Using Activity Theory to Analyse the use of Podcasts to Facilitate Scaffolding in a Higher Education Setting

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ABSTRACT
Information and Communication Technologies are multidisciplinary and have been shown to form a vital part of higher education. This study is a desktop research investigating how research explains the use of podcasts to facilitate scaffolding in a higher education setting. Podcasting and scaffolding are defined and activity theory framework is used to analyze studies where podcasts were used to facilitate scaffolding. Results show that podcasts helped students get an understanding on what was to be discussed prior to a face to face session, are effective in terms of unlimited availability and showed a great potential for scaffolding students with different strengths.

Keywords: Activity Theory, Podcasts, Scaffolding, Information and Communication Technologies

1. INTRODUCTION
The basis of Information and Communication Technology takes its roots from Information Literacy. Laudon and Laudon [1] argue that it is important to understand the difference between Computer Literacy and Information Literacy stating that “Most of us think only of hardware and software when we think of an Information System. There is another component of the triangle that should be considered, and that's the people side, or "persware."... [And if you]... add the "persware" angle with good feedback [then] you have the beginnings of information literacy.” Information Literacy is common to a number of disciplines, learning environments and levels of education and we are here particularly interested in Higher Education Institutions (HEIs). The International ICT Literacy Panelist [2] came up with a framework that illustrates the foundational set of skills and knowledge that underlie ICT literacy: cognitive and technical proficiency as shown below:

![ICT Literacy Framework](image)

**Fig 1: ICT Literacy Framework**

Proficiencies are defined as follows:
- **Cognitive Proficiency** — the desired foundational skills of everyday life at school, at home, and at work. Literacy, numeracy, problem solving, and spatial/visual literacy demonstrate these proficiencies.
- **Technical Proficiency** — the basic components of digital literacy. It includes a foundational knowledge of hardware, software applications, networks, and elements of digital technology.
- **ICT Proficiency** — the integration and application of cognitive and technical skills. ICT proficiencies are seen as enablers; that is, they allow individuals to maximize the capabilities of technology. At the highest level, ICT proficiencies result in innovation, individual transformation, and societal change.

“ICT literacy includes both cognitive and technical proficiency… [and]...while cognitive and technical proficiencies are both necessary components of ICT literacy, each is a distinct domain. This means Cognitive and technical proficiency each represent independent domains in which the associated knowledge and skills interact to influence ICT literacy.” Research has showed that effective use of ICTs in education leads to student achievement. An article on Using Technology to Improve Student Achievement cited Sivin-Kachala and Bialo (2000) who reviewed 311 research studies on the effectiveness of technology on student achievement. Results show “positive and consistent patterns when students were engaged in technology-rich environments, including significant gains and achievement in all subject areas, increased achievement in preschool through high school for both regular and special needs students, and improved attitudes toward learning and increased self-esteem.” The question that is raised from this in relation to the study would be how does research explain the use of Podcasts to facilitate scaffolding Learning.
2. DEFINING PODCASTING AND SCAFFOLDING

Podcasting is defined as referring to any software and hardware combination that permits automatic downloading of audio files (most commonly in MP3 format) for listening at the user’s convenience Educause Learning Initiative [3]. Educause Initiative further describe podcasts as giving listeners control over when they hear the recording…[and] makes use of the Internet’s Real Simple Syndication (RSS) standard. Instead of a central audio stream, podcasting sends audio content directly to an iPod or other MP3 player.” In higher education podcasting has been used to provide means for self-study where a student can self-pace specific content according to their understanding. With its affordance of playback-ability( Bower [4] podcasting allows lectures or other course content to be made available to students if they miss class Educause Learning Initiative [3]. By extending students’ reach and broadening students’ experience beyond the classroom, podcasts also promote scaffolding.

