Challenges of Podcast: Research of E-didactic Potential in Adult Education

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Abstract

Lifelong learning is not just an aspiration, but a reality. The term 'podcasting' or 'podcasting' thus refers to the creation and offering of audio or video files that are distributed over the Internet. This article deals with the topic use of didactic video podcasts in the teaching and learning of adults, especially foreigners, in Germany in the federal state of Rheinland-Pfalz. The survey was conducted from April 2021 to the end of June 2022 at the Adult Education center in the city of Frankenthal, Germany. A deliberate sample of respondents (N = 38) foreigners who came to live in Germany with their families and want to learn A1 level of German was selected. The results indicate that 35% of respondents believe that they took notes and understood podcasts very well, then 28% believe in the possibility of external technical support for podcasts. The aim of the research is to examine the perception of adults about the impact of podcasts used during a foreign language course, i.e., its effectiveness for acquiring basic knowledge. More than half of the exams think that using podcasts better memorizes the material. These results can be an indicator of a successful teaching process as a new e-didactics in adult education but also a motivation for future professionals in adult education centers, including higher levels of language learning.

Keywords 1
Educational podcast, adult education, e-didactic, motivation, live lifelong learning

1. Introduction

Media plays a role in many areas of life, and its role in the scientific disciplines is becoming increasingly important. A podcast contains a collection of individual media contributions (episodes), i.e., audio or video files. The term podcast is a combination of the English word "broadcasting" (= broadcast/transmission) and the well-known MP3 player "iPod" from Apple. A podcast is an audio or video file that is usually available free of charge on the Internet. Anyone can create and publish such a contribution themselves [4]. Podcasts are now offered frequently and successfully. For an overview, there are many podcast directories. The largest and best known in Germany are the following: iTunes Music Store; www.podcast.de; www.podster.de and www.mevio.com (but in English) [1]. The iPod is the most popular podcast playback device [2]. However, competing products such as other laptops and MP3 players are also often used for playback. Users obtain their podcasts primarily from internet platforms [3]. Further developments in the field of information and communication technology does not go unnoticed by instructors of foreign language didactics [6]. The innovative didactic-technical

potentials of podcasts for learning German as a foreign language is often discussed as part of the new educational paradigm in adult education [11]. Authentic podcasts can be used in foreign language lessons that were not produced with a foreign language didactic intention and were not modified for the lesson or foreign language learning [7]. But there are also didactic podcasts. This means that the audio text is spoken more slowly and/or simplified in language. Podcasts have been around for about ten years and have been spreading rapidly for about five years [5]. Of course, auditory and audio-visual media such as radio and television, cassettes and CDs, videos, and DVDs already existed a few decades earlier. From the point of view of foreign language teaching, it is interesting to observe what didactic potential the new medium can attest to, especially in adult education. So far, homework in foreign language lessons has mostly consisted of written tasks. Podcasts offer the opportunity to give oral language productions as homework that can be checked and evaluated [6]. A teacher can give students individual feedback on pronunciation, intonation, vocabulary, grammar, etc., which is usually not possible to a sufficient extent during the lesson. However, this requires additional effort on the part of the teacher and technical requirements and previous knowledge on the part of the learners [8]. Especially at the time of the COVID-19 pandemic, podcasts played a very important role in the center for Adult Education in Frankenthal in Germany for foreigners who came from different countries and had to learn German quickly because they were looking for work. The didactic potential thus includes various aspects that are discussed in the specialist literature, mostly in the form of field reports or as didactic-methodical suggestions [9]. This is initially not surprising and necessary when new technical possibilities arise from newly developed media and applications. The teachers first have to be familiar with these media in order to use them in their lessons, and it is helpful to see practical examples of what a methodically and didactically meaningful use can look like. From the point of view of foreign language research, however, it is urgently necessary for empirical research to be carried out in this area.

