

## **PDIG 14120 Project Report**

### **Development of Cross-Curricular Classroom Resources based on Google Apps for Education (GAFE)**

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#### **School Board / Organisation:**

Lester B. Pearson School Board

#### **School:**

Macdonald High School

#### **Project Description:**

In 2017-2018, the goal of this PDIG was to share and apply GAFE knowledge with the Cycle 1 team of teachers and, more specifically, to develop Cycle 1 Secondary GAFE classroom resources. The teachers involved leveraged what was learned in previous PDIGs (Google certification) to foster more effective collaboration between subject areas and to increase student success.

The project aimed at increased collaboration and the [development of digital, GAFE based, teaching resources](#), and these goals were hugely successful. Many more resources than expected were collaboratively developed, implemented and reviewed. What was more difficult to accomplish were some of the objectives such as a comprehensive teachers' guide and evaluation rubrics. What we hope to accomplish before the end of the year is a more comprehensive Teacher's Guide that can help teachers from other schools implement such a project.

Our teachers developed "Introduction to Google Tools" sessions. These were implemented in various Grade 7 classes early in the school year. Students used the resources developed in order to set up their school email and Google Classroom accounts. Resources produced for the following topics were used with students so that they could become familiar with: Google Keep, Google Calendar, Google Docs, Google Read and Write, Google Slides, Google Forms, and Google Sheets. (Note: [Links to all the resources are found at the end of this report](#)).

Following the development of the Introductory Tools, team members collaborated (in and outside of release time) to use Google Classroom more efficiently with students and all teachers of cycle 1. Many teachers were learning Google Classroom at the same time as their students; however, the team was able to provide support to each other (as well as to Cycle 1 teachers who were not part of the PDIG project) in order to facilitate the transition from a paper agenda to Google Classroom.

For the beginning of the year, teachers were pairing or creating small groups in order to develop resources which had natural connections between subject areas. For example, Math paired up with Physical Education in order to analyze student-produced data during a "Beep Test." Connections between Social Studies, English and French were also explored. These were the first set of collaborative resources produced.

In our project request we set out to not simply substitute paper classroom worksheets with Google Docs (an example of technology substitution). We wanted to reinvent the classroom by integrating all the features available using the digital environment. We envisioned a future classroom where teachers could differentiate more easily to our students (example: using personalized feedback after doing an on-line quiz). We envisioned a classroom where students are enabled to meet the same learning objectives, but presented with options of how to demonstrate their competency. We saw the possibilities for greater collaboration between teachers. What is quite amazing to report is that all of these visions were able to come to fruition. That said, what is difficult to see in this report, or in the resources shared with the English Educational Community, is how a Google Classroom Functions and why these assignments you will see in Google Drive, are different from a paper based version. The assignments that you see in our shared folder were shared through Google Classroom to students. The reason that this distinction is important, is that sharing through Google Classroom permits the following:

- 1) Each student receives an individual, digital copy which is then stored in their Google Drive.
- 2) Students submit their assignment via Google Classroom which is then placed in a student specific digital portfolio.
- 3) Teachers can grade and provide feedback to students via the platform.
- 4) Google also keeps track and will notify those students (and parents who have signed up for the notifications) who have not turned in their assignment

Thus, the interaction between teacher and student for feedback is different. There was much teacher mentoring that took place in order to ensure that “Google Classroom Novice teachers” received the support that they required. So much more time was put into this project than simply the days released and meetings were taking place between classes - as well as classroom visits to more experienced teachers.

Another layer that was added to this project was the fact that the school board named Macdonald High School as a pilot school for “New Pedagogies for Deep Learning” with Michael Fullan. In order to align our PDIG with the orientations requested by the board, the emphasis turned to developing resources which targeted the cross-curricular competencies across subject areas (which Michael Fullan and his team refer to as the 6-Cs): Citizenship, character, communication, creativity, critical thinking and collaboration. In fact, this simply helped to ground the development of the resources produced.

As the year went on, we became aware of teachers in all grade levels who had chosen to pilot the tool. In addition, several extra-curricular activities used the platform and our team members created an On-Line Professional Learning Community using classroom. We sent out a survey in order to complete this report. Here are some of the team member comments about their experience.