Scaffolding as defined by Cazden[5] as “a temporary framework for construction in progress”. Scaffolding requires the consideration of three main issues: the process of internalization, getting the answer versus getting the understanding, and the nature of knowledge being acquiredCazden [6]. Scaffolding got its roots from Vygotsky’s work though the term was never used by Vygotsky. Interactional support and the process by which adults mediate a child’s attempts to take on new learning termed “scaffolding” and is used in education to mediate students’ learning by a knowledgeable other. Steve Sloan came up with a list of ways in which the podcast tool can be used in learning such as distance learning, to facilitate self-paced learning, for re-mediation of slower learners, to allow faculty to offer advanced and or highly motivated learners extra content, for helping students with reading and/or other disabilities, for multi-lingual education, to provide the ability for educators to feature guest speakers from remote locations, to allow guest speakers the ability to present once to many sections and classes, to allow educators to escape the tedium of lecturing, to offer a richer learning environment.

This document seeks to analyze literature on use of podcasts to facilitate scaffolding in Higher Education using the Activity Theory Framework.

3. THE ACTIVITY THEORY FRAMEWORK

Activity theory as defined by Kuutti [7] “is a philosophical and cross-disciplinary framework for studying different forms of human practices as developmental processes, with both individual and social levels interlinked at the same time.” Kaptelinin [8] describes activity theory as a general approach rather than a highly predictive theory and draws on Leont’ev’s work by introducing the unit of analysis in activity theory as the activity consisting of a subject [individual or group], an object or motive, artifacts and sociocultural rulesLeont’ev [9]. Leont’ev [10] introduces hierarchy pointing out that “interaction between human beings and the world is organized into functionally subordinated hierarchical levels... and states three levels being activities, actions and operations. Kaptelinin[8] continues to define the hierarchy components. Actions are defined as “goal-directed processes that must be carried out to fulfill a motive.” In programming the term top-down design is used in the hierarchy and means the more complex problem /program (which is goal centered) is broken down into simpler subprograms (modules) which are easier to solve and the concatenation of the solution of these subprograms will lead to our desired solution of the original problem/program. The second level described in the hierarchy is operations which he defined as “functional sub-units of actions which are carried out automatically”. He explains that operations do not have their own goals but adjust action according to the current situation. Also Kaptelinin [8] points out internalization in terms of internal activities that cannot be analyzed separate from internal activities citing a reason that “it is the constant transformation between external and internal that is the very basis of human cognition and activity”. Internalization is then summed up as the transformation of external activities into internal ones and externalization transforms internal activities into external ones.

3.1 The Activity Theory Framework: As used by Mwanza

This article focuses on the interpretation of the Activity theory as presented by Mwanza[11]. Mwanza explains the activity theory as having its roots from the Vygotskyan’s concept of tool mediation where Vygotsky [11] originally introduced the idea that human interactions with their environment are not direct ones but mediated through the use of tools and signs and Leont’ev’s notion of activity.

3.1.1 Vygotsky’s Mediation Model

Relationship between Subject and Object not directed, instead Mediated by Tools.
Leont’ev [10] further developed the above model by introducing a hierarchical model of human activity. Leont’e describes an activity as initiated by a motive such as a need or drive which is made up of one or more actions, the completion of which satisfies the initial motive” Karasavvidis [13].

3.1.2 Engeströme’s Activity Triangle Model

This thinking inspired Engeströme [14] to come up with the activity triangle model which incorporates the Subjects, Object, and Community components and also mediators of human activity that is Tools, Rules and Division of Labour shown in the diagram that follows:

![Activity Triangle Model](image)

**Fig 3:** Activity Triangle model (Engeströme, 1987)

Daisy Mwanza [11] interpreted the activity triangle by Engeströme and came up with the eight step model as summarized below:

3.1.3 The Eight-Step-Model

Identify the:

- **Activity of interest**
  - What sort of activity am I interested in?

- **Object or objective of activity**
  - Why is the activity taking place?

- **Subjects in this activity**
  - Who is involved in carrying out this activity?

- **Tools mediating the activity**
  - By what means are the subjects carrying out the activity?

- **Rules and regulations mediating the activity**
  - Are there any cultural norms, rules or regulations governing the performance of this activity?

- **Division of labor mediating the activity**
  - Who is responsible for what, when carrying out this activity and how are the roles organized?

- **Community in which activity is conducted**
  - What is the environment in which this activity is carried out?

