〔Article〕

Digital Presentations and Collaborating with VoiceThread:

Integrating ICT in a University EFL Class with the SAMR Model

Matthew Caldwell

Abstract

This paper presents a description of how the author has integrated Information and Communications Technology (ICT) in his university English as a foreign language (EFL) presentation class with a digital storytelling webtool which fosters collaboration. This webtool, VoiceThread, is a web-based interactive, multi-media slide show tool which allows students to make slideshows based on images and videos, and then share them with their classmates or other students. A simple explanation of VoiceThread is given, followed by a rationale for using VoiceThread in the author's class. An outline of the activity covers learning outcomes, target language, task procedure, scaffolding exercises, and assessment. A critical reflection gives some suggestions on how the activity might be improved upon. The paper also reviews literature on aspects of pedagogy associated with this teaching practice, such as digital storytelling, collaboration, and the need for scaffolding. The author also introduces a commonly used model for technology integration in education known as the SAMR (Substitution, Augmentation, Modification, Redefinition) model and outlines how his use of VoiceThread for this task is guided by the SAMR model.

Keywords:
ICT, collaboration, digital presentations, VoiceThread, SAMR model

Introduction

The motivation for the author's initial use of Information and Communications Technology (ICT) in his university English as a foreign language (EFL) class came from a desire to implement learning that would be more meaningful for his students. Kivunja (2015) speaks of the 4 Cs – super skills that are essential for the 21st century – Communication, Collaboration, Critical Thinking, and Creativity. It is hoped that by incorporating these skills into the teaching activity outlined in this paper students can create a more authentic experience that will allow them to create knowledge for themselves. Integrating technology into one's teaching practice effectively can be a daunting task. While teachers may consider themselves reasonably proficient in using ICT in the classroom, applying it in a

manner that will benefit learners is not straightforward. Ertmore and Ottenbreit-Leftwich (2010) outline several variables that are critical for teachers to implement effective learning, one of which is possession of knowledge and skills that can make the connection between technology being used and the subject content. This paper attempts to illustrate how this connection can be made by using a model to guide the use of technology for learning. The technology used in this case is the webtool, VoiceThread.

Overview of VoiceThread

VoiceThread (http://voicethread.com/) is a web-based tool that allows the user to upload content such as images or documents, and then record narration on them either by text, audio, or video. There is also a notation tool function that allows the user to highlight various aspects of the image by drawing on top of the image (Figure 1.a). Users can share the presentation with others who can then themselves insert a comment by text, audio, or video. VoiceThread is an application that runs inside a web browser and can also be accessed via an app on mobile devices. Discussions between participants (which can be oral or text-based feedback) take place asynchronously. Each participant can be identified by their own icon and comments, which appear on the side of each slide (Figure 1.b). These comments are arranged in chronological order.

Notation tool

Figure 1.a. Adding VoiceThread notations
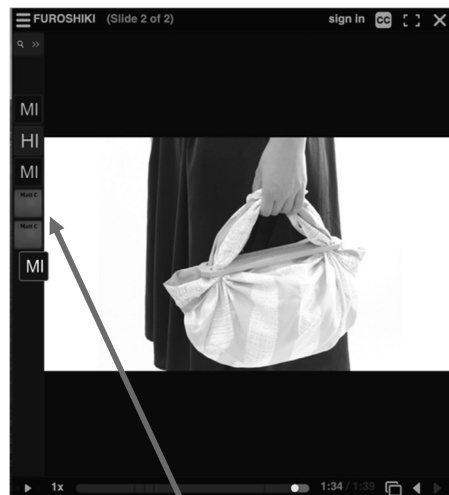
Student comments
represented by icons

Figure 1.b. Participant icons

The basic account offered by VoiceThread is free. This allows students to create five VoiceThreads, but with somewhat limited functionality. There is an option for teachers to purchase a classroom account which has many extra features. The teaching practice described in this paper uses the basic account.

