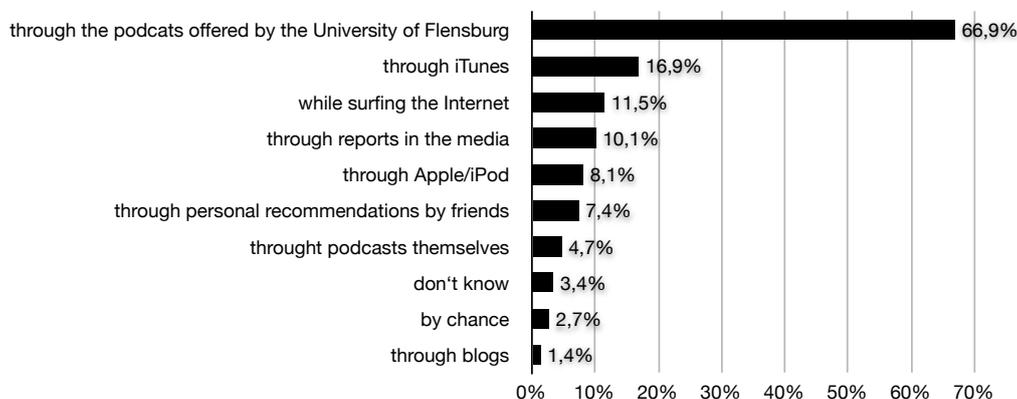
Source: Survey among students at the University of Flensburg, 2007 and 2008

Figure 1: First contact with podcasting (in per cent)

burg were the first time they had downloaded or listened to such a format. The responses to how the interviewed persons became aware of podcasts in general are hence of little surprise (cf. Figure 1). 66.9% of the students stated that they became aware of what the University of Flensburg had on offer. 16.9% heard of podcasting through the iTunes programme[7]. 11.5% of the students discovered podcasting while surfing the Internet, and 10.1% through reports in the media.

The majority of the students (59.9%) had been using podcasts for only six months or less, most of them being students who learned of the podcasts offered by the University of Flensburg. 21.7% already had broad experience, having been acquainted with and using this medium for more than a year. 18.2% of the interviewed students did not use podcasts at all (cf. Figure 2).

Podcast users were also asked how long they listen to or watch this medium per week (in hours). Average use is 2.8 hours per week, with the figures given varying between one hour and 60 hours per week. The majority of the interviewed students (85.6%) consumed podcasts during one to three hours per week.

When asked about the number of podcasts they subscribed to (irrespective of audio or video), the average number was 4.2 (the minimum number being 0, and the maximum number 68). Most of the students (79.5%) had subscribed to between one and ten podcasts.

The overwhelming majority of the podcasts available on the Internet can be

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[7]Apple music management programme that can be used to download podcasts (cf. http://www.apple.com/de/itunes/).

Since when have you been using podcasts?

for about three month	24,5%
for about six month	24,5%
I do not use podcasts.	18,4%
for about a year	12,2%
for more than a year	9,5%
for about a month	6,1%
for less than a month	4,8%
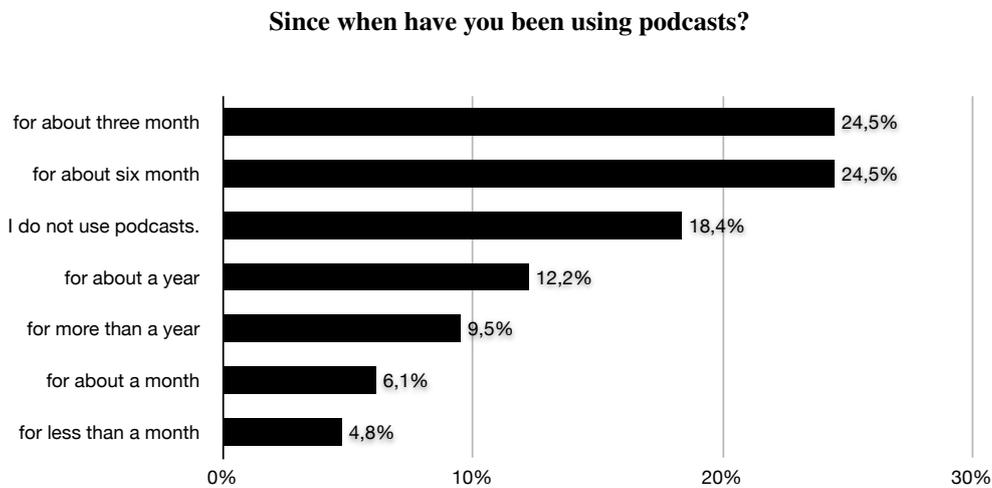
Source: Survey among students at the University of Flensburg, 2007 and 2008

*Figure 2:* Time spent using podcasts in general (in per cent)

downloaded free of charge. This suggests that there is a powerful incentive to subscribe to podcasts, but that, due to lack of time for example, these are then not used, at least in part. This is true for 60.9% of the interviewed students who stated they use podcasts. They listened to or watched a maximum of three quarters of the regularly downloaded podcasts. 39.2% used (nearly) all of their subscribed podcasts.

To summarise, it can be said regarding the general podcast usage behaviour of the interviewed students that they are inexperienced in their use to some extent, and a large proportion of them had their first contact with this form of medium at the University of Flensburg. In the study conducted by Rampf (2008), for which 1,319 (mainly German) persons were interviewed about their podcast usage behaviour in 2007, the average time spent in using audio podcasts is 3.1 hours, and in the case of video podcasts 1.5 hours, longer per week than figures given by the interviewed students (2.8 hours/week). The number of regularly downloaded podcasts (8.6 audio podcasts and 2.2 video podcasts) given in the study of Rampf (2008) is more than twice that stated by the podcast users at the University of Flensburg (4.2).

