Education 3.0 for Colleges in Japan

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Abstract:

This article examines technology in education. The development of educational technology has been divided into three generations; Education 1.0, 2.0 and 3.0. The current state of education in Japan is compared to the theoretical generations. Finally, several problems with, and solutions to implementing a modern Education 3.0 approach to learning are outlined.

Keywords

Technology, Education 3.0, Computer-assisted Language Learning (CALL)

Introduction

This essay aims to provide solutions to implementing an Education 3.0 approach to learning with students who prefer a more traditional approach. Education 3.0 can be defined as a "heutagogical, connectivist approach to teaching and learning" (Gerstein, 2014). Heutagogy differs from pedagogy in that a pedagogical system is teacher directed whereas a heutagogical system is based on self-determined learning. Connectivist pedagogy, that claims that "learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing" (Siemens, 2004). The essay will draw on the experience of being employed by two organisations; the Tokyo Board of Education (TBofE) and Kanda Institute of Foreign Languages (KIFL). TBofE employs one of the authors (O'Shea) as a conversational English teacher at Kodaira High School. He is also a lecturer at KIFL, a vocational 2-year college with the majority of students aged 18-20. The college has invested heavily in technology; every student and teacher is given an iPad, specialized software has been purchased and apps have been developed for each course. This essay will first outline the generations of education developed by Keats & Schmidt (2007) while explaining how TBofE and KIFL fit into the framework. A detailed explanation of what education 3.0 consists of will be given. The problems the students are having will be listed and finally suggestions for overcoming these problems will be explained.

History

Keats & Schmidt (2007) placed the uses of technology in education into three generations; Education 1.0, 2.0 and 3.0. Education 1.0 can be described as an "essentialist, behaviorist education based on the three Rs - receiving by listening to the teacher; responding by taking notes, studying text, and doing worksheets; and regurgitating by taking the same assessments as all other students in the cohort" (Gerstein, 2014). In this generation, teachers are the sources of knowledge, and students take a passive role. The content used

is primarily textbooks, learning activities consist of essays and tests and there is no contact with students outside of the institution.

Education 2.0 develops into a more "andragogical, more constructivist teaching orientation where the principles of active, experiential, authentic, relevant, and socially-networked learning experiences are built into the class or course structure" (Gerstein, 2014). In this level of development, the teacher's role changes to become a guide and the students become more autonomous and independent in their education. A wide variety of resources designed for students are available and learning activities with a collaborative element are encouraged

The goal of the 21st century class is to move into the generation known as Education 3.0 (Siemens, 2004). Education 3.0 can be defined as a "heutagogical, connectivist approach to teaching and learning" (Gerstein, 2014). Connectivism is a theory that claims that:

"1) Learning and knowledge rests in diversity of opinions.

2) Learning is a process of connecting specialized nodes or information sources.

3) Learning may reside in non-human appliances.

4) Capacity to know more is more critical than what is currently known

5) Nurturing and maintaining connections is needed to facilitate continual learning.

6) Ability to see connections between fields, ideas, and concepts is a core skill.

7) Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.

8) Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision." (Siemens, 2004)

In this generation the teacher is an orchestrator and the students are the co-creators of knowledge. Educational resources can be supplied to students or created by students and learning activities allow students to show their creativity. In this generation of education,

students learn in three separate but linked spheres; the personal learning environment (PLE), the community of practice and the network. The PLE consists of the content curated by the individual student, that is "the collection, organization, interpretation, annotation, and sharing of online resources by students on a topic of inquiry" (Ostashewski, Brennan, & Martin, 2014). The PLE can be described as:

> "One node in a web of content, connected to other nodes and content creation services used by other students. It becomes, not an institutional or corporate application, but a personal learning center (sic), where content is reused and remixed according to the student's own needs and interests. It becomes, indeed, not a single application, but a collection of interoperating applications - an environment rather than a system." (Downes, 2005).

The community of practice refers a group "who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger-Trayner & Wenger-Trayner, 2015, p.1). A community of practice is composed of a domain, a community and a practice. The domain refers to a sense of shared identity, while following their interests within the domain. A community is created as the members work together. Practice means that the members are creators who are working toward a goal. In the case of KIFL, the community of practice would be the class members. The network refers to the "relationships, personal interactions, and connections among participants, viewed as a set of nodes and links, with its affordances for information flows and helpful linkages" (Wenger-Trayner & Wenger-Trayner, 2015). Networks are supported by emergent technology such as social media. Social media can be defined as "variety of networked tools or technologies that emphasize the social aspects of the Internet as a channel for communication, collaboration, and creative expression" (Dabbagh & Kitsantas, 2012). In KIFL, various education platforms resembling social media are employed, such as Google Classroom, Edmodo and Seesaw.

Practical application

In Japan most junior high and high schools operate primarily in generation 1.0. High school English classes are based around students memorizing grammar points and vocabulary from standardized text books and assessment is done by standardized tests.

In Japan, some individual high schools have set up links with overseas partner schools, typically in Australia due to the time difference, where Japanese students can talk online with Australian students who are studying Japanese. This is an example of breaking down the barriers between institutions. Last year at Kodaira, a homework assignment was set where students used their smart phones to take a picture of a place they had visited, and write a short blog entry about what they had done. This gave students an active role in their education and used technology. These examples show that schools are trying to keep up with technology, but it is happening slowly and on an ad hoc basis. At KIFL, the app-based work is largely in the Education 2.0 generation. The application contains three learning activities used for assessment; an essay, a newsletter and a summary of an article. Each section contains a how-to guide which explains the writing process and word limits, then gives several examples of learning activities completed by students in the past. The students have a free choice over what their essay or newsletter topic will be or what article they summarize. This is an example of Education 2.0, the teacher has guided the students to complete a predetermined task, but students are treated as agents and given the opportunity to individualize the task.