2. E-didactic potential of podcasts

Educational Podcast are basically media technologies used in educational contexts. But this media technology makes specific scenarios and educational arrangements possible. Depending on the group scale and the number of participants, the podcast can be easily didactically (re)adapted, i.e., the content of the thematic unit cam be adapted to meet the set learning goal. [12]. The representation of knowledge is brought to the fore in instructional teaching, for example, by recording lectures and lectures or explanations [4]. The structure of the learning content can be designed sequentially. The possibility of repeating sections of the lecture that are not understood without penalty can increase the motivation of the learners. The realization of educational podcast seems simple: Start recording software, start recording, record, and annotate [11]. Then the product is put online together with a text-based description ('show notes') and the target group is automatically informed about the existence of the new learning material. In order to successfully create podcasts, it is important to deal with the design of the content, the technologies are chosen, and the publication. For the development of educational podcast, it is significant to consider didactic principles both in the design and in the use of podcasts. On the other hand, it is significant to examine the podcast medium in terms of its interaction between different methods, learning content, and target groups [6]. It can be used in the learning process to present knowledge in a representative and organizational manner and to support personal communication [13]. They can thus be assigned to both an instructive and a constructivist understanding of teaching/learning. Learners can then freely select their learning material according to their own needs or learning status. In this model, the producers act as teachers from whom the recipients should learn something [7]. In the flipped classroom concept, instructional educators can also be used to acquire prior knowledge in order to then stimulate a discursive discussion of what has been learned in the learning group. This form of use of podcasts promotes constructivist learning: knowledge is not given and learned but has to be developed, processed, structured, and transferred in order to culminate in the construction of one's own cognitive schemes [12]. This process is supported by working on the construction of one's own representation of knowledge. It is important for motivation to learn that the podcast has the necessary curricular references. Furthermore, legal aspects must also be taken into account when producing podcasts, for example, copyright, usage, and personal rights. Screencasts are mostly used for clear

instructions. However, they can also be used to present work results at events. Podcasts allow students to conduct interviews with scientists or practice experts, develop and record scenic dialogues, and research and develop their own features. In the context of educational policy, in addition to media education, a learner-centred approach to teaching is expected with a view to supporting and promoting self-directed, lifelong learning [7]. It can be expected that the dominance of text and image for learning contexts, as we know it from textbooks, will be reduced and learners' habits of acquiring learning content through audio and video elements in the form of podcasts will increase [10]. The starting point of the present work is the guiding principle that the interaction of technological and pedagogical advances must be thoroughly researched since the pedagogical effectiveness of digital media in foreign language didactics is not always undisputed. Especially in distance learning or blended learning, podcasts are ideal for different individual work, whereby the podcast episodes should not last longer than about 30 minutes [6]. Of course, in addition to professional podcasts, teachers can also use specially produced podcast episodes in class. However, a more intensive examination of the medium is necessary, and the recording should under no circumstances take the form of a lecture recording. For example, podcasts can be used as input for a new topic section [8]. The students should listen to a given podcast episode in order to prepare for the joint video conference. If you want to go deeper into the content of a podcast or focus on the medium itself as an object of investigation. Short assignments can be very useful. When creating these tasks, it should be borne in mind that podcasts do not primarily convey data and factual knowledge, but rather concepts and opinions.

3. Methods
3.1.　Sample of respondents and data processing

The survey was conducted from April 2021 to the end of June 2022 at the Adult Education center in the city of Frankenthal, Germany. A deliberate sample of respondents (N = 38) foreigners who came to live in Germany with their families and want to learn A1 level of German was selected. The sample was randomly selected with the consent of the respondents to participate in the research. This article, therefore, deals with the topic 'Use of e-didactic podcasts when learning German from foreigners and refers to adult education. The online survey form podcast or evaluation form was carried out in the research. In this specific case, it consisted of 84% women and 16% men. Of the 38 respondents, more than one-half ½ were aged between 34 and 42 years, while less than 9% were over 51 years of age. It also turned out to be heterogeneous: in addition to some participants with a good knowledge of German, there were mainly participants with rather low knowledge of German. What all seminar participants had in common, however, was that they were working with podcasts for the first time and using this teaching medium for the first time to support learning German. A retrospective analysis was conducted through a questionnaire with 12 open-ended questions (participants can enter their own opinion) and a closed-ended questionnaire (the unit of measurement was Lickert scale). Data were collected and processed in the statistical program data processing (SPPS version 23) for the application of descriptive and inferential statistics. In order to further explain the obtained results, the Shapiro-Wilk normality test is used to validate the assumption of normality. Figure 1 shows a screenshot of the individual podcasts posted that are implied in the Google Classroom.