### **What were some of the highlights of this project?**

- The way the students responded to the technology, the cross-curricular learning and the environment that we provided to help them learn in more meaningful ways
- Seeing what the students are capable of. Seeing what my colleagues come up with.
- Students taking ownership of their progress in my class. It's great to see, even as early as the grade 7 level, a kid realizing they do
- Working with colleagues with whom I would not have normally collaborated with. It has been a terrific learning experience for me

- Working as a team. Using a common theme. Doing small collaborations with different departments (STEM Olympics) . I feel like we have finished this project as a stronger "team".
- Increased collaboration among colleagues, making subject matter much more relevant to students, increased student accountability.
- Collaborating with other teachers (including those from different departments).
- To have time to prepare activities with other teachers.
- Collaboration and learning from others. Being amazed by their creativity and their openness to sharing their work.

### **What were some of the challenges?**

- Organizing cross-curricular while the students group were all different in different subjects.
- Finding enough time to collaborate with small groups of colleagues between sessions.
- Access to Chromebooks and getting teachers to follow through on what was discussed.
- Not having enough technology.
- Phone batteries! Not so much an issue of the PDIG, but a Google one. I used to use an LMS that allowed both parents and students to log in and see their progress at any time. Now, since moving fully to GAFE, there's no tidy way to do this, so I need to push a report to parents to share feedback. Not a huge difference, but a tiny bit more work for me, and parents only get updates when I send them out, not whenever they want.
- Converting work through snapverter so students with learning difficulties may have access to it with Google read and write and it not working.
- Curriculum mapping and timelines are a challenge, but are now much more achievable.
- The logistics that naturally come with large-scale collaborative efforts
- Finding ways to create cross-curricular learning for students... it was easier once we got a few underway but it's not something we were comfortable with at first

### **General Comments from Team Members:**

- I think next time around, the theme for the cross-curricular project should be broader. The students were complaining that they were always doing the same thing.
- This is worth sharing as an approach for other schools to pilot.
- Hopefully others will be part of a similar project as it was truly inspiring.
- Looking forward to what comes next!