Why use VoiceThread

When this author started teaching presentation skills almost ten years ago in a Japanese EFL university class, one aspect he struggled to deal with was the degree of shyness and nerves students had in the class at the start of the semester. The author sought ways to alleviate this nervousness and having students make their first presentation through VoiceThread has helped in this respect in that students are able to watch and rewatch their classmates' VoiceThread presentations before commenting on them. When it comes to creating the second presentation of the term, where students present using the more orthodox PowerPoint style, students are somewhat familiar with their classmates and have already had some interactions with them via VoiceThread comments. Ellis (1994) states that anxiety is the main cause of student reticence, and thus unwillingness to communicate. Wu (2010) adds that in Asia this is further compounded by Confucian values that promote a teacher-fronted learning environment and discourage individual self-expression. VoiceThread accommodates students who are very shy about making comments in public about their classmates' presentations. Polchow (2010) notes that VoiceThread helps to increase participation levels in class, and to break down the affective filters that many students have in a language class. The lack of time for reflection when a question is asked in a classroom can hinder student participation. The asynchronous nature of VoiceThread ensures there is sufficient time for students to reflect and proffer a response. According to Recchio-Demmin, 2009 (as cited in Kent, 2017, p.5) this helps to promote participation and builds up learner confidence.

Easing student anxieties is not the only benefit VoiceThread brings to the classroom. In a paper which sought to identify the essential elements needed to support the digital story-telling process, Price, Strodtman, Brough, Lonn, and Luo, (2015) noted that students liked VoiceThread for both its ease of use and its interactive aspect, which facilitated conversation-type exchanges with other students. Yaprak, Ward, Lester. and Tao (2019) found that the use of VoiceThread created numerous opportunities for interactions between students and the sense among students that they belonged to a virtual community. This is supported by Dyck (2007) who notes that teachers and students are using VoiceThread for storytelling and as an expository communication tool.

Activity outline

In this activity, students must use the online webtool, VoiceThread to create a *How-to* presentation that will help to explain an everyday procedure or process. Typically, there will be several steps in this process and students must explain these. The author implemented this activity in his university EFL presentation class. However, the use of VoiceThread is not limited to presentation classes, and a search of the VoiceThread homepage shows presentations covering math, science, business, and language related studies from K-12 and tertiary levels.

Learning Outcomes
After completing this activity, it is hoped the students will have acquired the following skills:

・Students will be able to explain how a process is conducted using discourse markers such as, first, then, next, etc.
・Students will be able to create a multi-media presentation that explains some process or procedure
・Students will be able to interpret comments made by other students on their own VoiceThread and compose replies either through text or verbal comments
・Students will be able to collaborate with their classmates

Target language

The use of sequence markers (first, then, after that, finally, etc.) when explaining a process, or how to do something.

Procedure

The students in the class first work together to create a list of potential processes that are part of daily life in Japan and on which they will later make a presentation on. The teacher offers some guidance here and prompts students by listing certain categories on the whiteboard, such as using public transport, payment methods when shopping, preparing foods, and describing Japanese customs. After choosing some procedures to describe, students collaborate in small groups of three or four to list up the vocabulary they will need when completing these processes. Examples might be the protocols observed in using a Japanese public bath, using the subways in Japanese cities, or explaining how a traditional Japanese dish is prepared.

Each student then chooses one process and prepares a written description of the process, with the teacher checking and giving assistance. Once this is completed, appropriate images to describe this process must be found. To make the activity more authentic, students are encouraged to use their smart phone to take pictures of the steps required in the process. If this is difficult to do, students can search online for suitable images. The next step involves uploading these images into VoiceThread and voice recording a description of the process. VoiceThread has a whiteboard function which allows the user to choose a pen and draw on top of the image as they explain the relevant step. When a student records a comment, there is an option to re-record the comment if students are not satisfied with their recordings. Students can also create a comment in text form rather than in spoken form.

The next step involves sharing the VoiceThread with both the teacher and some students from another group. This is done through the creation of a URL inside VoiceThread, which can be copied and shared with others. The URL for each VoiceThread presentation does not change, so students only need to share this URL with a classmate once. Students must then watch the VoiceThreads they have received from their classmates and record a question or comment about what they have seen. Following this, the original creator of the VoiceThread replies to any questions they have been asked in the comments by recording a reply/comment. In this way, the VoiceThread becomes an online back-and-forth between students, resembling a digital conversation.

