Learning to Create a Blend through Podcasts

A Case Study

RUSSELL D'SOUZA*

Abstract

Learning through technology is a gateway to acquisition and processing of information. A plethora of digital technologies, including podcasts can make learning interesting, enriching and efficient, thereby adding a blend and taste to learning. As teachers are crucial partners in the learning process, they need to be equipped with a variety of digital skills to create digital learning material such as podcasts. The paper focuses on enabling student-teachers to understand the dynamics of podcasts, create them, measure their attitude towards the developed podcasts and also their reaction to use of podcasts in learning.

INTRODUCTION

Innovations in digital technology through the years have brought in new opportunities not only for the general public, but for education too. Particularly, the younger generation has witnessed a plethora of technological devices, such as smart phones and other hand-held devices, as well as computers during the later part of the first decade and within the second decade of this century.

Keeping in mind that the 21st century learner is a 'digital native' in the words of Marc Prensky (2001) and that web 2.0 e-learning tools are transformational, learning can be made stimulating, captivating, interesting, up-to-date and be presented in diverse formats supplementing traditional pedagogies thereby facilitating a learner to learn at his/her own pace, own time and own needs.

BLENDED LEARNING

The term 'blended learning' means a learning environment that

* *Assistant Professor*, Nirmala Institute of Education, Panaji, Goa, India.

combines face-to-face instruction with technology-mediated instruction (Graham, 2006; Graham, Allen and Ure, 2003). Terms like 'hybrid', 'technology-mediated instruction', 'web-enhanced instruction', and 'mixed-mode instruction' are often used synonymously with 'blended' learning.

It is interesting to know that blended learning is slowly evolving and hence learning can also be beyond the classroom walls. There are distinct blended learning models that range on a continuum from teacher-controlled to pupil-controlled, as have been suggested by researchers and educational think tanks.

Podcasts

A podcast is a web-based delivery system that broadcasts a series of audio files known as episodes usually with a common theme made available on the Internet for downloading to a computer or portable media player which can be received by subscribers on their devices.

Podcasts are unique in that once a user subscribes to a podcast; a 'podcatcher' programme will then automatically download a new episode each time the media file becomes available, so that the user does not need to check for these updates manually.

Significance of the Research Study

What makes podcasts special in learning?

According to Huff (1991), using latest digital technologies is understandable or for that matter even commendable, but their use should be grounded by a sound educational rationale.

Podcasts are powerful because in real time they can be used as:

- *Substitute material* — a learner can access an entire podcast which is an actual substitute for what is taught in the regular class.
- *Supplementary use* — it can be used to provide supplementary material to assist learning beyond the core material that the teacher teaches in the class. The purpose here is to extend the learner's horizon by extrapolating (broaden or deepen) a learner's knowledge, providing summaries or a review.
- *Creative material* — the mind of the learner can be ignited by presenting conflicting views, ambiguous situations, and fallacies. Podcasts can also be used creatively to spark group discussion in-class and out-of-class. The focus is on generating a knowledge value.

How can a podcast influence face-to-face traditional learning?

- Keeps the learner engaged and motivated in learning as there is a shift in learning from the teacher to a scientifically developed podcast.
- There is learner control as the learner can decide what to listen to. And the order too.
- They can accommodate a variety of auditory stimulation messages such as narratives, stories, debates, etc.

- The podcast encourages listening flexibility as the audio material can be listened to again and again.

Should teachers be equipped in developing podcasts?

Teachers are expected to play a proactive role in designing learning material as the teacher who teaches a particular group of learners knows best about the learners. Though podcasts address just the auditory sense, yet they are powerful in creating a blend in the classroom.

Training student-teachers to create podcasts is an effective way to get them to design and implement constructivist pedagogies and enhance their ICT (information and communication technology) capacities in creating digital learning material to blend the traditional instruction with technology. Learning becomes captivating when children realise the presence of technology in learning. The creation of a podcast by student-teachers is a valuable task because it equips them with a real world skill; it provides an authentic task for them; and above all, it is an ideal means to immerse students in the process of inquiry and generate something innovative.

Objectives

- To develop two audio episodes per podcast per student-teacher.
- To measure the student-teachers' reaction (attitude) towards developing the podcasts.
- To analyse student-teachers' reaction to the use of podcasts in teaching.