4.2 Usage Behaviour regarding Lecture Podcasts

Subsequent to the questions about the general use of podcasts, the students were asked to respond to questions about their usage behaviour regarding the lecture podcasts made available. Most of the interviewed students (72.8%) already used

How often have you used the lecture podcasts so far?
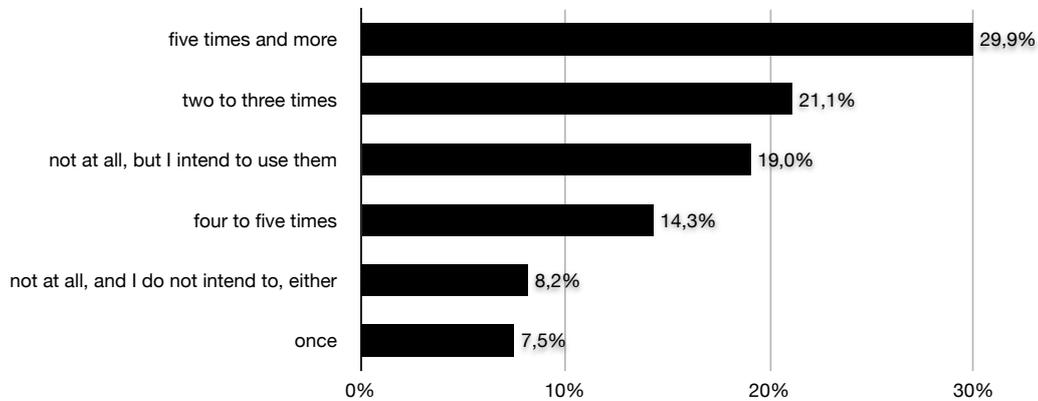
Source: Survey among students at the University of Flensburg, 2007 and 2008

Figure 3: Frequency of lecture podcast use (in per cent)

one of the lecture podcasts once or several times. Nearly a third of them (29.9%) used what was on offer more than four times. 27.2% stated not yet having used the podcasts available for their lecture(s). A small number of students (8.2%) did not intend to do so, while 19.0% were willing to use this form of learning in future (cf. Figure 3).

The interviewed students using lecture podcasts or intending to use them (generally referred to in the following as lecture podcast users) utilised mainly a notebook as the playing device. The highest level of agreement (totally applicable, or tends to be applicable) was 79.0%. Stationary computers (26.7%), iPods (17.7%), other MP3 players (13.3%) or other devices were of secondary importance. The playing device least preferred by the respondents was the Walkman mobile telephone (3.7%).

Of the programmes used to download podcasts onto computers (podcatchers), the iTunes programme offered free-of-charge by Apple dominates, at 80.3%. 7.4% of the lecture podcast users do not use a podcatcher but access the files via the Internet site instead. Another 7.4% use Winamp software. Only 1.5% of the interviewed students use the Mozilla Songbird open-source programme.

When asked about the location where the lecture podcasts are used – at home or on the move – the students clearly prefer home. This applies to a certain extent/totally to 90.4% of the respondents. A minority of 14.8% also use lecture podcasts when on the move. One reason for this is the format of the podcasts, which is produced as a video (lecture slides with synchronised audio track). A larger-size screen is therefore needed to be able to follow also the spoken content

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together with the slides. Another reason is the learning situation, where it is necessary to pay proper attention and possibly use other learning aids such as books or notes.

The responses to the question regarding the situation in which lecture podcasts are used are therefore of little surprise, either. The vast majority of the interviewed students (77.8%) stated that when listening to a podcast they do nothing else and concentrate totally on the podcast (cf. Table 1). Nearly half of the lecture podcast users (47.4%) occupy themselves with other activities at the computer in parallel.

Some of the interviewed persons also listen to or watch the lecture podcasts when doing household chores (27.4%), when at work (25.9%), or when eating (23.7%), but this tends not to apply, or does not apply at all, to a majority of the students.

Besides the subsequent evaluation of the lecture podcasts, a question of particular interest is the background against which, or to what end, the students use the recordings of their lectures. It was asked to what extent certain statements apply, or do not apply, to the interviewed persons (cf. the Annex). Systematic preparation prior to written tests and examinations applies "totally" to 54.8% of the students. This statement applies to another 25.9% "to a certain extent", meaning that for four out of five lecture podcast users (80.7%) systemic preparation for written tests and examinations is the reason for using what is on offer. This reason tends not to apply, or does not apply at all, to 16.3%. Two-thirds of the interviewed students (66.0%) use the podcasts made available by the University of Flensburg to replay the lectures attended. The fear, often voiced by lecturers, that students might no longer attend classes but stay at home if lectures were recorded, cannot be substantiated with the findings of the present study. Roughly half of the students (51.1%) stated that using the podcasts is no substitute for attending lectures. Systematic preparation for resitting exams or for taking other tests, as well as other reasons, were considered unimportant in the opinion of the interviewed podcast users.

A clear picture emerges regarding the lecture podcast usage behaviour of the interviewed students. Most of the students already used podcasts of their lectures or intended to do so. Only a small group of students was unwilling to use lecture podcasts. Notebooks that had the iTunes programme installed were used the most frequently at home to download and play lecture podcasts. The overwhelming majority of the students concentrated totally on the recorded lectures and carried out no parallel activities while doing so. The main reasons for using their availability include systematic preparation for written tests and examinations in connection with the attended lectures, and the replaying of individual lectures. For half of the interviewed podcast users, having a recording of a lecture available did not mean no longer attending the lecture and using the recording as a substitute. The study conducted by Bongey et al. (2006) yields similar findings. 246 students