### **Project Goals:**

#### ***Successes:***

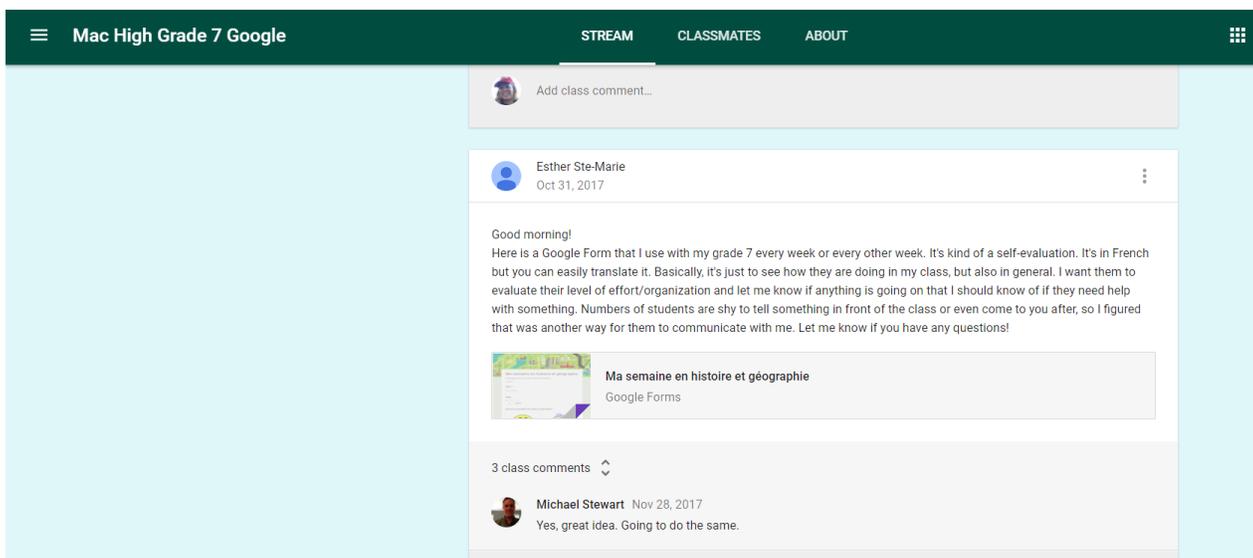
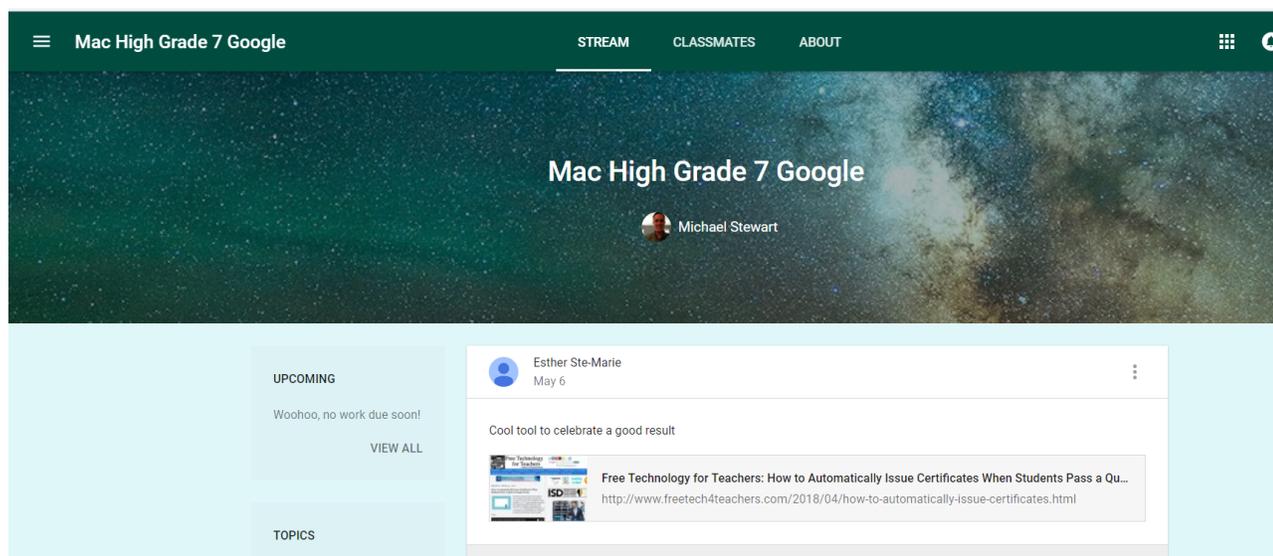
It takes a significant amount of time to develop new digital pedagogical tools within a specific curriculum context. We expected that teachers would gain a common understanding of learning objectives in Cycle 1 (within and between subject areas) as well gain a significant amount of expertise with the development of GAFE pedagogical tools. These goals were met and went well beyond expectations.

In addition, we expected that there would be improved collaboration for cross-curricular resource development. This was measured by the number of cross-curricular resources developed. Over 50 resource documents were produced

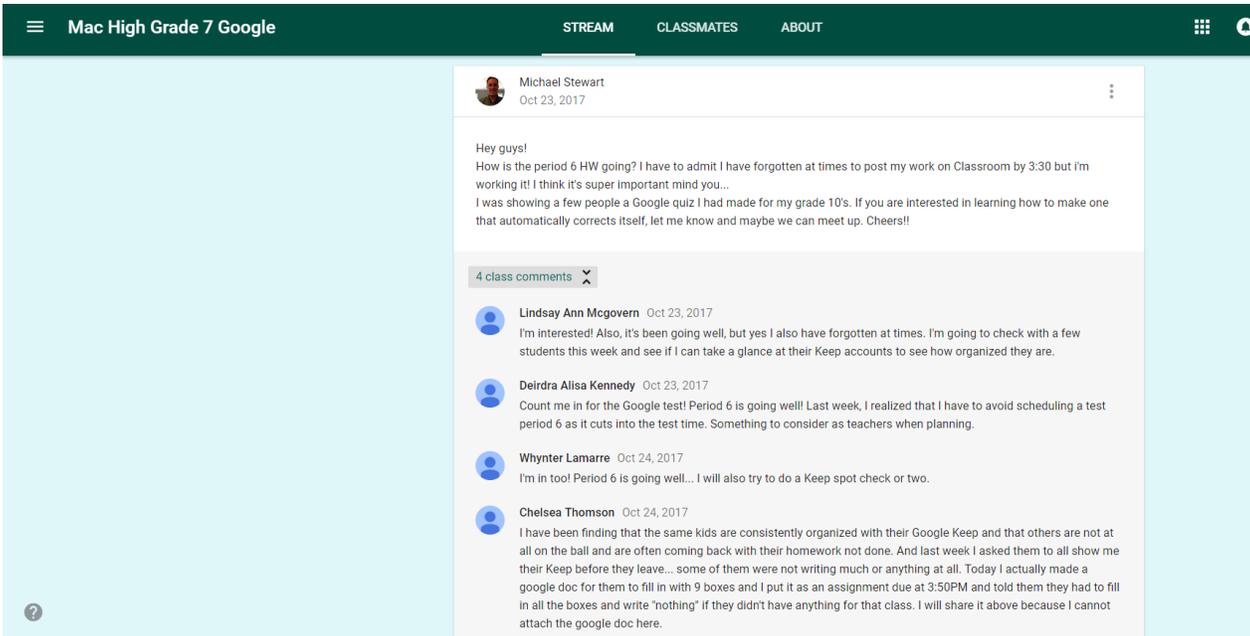
## Creating a Google Classroom for Team Members and All Cycle 1 Teachers