Protocol Employed in Designing the Podcast

1. **Teaming**: Student-teachers were allowed to form their own teams comprising not more than four members each. It was mandatory that they belong to the same teaching method, e.g., science or history or mathematics.
2. **Pre-Podcast Phase**: The student-teachers were —
   - trained to conduct a needs assessment;
   - exposed to various modes of capturing audio; and
   - exposed to editing audio using Free and Open Source Software (FOSS).
3. **Design and Development Phase**:
   - Each team had to collaborate with the teacher concerned (in this case the author of this paper) to select the topic;
   - Chunking content;
   - Writing the specifications of objectives;
   - Determining the content validity using cross-group discussion (e.g., maths–maths); and
   - Writing the textual storyboard for the audio episodes.

The Hannafin and Peck (1988) instructional model was used to design the learning object. The three phases involved in the design are as follows.

1. **Perform a needs assessment**: In this case, to expound the Revised Cognitive Taxonomy *vis-à-vis* the original Bloom's Taxonomy.

2. **Design**: The focus here is on chunking content, writing the learning outcomes and writing the script appropriate to learner characteristics.
3. **Develop and Implement**: It is concerned with building the podcast that includes—sequencing the episodes, testing the episodes and uploading on Podomatic.
4. **Uploading and Implementation**: Podomatic was adopted as the Podcaster.

The graphic organiser presented below (Figure 1) will help the reader to understand the order of development of a podcast.

Methodology

Method

The case study approach was adopted in the study and two intact units (50 each) of B.Ed. student-teachers from a College of Teacher Education located in Panaji, Goa were a part of the project.

Sample

The sample for the investigation comprised altogether 99 student-teachers studying the B.Ed. programme in a Teacher Education Institute affiliated to the Goa University, Goa, during the academic year 2015–16.

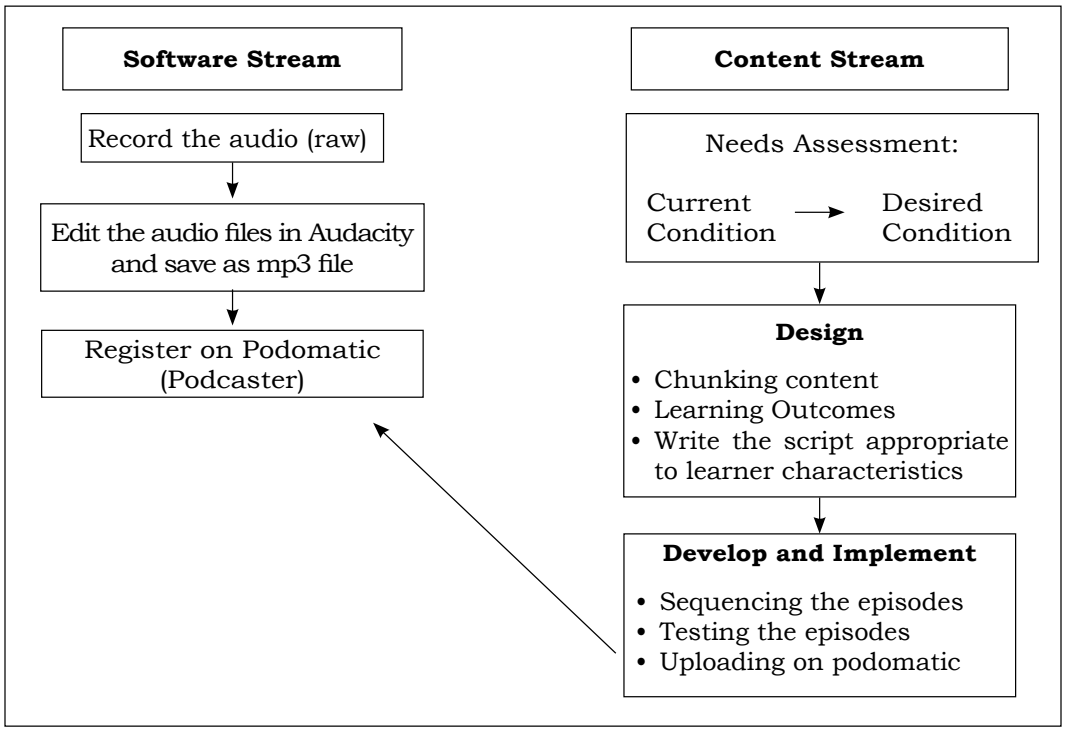


Figure 1. Development of a podcast

Instruments

To collect data the following tools were developed.

1. Digital Materials Development Tool (DMDT) — to measure the student-teachers' reaction (attitude) towards developing the podcasts. The DMDT comprises 16 items and was designed by the investigator.
2. Reaction to Podcasts in Teaching— A single open-ended question to analyse student-teachers' reaction to the use of podcasts in teaching.

