

Differentiation and Peer Review in a Project-based Music Technology Class

George J. Hess

Yong Siew Toh Conservatory of Music

National University of Singapore

george@georgehessmusic.com

Introduction

One of the keys to project-based learning is to develop a community of learning where students and instructors work side-by-side to achieve the desired outcomes. We know from informal learning, that musicians often learn more from each other than they do from formal instruction (Green, 2001). An important facet of that is peer review and interaction and one of the challenges has been to get students to provide meaningful feedback and support for their peers.

The Desktop Music Production class at Yong Siew Toh Conservatory was previously required of music composition majors, but now is available to all students, including non-majors, as an elective. With the change, prerequisites were eliminated and it was expected that the students would bring a more varied level of prior knowledge to the class.

The class is project-based and conducted as a flipped classroom, with videos modelling the project and other support materials provided, but for the most part students are guided to find their own resources. Students document all work on a weekly basis on their blog. Assessment is primarily formative and consists of feedback on their projects, as well as answering and asking questions.

Project-based Learning Course Design

Project-based learning (PBL) is an open-ended, student-centered methodology. The key to effective PBL is the design of the project. Buck Institute of Education (2015a) defines the goal of PBL as “Key knowledge, understanding and success skills.” In addition they list seven essential components.

PBL Components

- (1) Challenging problem or question
- (2) Sustained inquiry
- (3) Authenticity
- (4) Student voice and choice
- (5) Reflection
- (6) Critique and Revision
- (7) Public Product

With regard to the operation of the class the key areas are to develop the community of learning by encouraging both teacher-student and student-student interaction. This can be both in-class and through formative assessment and peer review. Scaffolding is also an essential part and is important in accommodating differentiation.

The original design of the primary project in the course addressed all of the listed components. Students are to compose and produce a song in a popular idiom of their choice (“popular” loosely being defined as any style that includes a rhythm section). They choose a reference song,

analyze it, and use that to construct a model for their original composition. The project is scheduled for approximately eight weeks. Students post weekly updates of their progress on a blog or wiki page. All assessment during the project is formative and students are expected to revise their work until the final summative assessment of the piece at the end of the class. The second project is to produce masters of the song.

Statement of the problem

There were two main issues. One area where the class diverged from the PBL model is collaboration. Music composition has traditionally been an individual activity. There have been songwriting teams where the division of labor is clear such as the Gershwins. And while teams like Lennon and McCartney shared credit for commercial purposes, often the songs were written by one or the other, with feedback from others. But, it was in the production phase where collaboration entered in as producers such as George Martin became integral to the final sound. In contemporary music, this has evolved to the point where popular songs are written and produced by committees according to formulas by songwriting “factories”.

In the initial design of the class, students worked individually and posted their work on their blog which could be accessed by anyone else in the class. Students were encouraged to observe what their classmates were doing and to comment. The result was that few students did so and the few comments that were left were of the “sounds great” variety with no constructive suggestions. In essence, there was no real interaction between students.

The other issue was related to differentiation. Project-based learning accommodates differentiation by definition and this course design did allow all students to participate at their own level. The problem was that that difference remained throughout the class. Students with strong musical backgrounds would be produce much better work than those with more limited backgrounds. Reducing that disparity was the second desired outcome.

There was one other minor issue with the second project. In general, mastering is done by an engineer who has not been previously involved in the recording process. Mastering your own song is not considered good practice and only is done for economic reasons.

The questions to be studied were:

- 1) What course designs could be employed to foster a more collaborative environment?
- 2) Does increased interaction between peers reduce the disparity between the quality of all projects?

Methodology

An action-based research project was initiated during the first semester of AY 2013-14. All students were non-music majors and the level of prior music training and music software experience varied from none to semi-professional, with most having some basic skills on one or more instruments and most having never used music production software.

In the first intervention, students were required to comment on each other’s work and to include this in the summative calculation. A simple rubric related to the quantity and quality of the comments was designed to evaluate the comments.

The first intervention was only marginally effective. Most, but not all students did leave a comment, and while the quality of the comments improved somewhat, there were still too many comments of encouragement with no constructive suggestions. There were also only two sustained conversations in the comment sections. There appeared to be little effect in the classroom, students still primarily worked by themselves in much the same way as before.

A second intervention was implemented in the first semester of AY 2014-15. Midway through the first project, students were assigned as producers for three of the songs, but not their own. Students learned the role of a producer and were encouraged to provide feedback and advice both online and in the classroom. They would then use the three songs for the second project in the class, mastering a playlist. As each student had a unique group of three songs, the result was that each song had three different producers. This also served to address the issue of mastering one's own song. Comments and interaction were not a separate grading criteria for either project.

The results from the second intervention were significantly better. Setting up a situation where students shared responsibility for each project improved both quality and quantity of peer interaction and review significantly. All students received numerous specific suggestions for improving their songs and all indicate acting on the advice they received. There were sustained conversations in the all of the comments sections and the students who were producing the same song often interacted as well.

There was also more interaction in the classroom. Composers and producers were regularly observed working together on projects, much as would be expected in a recording studio.

The same course design was used in AY 2015-16 and achieved similar results. Sustained interaction both online and in the class was observed and the overall project quality was very good.

Conclusions

It is clear that making peer interaction more authentic results in increased interaction both online and in the classroom when compared with grade-based incentives. The quality of comments and suggestions are also improved dramatically and the community of learning was established

It also appears that the increased peer interaction improves the quality of projects, particularly for students who have limited prior musical knowledge. After the second intervention, twelve of fourteen students completed the projects at a high level and the overall quality of projects was generally higher. This was also confirmed when the course design was repeated.

Bibliography

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