	not at all applicable	tends not to be applicable	tends to be applicable	totally applicable	no response	mean
In which situations do you use lecture podcasts?						
I do not do anything else in parallel.	3.0%	15.6%	23.7%	54.1%	3.7%	3.34
when using the computer	37.0%	11.9%	23.7%	23.7%	3.7%	2.35
when working/studying/learning	60.0%	8.9%	8.1%	17.8%	5.2%	1.83
when doing household chores	59.3%	9.6%	14.8%	12.6%	3.7%	1.80
when eating	64.4%	8.1%	16.3%	7.4%	3.7%	1.65
in parallel with using other media	66.7%	10.4%	11.9%	7.4%	3.7%	1.58
during other leisure activities	80.7%	4.4%	8.9%	2.2%	3.7%	1.30
during sport	84.4%	5.9%	3.7%	1.5%	4.4%	1.19
during personal hygiene activities	91.1%	2.2%	1.5%	0.7%	4.4%	1.08
For what purpose do you use lecture podcasts?						
as preparation for written exams/tests	4.4%	11.9%	25.9%	54.8%	3.0%	3.35
to routinely review/replay lectures	14.1%	15.6%	23.0%	43.0%	4.4%	2.99
as a substitute for attending lectures	26.7%	24.4%	25.9%	20.0%	3.0%	2.40
as preparation for other exams/tests	45.2%	14.1%	9.6%	14.1%	17.0%	1.91
other	62.2%	1.5%	3.7%	0.7%	31.9%	1.16
Assessment of own learning behaviour						
Better and more effective assimilation of knowledge	0.7%	23.7%	40.7%	30.4%	4.4%	3.15
More efficient and time-saving assimilation of knowledge	5.9%	43.0%	31.1%	14.8%	5.1%	2.71
Increased motivation and fun in learning	8.1%	45.9%	28.9%	11.9%	5.1%	2.56

*Table 1:* Situation and purpose of lecture podcast use and assessment of own learning behaviour
(figures in per cent and mean values)

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were asked in connection with the podcasts' introduction how often, among other things, they attended classes. The findings show "that having podcast lectures available to students does not lead to large declines in class attendance." (Bongey et al., 2006, p. 350). Particularly the question about the purpose of podcast use is a decisive argument for the university to continue such project. The aim is to create added value for the students and lecturers, despite the small effort involved in the production. Against this background, the following section presents further findings relating to the lecture podcast evaluation.

4.3 Evaluation of Lecture Podcasts

A further section of the questions was aimed at evaluating certain aspects of the lecture podcasts and their use for self-learning. The most important characteristic according to the interviewed students is that the lecture podcasts are made available free of charge (cf. Figure 4). The podcast users also rated as highly important that a recording of a lecture enables them to listen to a lecturer's explanations during the lecture once again, and that they can use this directly in combination with the lecture documentation. Other characteristics of lecture podcasts rated to be rather important in the view of the students were that podcasts can be used at any time, in contrast to lectures, and that it is possible to switch back and forth at will between different chapters of the lecture. Easy technical handling is similarly important for the students, indicating that this aspect, among others, is of vital importance for acceptance on the part of the users (Hürst & Waizenegger, 2006). Not so important to the lecture podcast users was that this enables them to do without their own notes on the lectures. The possibility of mobile use was rated as less important, which was to be expected in view of the findings presented above regarding situations of use (listening to a podcast at home on a notebook, without carrying out any other activities (cf. Section 4.2)). It was additionally explained in Section 4.2 that for half of the interviewed students the recording of podcasts is not a substitute for attending their classes. 45.9% of the students, however, also agreed with this statement and make good their absence by using the lecture podcasts. The aspect of the recordings making it no longer necessary to attend classes is rated as less important, though, and comes last compared with all the aspects asked about (cf. Figure 4).

When the assessments of the students from the two above-mentioned groups for which the purpose of podcasts is either a substitute for attending lectures (Substitute Group) or not (Lecture Group) are compared, the order of the aspects hardly changes. Only the easy technical handling of the podcasts is rated as somewhat more important than the other aspects by the Substitute Group. Also, the Substitute Group has higher average values for nearly every aspect compared with the Lecture Group (cf. Figure 4). It hence attributes more importance to these charac-
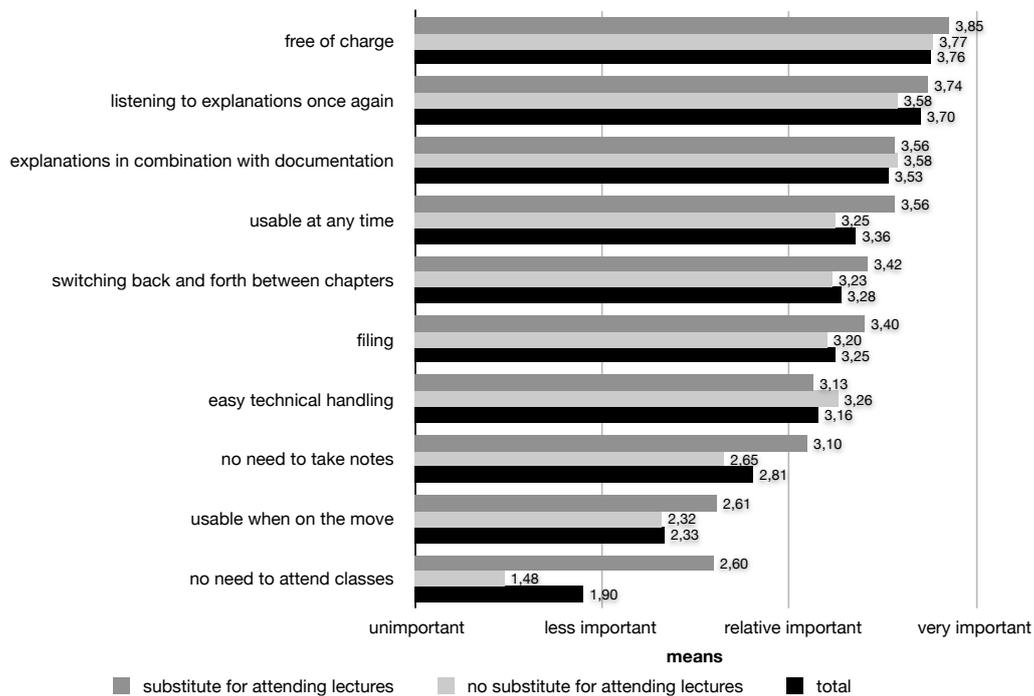
Source: Survey among students at the University of Flensburg, 2007 and 2008

Figure 4: Importance of lecture podcast characteristics

teristics. This difference in assessment becomes especially evident for the aspect that podcasts make it no longer necessary to attend classes. Even if this podcast characteristic ranks in last place for both groups, the Substitute Group considers it on average to still be "rather important" (2.9), while the Lecture Group rates it as "rather unimportant" (1.48). This difference is also of significance statistically.