Figure 1

Screenshot of the individual podcasts posted that are implied in the Google Classroom.
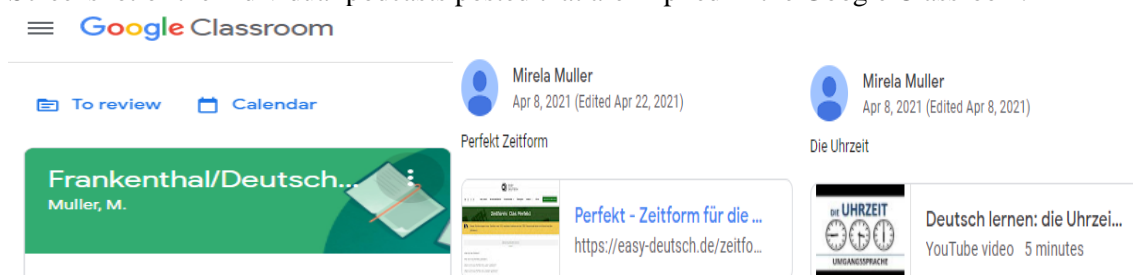
(Source: authors)

3.1.1. Research questions and educational content of the podcast

Students were motivated to work on podcasts because the topics were from everyday life. One of the questions was: how often, when and under what circumstances have you watched a single video podcast? Please describe in your own words. As well as these questions: What problems did you notice when dealing with podcasts; How would you describe a useful video podcast, and please explain: What should German teachers' pay particular attention to when using podcasts? As part of a German seminar, which was intended to focus on the targeted training and development of language skills and abilities, the respondents worked with didactic podcasts for a total of four weeks. This was the didactic video podcast offered by educators and Germanist Mirela Müller and Annette Schauberger inserted the e-material of podcasts through Google Classroom. The formulated podcasts offer several topics f z. B. the audio offer "Top topic with lexicon vocabulary" then another example of the podcast offer was "My life in Germany"; "My family", "My work", "Abroad and I" etc., which is suitable for learners of German from level A1. The tasks for listening and listening-sighting comprehension enable the respondents to learn German independently and they are always divided into three categories: pre-seeing, during-seeing, and post-seeing tasks. Other research questions related (i.e., the last four) to a closed-ended type of question where their assessment of motivation for a particular variable was examined using the Likert scale.

4. Results

The results are recorded in Table 1 in the form of a ranking.

Table 1

Descriptive statistics on motivation to engage in video podcasts

| Number	Items with subscale	%	MD	SD
1.	I enjoyed working in the seminar. (Interest/enjoyment subscale)	13%	1.35	0.54
2.	I believe that working with Podcasts is important because it can help me learn German. (Usefulness/usability subscale)	11%	2.25	0.87

3.	I found watching VPs to be quite enjoyable. (Interest/enjoyment subscale)	12%	3.25	0.66
4.	I was very relaxed while working with Podcasts. (Subscale pressure/tension)	11%	2.26	0.41
5.	After listening to Podcasts I felt good enough. (Subscale Perceived Competence)	24%	2.51	0.61
6.	I felt it was my choice to do the job. (Subscale Perceived Freedom of Choice)	8%	4.79	0.53
7.	I should work hard on it. (Subscale effort/importance)	6%	1.48	0.96
8.	I did this because I wanted to. (Interest/enjoyment subscale)	15%	3.89	0.46

(Source: authors)