- **What is the desired Outcome from carrying out this activity?**

These eight steps that Mwanza [10] suggested will be used in analyzing three articles were podcasts were supposedly used to scaffold students in higher education. The articles are looked at starting with the description of the research and then the analysis.

4. ARTICLE 1: PODCASTS FOR EXPANSIVE LEARNING: A CASE OF REFLECTIVE STUDENT STORIES (NG’AMBI, 2008)

The paper is a two-year research project which analyzed the use of podcasts to mediate reflection in order to scaffold expansive learning. The research participants were registered for a post graduate diploma course with five (5) learners in 2007 used as a pilot and seventeen (17) in 2008 used as the focus group all with no prior experience to podcast use. Ng’ambi argues that learning and reflection are like two sides of the same coin, as one cannot exist without the other and explains that through scaffolding reflections; students can widen their perspectives on a given task and enrich their learning experience. From the research Ng’ambi concludes that podcast mediated reflective learning can scaffold expansive learning [and]… podcast mediated tasks need to be designed if podcasts are to have any meaningful impact on teaching and learning.
Fig 4: Tabulated form of Activity System as interpreted by Mwanza (2001)

### 4.1 Discussion and Analysis

The three contexts of expansive learning were used in the research as follows:

- **Context of Criticism**: during student seminars, individual students gave presentations on their understanding of an assigned article and peers asked questions which required spontaneous responses. The aim was to empower students to defend their positions and answer questions from peers;

- **Context of Discovery**: the post event activity required students to listen to the podcast of their presentation for self-critique and to reflect on their spontaneous handling of questions asked by peers. This involved reliving both their presentation and the presentation of others whereby learning from peers.

- **Context of Application**: to make the process of discovery worthwhile, students were required to write a two page reflective piece which had to be submitted for assessment.

The class size remained the same at seventeen (17). The average class attendance during the semester was fifteen (15). Podcasts were the third most used tool in the LMS during the semester under study with 3.3% usage as compared to other tools. There were 17 reflections, each narrating different ways students experienced tools used during the course. This shows that there was a positive response i.e.100% even though all students did not have prior experience with podcast use. Extracts from five reflections which represented voices that were echoed in different ways by other students were analyzed and two of these five were randomly selected in the analysis stage in this article. The discussed stories give insight into the relationship between task mediated podcasts, expansive learning and cognition.

The result of the first story analyzed had a student explaining how she had to repeat listening to the podcasts for citation and also having to do more research on a topic to gain more understanding of the concept under study. This shows evidence of scaffolding as a student had to discover new content and learn from it as well as apply knowledge by writing a reflective piece and citing other views which contributed to the student’s new knowledge.

The fourth story analyzed explains a student using the podcast in diverse socio-economic situations because they can be used in different ways, learning to revisit a previous lesson and critically engage with the lesson afterwards as quite exciting and being able to follow the seminar in a deep and critical way than the seminar time. The student could not believe until she/he had an opportunity to download some podcasts from the internet and listened to them. These shows all three contexts of expansive learning which is context of application through use of podcasts in diverse socio-economic situations, context of criticism by revisiting each presentation and critically engage with it and the concept of discovery through belief from the practical download of podcast.
5. ARTICLE 2: PODCASTING: A NEW TECHNOLOGICAL TOOL TO FACILITATE GOOD PRACTICE IN HIGHER EDUCATION: (FERNANDEZ, SIMO AND SALLAN, 2008)

The paper is an empirical study on an undergraduate degree course in Information Systems Management. The study consisted of the creation and broadcast of 13 podcasts, distributed over four months in which ninety distance students took part. The researchers evaluated the feelings, the perceptions, the reactions, and the suggestions of students and other teachers in relation to this tool through a permanent forum of discussion, emails, interviews and questionnaires, based on work by Breen et al. (2001). From the information obtained from all these sources, the use of podcasting was analyzed in relation to the principles for good practice in higher education. The findings of the research suggest some issues in distance courses, such as: (1) podcasting is a powerful tool as a complement to the traditional resources on a course, but not a substitute for them; (2) the characteristics of podcasting increase the impression of permanent contact between students and teachers, increasing students’ motivation; (3) the use of podcasting allows for a diverse range of student skills and learning methods.

