

# Learning Technology Development through Podcasts for Auditory Learning Styles

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## ABSTRACT

Students have a variety of learning styles, with most of them being auditory learners. Auditory learners need at least a sound learning tool, while the available tools are written in a more visual form. Audio podcasts are a solution for auditory learners to understand and improve their understanding of teaching materials. Audio podcasts are an innovative means that are efficient in terms of the use of internet data packages and their facilities. Audio podcasts are quite effective in student learning and understanding. Through lecture operations in the past year, the increase in student final grades after using audio podcasts as a support for increasing knowledge and learning.

**Keywords:** *Podcast, auditory, learning*

## 1. INTRODUCTION

Students have a variety of learning styles, ranging from visual, auditory, and kinesthetic. Three learning styles require different learning methods. For now, visual learners can learn by paying attention to lecturers' lectures in class and through videos, as well as by reading ebooks and hands-out. For kinesthetics, you can learn by practicing making service blueprints and experiencing first-hand service experiences (service diaries). Auditory learners (amounting to 30% of the world's population - Reuters Institute data, 2016). can learn by listening to lectures from lecturers in class. But this is not sufficient for auditory learners when facing exams, because they need material that can be heard repeatedly to face the exam. The use of video is one solution for auditory learners, but the availability of teaching videos is very limited, the ability of lecturers to make videos is limited, and lecturers also need quite large equipment, time and production costs. One solution that can be used is a podcast. Podcasts are sound recordings that are published online. Simply put, lecturers only need to record their voice with a cellphone or recorder when teaching in class or record themselves in another room, then publish the voice recording through the Spotify, YouTube, or anchor application. The voice recordings can be listened to by students over and over again (with an internet data

package that is smaller than streaming video) and can help the learning process effectively and efficiently.

The position of the Service Marketing course in the curriculum structure is an advanced course of marketing management with a function as the Sub-Major (concentration), and is a compulsory subject for marketing concentration students in the undergraduate management study program, which is offered in semester VI with weights 3 credits. This course is also offered in the Diploma program at the Faculty of Economics.

Service marketing course is a course that comes along with growing and increasingly influencing the service sector in the economy both locally and globally. Through service marketing students will understand services from a marketing perspective, covering basic concepts of services, service consumers, segmenting-targeting-positioning services, business pricing and revenue, service distribution, education and promotion, service processes, physical environment, managing people, balancing demand and productivity capacity, customer relationship management, service quality and recovery.

The objectives or learning achievements of the service marketing course are: so that students are able to understand the concept of services and their adaptation to marketing principles, be able to analyze and manage the marketing mix for services, be able to implement

profitable marketing strategies, and be able to create service blueprints.

This subject contributes to the learning outcomes of the study program by showing a responsible attitude to work in their field of expertise independently, mastering theoretical concepts and management science, applying logical, critical, systemic, and innovative thinking, in the context of development and implementation of science and technology according to the area of expertise, has research ability, makes feasibility studies in the form of service blueprints, understands cases and best practices in the business world.

Teaching materials for service marketing courses currently use powerpoints, ebooks, and videos (not homemade videos). The learning method used is student centered learning (SCL) by involving students in presentations, service experience analysis (service diary), discussion and analysis of case studies, and practice of making service blueprints.

The assessments carried out in measuring student learning achievement have been applied so far through assessments during assignments, presentations and discussions, as well as assessments through written case studies with the "Analyze" level on the bloom taxonomy.

Even semester 2018/2019 service marketing course was attended by 49 students. With details of the final score, 11 students get A, 15 A- students, 10 B+ students, 7 B students, 5 B- students, and 1 C+ student. As a concentration subject, students' scores are expected to be better.

### ***1.1. Purpose***

Helping students with auditory learning styles in mastering lecture materials. Helping students in general to learn in a way that is easier and can be taken (multitasking) because it only uses audio devices, so it can be helpful for commuters. Increase the diversity of technology and innovation in learning methods. Solutions that make it easier in terms of production for lecturers to produce teaching materials that are online and can be applied in blended learning. As an efficient and effective learning for students and lecturers.