Table 1 indicates that 24% of respondents felt that "After listening to podcast I felt good enough. (Subscale Perceived Competence)", then 15% (I did this because I wanted to. (interest/enjoyment subscale)", 13% "I enjoyed working in the seminar (interest/enjoyment subscale)" then 12% I found watching podcasts s to be quite enjoyable. (interest/enjoyment subscale) and at least 11% stated "I believe that working with podcasts is important because it can help me learn German (Usefulness/usability subscale) and" I was very relaxed while working with podcasts (subscale pressure / tension). In the following days, the results for all available interpretative answers are accepted

Figure 1
The results for all available interpretative answers are accepted.
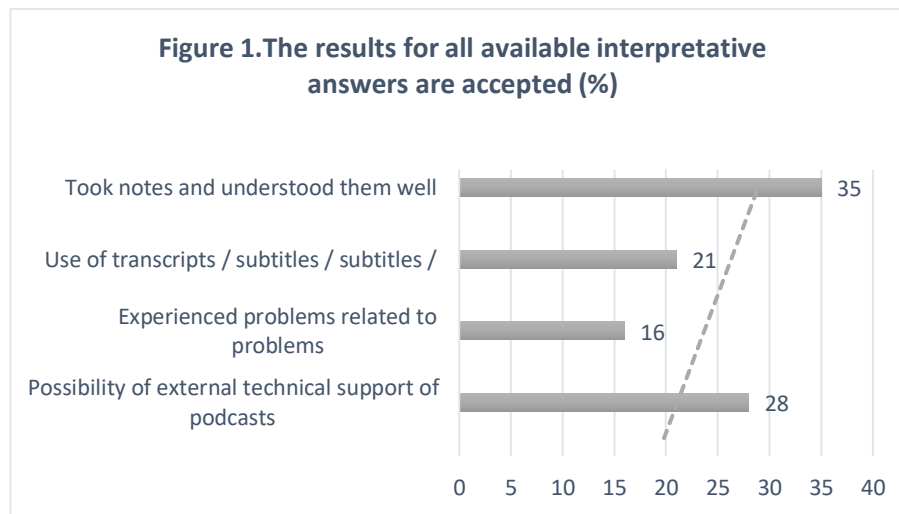
(Source: authors)

The results indicate that 35% (M=3.51, SD=0.42) of respondents believe that they took notes and understood podcasts very well, then 28% (M=3.51, SD=0.42) believe the possibility of external technical support of podcasts, and 21% (M=1.25, SD=0.41) believe that the use of transcripts/subtitles is very good. Figure 2 contains the data and results of the question with the theme the view of the podcasts.

Figure 2
The data and results of the question with the theme the view of the podcasts.

Figure 2. The results for all available interpretative answers are accepted (%)
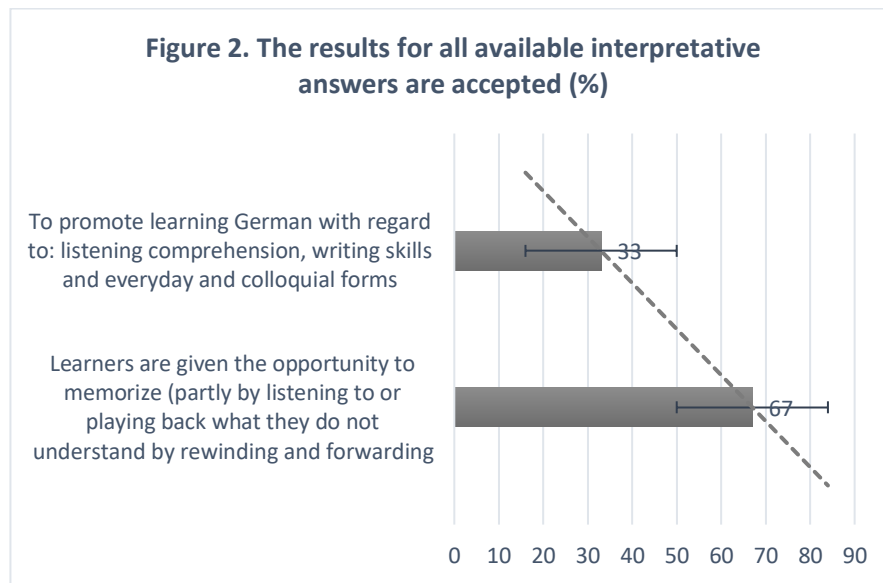
(Source: authors)