This course was offered by the Universitat Politècnica de Catalunya at the School of Engineering ETSEIAT. The course had face to face contact cessions up to ten (10) hours and the main part of the teaching and learning process was carried out through the course intranet, which was made up of three parts: documentation (allowed students to download the guide and the calendar of the course, the textbook, some summaries, FAQ, open-source software, slides, some exams of previous semesters, and a set of exercises), communication (divided into three tools: the teacher’s bulletin board on which teachers uploaded important information about the course, which the students could access freely, the course forum where students could ask or suggest any questions or comments related to the course and personal communication where students could ask questions or make comments related to personal matters), and assessment (on-line exercises and to upload the students’ marks for additional off-line assessments). Two main problems were identified before the research from the questionnaires issued out by teachers which are some students had shown an increasing concern regarding the contact between students and teachers. Both the reduced number of classes and the great quantity of on-line and press documentation had created a certain “distance” between students, teachers and the university. Due to this fact, some students interpreted this as being abandoned somewhat by the teachers and the university. The second problem was related to the huge quantity of documentation. These students had highlighted the difficulty in reading all the documentation, learning it, and assimilating it, mostly due to two reasons: on the one hand, they lacked the necessary time to structure all the knowledge of the course and on the other hand, they were not used to studying only using printed documents and without classes. The coordinators decided to introduce a new technological tool in order to enhance the rest of the course teaching materials and contact between students and teachers. From this framework, the coordinators decided to introduce podcasting on the course. The podcasts were created by Garage band software (by Apple Inc.) and uploaded to iTunes Store with the name “ETSEIAT SI 2007” and free of charge. As not all students had MP3 players with image playing capabilities, the teachers decided to create two podcasts in parallel. The first one consisted of a traditional podcast, and the second one contained enhanced podcasts with power point slides. A preliminary questionnaire revealed that a large amount of students (51.1%) did not know what podcasting was. Therefore, the teachers created a pdf file providing basic information related to podcasting (e.g. what podcasting is, what kinds of podcasts there are, the original structure of the podcasts of the course, how to use the podcasts of the course as a learning tool, how to subscribe to these podcasts, etc.) and encouraging students to propose new ways to improve the podcasts.

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools</td>
<td>Thirteen podcasts were produced which were divided into three groups:</td>
</tr>
<tr>
<td>Subject</td>
<td>Instructor/Researcher</td>
</tr>
<tr>
<td>Rules</td>
<td>• Teachers proposed that students listen to these podcasts before beginning to study every chapter in order to get a global perspective of the chapter and to start to familiarize themselves with the vocabulary used.</td>
</tr>
<tr>
<td>Object</td>
<td>Student commented on podcast content and made suggestions</td>
</tr>
<tr>
<td>Community</td>
<td>• 90 registered students (60 participated fully, 20 partially participated and 10 did not participate)</td>
</tr>
</tbody>
</table>
| Division of Labour | • Lecturer prepared three groups of podcasts  
○ the first nine original podcasts related to the chapters of the textbook,  
○ two special podcasts to be
distributed before the mid-semester and the final assessment, and
  o two general podcasts where the teachers reviewed some important topics and exercises during the course.
  • Student listened to three groups of podcasts

### Outcome
Students evaluated their learning experience based on the features proposed by Breen et al. (2001).

### Fig 5: Tabulated form of Activity System as interpreted by Mwanza (2001)

#### 5.1 Discussion and Analysis

These results were expected due to the fact that it was the first contact with podcasting for many students (51.1%) and, more especially, with educational podcasting (93.34%). The second questionnaire was completed after the penultimate podcast on the course. Students then knew how to use the course podcasts perfectly, and were aware of their usefulness to achieve the goals of the course. The numbers in Figure 2 below reveal how the students’ perceptions of some features of podcasting were changing over time.

#### Fig 6: Extract of Results of the questionnaires about the use of podcasting at the beginning and the end of the course.