Scaffolding

To help students prepare for the presentation, some scaffolding exercises are necessary. The author uses both listening comprehension exercises and dictation-type exercises which describe the steps involved in some typical processes that students are familiar with, such as buying a ticket in a train station, or taking a bath at a hot spring. Students are also given a template where they note the vocabulary and sentences needed when narrating the VoiceThread. To help students understand how to register for a VoiceThread account and how to create a VoiceThread, the author shows students a PowerPoint which outlines the relevant steps. This is saved in a pdf format and shared with students so they can reference it at their convenience. A model VoiceThread created by the author, which contains comments and questions, is also shared with students so they can see what a finished VoiceThread presentation looks like. Graphic organizers, which include flow charts and mind maps, allow students to process information more easily and also help to develop thinking skills such as contrasting, sequencing, and classifying (Montalto-Attard and Walter, 2021). The flow chart shown in Appendix 1 is shared with students and provides a reference point for students to guide them throughout the task.

Assessment

To assess students' performances in this task, a rubric was created to assess both the creation of the VoiceThread itself, and participation in the task through comments. This was adapted from a rubric constructed by Kent (2017) to evaluate VoiceThreads and can be seen in Appendix 2.

Reflection

When reflecting on the use of VoiceThread for this activity and possible improvements that could be made, two areas that caused difficulty were students' inability to collaborate effectively and poor ICT skills. In a paper on teacher and student perceived obstacles to effective student collaboration, Le, Janssen and Wubbels (2018) identify four common obstacles during collaboration. These are a lack of collaborative skills, free-riding, competence status, and friendship. Although it is somewhat of a subjective viewpoint, among these four, the first two obstacles seemed to cause the most difficulties in this classroom activity. These authors also tell us that included in the collaborative skills are the following: accepting opposing viewpoints, giving explanations, asking for help, negotiating, coordinating group activities, listening attentively, and giving feedback. One way to strengthen these collaborative skills would be to implement better scaffolding. The teacher can prepare some learning activities that involve a focus on acknowledging other viewpoints and giving explanations. Free riding, which can be defined as not doing your fair share in the group and instead leaving it to others (Le et al., 2018), was also a problem during this project. It is possible that an inability to collaborate may also contribute to free riding. While the scaffolding exercise to improve collaborative skills will most likely help to alleviate some of the free riding problems, students could also be asked to evaluate each other's contribution to the group activity as a way of encouraging them to contribute to the group effort.

Another aspect of this activity that proved more difficult than expected was a lack of basic ICT

skills from the students. Some students found it difficult to find and save suitable images from the internet or did not know how to move the pictures they had taken with their smart phones to a computer. In a paper about improving digital literacies at university level in Japan through presentations, Marceau (2019, p.314) notes that "as mobile natives, who might be more comfortable with traditional 'paper' learning, not all students seem to possess the skills and autonomy to improve their digital skills without implicit instruction". These findings are supported by the contents of a study assessing Japanese learners perceived e-readiness for learning English online by Mehran, Alizadeh, Koguchi, and Takemura (2017), who note that multimedia tools are not often used by Japanese university students but are more commonly used in daily life, as opposed to education contexts. The authors also note that many participants in their study were unaware of the usefulness of Computer Assisted Language Learning (CALL) tools in English language education.

One way to improve learning outcomes would be to have students first create a short VoiceThread on their own without needing to collaborate with their classmates. This would have the benefit of allowing them to become more familiar with the functions of VoiceThread before attempting the more difficult task of collaborating with classmates to explain some process.

Pedagogical aspects of VoiceThread

Collaboration

Vygotsky (1978) states that learning is a social process and that providing students with opportunities to learn together allows learners to "scaffold" off each other's learning. Walker and White (2013) point out that there has been a major technology-based change in higher education, with a shift to more collaborative learning for students. They comment on the difficulty that this can present for students who have grown up in a teacher-centered education system. Allowing such students the opportunity to study with technology-supported collaboration can be helpful for them. Brendon (2020) points out that as a high-context society, communication in Japan may rely more on context and shared knowledge to get information than in other cultures. Other cultures may be more likely to use the spoken word to get this information. This can be considered one reason why Japanese students may be reluctant to speak in front of their classmates. Brunvand and Byrd (2011, p.33) note the usefulness of VoiceThread in this regard in that "students who are often considered passive learners can become more actively involved through an ongoing transaction with the instructional content as well as with their peers".