## **2. METHOD**

The revision of the RPS (Semester Study Plan) is carried out by providing a choice of innovative and diverse learning methods, so that each student with different learning styles has the support of teaching materials that can help achieve learning outcomes effectively. The RPS will follow the online or blended RPS format, by adding a column for learning methods and technology media.

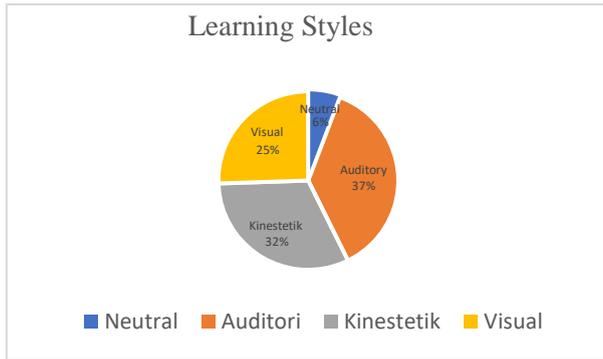
The learning technology used is online teaching materials with podcast audio format. According to a Reuters Institute research [1] the internet allowed audio formats to revive, today everyone is connected to a radio device on their smartphone. The term "podcasting" was first pronounced in 2004 by Ben Hammersley to refer to audioblogs and online radio [2]. In 2005 Apple used the term Podcast for iPod Broadcasting (apple.com/id) [3], first introduced exclusively on Apple iPod devices. In its development podcasts can be used on various devices [4]. Podcasts are audio recordings in the form of radio programs, lectures and other programs available on the internet for free [5]. Lecturers can use the recorder application on their cellphone to make voice recordings, and publish the recordings online, so that students can listen to them on their own devices (cellphones, tablets, laptops, etc.).

The implementation of this technology is planned to be implemented in the last half semester of 2019/2020 lectures. In the RPS, it will be added to learning methods and technology media, and students can use all the methods offered.

A comprehensive evaluation will be carried out at the end of the semester by asking which method is their main preference, and how they respond to the use of podcasts in the teaching and learning process. In addition, the evaluation is also carried out through the results of learning outcomes and the distribution of the final score of the Semester Final Examination.

## **3. RESULT**

Development begins with creating and conducting online quizzes for students taking service marketing courses through the kuisonline form containing questions about student behavior and psychology. Through the questionnaire, it can be seen the types of learning styles for each student.



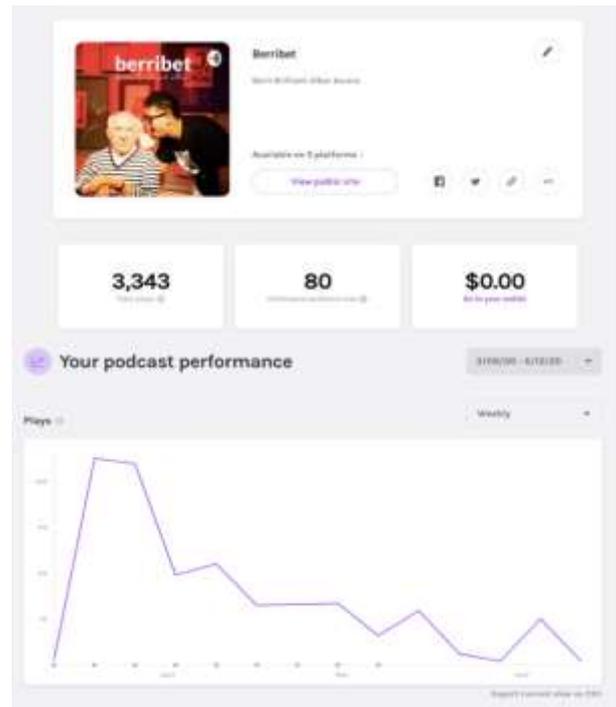
**Figure 1.** Learning Styles

Based on the results of the quiz, it was found that the majority of students in the service marketing class had an auditory learning style. This learning style is in accordance with the podcast audio teaching learning method which is expected to help auditory learners to gain an understanding of achieving learning outcomes.