Fifteen features were analyzed and students’ responses from questionnaires emails and interview were described for each feature. This article however looked at four (4) of these features which can be linked to scaffolding which are efficiency, serendipity, interactivity and information quality. Also the general conclusions to the research were analyzed.

Efficiency increased as shown from the results of the questionnaire from an average of 4.07 with standard deviation of 0.96 up to an average mark of 4.27 with standard deviation of 0.85. The results obtained from the interviews revealed that students’ assessment of this feature increased due to two reasons which are: “at the beginning of the course, many students did not know how podcasting worked: [and that] they had some doubts about the time needed to obtain results from podcasts (e.g. did they have to take notes from the podcasts? or was listening to the podcasts enough?).” The result of the second questionnaire showed an improvement which is mainly due to experience with using podcasts “as students noticed that downloading podcasts was automatic, and they could use them anytime- anywhere, without wasting time or effort [and that] the information contained on the podcasts was easy to assimilate because their goal was only to introduce students to the content of the course.” I would pass a general conclusion that this was because of scaffolding that the students managed to make a significant improvement. Also podcasts offer an affordance of convenience which means students could download them anywhere and at any time convenient to them.

Second is the outcome of the ‘serendipity’ feature which had 4.05 average mark with a standard deviation of 0.82 for the first questionnaire and 3.86 average mark with a standard deviation of 1.03. The researchers expressed that they were “surprised because [they] did not expect the podcasts to get such a high value” even though it actually reduced from the first questionnaire. From the students’ explanations it was noted that the podcasts were used in two different ways that is: “before beginning to study the chapters of the textbook in order to get a global idea about their main topics and the structure of the chapter, [and] after studying the chapter of the textbook” The listening to podcasts prior to studying specific chapters helped students get the overall goal/objective of what they needed to achieve and the self-check of what they understood would mainly come from post-listening to the podcasts. This would make students revisit the parts that they did not understand in my view from the repeatability affordance of podcasts hence scaffolding themselves to higher levels of understanding.

Interactivity got values which were also interesting to the researchers that is the results of the first and second questionnaire were an average mark of 3.94 with standard deviation 0.81 and 3.51 average mark with 0.92 as standard deviation respectively, but to a lesser degree than they had imagined. From the forum posts and interviews students expressed different preferences for podcasting where according to the researchers “Some students had asked us for longer podcasts, while others had demanded shorter podcasts [and] some students had preferred a faster delivery, while other group of students had required a slower one.” Also students had varying objectives for requesting different
podcasts which may mean that every student would want the podcast to feed their diverse needs. In terms of scaffolding this would mean that each student will request information that they would need in order to get to a particular level depending with their prior understanding.

Lastly to be analyzed in this article is the information quality which was valid in relation to the main goal of the podcasts: to offer a global vision of the chapters of the textbook. Some students misunderstood the objectives of the podcasts and had wrongly interpreted their use which made them fail to get their expectations met. The instructors had to iron out the issue by going through the objectives and what they would help the students do in form of giving guides or lessons. This was the main reason given for the increase in the second questionnaire results which had an average mark of 4.01 with 0.94 standard deviation as compared to the lower value achieved from the first questionnaire with 3.74 average mark and 1.03 standard deviation.

The analysis was completed by analyzing information gathered from different sources such as interviews with students, the course forum, emails and open questions from the second questionnaire. The reduction of data (which was reduced and processed following the strategy proposed by Miles and Huberman (1994)) centered on identifying the positive (how podcasting has helped students from their point of view) and negative aspects (which characteristics of podcasting did students believe we should have modified). Five ways in which the podcasts had helped students in their learning process were identified as follows:

- giving an overall or global vision of the chapters, reducing the time required to study and assimilate the contents, and allowing them to efficiently manage their time;
- offering a new tool to review concepts that they had learnt during the week and during the course before the exams;
- increasing the feeling of proximity between students and teachers
- enhancing students’ motivation; and
- Allowing students to learn in different ways.

