Passion Projects: new learning at a traditional school

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Introduction:

In 2020, I had the privilege of being the recipient of the Dr Vince Ham eFellowship awarded through CORE Education. This gave me the opportunity to undertake a research project on student learning and engagement in a project-based learning course. I created a new course at my school called Impact Project and I was particularly interested in two things:

1. What happens with student learning and engagement when students conduct a personalised learning project as part of a Year 13 course?

2. Could deep project-based learning occur within a secondary school with a traditional single teacher timetable?

Background:

Impact Project is a full year, Level 3 University Entrance approved course where students bring their knowledge and skills from another area of study such as; Digital Technology, Fashion, Hard Materials, Painting (and many others) to conduct a major project over three terms. Guided by the Generic Technology Achievement Standards, students identify real world problems subsequently their projects are designed to solve these problems. Students also benefit from a key stakeholder relationship with someone beyond school who has experience in creating their project.

The design of Impact Project was influenced by the New Zealand Curriculum (2007) and two key research articles about future focused learning. One of the key values of the New Zealand Curriculum (2007) is for students to be encouraged to value innovation, inquiry, and curiosity by thinking critically, creatively, and reflectively. At present much of the learning at my school involves learning within a single subject, and assessments often require development of content skills and knowledge. In the senior school, there is little cross-curricular learning and opportunities for inquiry or innovation are usually in short blocks of learning.

Research from Bolstad, Gilbert, McDowall, Bull, Hipkins, & Boyd, (2012) also influenced my thinking. In *Supporting future-oriented learning and teaching - a New Zealand perspective,* Bolstad et al identify six themes for a 21st century education:

1. Personalising learning
2. New views of equity, diversity and inclusivity
3. A curriculum that uses knowledge to develop learning capacity
4. “Changing the script”: Rethinking learners’ and teachers’ roles
5. A culture of continuous learning for teachers and educational leaders
6. New kinds of partnerships and relationships: Schools no longer siloed from the community

Personalising learning calls for teachers to move away from the "one size fits all" model and for learning to be built around the student. In my teaching experience, students have higher levels of engagement when they can learn in ways that are both personal and meaningful to them.

The design of Impact Project is based on the three principles of Deeper Learning as defined by Mehta & Fine (2019) in their book, In Search of Deeper Learning - *The Quest to Remake the American High School.* Mehta & Fine explain how deeper learning and engagement can occur for students when they have opportunities for creativity, to develop mastery of skills, and to develop identity with their work. *"It is possible for schools and classrooms to achieve the integrations that support deeper learning: rigor with joy, precision with play, mastery with identity and creativity"* (Mehta & Fine 2019).

Some secondary schools offer project-based learning opportunities for students via dedicated project days. Project days often consist of teachers from different subject areas guiding and supporting student learning on a wide range of projects. Dedicated project days do not exist at my school, so I was interested to see whether a connected curriculum approach, within a traditional timetable; can enable deep learning and engagement. In a connected curriculum approach, teachers collaborate to provide students opportunities to connect the learning across two or more subject areas.

Methodology:

An action research approach was used to investigate what happens with student learning and engagement when conducting a personalized learning project as part of a Year 13 course. Throughout the year I gathered data via Microsoft Forms Questionnaires, informal conversations and journal reflections. All students who opted into the study completed an online survey about halfway through the year and also at the end of the year. Informal conversations with students were also recorded and I contributed regularly to my monthly reflective journal.

Thirteen students agreed to be part of the study and I was the only teacher involved in the research.

Findings:

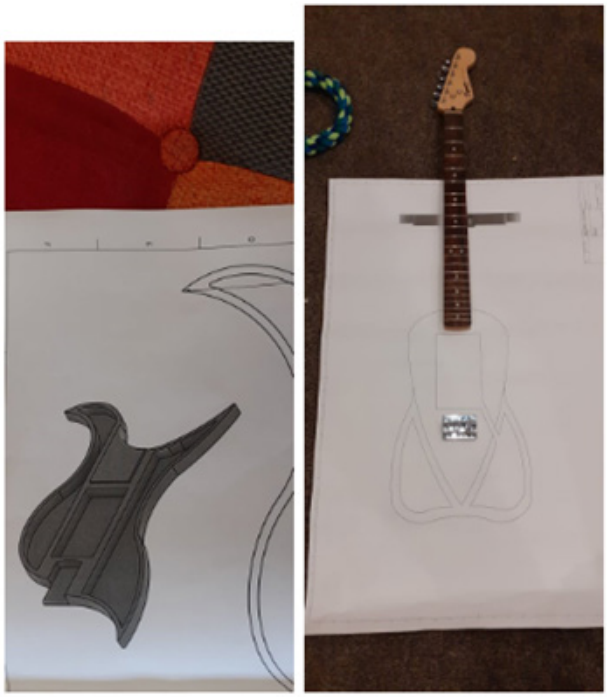
There were many significant findings which emerged from the data collected over the year and I have classified them into two themes. Some findings were to be expected, while others were surprising and challenged my thinking.

Personalised learning

Students relished the opportunity to work on a project of their choice. There were some outstanding projects, all of which were based on student's passion. Example projects for 2020 include:

- Painting to create a mural for the Hagley Preschool
- Fashion to create a formal shirt from sustainable fabric with zero waste
- Hard Materials & Music to make a guitar from recycled plastics
- Digital Technology & Computer Science to create a website for teenagers
- Creative Writing & English to create a children's book
- Film Studies to create a film about teenage decision making

Below is a series of images which show the research, design, stakeholder input and creation of a student project. This student has used his skills from Hard Materials & Music to design and create a guitar from recycled plastics.



Initial research on similar and existing projects led to the creation of design ideas for the guitar

Combining skills of project management and hard materials to bring the design ideas to life

A local creator of handmade mandolins acted as a key stakeholder in the project. Advice from a local expert was extremely valuable: *"meeting with a professional in the field made me realize what i needed to do and how to do it, stakeholder feedback was very helpful for designing and modifying the project (Student A)."*

The completed body of the guitar molded from recycled plastic was a major milestone.

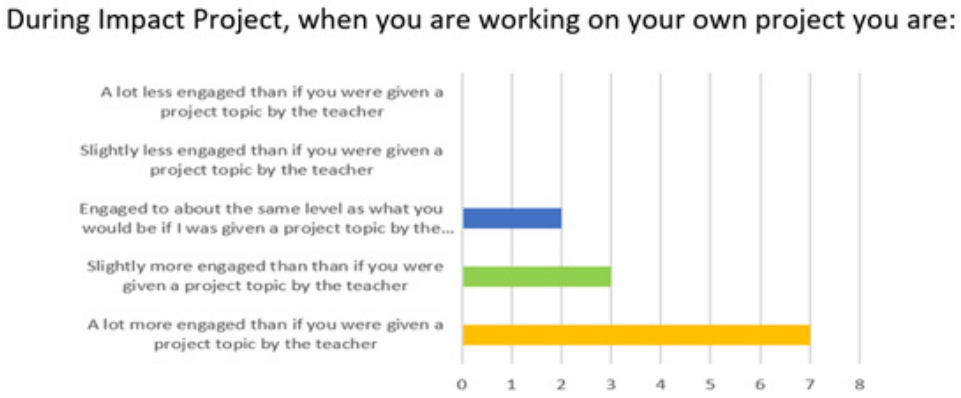
The finished product!

A number of other projects were also successfully completed such as painting a mural for the Hagley Preschool

Creating a children's book

Creating a short film about teenagers and decision making

There were a broad range of projects in Impact Project this year. The ability to work on a topic of choice was engaging to students and this was illustrated in the results from the first online survey below:



"With my own project I am able to do something different than others are doing and do something that interests me. The chances of me getting bored with my project is very, very low compared to when I am doing a project that is the exact same as everyone else's (Student A)".

"This has been great for my learning as I feel like I've been learning about real life problems and given an opportunity to come up with ways to help and discover new ways to help in the world around me (Student C)".