The assessments of how important different aspects of podcast use are reflect possibly latent constructs that are not directly measurable. Exploratory factor analysis serves to examine what dimensions lie "behind" these motives and to what extent they are correlated. It was possible to extract three factors with an explained variance of 52.4% for the aspects (cf. Table 2):

- Factor 1: reusability and replaying of the lecture

- Factor 2: easy availability and independence of the technology

- Factor 3: independence from physically attending classes

The first factor relates to the replaying and reusability of recorded lectures, since the items of being able to listen to the explanations given by the lecturer once

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Rotated component matrix[a]

	Component		
	1	2	3
Listening to explanations once again	0.741		
Explanations in combination with documentation	0.695		
Filing	0.532		
Switching back and forth between chapters		0.612	
Easy technical handling		0.603	
Usable when on the move		0.588	
Free of charge		0.583	
Usable at any time		0.552	
No need to attend classes			0.760
No need to take notes			0.751

Extraction method: main component analysis

Rotation method: Varimax with Kaiser normalisation

Factor 1: reusability and replaying of the lecture

Factor 2: easy availability and independence of the technology

Factor 3: independence from physically attending classes

Source: Survey among students at the University of Flensburg, 2007 and 2008

Table 2: Factor loading matrix of lecture podcast characteristics

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[a]Rotation converged in 10 iterations.

again (1), and to use it in combination with the lecture documentation (2), as well as the aspect of filing for later re-use (3), correlate highly to the factor. The second factor expresses particularly the availability and independence of the technology: ability to switch back and forth at will between different chapters of the lecture (1), easy technical handling (2), possibility of use also when on the move by means of mobile devices (3), availability free of charge (4), and usable at any time (5). The third factor reflects the independence from physically attending classes; lecture podcasts make it no longer necessary to attend classes (1) and take notes continuously (2).

In Figure 5 the average values for the generated factors are shown by different group. The groups differed according to the purpose for which the students stated they had used the podcasts made available by the University of Flensburg. This involved dividing up the variables "Routine review/replaying of lectures", "Systematic preparation for written exams/tests" and "Substitute for attending classes" into two groups each. In other words, those to whom the mentioned statement does not apply at all or tends not to apply, form the group for which, for example,

Chart 1:

- reusability and replaying of the lecture: 0,22 / -0,46
- easy availability and independence of the technology: -0,04 / 0,05
- independence from physically attending classes: 0,15 / -0,31

factor scores

■ routine review/replaying of lectures   ■ no routine review/replaying of lectures

Chart 2:

- reusability and replaying of the lecture: 0,14 / -0,68
- easy availability and independence of the technology: -0,03 / 0,13
- independence from physically attending classes: 0,08 / -0,33

factor scores

■ systematic preparation for written exams/tests   ■ no systematic preparation for written exams/tests

Chart 3:

- reusability and replaying of the lecture: -0,09 / 0,09
- easy availability and independence of the technology: 0,02 / -0,06
- independence from physically attending classes: 0,47 / -0,38

factor scores

■ substitute for attending classes   ■ no substitute for attending classes

Source: Survey among students at the University of Flensburg, 2008

Figure 5: Factor scores for purposes of using the lecture podcasts
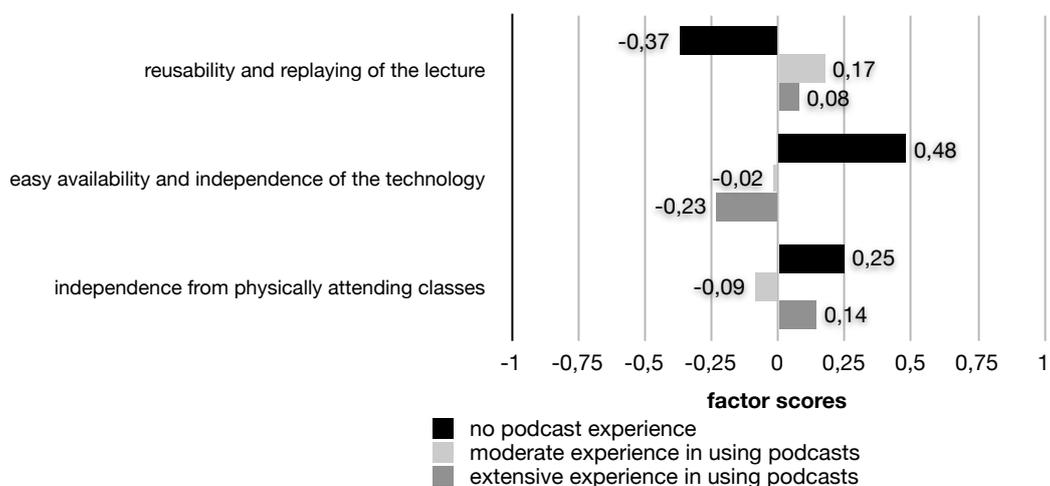
Figure 6: Factor scores for "Podcast experience"

"No routine review/replaying of lectures" is the purpose of use. The students to whom the statement applies to some extent or totally applies, belong to the group for which the purpose of podcast use is "Routine review/replaying of lectures". Where all three reasons for podcast usage are concerned, there are hardly any differences to be found regarding technical possibilities, simplicity and flexibility. In other words, irrespective of the intended use, the technology's easy availability and independence are of equal importance. Light to medium differences are found in case of the factor "independence from physically attending classes": Where students use podcasts for the routine review/replaying of lectures, for systematic preparation for written exams/tests, or as a substitute for physically attending lectures, they consider the possibilities of no longer having to continually take notes during lectures and of being able to be physically absent from the lectures as more important. The biggest differences become apparent in case of the factor "reusability and replaying of the lecture". Where lecture podcasts are not used for routine review/replays or for systematic preparation for written exams/tests, then filing, or the possibility to listen once again to the explanations given by the lecturer in combination with the documentation, is least important.