6. ARTICLE 3: USING PODCASTS TO DEVELOPCRITICALITY AMONGST POSTGRADUATE TESOL (TEACHING ENGLISH TOSPEAKERS OF OTHER LANGUAGES) STUDENTS: (EVISON AND PEMBERTON, 2009)

This paper is a research on an audio podcasting project which is known as “TESOL Talk from Nottingham” (or TTFN), which was used on the MA TESOL (Teaching English to Speakers of Other Languages) course and the other project that focused on online self-reflection at the University of Nottingham. The main aim of this research project was to promote postgraduate students’ critical engagement with theory and research. The research was focused on embedding the podcasts originally created as part of an ePioneers project more fully into the architecture of the MA TESOL programme. Students are encouraged our students to form out-of-class informal study groups or ‘learning circles’. These learning circles are an integral part of the programme, with three different circles being formed in week one of the autumn semester, each functioning as a forum for out-of-class activities relating to one of our three core modules. Students listen to the podcast individually before the group meets to discuss their responses to the tasks set. The summary of these discussions is posted to the module blog by the secretary.

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tools</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Podcasts made available on the TTFN site.</td>
</tr>
<tr>
<td></td>
<td>- Blog for reflection and discussion.</td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td>Tutor/Researcher</td>
</tr>
<tr>
<td><strong>Rules</strong></td>
<td>At least two people interact in the podcast.</td>
</tr>
<tr>
<td><strong>Object</strong></td>
<td>Students reflect on podcast content in study groups on the blog.</td>
</tr>
<tr>
<td><strong>Community</strong></td>
<td>2 Groups of Students: 1 in 2008 and 1 in 2009, Tutors</td>
</tr>
<tr>
<td><strong>Division of Labour</strong></td>
<td>Tutors must make key points clear during podcast production, reformulate what they feel might be rather complicated, and point out to the audience where further information may be found.</td>
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<tr>
<td></td>
<td>All podcasts are transcribed by a professional transcriber who has worked closely with the tutors during podcast production.</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Student post their reflections on the blog in response to learning circle tasks.</td>
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</tbody>
</table>
Fig 7: Tabulated form of Activity System as interpreted by Mwanza (2001)

6.1 Discussion and Analysis

The researcher’s first form of feedback was to ascertain whether they managed to produce accessible and appropriate podcast talk. This was done in two ways that is to carry out a computerized analysis and student feedback in form of answering an open ended questionnaire. Analysis of the podcast discourse revealed strategies used by the hosts to create both podcast and podcaster identity, particularly at the beginnings and ends of the podcasts. The second source of evaluation was through student feedback. A detailed open-ended questionnaire was completed by students. Sample key points results were as follows:

- consensus about podcaster roles: Hosts, journalists (digging for information), (friendly) interviewers, colleagues rather than supervisors;
- consensus about allowances made to the podcast audience: key questions asked, explanations given, clear, supporting information given, “they lead us to focus on what they want to talk about”, “when they are talking they just let the conversation flow – within perhaps a framework of what needs to be said”.

These results suggest that we have achieved our aim of producing clear and engaging academic conversations and interviews. One student summed it up thus:

“The idea of podcasting is to allow listeners ‘an ear’ into the conversation. Richard and Jane tend to summarise their comments regularly, which would not be the case if they were just having a general conversation between themselves.”

Next was to do an analysis of whether the podcasts helped to scaffold and integrate in-class and out-of-class learning. Two thirds of the way through the project, data was collected data on the students’ podcast listening habits as part of a broader survey of learning circle activity. The researcher was particularly interested in seeing the demands that learning circle-related activities made on students' time. At this stage of the semester, the students have listened to an average of 6 podcasts (with a minimum of 2 and maximum of 10).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time spent preparing for learning circle</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Minimum 30 minutes</td>
</tr>
<tr>
<td></td>
<td>Maximum 3 hours</td>
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<tr>
<td></td>
<td>Average 1 – 2 hours</td>
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<tr>
<td>B</td>
<td>Minimum 20 minutes</td>
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<td></td>
<td>Maximum 2 hours</td>
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<tr>
<td></td>
<td>Average 45 minutes – 1 hour</td>
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<tr>
<td>C</td>
<td>Minimum 10 minutes</td>
</tr>
<tr>
<td></td>
<td>Maximum 1 hour</td>
</tr>
<tr>
<td></td>
<td>Average 30 – 45 minutes</td>
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Results showed that of the three task-types set, those based on podcasts were the least time-demanding. Also podcasts managed to scaffold the students on the tasks that they were assigned.