One of the unplanned, beneficial outcomes of this project was the creation of a Teachers' Google Classroom. This became an on-line Professional Learning Community. Team members, and other Cycle 1 teachers who requested, were added to a teachers classroom where ideas, resources and troubleshooting took place. One of the team leaders initiated the project within his department, and then opened it up to the group when the idea was shared at a meeting. See some screenshots below for types of activity.

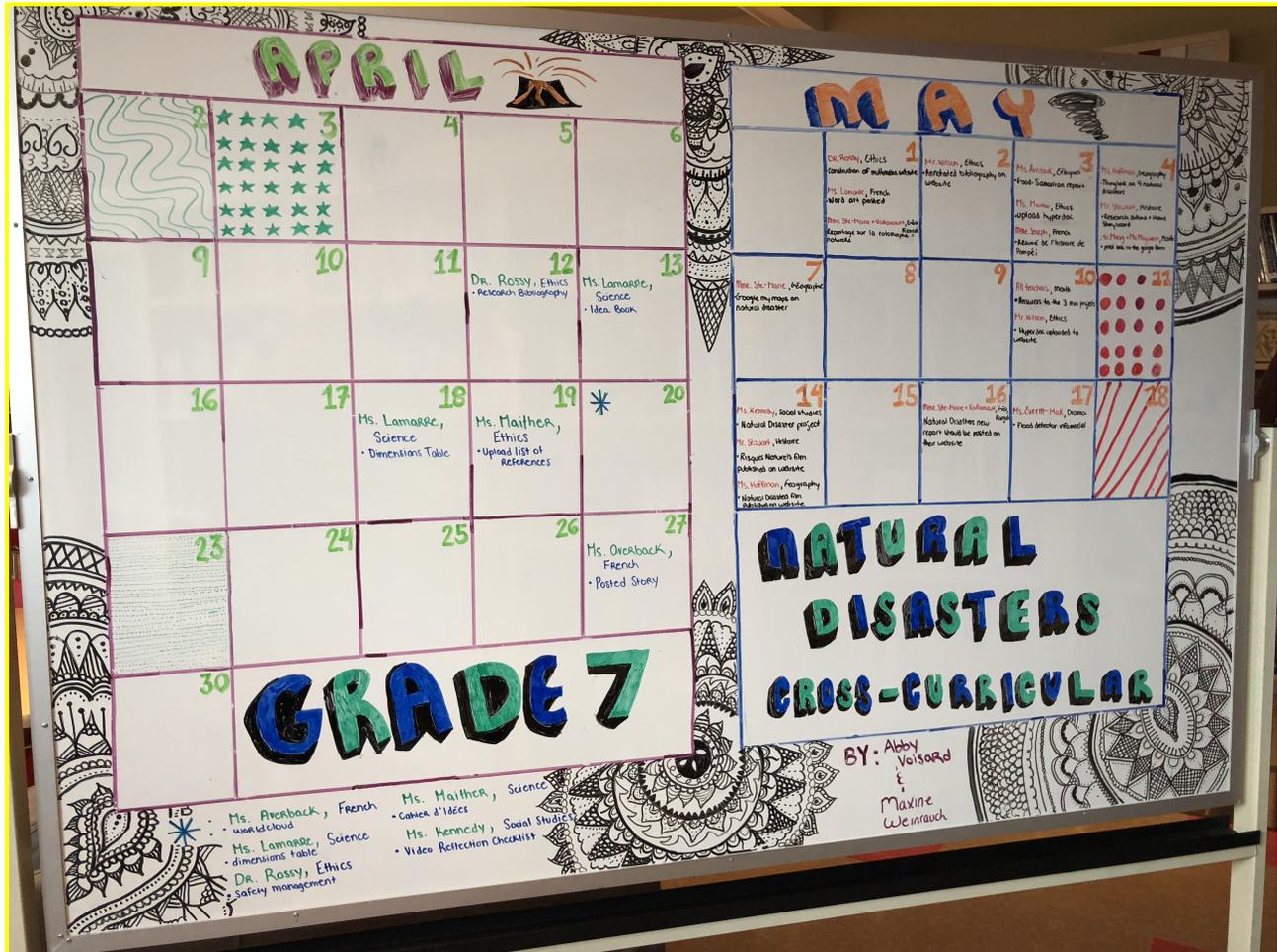
### *Sharing of resources:*

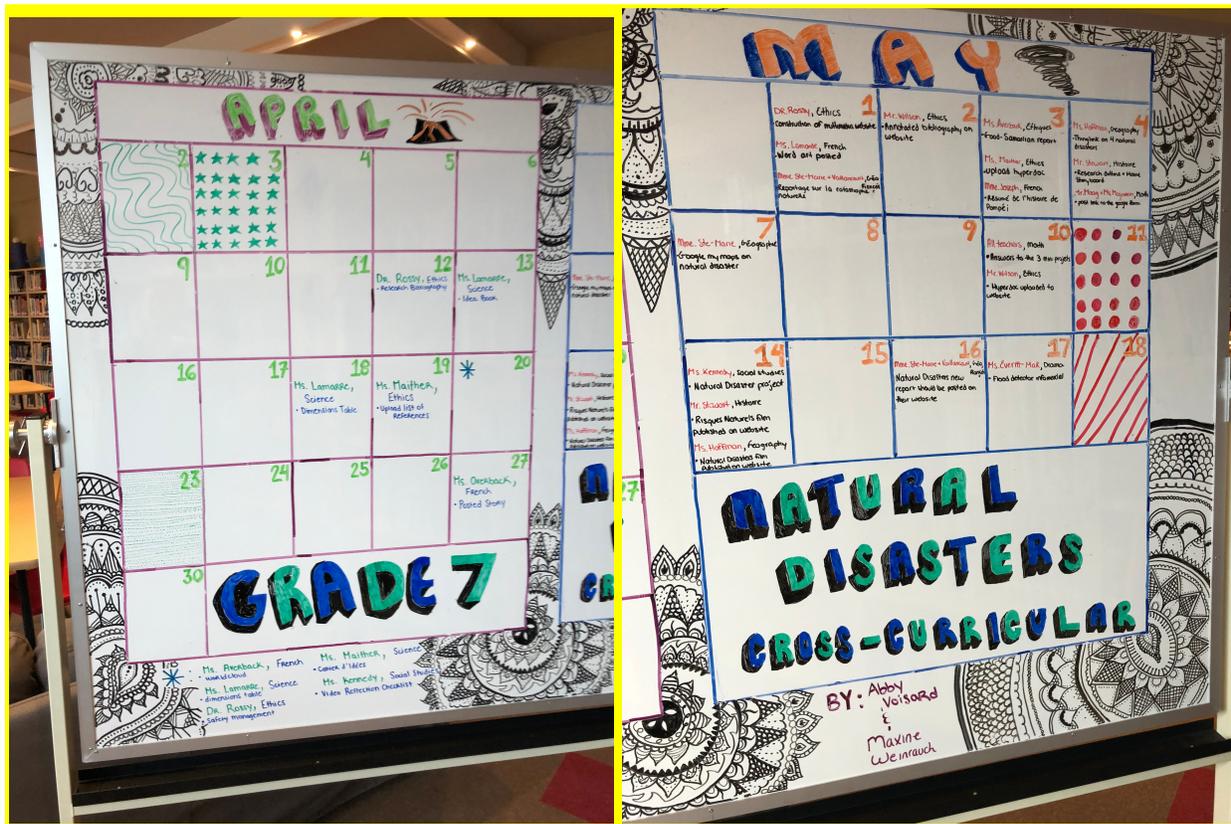


**Check-Ins with the team members:**



**Teachers also are in development of a Maker-Space in the staff room, where we celebrate achievement and collaborate to implement student lessons.**