The assessments of the success factors afforded by lecture podcasts, differentiated according to the podcast experience[8] of the interviewed students, vary

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[8]The three groups are formed on the basis of the question "Since when have you been using podcasts?": (7) I do not use podcasts = no podcast experience; (1) for less than a month, (2) for around a month, (3) for around three months, and (4) for around six months = moderate experience in using podcasts, (5) for around twelve months, and (6) for more than a year = extensive experience in using podcasts.

relatively greatly (cf. Figure 6). Compared with those who have moderate and extensive experience, the students without any podcast experience attribute no importance to the aspects of the "reusability and replaying of lectures". They do, however, attribute very great importance to the possibility of switching back and forth between chapters when listening to them and to being able to use the podcasts at any time, also when on the move, as well as to their easy technical handling and availability free of charge. Students with extensive experience of podcasts, by comparison, are not so inclined to see in these the success factors afforded by lecture podcasts. The respondents with no podcast experience or with extensive experience of podcasts consider the independence from physically attending classes to be of importance, with the group that has no experience attributing more importance to this characteristic than the experienced podcast users.

In the final section of the questionnaire the students were asked to assess the lecture podcasts with regard to their own learning behaviour and their usefulness in general. As the scale had been changed in the period between the two surveys[9], the findings from the 2007 summer term[10] were adapted to the scale used for the 2007/2008 winter term (cf. Table 1). The interviewed students tended to agree that they are able to assimilate the contents of lectures better and more effectively by using podcasts (71.1%). The podcast users were almost undecided as regards the assessment whether they are able to assimilate the contents of lectures more efficiently and in a more time-saving way by using podcasts. It is a similar picture regarding the third statement "By using podcasts, my motivation and fun in learning increase while assimilating the lecture contents". The average in this respect lies neither with complete agreement nor with disagreement (cf. Table 1).

The students generally regard lecture podcasts as a gain and valuable addition. 83.7% stated that they regarded podcasts which can be downloaded for their lectures as tending to be more important or very important. Only 11.8% consider their usefulness to be less important or even unimportant.

All in all, it can be said for the evaluation of the lecture podcasts that the students have clear preferences regarding podcast availability. The students rated it as highly important that podcasts are available free of charge. Also, the possibility to listen to the explanations of lecturers again, as well as in combination with the lecture documentation, is seen as very siginificant. The option of being able to no longer physically attend classes, by contrast, is judged to be a rather unimportant characteristic of podcast availability. When the success factors are differentiated according to the podcast experience of the respondents, strong differences emerge.

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[9]The previous scale from one to five was changed to a scale from one to four in order to adapt to the other questionnaire.

[10]The students should state if they completely disagree (1), tend to disagree (2), are undecided (3), tend to agree (4) or totally agree (5) with the statements.

Students with no podcast experience regard reusing and replaying lectures by means of podcast as unimportant. Particularly important to them, in contrast, is the independence, afforded both by the technology and by the possibility, to no longer have to physically attend classes. The students using lecture podcasts furthermore hold the view that they are thereby able to assimilate knowledge of the lecture contents better and more effectively. Users hardly question the usefulness regarding their own lectures.

4.4 Reasons for not using Lecture Podcasts

Those students who stated that they do not intend to use the lecture podcasts made available by the University of Flensburg were asked about the different reasons that led to their decision. A total of 12, or 8.2%, of the interviewed students did not intend to use lecture podcasts. As the motivation to take part in the survey and evaluation of podcast availability is lower for those who are not users, it is to be expected that the number of non-users who took part would be lower than that of the users.

The findings concerning reasons for not using podcasts, however, reveal clear tendencies. The main reason of the interviewed students was that they find it difficult to motivate themselves to learn with the aid of podcasts. Also, the majority of the non-users (91.7%) concurred with the statement that learning with the aid of a computer and monitor is not to their liking. Even if the interviewed students do not want to download lecture podcasts, many of them (58.3%) nevertheless see a certain benefit in their availability. Further, the students do not regard the effort involved in software installation and use as being too high (58.3%), and neither the sound quality nor the quality of the graphics or lecture slides is rated as too poor (41.7%).

In summary it can be said that neither operation or quality nor a lack of benefit from what is on offer is the reason for not downloading the podcasts made available by the University of Flensburg. The reasons are rather to be found in the learning habits of the students for whom this form of knowledge assimilation via a computer is not to their liking or difficult to cope with.

5 Summary and Conclusions

The aim of this report was to describe the usage behaviour of students and their assessment of podcasting. Of interest in this regard was how students assess the availability of university podcasts and in what situations and for what purpose they use them. Also, success factors afforded by the available lecture podcasts, as well as possible reasons for not using the podcasts on offer, were to be determined.

For this purpose, four research questions were formulated at the beginning, the answers to which will also be summarised here once again.

The surveys have revealed that the overwhelming majority of podcast users at the University of Flensburg first came into contact with the medium of podcasting when downloading lecture podcasts. Before, only few had known about and used the numerous audio and video files available for entertainment, information and educational purposes.

How do students use university podcasts that are available? In which situations are the lecture podcasts used?

The majority of students listen to or watch the lecture podcasts with the aid of a notebook at home and, when doing so, rarely carry out other activities but focus on replaying the lecture or catching up on it at a later point in time. This is corroborated by previous surveys, which have shown that students use their laptops more frequently as a playing device than they do MP3 players or iPods (Deal, 2007). Students who listen to a recorded lecture thus select a situation very much resembling that of the actual lecture.

For what purpose are the lecture podcasts used? What influence does the opportunity to use podcasts have on the physical attendance of lectures?