Figure 2 indicates that 67% of respondents (M = 1.25, SD = 0.61) believe that the podcast offers them the opportunity "Learners are given the opportunity to memorize (partly by listening to or playing back what they do not understand by rewinding and forwarding"). Then 33% of respondents are of the opinion that podcast helps to promote learning German with regard to listening comprehension, writing skills and every day and colloquial forms". The table shows the following: There is a positive learning climate when learning German with a podcast, so learners are motivated. Assess the study participants podcast as effective learning, because they enable multi-channel reception as well as active and sustainable learning. The data and results for the question with the topic "Well suited/motivating podcasts" were recorded. The following is established: The criteria for the selection of podcasts refer to thematic requirements. And the criteria when selecting podcasts refer to the corresponding degree of difficulty of the podcast and thus to aspects such as age, level, speaking speed, video length, didactic elements, and music. Choosing the right podcasts leads to increased learner motivation. However, choosing the wrong podcast leads to concentration difficulties or demotivation. Here it is very good to consider that it is always necessary to imply e-didactic principles when formulating the podcast material.

Figure 3
Other reasons for using a podcast.

Figure 3: The results of respondents for other reasons for using a podcast from the variable: I totally agree (%)

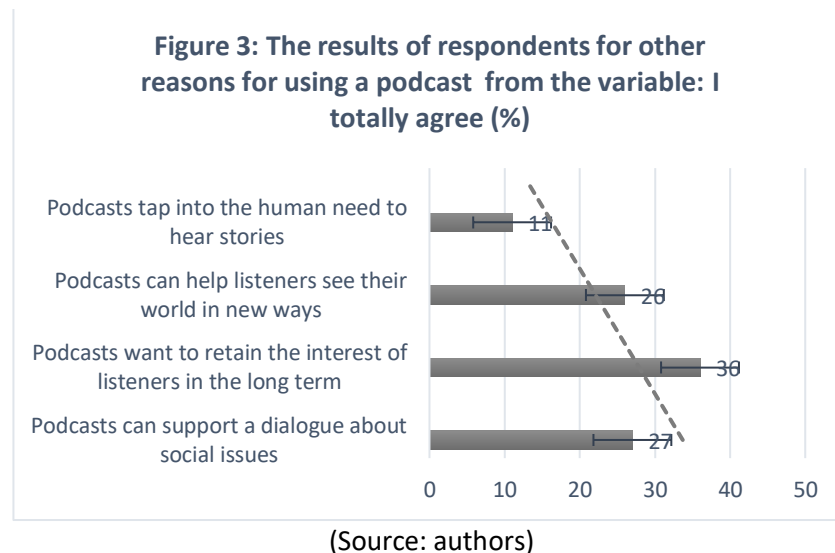|	
Podcasts tap into the human need to hear stories	11
Podcasts can help listeners see their world in new ways	20
Podcasts want to retain the interest of listeners in the long term	30
Podcasts can support a dialogue about social issues	27

(Source: authors)

Figure 3 shows the data of the other reasons for using a podcast. Opinions are that 36% of respondents (M = 1.25, SD = 0.48) consider podcasts want to retain the interest of listeners in the long term, then 27% (M = 2.45, SD = 0.98) podcasts can support a dialogue about social issues, then 26% (M = 2.41, SD = 0.78) podcasts can help listeners see their world in new ways and only 11% (M = 1.78, SD = 0.58), believe that podcasts tap into the human need to hear stories. Asked if you would continue your education in the future via the Podcast for level A2 to B1 if you could choose. The results of the respondents' opinions are shown in Figure 4.

Figure 4
Results of respondents' opinions on continuing language learning via podcasts.