Analysis and Findings

Objective No. 2

To measure student-teachers' reaction (attitude) towards developing the podcasts

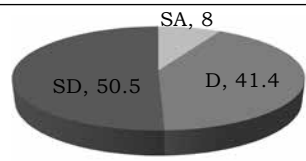
The reaction of the students towards the development of podcasts as determined by the 'Digital Materials Development Tool' (DMDT) was categorised into three categories as: high reaction, moderate reaction and low reaction to developing podcasts.

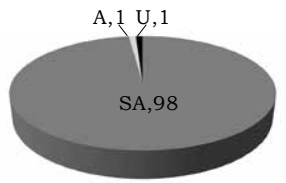
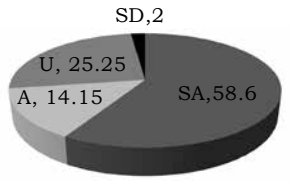
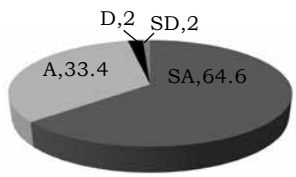
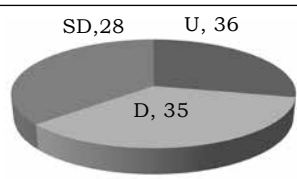
The categorisation for reaction towards DMDT was done as follows: low reaction is less than M-1SD, moderate reaction ranged between M ± 1SD and high reaction is M+1SD.

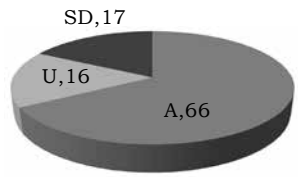
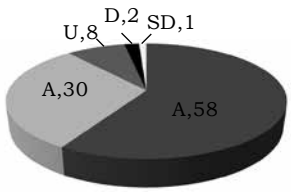
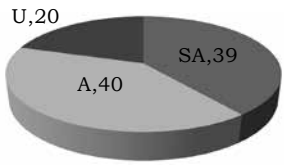
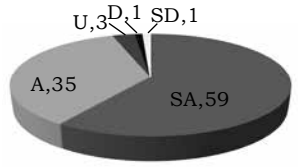
It was found that 15 student-teachers displayed a low reaction, 70 student-teachers displayed a moderate reaction and 14 student-teachers displayed a high reaction to developing podcasts. Being amateurs and developing a podcast was a new experience for all the student-teachers who were a part of the project.

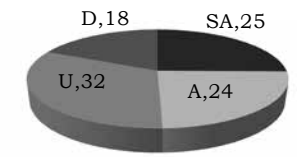
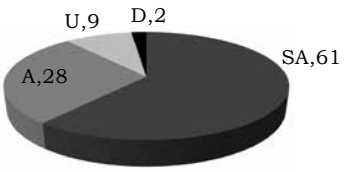
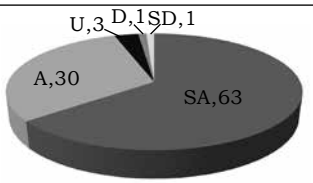
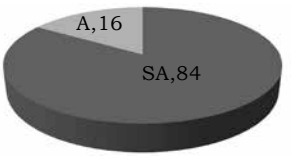
The item-wise analysis of the DMDT is presented in the Appendix.

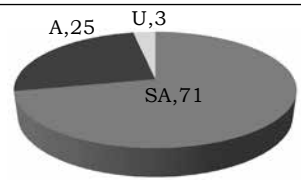
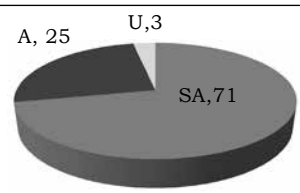
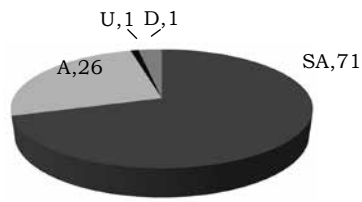
Table 1
Digital Materials Development Tool (DMDT)

S. No.	Statements	Findings (SA: Strongly agree; D: Disagree; SD: Strongly disagree; U: Undecided)
Planning		
1.	It is time consuming to learn a new sound editing software	 • 50.5% of the respondents strongly disagreed. • 41.4% of the respondents disagreed. • 8% of the respondents strongly agreed.