The students use the available podcasts mainly to systematically prepare for written exams/tests. As the majority have already used lecture podcasts at least once, it seems likely that this is not only to prepare directly for written exams/tests but also to replay lectures or catch up on missed lectures. A study of the effectiveness of "mobile learning" (m-learning) with the aid of podcasts has shown that the students consider podcasts to allow a more effective review of the learning contents than textbooks and support the learning process better than their own notes (Evans, 2008).

Lecturers fear that, due to the podcasting of their lectures, the students will no longer attend classes: "...many professors remain wary of the technology. Critics suggest that it will lead to empty classrooms or serve as a crutch for late-sleeping students..." (Read, 2005, page A39). The present findings from the surveys are unable to confirm these fears. Slightly more than half of the respondents consider the opportunity to use podcasts to be no substitute for attending lectures and, generally, the respondents regard the circumstance of not having to attend classes as a result of the podcasts as less important. Nevertheless, podcasting is being discussed as a strategy for remedying overcrowded lecture rooms and poor study conditions (Universität Zürich, 2006).

What characteristics of a lecture podcast do students consider as important (success factors)?

What clearly contributes to the success of lecture podcasts is that they are available to the students free of charge. Another important factor is the ability to reuse and replay the recorded lecture. The students can listen again at home to the

explanations given by a lecturer and replay them in combination with the lecture documentation. The flexibility in terms of time and location of use, as already described in Section 4.3 ("Podcasts can be used at any time") is also a positive factor. The students, however, attribute less importance to the circumstance of no longer having to physically attend actual classes because of the lectures being recorded. This disproves the fear of lecturers, already mentioned above, of lecturing to (almost) empty lecture rooms. All in all, the interviewed students emphasised that the lecture podcasts made available were a valuable addition as well as a teaching gain.

It is thus little surprise that most students also see podcasts as a possibility to assimilate the contents of lectures better and more effectively. A study conducted by Evans (2008) arrives at similar findings and shows that "[students] are more receptive to the learning material in the form of a Podcast than a traditional lecture or textbook." (Evans, 2008, page 491).

What reasons do students have for not using podcasts?

In addition to the above-mentioned fears of lecturers that students might absent themselves from their lectures, the students also have reasons for not using lecture podcasts. Although it is necessary to have a basic technical knowledge of how to subscribe to and use podcasts, this is not an impediment to the interviewed students. Those who had not used any lecture podcast produced for the University of Flensburg gave their own learning habits as the reason for this, and that they had difficulties in learning with a computer.

Especially the fact that there are students who are unable or unwilling to learn with a computer makes podcasting an addition to, and not a substitute for, lectures. As already mentioned in Section 4, there are nevertheless further possibilities to use podcasts in higher education, although these require prior reflection on the didactic scenario. The production and preparation of lecture recordings and the availability of podcasts must not lead to any significant extra work on the part of either the lecturers or the students that exceeds the value added by the project. Various factors are important prerequisites, not only for podcasting Schmidt et al. (2007): For students to have unhindered access to available podcasts, they must have the necessary technical equipment and be competent to handle modern information and communication technologies. It must be ensured on the part of the university that the technology in use is reliable and trouble-free. This applies both to the access to lecture recordings and to the quality of the podcasts. Also, the motivation of students must be taken into account. This requires students to have certain self-management skills, particularly if parts or a large proportion of lectures are made available solely as podcasts. Many students, however, have problems organising their learning time on their own. This can be countered by checking the level of knowledge on a regular basis. Not until the necessary conditions have been created can broad acceptance and the desired success can be

achieved.

However, this knowledge also raises new questions, which cannot be answered with this study. Even if students are able to learn better with the medium Podcast than in the lecture and with textbooks, the use of this medium – additive and not alternative – is influenced by the respective learning type. As this study has pointed out, the students value the qualities of the Podcast differently – dependent of with which intention they use the offer and which experience they have in dealing with the medium. Further research on the different learning types and their learning behavior is necessary. It has to be analyzed whether learning type and learning behavior differs significantly from those students who do not use the lecture podcasts. In addition, only studies which link the achievements (e.g. exam mark) to the usage behavior of students can lead to the conclusions that lecture podcasts lead to a better and more effective learning (cf. McKinney et al., 2009). Furthermore it is useful to integrate the overall evaluation of the respective lecture into such a study to control possible effects by the teaching quality. Further research will help to create a standard for podcasts in a university and aim the offer at the recipient – the students.

References

Barrett, M. J., Lacey, C. S., Sekara, A. E., Linden, E. A. & Gracely, E. (2004). Mastering cardicac murmurs. *CHEST*, *126*, 470–475.

Bates, A. W. (1981). Radio: the forgotten medium? Studies in the use fo radio programming and audiocassettes in open university courses. Papers on Broadcasting 185, Institute of educational technology, Milton Keynes.

Bongey, S. B., Cizadlo, G. & Kalnbach, L. (2006). Explorations in course-casting: Podcasts in higher education. *Campus-wide information systems*, *23*, 5, 350–367.

Breuer, F. & Breitner, M. H. (2008). Aufzeichnungen und Podcasting akademischer Veranstaltungen in der Region D-A-CH": Ausgewähle Ergebnisse und Benchmark einer Expertenbefragung. IWI Diskussionsbeiträge 26, Universität Hannover. Institut für Wirtschaftsinformatik, Hannover.

Brittain, S., Glowacki, P., Van Ittersum, J. & Johnson, L. (2006). Podcasting lectures. *Educause quarterly*, , 3, 24–31.

Chan, A., Lee, M. J. W. & McLoughlin, C. (2006). Everyone's learning with podcasting: A charles sturt university experience. In *Proceedings of the 23rd annual ascilite conference: Who's learning? Whose technology?*, (S. 111–120). Sydney: University of Sydney.

Deal, A. (2007). A teaching with technology white paper. Podcasting. Techn. Ber., Carnegie Mellon. Office of Technology for Education, Pittsburgh.