While the ability for some students to work in a self-directed manner was a positive aspect of the Impact Project, not all students shared this belief. 2020 has been a difficult year for students and the self-directed nature of the Impact Project may not have been ideal for all students. Of the 18 students who were enrolled in the course, only eight students fully completed their projects. Comments from Students E and F may summarise the thoughts of those students who did not complete their projects:

> *Sometimes i do require a push when i'm doing my work at school, it takes a little more on my behalf to be self directed and to try and push myself (Student F)*

> *"I'm not great at working without guidelines to go by, though I can see how it would be better for some (Student E)"*

Rethinking the role of the teacher

Teaching within the Impact Project has resulted in a shift in my practice. Although the Impact Project required a lot of new learning for students (such as how to conduct research, engage with stakeholders and manage projects), once student projects were up and running, learning became much more self-directed for students. Students would often work independently, away from the classroom and at their own pace. It took me some time to be comfortable that I was not teaching the 'content' of where the students' projects lay. For example, a student who completed a painting related project received no learning about painting whatsoever from me! It was important for me to work closely with the Painting teacher to ensure learning was occurring. Interestingly, another of Bolstad, et al (2012) themes which applied specifically to me: Changing the script: Rethinking learners' and teachers' roles:

> *"The challenge is to move past seeing learning in terms of being "student-centred" or "teacher-driven", and instead to think about how learners and teachers would work together in a "knowledge-building" learning environment. This is not about teachers ceding all the power and responsibility to students, or students and teachers being "equal" as learners. Rather, it is about structuring roles and relationships in ways that draw on the strengths and knowledge of each in order to best support learning" (p.5).*

Enabling a project-based learning course where students can complete a project of their choice in a range of curriculum areas is not a simple task. It has been a huge learning curve for me as an experienced teacher to be able to 'stretch' the Generic Technology Achievement Standards; to be able to apply to all student projects, regardless of the context. Teacher collaboration is a key aspect of any successful integrated or connected curriculum. This was no different for the Impact Project at my school. Regular meetings with teachers as well as students ensured that all parties were aware of the requirements for how the Impact Project Achievement Standards overlap with connected subject were crucial.

Recommendations:

Year 13 students learning in a project-based course such as the Impact Project can lead to high levels of engagement and learning. However, the open and self-directed nature of the Impact Project can be difficult for some students. Ensuring that all students are clear on the nature of the course, and that students have the skills and some experience to be self-directed with their learning; is a key component of the course.

Deep project-based learning can occur effectively within a secondary school with a traditional single teacher timetable. However, it can be challenging for teachers to find the time for all involved in the student project to be on the same page for student learning. Regular meetings with teachers and the student are recommended to ensure that all projects remain on course and all aspects of the achievement standards are covered.

Next steps:

As with any new course, there has been a great deal of learning. I have developed professionally and personally and am looking forward to the confidence which comes with doing something for the second time. I am also looking forward to gaining feedback and advice from more experienced peers about using the Generic Technology Achievement Standards in different contexts. Refining the online assessment portfolio used this year to gather student evidence of achievement standard criteria is also a next step.

In 2022 the Practical Design, Art, and Digital Technologies curriculum areas will move to a new open plan building at my school. One of the key features of the new open plan building design is the ability of teachers to work easily together. There will be great possibilities for teacher and student collaboration and cross curricular teaching and learning. Sharing my learning about the Impact Project with colleagues in 2021 (and beyond) will be a valuable first step into a more cross-curricular way of teaching and learning.

Sharing my learning beyond my own school is also an important aspect of developing professionally. This CORE eFellowship is a very good opportunity to share, and so too is a regional Flexibility in Secondary Schools Community of Practice which I am involved with.

Conclusion

Although there are improvements to be made to the Impact Project in the future, the first year has been a successful one. Student engagement has been high, and many students liked the idea of working on a project of their choice. Impact Project enables cross curricular learning in a school with a traditional single teacher timetable and this could be a model for other schools to follow. Wrapping this CORE eFellowship research project around an Impact Project in 2020 has been most valuable. I am grateful for the students in my school to be my subjects for this project and I am grateful to be in a school which has the foresight to enable teachers to try new things. Finally thank you to the 2020 eFellows for some great robust academic discussions as well as great fun and laughter!

References

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