Digital Storytelling

Literature points to the advantages of using ICT to help with digital storytelling for learning purposes. According to Kent (2017), VoiceThread can be used to share information, conduct discussions, receive feedback, or to tell a story. The latter is the focus of the classroom practice featured in this paper, in essence, digital storytelling using pictures. Discussing learning and multimodality, Walker and White (2013, p.85) note that technology allows teachers and learners to manipulate the various modes - to combine modes such as sound and text and images. They state,

"Presenting information simultaneously through different modes allows for a fuller understanding of information". In a study on the use of picture description to enhance communication, Lavalle and Briesmaster (2017, p.43) note that students in the study stated that using pictures promoted interactive communication because they were able to share ideas with classmates about the common topics. Wasilewska (2017) notes that, "Nowadays, images dominate the world of information". Referencing the popularity of emoticons, the author adds that the current generation think and communicate through pictures. She states that teachers need to realize that pictures in coursebooks do not provide sufficient interest for many students. She urges teachers to be more selective when choosing images to better promote discussions in classrooms. In a paper on the use of Interactive Whiteboards (IWB), Wall, Higgins, and Smith (2005, p.9) state that pupils associated the use of IWB with visual ways of learning and commented on how visual and verbal aspects of IWB use helped them learn better. Students commented, "The visual helps me understand the complicated things".

Teaching styles and the need for scaffolding

One of the reasons why Japanese students may be reluctant to speak out in class is that unlike other cultures, where the responsibility to make your message clear lies with the speaker, in Japan it is the listener's responsibility to comprehend what is being said to them. Embarrassment at not understanding what has been said to them can prevent Japanese students from seeking clarification (Hammond, 2007). A teacher-centered style where the teacher lectures in a transmission-style is prevalent in Japanese universities (Aoki, 2010) so the shift in responsibility from teacher to student required in the teaching practice outlined in this paper is something that teachers should prepare for. Webb and Cox (2004) note that teachers should consider the types and degree of support students need to use the affordances provided by ICT. Ertmore and Simmons (2006) advise that students can be supported through scaffolding, which they define as tools or strategies that help students gain an understanding that they could not attain without these tools.

Frameworks and Models for Integrating Technology in Education

Theoretical frameworks and models such as UNESCO's (2018) Information Communication Technology Competency Framework for Teachers (ICT-CFT), Koehler and Mishra's (2009) Technological Pedagogical Content Knowledge (TPACK), and Koole's (2009) FRAME (Framework for the Rational Analysis of Mobile Education) provide guidance for teachers who wish to implement technology in their classrooms. According to Judge (2016), for teachers who want to know how they can make the best use of technology in their classrooms, these frameworks and models can help teachers make the connection between what they know and how they can best apply that knowledge.

The SAMR Model

For the application of technology referenced in this paper, the author has used the SAMR model from Puentedura (2014) shown in Figure 2. This model presents a four-level approach for educators in how they choose, implement, and assess technology use in education (Hamilton, Akcaoglu, &

Rosenberg, 2015）．The（S）refers to substitution,（A）is for Augmentation,（M）is for modification, and（R）is for redefinition. The first two elements of SAMR, substitution and augmentation, are considered as ways to enhance learning, while the elements of modification and redefinition are thought of as ways to transform learning.

Puentedura（2018）offers explanations and some examples for each of the levels. The substitution aspect is considered as the most basic level of technology integration. The technology used is a direct replacement for what is currently being used and there is no functional change. An example might be a teacher teaching a course in poetry having students use an e-book to study some poems. In the augmentation stage the teacher might add some elements such as images next to the poems in the e-book that allow for different interpretations of the poems. Both levels can be considered to have enhanced learning, but not fundamentally changed it.