Dubridge, N. (1984). Media in course design, No. 9, audio cassettes. In *The role of technology in distance eduation* Kent: Croom Helm.

Ebner, M. & Walder, U. (2007). E-learning in civil engineering – six years of experience at graz university of technology. In D. Rebolj (Hrsg.), *Bringing ITC knowledge to work. Proceeding of 24th W78 conference Maribor 2007 & 14th EG-ICE workshop & 5th ITC@EDU workshop*, (S. 749–754).

Edirisingha, P., Salmon, G. & Fothergill, J. (2006). Profcasting – a pilot study and guidelines for integrating podcasts in a blended learning environment. Paper presented at the Fourth EDEN research workshop, Castelldefels, Spain, 25-28 October 2006.

Evans, C. (2008). The effectiveness of m-learning in the form of podcast revision lectures in higher education. *Computers & education*, *50*, 2, 491–498. DEVELOPMENT, DISRUPTION & DEBATE - Selected Contributions from the CAL 07 Conference.

France, D. & Wheeler, A. (2007). Reflections on using podcasting for student feedback. *Planet*, , 18, 9–11.

Haimerl, C. & Schwind, C. (2008). Wissenstransfer mittels Podcast – geht das? *Wissensmanagement*, , 5, 32–33.

Hermann, C., Hürst, W. & Welte, M. (2006). Informatics Education Europe – The eLecture Portal: An advanced Archive for Lecture Recordings. In *Informatics Education Europe Conference*. Montepellier, France.

Hürst, W. & Waizenegger, W. (2006). An overview of different approaches for lecture casting. In *Proceedings of IADIS International Conference Mobile Learning*. Dublin, Ireland.

Klee, A. (2006). Zeitgemäßes Instrument – aber keine Wunderwaffe. Podcasting als innovativer Ansatz in der Hochschullehre. *Forschung & Lehre*, , 10, 578–579.

Lauer, T., Müller, R. & Trahasch, S. (2004). Learning with Lecture Recordings: Key Issues for End-Users. In *ICALT '04: Proceedings of the IEEE International Conference on Advanced Learning Technologies*, (S. 741–743). Washington, DC, USA: IEEE Computer Society.

McKinney, D., Dyck, J. L. & Luber, E. S. (2009). iTunes university and the classroom: Can podcasts replace professors? *Computers & education*, *52*, 3, 617–623.

Muppala, J. K. & Kong, C. K. (2007). Podcasting and its use in enhancing course content. Techn. Ber., The Hong Kong Univerity of Science and Technology. Department of Computer Science and Engineering.

Popova, A. & Kirscher, P. A. (2007). Innovative pedagogical and psychological perspectives of podcasts. In *Towards a Philosophy of Telecommunications Convergence*. Budapest, Hungary.

Potashnik, M. & Capper, J. (1998). Distance education: Growth and diversity. *Finance & development*, (S. 42–45).

Rampf, B. (2008). *Gemeinsamkeiten und Unterschiede von Podcastnutzern. Eine Darstellung des deutschen Podcastangebotes und eine Typologisierung seiner Nutzer*. Diplomarbeit, Ludwig-Maximilians-Universität München. Institut für Kommunikationswissenschaft und Medienforschung, München.

Read, B. (2005). Lectures on the go. *Chronicle of higher education*, *52*, 10, pA39–A42.

Rubens, A. (2008). Podcasting - neues Medium oder alte Technik? In T. Quandt & W. Schweiger (Hrsg.), *Journalismus online - Partizipation oder Profession?* (S. 237–241). Wiesbaden: VS Verlag.

Schmidt, T., Ketterl, M. & Morisse, K. (2007). Podcasts: Neue Chancen für die universitäre Bildung. Techn. Ber., e-teaching.org.

The New Media Consortium (2006). The 2006 horizon report. Techn. Ber., The New Media Consortium and EDUCAUSE Learning Initiative, Stanford, California.

Thompson, L. (2007). Podcasting: The ultimate learning experience and authentic assesment. Poster presented at ICT: Providing choices for learners and learning. ascilite Singapore 2-5 December 2007.

Universität Zürich (2006). Bildung für unterwegs: Bildung für unterwegs: Evaluationsresultate der Semester 04/05 und 05/06. http://www.getinvolved.uzh.ch/pdf/Evaluationsresultate_Semester_WS_0405_und_WS_0506.pdf. [Online; Stand 21. April 2009].

Wichelhaus, S. (2008). Weg von der klassischen Frontalvorlesung – Evaluation von Akzeptanz und Lernunterstützung durch Podcasts als integraler Vorlesungsbestandteil. http://usability.fh-osnabrueck.de/hybrideslernen.html. [Online; Stand 28. April 2009].

Wikipedia (2009a). Graswurzel-Journalismus — Wikipedia, Die freie Enzyklopädie. http://de.wikipedia.org/w/index.php?title=Graswurzel-Journalismus&oldid=58911086. [Online; Stand 6. Mai 2009].

Wikipedia (2009b). Personal Broadcasting — Wikipedia, The Free Enzyklopedia. http://en.wikipedia.org/w/index.php?title=Personal_broadcasting&oldid=221415782. [Online; Stand 6. Mai 2009].

Wikipedia (2009c). Podcasting — Wikipedia, Die freie Enzyklopädie. http://de.wikipedia.org/w/index.php?title=Podcasting&oldid=58883213. [Online; Stand 21. April 2009].

Wikipedia (2009d). RSS — Wikipedia, Die freie Enzyklopädie. http://de.wikipedia.org/w/index.php?title=RSS&oldid=59085961. [Online; Stand 21. April 2009].

Wikipedia (2009e). Telekolleg — Wikipedia, Die freie Enzyklopädie. http://de.wikipedia.org/w/index.php?title=Telekolleg&oldid=57584364. [Online; Stand 21. April 2009].

6 Annex

Questionnaire

Personal details

First of all, we need a few personal details from you to enable us to make a differentiated evaluation of the findings.