### What Needs Improvement:

What we know now, is that this PDIG was too ambitious for teachers who were new to so many aspects (the technology, cross-curricular collaboration, common assessments and resource development). Team leaders and administration quickly realized that we needed to take smaller steps with respect to the resource development (ie: not 3 extremely lengthy projects created but several smaller ones at the beginning). The teachers developed materials, GAFE Based, for their own classrooms first, which was a natural step. As a result, not all anticipated elements of the resources produced, the teachers guides in particular, could be finalized. Thus, we have over 50 resources produced, but with 3 main themes and one “other resources”. An extension to this PDIG would be to create a “how to use” these resources document.

### Predicted Gains and the Results:

Overall, we had huge success with this project. Not only did team members benefit, but we observed more and more staff attending the Grade 7 sessions in order to see what the teachers were doing. Teachers from Cycle 2 took part in staff meetings held around Cycle 1 discussions. This PDIG took over all spare time on Early Dismissal days, Ped Days and teacher preparation time. Teachers increasingly sought opportunities to collaborate throughout the year. By the end of the year, what began as a project became a way of teaching. Teachers are excited about the possibilities to get their kids engaged in class, provide differentiated learning activities and efficiently provide individualized communication and feedback on learning. The nature of the conversations changed as well - from how to use the tools, to how to engage students around the 6Cs (6 Cross-Curricular Competencies) and how to build student competency between subject areas. Overall, we are thrilled with the results and are certain that this will be built upon in years to come.

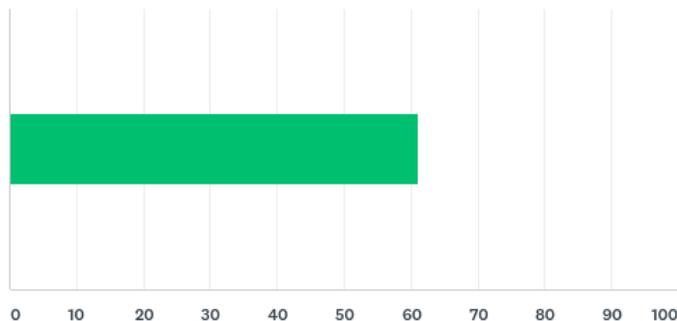
**Summary table of gain, goals and results:**

<b>Gain</b>	<b>Assessed By</b>	<b>Goal</b>	<b>Actual Result</b>
A common understanding of learning objectives in Cycle 1	Number of tools produced	3 Cross-Curricular Resources	Over 6 (but without the teacher guides) See resource links below
Use of a shared common assessment or project	Number of teachers who used it during the year	All team members	All team members piloted various resources, but not all team members piloted the same 3 resources.
A significant amount of expertise with the development of GAFE pedagogical tools	Self-Assessment Survey	Increase	Success, see below
Ability to use the GAFE suite of tools to individualize feedback to students	Self-Assessment Survey	Increase	Success, see below
Ability to use the GAFE tools to be able to provide effective, individualized feedback to parents and students on achievement	Self-Assessment Survey	Increase	Success, see below
Number of GAFE based resources produced (see list of links below)	Number of documents produced	3 (about 9 documents with components like teachers guide)	Over 50 but without Teachers Guides.

**Our Survey Results (Results received 1st week in May):**

Question 1: How comfortable are teachers with implementing the GAFE tools in the classroom:

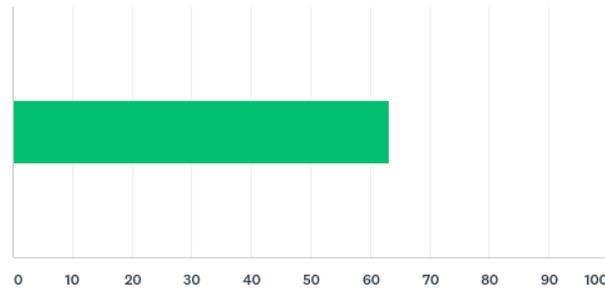
Q1 Compared to before this project, how comfortable are you with implementing Google Tools in your classroom?