Revision of the RPS (attached) is done by entering the ilearn link for the service marketing course so that it can be enrolled by students. In addition, the auditory learning method / style in the learning media column is also added with education on the use of the audio podcast application (the applications selected after being selected and tested are: anchor, spotify, and google podcast). The explanation of this teaching style method is also conveyed via audio media at ilearn. Through this explanation, students are expected to be able to understand this audio teaching method (which is still the only one they encountered during college). Ilearn display is made as attractive as possible with an aesthetic visual appearance. On the ilearn web, students get written and audio information.

The implementation of teaching materials is carried out by making teaching materials in online audio format. Teaching materials are recorded online on the anchor application. Audio teaching materials are explanations along with examples of handsout teaching materials and textbooks. Through this audio format lecturers provide quota-efficient teaching media and can also be listened to anytime anywhere for commuters. To make this teaching material, a cellphone with good recording tools, a podcast application, and a quiet environment is needed so as not to interfere with the sound recording process. Currently, 8 audio materials for service marketing courses have been produced, and a total of 30 teaching materials for marketing courses as a whole that can be accessed at

<https://anchor.fm/berribet>



**Figure 2.** Podcast Performance

Since being published on March 22<sup>nd</sup>, 2020, this teaching audio has been temporarily accessed 3,343 times and has received monetize and sponsorship offers. Through podcast performance analytics in the lecture period March to June 2020, listener preference data is obtained. The demographics of students who access teaching audio can be seen that the majority of podcast listeners are male, aged 18-22 years, accessing via cellphone using an anchor application. The advantage of this audio teaching is that auditory learners can access this teaching material repeatedly, especially when the final semester exams (UAS) will be held to improve understanding and prepare for UAS, it can be seen that there are repetitions of online podcast access during the final semester exam period.

The final evaluation is also carried out after the UAS to find out the use of audio teaching in facing exams and how it impacts on student understanding and learning outcomes at the end of the semester. Evaluation is carried out through filling out online questionnaires by students about learning experiences with audio teaching materials in service marketing courses.

Based on student preference data, the lecturer method of learning lectures or material delivery is the

majority preferred, followed by group discussions. This activity can be done in class or online.

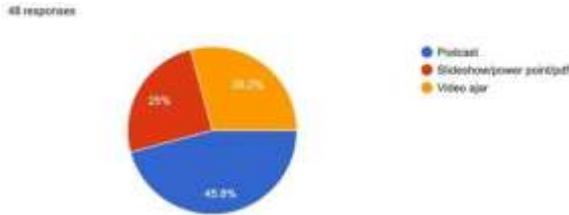


Figure 3. The Preferred learning tool in this course

The most preferred learning facility in this course is an audio podcast, and to communicate students prefer the use of the learning management system (LMS) facility and the Whatsapp messenger application.



Figure 4. Easier to Understand this Course Material with

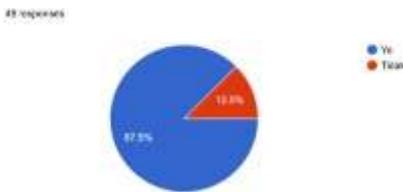


Figure 5. Re-listen to the Podcast for the Exam

Students have various options to gain an understanding of teaching materials with the various learning facilities available. The choice of 50% of students used a combination of using audio podcasts while reading the slide teaching materials. 87.5% of students returned to listening to audio podcasts online or which have been downloaded repeatedly for final semester exams.