An example of how Education 3.0 functions at KIFL is the 2nd year writing course "Ideas and Opinions". The course materials include an e-textbook and an application. The e-textbook, "Q Skills for Success Reading and Writing 2 (Second Edition)", functions in the same way as a traditional textbook, albeit with audio and video sections. However, the key difference between the e-textbook and a traditional textbook is that the e-textbook also has a website. The website uses technology to offer extra activities and tests, a common practice in Education 2.0. But it also has a chat room where students can communicate, share work and post related information with other students, this function is an example of Education 3.0.

Problems

The majority of students have difficulty with tasks that are based in an Education 2.0 or 3.0 generation. There are three common themes in the student complaints:

1) What do I have to do?

Through most of their school lives, to be a good student means to sit at your desk with your book open, waiting for your teacher to tell you what to do. So, when students are asked to become co-creators of knowledge they don't know what to do. For example, when high school students were set a blog entry for homework, the student reaction was very interesting. The students seemed excited about the different style of homework, but scared that they wouldn't be able to do it. After the task was completed, many of the students said that they weren't sure if they had done what they were supposed to do. The reality was that the task was so free that it was almost impossible to fail. At KIFL a similar complaint was made about the newsletter. In short, the teacher wants the students to create content that is relevant to them, but the students want to try to guess what the teacher wants and to meet these expectations.

2) Why do I have to do it?

As teachers encourage students to be more creative, the students often respond by saying "Why?". This answer is understandable when the students' goals are taken into account. For high school students, the goal is usually to get into a good university. To get into a good Japanese university you must pass the individual university's entrance exam. For third year high school students, the school subject content is not so important. Many students come to school to focus only on passing their entrance exams. Since entrance exams are very traditional, students don't see the value in self-directed learning. The junior college students have a similar situation. To find a job or to get into university, they need to graduate, and they need a high TOEIC score. This means that they will do just enough work to graduate and focus on improving their TOEIC scores.

3) I can't do it

The final problem that students have with creating their own content is the belief that they can't do it. There seem to be two subgroups; those that feel they lack skill and those that lack confidence. There is a commonly held view that young people can easily learn to use technology. However, a large number of students at both the high school and college only seem to be confident while using technology within their comfort zone, for example playing games, taking and editing photos, and uploading images. However, when asked to use technology to research a topic or to remix content they claimed they didn't know how. The second group of students who claim they can't do it tend to lack confidence. Becoming an active learner is especially difficult for students who lack confidence, however, it can also be a great way to develop confidence. For example, when the high school initiated the Skype conversations with an Australian school, many students were very nervous before speaking to their Australian counterparts. The most common complaint was communication apprehension, which comes from the perceived inability to express oneself adequately with native speakers. At KIFL many students claimed that they couldn't write an essay in English, despite being relatively skilled speakers of English. Their logic was that since they had never done it before, they couldn't do it.

Solutions

To overcome the first two problems, lessons can be learned from the development of Massive Open Online Courses (MOOCs). There are four key MOOC activities; aggregation, remixing, repurposing, and feeding forward. Aggregation involves filtering, selecting, and gathering personally meaningful information, remixing means interpreting the aggregated information and bringing to it personal perspectives and insights, repurposing consists of refashioning the information to suit personal purposes, while feeding forward is sharing the newly fashioned information with and learning from other participants (Kop & Carroll, 2011). For example, at KIFL, one assessment point was to write an article for a newsletter. This is an example of aggregation whereby learners are required to choose a topic relevant to themselves and gather information about it. In class, this was simply handed in to the teacher, who then compiled the articles into a newsletter. However, since all the work is handed in on educational platforms (such as Google Classroom, Seesaw or Edmodo) there

are more options. The information could firstly be remixed, if the article is available to all the class, other students are able to comment and bring their perspectives on the subject matter. The information can then be repurposed, for example if the article was a movie review, the comments of other learners who have seen the movie can be used to create a movie trailer. This trailer can then be shown to other classes and also the following year's students to give them an idea of what they can do in the class. Through these activities the students can develop the skills to become heautagogical learners. They can learn to decide what to study and to put together original pieces of work. They can also develop the skills to achieve these goals. The third problem is one of belief. Each course has a list of learning objectives, these can involve explicit learning, that is learning that involves consciousness and effort and implicit learning, which is the learning of complex information in an incidental manner, without awareness of what has been learned. Presently, at the end of each course each student will write reflections where they write what they learned, what they enjoyed and what was too difficult. These reflections can be developed into a model for the future classes. To do this, the reflections can be given to students in their original written form, or the author can be filmed talking about the course and giving positive messages to the younger students to improve their confidence.

Conclusion

In conclusion, this essay claims that in order to help students develop the mindset to thrive in an Education 3.0 classroom, students must understand what they have to do, why they have to do it and to believe that they can do it. In order to find out what they have to do, students should be able to digitally access the work of other students who have previously completed the course. To find out why they need to complete the tasks students should be made fully aware of the explicit goal of the task. This can be explained at the start of course through the course objectives, and through reading or watching the reflections of past students. Finally, students need to believe that they can complete the activities. This can be achieved through motivation gained from the reflections of past students, and through help from other members of the community of practice.

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