1. In which semester are you studying?

2. What is your gender?

   (a) Female
   (b) Male

3. What is your age (in years)?

Your use of podcasts in general

Here we would like to learn something about your use of podcasts quite generally. The questions do not relate to the University of Flensburg lecture podcasts.

1. Have you ever used a podcast prior to the lecture podcasts?

   (a) Yes
   (b) No

2. Do you have a favourite podcast; regardless of it being an audio or a video podcast?

   (a) Yes, I have a favourite podcast.
   (b) No, I do not have a favourite podcast.

3. My favourite podcast is:

4. How or by what means did you become aware of podcasting?
   (Multiple answers are possible)

   (a) Through iTunes.
   (b) While surfing the Internet.
   (c) Through the podcasts offered by the University of Flensburg.
   (d) Through reports in the media.

(e) Through personal recommendations by friends or acquaintances.

(f) Through blogs.

(g) Through podcasts themselves.

(h) Through Apple/iPod.

(i) By chance.

(j) Others.

(k) Don't know.

5. Since when have you been using podcasts?

   (a) For less than a month.

   (b) For about a month.

   (c) For about three months.

   (d) For about six months.

   (e) For about a year.

   (f) For more than a year.

   (g) I do not use podcasts.

6. For how long do you listen to or watch podcasts per week (approximately)? (in minutes) Answer: (1 to 1200)

7. How many podcasts have you subscribed to or how many do you download on a regular basis?
Answer: (1 to 60)

8. How many of these regularly downloaded podcasts do you actually use?

   (a) (Nearly) all.

   (b) About three-quarters.

   (c) About half.

   (d) About one-quarter.

   (e) Less than one-quarter.

Your use of the lecture podcasts

This section deals with your usage behaviour regarding podcasts made available by the University of Flensburg.

1. How often have you used lecture podcasts so far?

    (a) Not at all, and I do not intend to, either.
    (b) Not at all, but I intend to use them.
    (c) Once.
    (d) Two to three times.
    (e) Four to five times.
    (f) Five times and more.

2. If you use lecture podcasts or intend to do so, where do/will you use them?
    Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

    (a) At home.
    (b) While on the move.
    (c) While on the move on foot.
    (d) While on the move by car.
    (e) While on the move by public transport.

3. If you use or intend to use lecture podcasts, what equipment do / will you use for the podcasts?
    Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

    (a) Stationary computer.
    (b) Notebook.
    (c) iPod.
    (d) MP3 player.
    (e) Walkman mobile telephone.
    (f) Other.

4. If you use or intend to use lecture podcasts, for what purpose do / will you use them?
   Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

   (a) Routine review/replaying of lecture contents.

   (b) As a substitute for attending classes.

   (c) Systematic preparation for written exams/tests.

   (d) Systematic preparation for resitting written exams / tests (or other tests).

   (e) Other.

5. Which podcatcher do you use to download lecture podcasts? (Multiple answers are possible)

   (a) iTunes.

   (b) Mozilla Songbird.

   (c) Winamp.

   (d) Other.

   (e) I do not use a podcatcher but access files via the Internet site instead.

6. In what situations do you listen to or use lecture podcasts?
   Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

   (a) When carrying out personal hygiene activities.

   (b) During other leisure activities.

   (c) In parallel with using other media.

   (d) When doing household chores.

   (e) When at work/studying/learning.

   (f) When using the computer.

   (g) When eating.

   (h) During sport.

   (i) I do nothing else and concentrate totally on the podcasts.

Important aspects of podcast use

If you use or intend to use lecture podcasts: Please mark with a cross how important the following aspects of podcast use are to you.

1. To what extent do you agree with the following statements?
   Please state how important the following statements are to you: very important, relatively important, less important, unimportant, no response

   (a) Possibility to listen once again to the explanations given during a lecture by a lecturer.

   (b) Possibility to listen to or use the recorded explanations of a lecturer in combination with the lecture documentation.

   (c) Possibility to switch back and forth at will between different chapters of a lecture.

   (d) Possibility to use podcasts also when on the move, using mobile equipment.

   (e) Possibility to use podcasts at any time, in contrast to lectures.

   (f) Possibility not to have to attend classes any longer when using podcasts.

   (g) Possibility of no longer having to continually take notes during lectures in order not to lose any information.

   (h) Possibility of filing podcasts for later re-use.

   (i) Easy technical handling.

   (j) Availability of the podcasts free of charge.

   (k) Assessment of lecture podcasts in general

2. To what extent do you agree with the following statements about the podcasts of your lecture(s)?
   Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

   (a) By using podcasts I am able to assimilate the contents of a lecture better and more effectively.

   (b) By using podcasts I am able to assimilate the contents of a lecture more efficiently and in a more time-saving way.

   (c) By using podcasts, my motivation and fun in learning increase while assimilating the lecture contents.

3. How useful do you assess the podcasts of your lecture(s) to be in general? Please state how important the following statements are to you: very important, rather important, less important, unimportant, no response

   - I consider the usefulness of the podcasts of the lecture(s) I attend generally to be...

Reasons for your decision not to use the podcasts

If you do not use lecture podcasts and do not intend to use them in the future, either: Please mark with a cross how the following reasons impact on your decision.

- To what extent do you agree with the following statements? Please state to what extent the following statements are applicable: totally applicable, tends to be applicable, tends not to be applicable, not at all applicable, no response

  1. Personally, I do not see any benefit in podcasts.
  2. Learning with the aid of a computer and monitor is not to my personal liking.
  3. I have difficulties in motivating myself to learn with the aid of podcasts.
  4. I find the effort involved in software installation and use too great.
  5. I find the sound quality to be inadequate.
  6. I find the quality of the graphics (lecture charts) to be inadequate.

Final question

- Do you have any other comments or any suggestions regarding lecture podcasts?
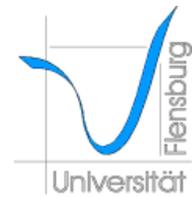
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