2.	Editing audio in the software is interesting	 • 98% of the respondents strongly agreed. • 1% of the respondents agreed. • 1% of the respondents were undecided.
3.	Calls for integration of personal, social and intellectual competencies	 • 58.6% of the respondents strongly agreed. • 14.15% of the respondents agreed. • 25.25% of the respondents were undecided. • 2% of the respondents strongly disagreed.
Development		
4.	Chunking of content requires a logical mind	 • 64.6% of the respondents strongly agreed. • 33.4% of the respondents agreed. • 2% of the respondents disagreed. • 1% of the respondents strongly disagreed.
5.	Writing a script for the podcast is tedious	 • 28 % of the respondents strongly disagreed. • 35% of the respondents disagreed. • 36% of the respondents were undecided.

6.	Determining the content validity of the audio content takes time	 • 66% of the respondents agreed. • 16% of the respondents were undecided. • 17% of the respondents strongly disagreed.
7.	Creativity and content competence is essential in developing pocasts	 • 58% of the respondents strongly agreed. • 30% of the respondents agreed. • 8% of the respondents were undecided. • 2% of the respondents disagreed. • 1% of the respondents strongly disagreed.
8.	Vocal quality must appease the audience as the podcast addresses only the auditory sense	 • 39% of the respondents strongly agreed. • 40% of the respondents agreed. • 20% of the respondents were undecided.
9.	Language competency is necessary in developing podcasts	 • 59% of the respondents strongly agreed. • 35% of the respondents agreed. • 3% of the respondents were undecided. • 1% of the respondents disagreed. • 1% of the respondents strongly disagreed.

10.	Designing the audio episodes matching the learner chaacteristics such as language ability, age and readiness was difficult	 • 25% of the respondents strongly agreed. • 24% of the respondents agreed. • 32% of the respondents were undecided. • 18% of the respondents disagreed.
11.	Designing a focused audio material is way different from a raw audio	 • 61% of the respondents strongly agreed. • 28% of the respondents agreed. • 9% of the respondents were undecided. • 2% of the respondents disagreed.
Implementation and Uploading		
12.	Testing the podcast prior to uploading is necessary	 • 63% of the respondents strongly agreed. • 30% of the respondents agreed. • 3% of the respondents were undecided. • 1% of the respondents disagreed. • 1% of the respondents strongly disagreed.
13.	Uploading the podcast onto the Podcaster was troublesome	 • 84% of the respondents strongly agreed. • 16% of the respondents agreed.

Overall		
14.	Learnt a new ICT tool to transact the content	 • 71% of the respondents strongly agreed. • 25% of the respondents agreed. • 3% of the respondents were undecided.
15.	Enjoyed the podcast creating project	 • 71% of the respondents strongly agreed. • 25% of the respondents agreed. • 3% of the respondents were undecided.
16.	Lack of ICT skills impedes content development	 • 71% of the respondents strongly agreed. • 26% of the respondents agreed. • 1% of the respondents were undecided. • 1% of the respondents disagreed.

Objective No. 3

To analyse student-teachers' reaction to the use of podcasts in teaching

The respondents were presented with an open-ended question as follows, to gather data for Objective no. 3.

How would podcasts help learners?

The response made by the student-teachers is presented in Table 2 along with corresponding frequencies and percentages.

Table 2
Use of Podcasts in Teaching

Engages students in independent learning	Helps in development of listening skills	Makes learning flexible	Accessibility and uniformity in input
75/99 (76%)	84/99 (85%)	79/99 (80%)	65/99 (66%)

- Table 2 reveals an interesting response made by the student-teachers who designed the podcasts in the case study. About 76 per cent of the student-teachers firmly believe that podcasts do and can keep learners engaged in independent learning. This means that students have the potential to learn independently through podcasts as a tool. Thus, they would learn to develop control over their own learning.
- Listening is the most important skill in learning and about 80 per cent of the student-teachers opine that podcasts can readily step-in and help students to develop their ability to listen carefully and patiently and develop the skill of interpreting what the message in the podcast is all about.
- About 80 per cent of the student-teachers opine that learning becomes flexible in the sense that the learners can learn at their own pace.
- A learner who misses a class may not be at a loss or for that matter, a student who misses a challenging problem in class can have access to it through a podcast that the teacher intended to blend in with the traditional class.

Conclusion

Though the going was tough, it was heartening to see that almost 85 per cent of the student-teachers displayed a positive reaction to developing podcasts. Even the item-wise analysis reveals very encouraging and supportive evidences that the student-teachers enjoyed developing the podcasts and also developed their ICT skills. Through the project they have also realised that podcasts can play an important role in a blended classroom.

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