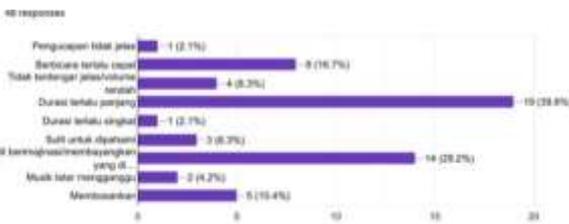


Figure 6. The Weaknesses of this Podcast

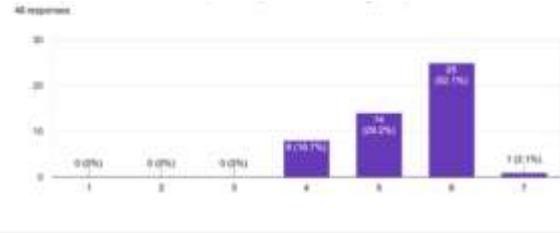


Figure 7. Level of Understanding

This audio podcast has several weaknesses, such as too long duration (more than 30 minutes), difficulty visualizing audio with limited visuals, and delivery of material that is too fast. However, this condition is still within the tolerance limit so that it can fulfill the quality of student understanding at a very good level.

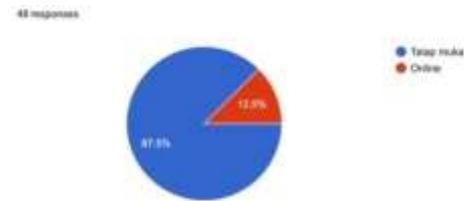


Figure 8. The Preferred online or face-to-face

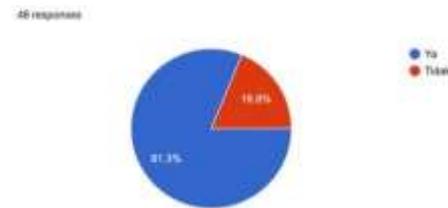


Figure 9. The need for Podcast in Regular Learning

As much as 87.5% of students prefer face-to-face lectures. This method is considered better than online according to student preferences. However, online material can be used to support face-to-face learning, online material is used by students as a complement to material, materials for repetition of learning to increase understanding and test preparation.

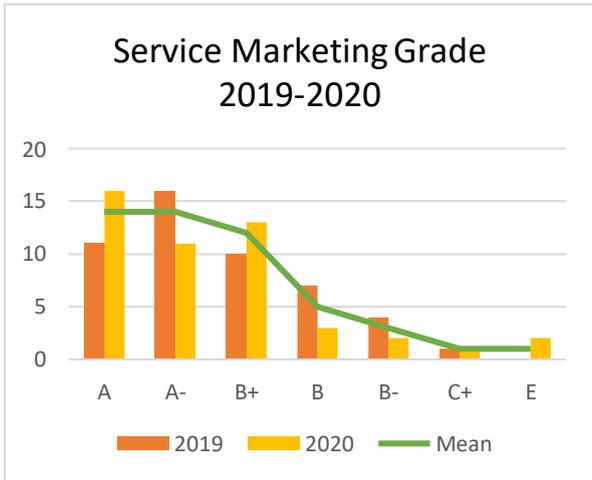


Figure 10. Service Marketing Grade 2019-2020

The average student score in 2019 was 3.48, for 2020 the student score increased to 3.60, there was an increase in the value of 0.11 with an indication of better learning outcomes. With the conditions of the learning process that experienced a drastic change from the previous year, from conventional face-to-face lectures to online lectures with the main teaching materials presented through audio podcasts and supported by slides or supporting materials.

#### 4. CONCLUSION

Instructional audio podcasts are an efficient and effective method of approaching online learning. Audio podcasts offer low data usage plans, only needing a listening sense so they can support multitasking and commuting. Audio podcasts are useful for students, especially learners with an auditory style to improve comprehension over and over. It is proven that the full use of podcasts supported by written material can replace the conventional face-to-face learning process, and still fulfill learning outcomes, and increase student understanding as evidenced by an increase in final grades.

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