Figure 4: Results of respondents' opinions on continuing language learning via podcasts (%)

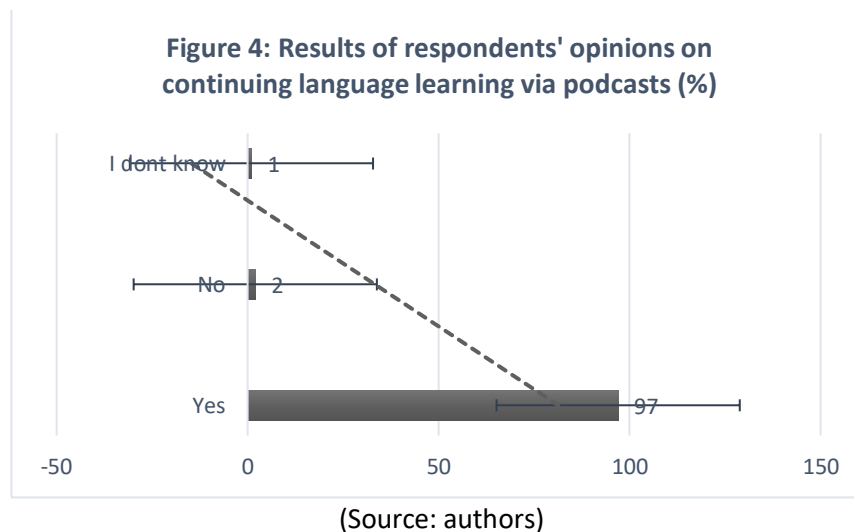|	
I dont know	1
No	2
Yes	97

(Source: authors)

Figure 4 indicates the data of the respondents' opinions on the continuation of language learning through podcasts. 97% (M = 2.41, SD = 0.47) of respondents would continue to learn other language levels such as A2-B1, 2% (M = 1.25, SD = 0.96) would not continue. This information is one of the key factors that can indicate the motivation of language learning through multimedia, i.e., the podcast allows Rome to learn at any time without the presence of teachers.

Table 2
T-test results-respondents' opinion: quality of teaching and intrinsic motivation "language and writing education" and the importance of the podcast for the socialization of a foreigner.

	Results-respondents/ foreigners				
	Subjects with predilection L2		Subjects with not predilection L2		t - test
	Mean	SD	Mean	SD	
quality of teaching and intrinsic motivation "language and writing education"	1.28	0.56	1.42	0.95	t = − 0.32 p = 0.75
the importance of the podcast for the socialization of a foreigner	4.45	0.41	2.45	0.78	t = 2.13 p = 0.03

Note: * - p<.05   Source: (authors)

No significant differences were found between respondents with prior knowledge of L2 and respondents who had no prior knowledge of the language in the variable between the effectiveness of the podcast for acquiring communication skills while slightly less showed a statistical difference close to - p <.05 in the variable importance of e-didactic educational material Socialization podcast for respondents with prior knowledge of a foreign language. Also, the researchers examined two teachers who were tutors of the podcast, the question was related to their opinion on the results achieved by the students at the center for Adult Education.

Table 3
T-test result - respondents' opinion: quality of teaching and intrinsic motivation to read the context using the podcast "language and writing education" and self-evaluation of foreign language learning.

	Teacher assessment				
	Subjects with predilection L2		Subjects with not predilection L2		t - test
	Mean	SD	Mean	SD	
quality of teaching and intrinsic motivation to read the context using the podcast "language and writing education"	2.15	0.42	2.91	0.93	t = 0.08 p = 0.72
self-evaluation of foreign language learning	1.08	0.98	1.55	0.48	t = 0.20 p = 0.63

Note: * - p<.05   Source: (authors)

No significant differences were found between respondents with prior knowledge of a foreign language and respondents without prior knowledge of the language in the variable between e-learning quality

and intrinsic motivation via podcasts for reading language and writing contexts and self-evaluation of foreign language skills.