Qualitative comments from the 2008 cohort and the 2009 cohort were evaluated as follows:

<table>
<thead>
<tr>
<th>2008 Results</th>
<th>2009 Results</th>
</tr>
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<tbody>
<tr>
<td>After the first few weeks of the semester, students’ concerns about assignment deadlines (the first one is mid-November) made them less well-disposed towards learning circle tasks which required them to do lengthy preparation. This suggests that podcasts are time-effective learning circle tasks, and may be particularly useful towards the end of the first semester.</td>
<td>In response to the prompt “How do you feel when you read what other students have blogged?” the results show a sense of engagement across a range of encounters with different people, such as:</td>
</tr>
<tr>
<td>• “Useful as an alternative perspective to look at certain topics.”</td>
<td>• “We can compare our ideas with others; we learn or realize what we didn't completely understand through other groups’ summaries.”</td>
</tr>
<tr>
<td>• “Sometimes you can find different ideas from mine.”</td>
<td>These results show that the students’ level of understanding of concepts improved and they were now able to be more critical in analyzing different learning tasks.</td>
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</tbody>
</table>
Final evaluation tasks carried out by the supervisor was on checking whether an academic discourse community evolving was in a supportive environment.

Qualitative remarks from the 2009 students in response to the prompt “If you had to describe the blogs […] to someone from another university, what would you say?” got a response that shows that as a discourse community, students developed, and that the learning circles and blogs were flexible spaces matured with them. Blogs were supportive environments with the potential to develop criticality as students would be able to write and respond to other students’ contribution building up on their knowledge. This also shows some scaffolding in the sense that sharing ideas would help other students get to understand the concepts that would have been difficult for them initially. Podcasts certainly appear to foster reflection and a critical but supportive response to others’ ideas. Quoted responses were as follows:

- “It’s a space where people feel free to talk about what they learned and are interested in, or not sure, related to English teaching.”
- “Informative, productive and lively place where we share our ideas freely.”
- “It is a good way to share ideas and know more about other students. I like this way.”
- “They are mostly the reflections of what we learned from the TESOL course.”
- “The blogs are a platform for students and tutors to share opinions about what we have learnt.”

Students in the 2009 cohort were asked about blogging. An example of a response from a student was as follows “I was a bit worried and checked my summary many times because ‘many people will read it’, another said “It felt like submitting an assignment”, and a third, “I felt nervous because there might be some spelling/grammar mistakes that I might not be aware of when I blogged”. Roughly the same number of students reported being uncertain when they first posted rather than overtly anxious, and for the most part the students reported a growing feeling of confidence and a sense of getting used to the online environment.

7. CONCLUSION

The three articles showed a similar result in which the results of students listening to podcasts in preparation of certain learning tasks or contact sessions helped students get an understanding on what to be discussed whether in a group or in a contact session with the educator.

Podcasts were also effective in terms of unlimited availability to the students and at the same time when a student downloaded the podcasts they could listen to it the number of times that would best make them understand the concept being learnt unlike in a face to face session were a teacher might not possibly repeat a concept enough number of times to the understanding of every student.

Podcasts also showed a great potential for scaffolding students with different strengths as each student would be able to concentrate more on their weak areas in their own space and could jump the areas that they had understood better. This self-pacing would result in each student being able to pass their zone of proximal development.

To conclude from the three articles examined, podcasts helped scaffold students who were in different levels of understanding of different learning areas. In higher education, podcasts are viewed as highly effective technology tools to help scaffold learning.

Although the podcasts are still considered “new” and not being used in many educational institution, they have proved in most areas that they were tested to be effective especially when they are being complemented by other forms of instructional delivery and feedback such as face to face, online discussions through blogging and forums and reflective writing.

REFERENCES