In the modification stage, learning has been significantly modified. Puentedura gives the example of a geography teacher using maps to teach the history of Egypt. The teacher asks the students to create digital maps and assigns different roles to each student. One student creates a layer that highlights the position of temples and another student, a layer that shows the positions of important seaports. The students start to see connections between the two – the technology has modified what students can learn. By having students interact to combine these layers, they are working together
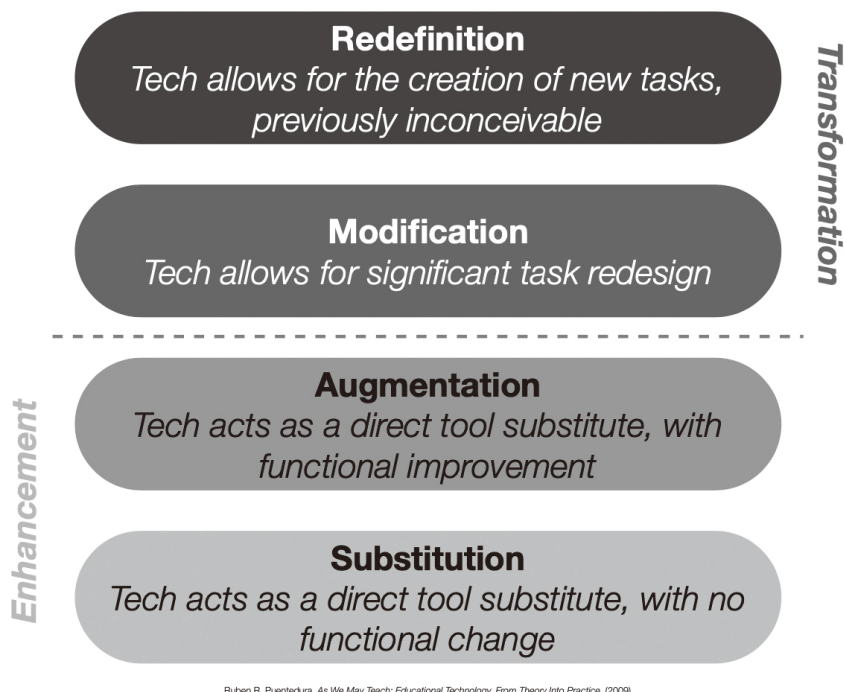
Ruben R. Puentedura, *As We May Teach: Educational Technology, From Theory Into Practice.* (2009)

Figure 2. SAMR Adapted from SAMR and TPCK: A Hands-On Approach to Classroom Practice.

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as opposed to what they previously would have learned individually. Citing a possible example of what could be considered the redefinition stage, Franco (2019) notes that a task which was previously in a written format may become a digital video and be shared with other students around the world. This has the potential for students to experience new learnings that they may not have been able to do previously.

Criticisms of the SAMR model

There have been criticisms of the SAMR model, one being that it fails to consider context. Hamilton, Rosenberg, and Akcaoglu (2016, p.6) state that models such as SAMR often "over-generalize their prescriptions and ignore the complex settings in which this technology integration occurs". The authors give the example of a science teacher located in a disadvantaged area conducting a computer-based task with twenty students that may be situated in the transformation segment of SAMR but the classroom only has two computers. Having ten students sit in front of one computer is not practical and makes the educational value of the task questionable. In a scoping review on the application of SAMR and which investigated 230 journal articles, conference proceedings, theses, books, and book sections published between 2009 and 2021, Blendell, Mukherjee, and Nykvist (2022) confirmed the criticism of SAMR as being open to interpretation. Their dataset found instances of similar practices being categorized differently. To prevent this from happening, the authors recommended that teachers using SMAR ought to clearly describe their normal teaching practice, whether it includes technology or not, so that a baseline, relative to which changes are reported is apparent. While acknowledging the need for teachers to incorporate context and higher order thinking skills into their plans, Franco (2019) believes that SAMR has the potential to help educators choose suitable technology to improve learning outcomes. Furthermore, she adds that it can be a useful reflective tool for teachers.

Utilizing the SAMR model for VoiceThread

The use of VoiceThread in this classroom practice can be understood through the following interpretation of the SAMR model.

Substitution: Used in a very basic way, VoiceThread can act as a substitute for regular PowerPoint or poster presentations.

Augmentation: The whiteboard function allows both the creators of the VoiceThread presentation and those viewing the VoiceThread to draw on or highlight parts of the image, making it easier to understand the visuals. Students in this activity found it easier to ask questions by drawing on a specific part of the image that they wanted to ask a question about.

Modification: The affordances offered by VoiceThread mean that participating in presentation sessions can be transformative for students who tend to be shy or passive. Being able to comment either by text or voice in situations where they are more comfortable gives opportunities for such students to interact more. There were cases in the author's class where students, who had

previously been reluctant to communicate with their classmates due to shyness, answered questions in-person in the classroom. These questions were initially posted as comments to their VoiceThread presentations.

Redefinition: Being able to create a URL to share the presentation with others outside their classroom creates opportunities for students to join a virtual community and have new collaborations with other students that would not be possible with a more traditional PowerPoint or poster presentation. In this classroom practice, the author has had students comment on the VoiceThreads from a previous cohort. This is something that would be very difficult, if not impossible to do with a regular PowerPoint presentation.