5. Conclusion

The didactic potential thus includes various aspects, which are mostly discussed in the specialist literature in the form of field reports or as didactic-methodical suggestions. This is initially not surprising and necessary when new technical possibilities arise from newly developed media and applications. Podcasting for education has been prolific in recent years, both inside and outside of educational institutions. A growing number of higher education institutions around the world have incorporated podcasts into both on-campus e-learning modules [14]. The teachers first have to be familiar with these media in order to use them in their lessons, and it is helpful to see practical examples of what a methodically and didactically meaningful use can look like. From the point of view of foreign language research, however, there is an urgent need for empirical research to be carried out in this area. These results can be an indicator of a successful teaching process as a new e-didactics in adult education but also a motivation for future professionals in adult education centers, including higher levels of language learning. The results indicate that 35% of respondents believe that they took notes and understood podcasts very well, then 28% believe *the possibility of external technical support of podcasts*, and 21% believe that the *use of transcripts/subtitles is very good*. 67% of respondents believe that the podcast offers them the opportunity "Learners are given the opportunity to memorize (partly by listening to or playing back what they do not understand by rewinding and forwarding"). Then 33% of respondents are of the opinion that podcast helps *to promote learning German with regard to listening comprehension*, writing skills and every day and colloquial forms. No significant differences were found between respondents with prior knowledge of L2 and respondents who had no prior knowledge of the language in the variable between the effectiveness of the podcast for acquiring communication skills while slightly less showed a statistical difference close to - $p < .05$ in the variable importance of e-didactic educational material Socialization podcast for respondents with prior knowledge of a foreign language. No significant differences were found between respondents with prior knowledge of a foreign language and respondents without prior knowledge of the language in the variable between e-learning quality and intrinsic motivation via podcasts for reading language and writing contexts and self-evaluation of foreign language skills. This result was also to be expected because didactically designing podcasts can remove certain prejudices if someone has better prior knowledge does not mean that they will later overpower that student with poorer prior knowledge. In addition to individualization, the promotion of autonomy is now a didactic-methodical one that is often linked to too high expectations principle. Figure 4 indicates the data of the respondents' opinions on the continuation of language learning through podcasts. 97% of respondents would continue to learn other language levels such as A2-B1. Authentic podcasts can be used in foreign language lessons that have not been produced with a foreign language didactic intention and have not been modified for the lesson or foreign language learning. But there are also didactic podcasts. This means that the audio text is spoken more slowly and/or simplified in language. In principle, anyone can create audio or video files and upload them to a corresponding server. That is why the range of podcasts available on the Internet is very large, but the quality also varies greatly. Podcasts do not provide any technically completely new possibilities, but they combine the advantages of the previous process and product media (multiple listening, topicality, large amount of material, low costs) and offer the possibility of simple production and distribution or publication of audio and audio-visual texts [14]. Podcasts make it possible to carry out listening texts not only as a joint activity with the whole class but also in other organizational forms, e. g. in a group or individual work, the students can - depending on their performance level - work with different listening texts or listening comprehension tasks and work on them at their own pace [12]. In addition, independent learning is also possible outside foreign language lessons with the help of podcasts. A podcast offered regularly over a longer period of time can give independent learning a fixed rhythm, i.e., clock it, and thus serve as a *learning pacemaker*. Podcasts do not provide any technically completely new possibilities, but they combine – as we have seen – the advantages of the previous process and product media. Nonetheless, podcasts are widely seen as positive learning tools that can

have the tangible benefit of bringing teachers and learners together, often across long distances. Rather than being framed as tools for enhancing student grades, then, podcasts are widely seen as a means for engaging students in ways that might motivate them in learning content and increasing rapport between teacher and students [15]. New media such as podcasts should be taken up and discussed by e-didactics. Above all with regard to the extent to which they can be integrated into regular teaching and linked to working on educational standards, other media, and teaching scenarios. Podcasts offered over a longer period of time can give independent learning a fixed rhythm, i.e., clock it, and thus serve as a "pacemaker for learning". Above all with regard to the extent to which they can be integrated into regular teaching and linked to working on educational standards, other media, and teaching scenarios.

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