**Note 1:** This was surprising as we would have anticipated a higher level of comfort given the success they had so far this year. We believe that this is indicative of how much further they know that they can go with the technology.

**Question 2: Use of GAFE before the PDIG, Average: 63%**

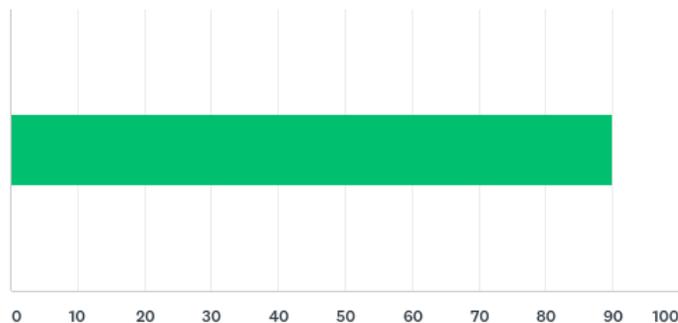
Q2 On a scale from "Never" to "Always", how much did you use the GAFE suite (Google Apps for Education) before this PDIG project?



**Note 2:** Teachers used the GAFE tools “sometimes” to “often” on average.

**Question 3: Use of GAFE after the PDIG, Average: 90%**

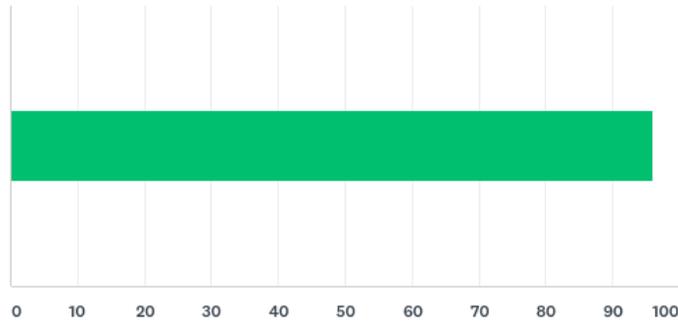
Q3 On a scale from "Never" to "Always", how much do you use the GAFE suite (Google Apps for Education) now, (after this PDIG project)?



**Note 3:** When you compare questions #2 and #3, we see a gain (increased use) of 27% with this project.

**Question 4: Specific to Google Classroom (one of the many GAFE tools)**

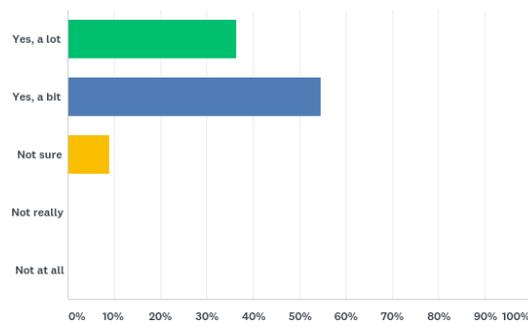
Q4 On a scale from "Never" to "Always", how often do you use Google Classroom?



**Note 4:** This is near 100% for all team members. This is indicative of how integrated Google Classroom is to the way the teacher interacts with the students and parents in the class.

**Question 5: Improvement of individualized feedback to students**

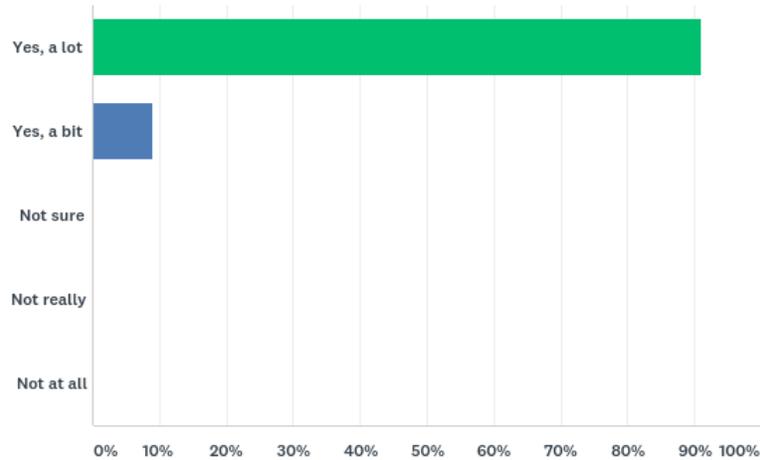
Q5 Has the technology helped to provide specific and individualized feedback to students on their achievement?