Conclusion

There is a perception that younger learners prefer using ICT in education, with the oft-cited claim from Prensky (2001) that these learners are 'digital natives', for whom, ICT is a part of their daily work and leisure routines. However, more recent research from Jones and Shao, 2011, (as cited in McCubbin, 2016, p.7) has shown that there is no evidence of a new, younger generation of learners who wish for their teachers to switch to using technology in classes. Moreover, literature indicates that Japanese university students use of technology for learning is not productive (Cochrane, 2021) and that their academic related ICT abilities are poor (Lloyd-Williams, Bonner, and Godin, 2018). It is hoped that the teaching practice outlined in this paper can provide an example of how teachers can help their students become more confident when using technology for learning.

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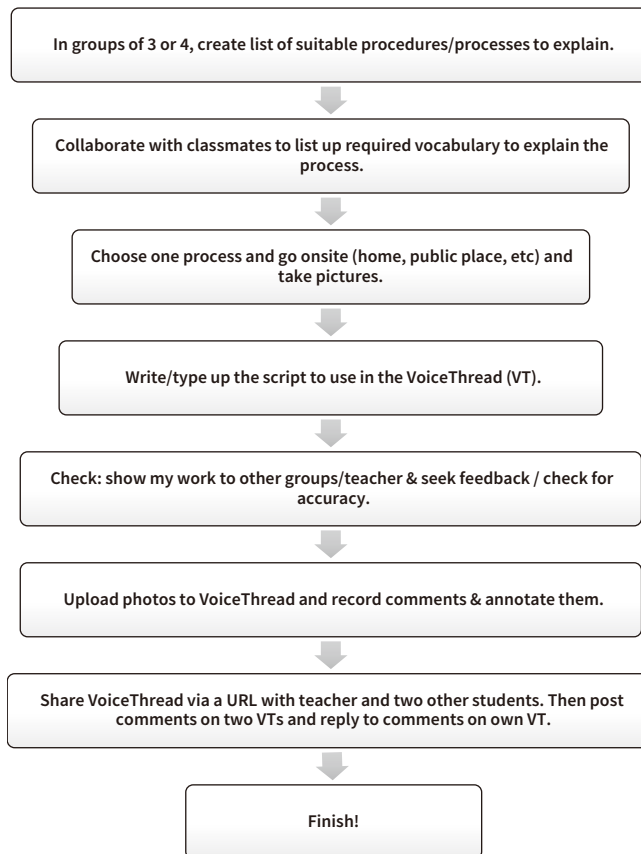
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Mar. 2023   Digital Presentations and Collaborating with VoiceThread

Appendix 1. Flow chart outlining the steps involved in the VoiceThread task

In groups of 3 or 4, create list of suitable procedures/processes to explain.

⬇

Collaborate with classmates to list up required vocabulary to explain the process.

⬇

Choose one process and go onsite (home, public place, etc) and take pictures.

⬇

Write/type up the script to use in the VoiceThread (VT).

⬇

Check: show my work to other groups/teacher & seek feedback / check for accuracy.

⬇

Upload photos to VoiceThread and record comments & annotate them.

⬇

Share VoiceThread via a URL with teacher and two other students. Then post comments on two VTs and reply to comments on own VT.

⬇

Finish!

Appendix 2. Evaluation Rubric

VoiceThread（name）

Item	Criteria	Score
VoiceThread		
Media quality	Images are easy to see, volume is loud enough.	1 2 3 4 5
Content	Suitable images used.	1 2 3 4 5
Notation tool	The tool is used judiciously and makes it easier to understand what is being explained.	1 2 3 4 5
Collaboration	Students worked well in groups and contributed to discussions.	1 2 3 4 5
Language	Use of appropriate discourse markers and vocabulary. Sentences, rather than single words expressions used.	1 2 3 4 5
Comments		
Relevant	Comments are relevant to the process featured.	1 2 3 4 5
Accuracy	Comments show that the contributor understands the process being described.	1 2 3 4 5
Notation tool	Tool use helps us better understand the comment being made.	1 2 3 4 5
Language	Correct grammar. Full sentences used.	1 2 3 4 5

Adapted and modified from Kent, D.（2017）. Constructing Visually Based Digital Conversations in EFL with VoiceThread.