**Note 5:** 91% of team members felt that the technology had helped increase individualized feedback to students a little or a lot!

### Question 6: Improvement of communication with students

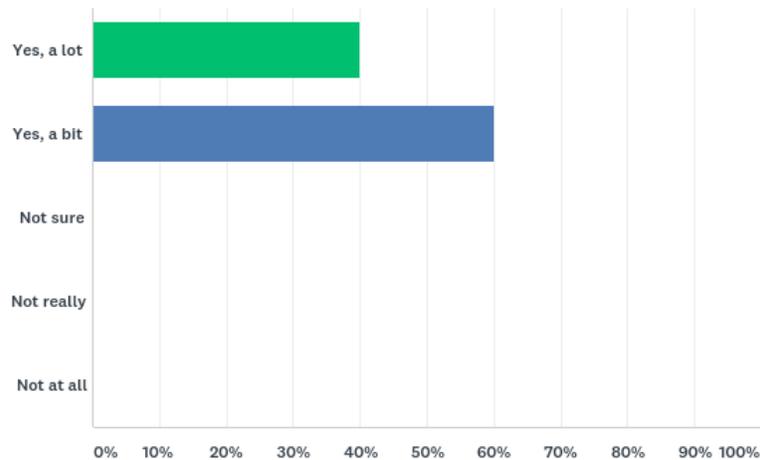
Q6 In general, has the Google technology helped improve communication with students?



**Note 6:** 100% of team members felt that the Google Technology had helped improve communication with students a little (9%) or a lot (91%).

### Question 7: Improvement of communication with parents

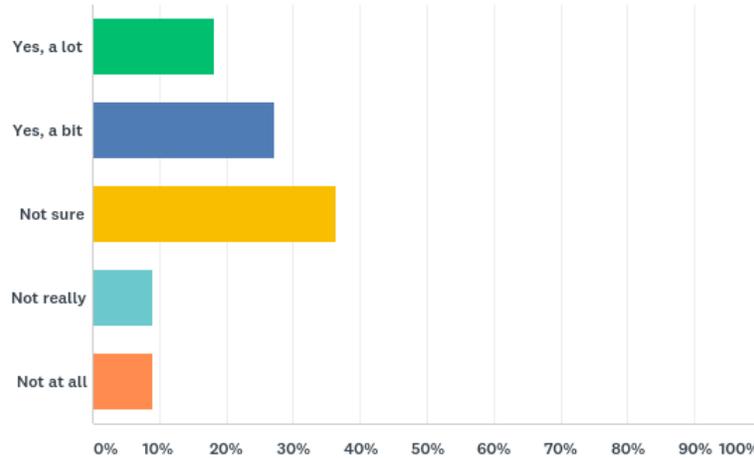
Q7 Has the Google technology helped improve communication with parents on student achievement?



**Note 7:** 100% of team members felt that the Google Technology had helped improve communication with parents a little (60%) or a lot (40%).

**Question 8: Has technology helped with differentiating for students on IEPs?**

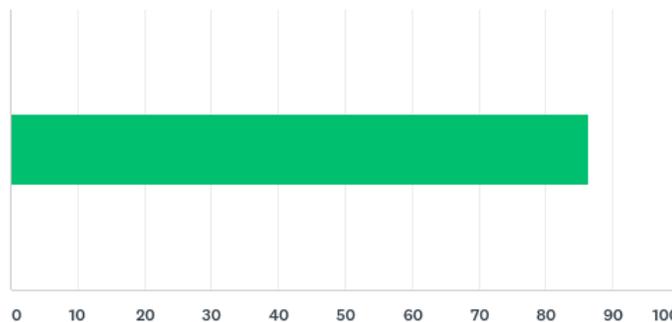
Q8 Has the technology helped to individualize assignments for those students on adapted or modified programs (IEPs)?



**Note 8:** This is one area that our results indicate we can improve upon the most. Only 45.45% were certain that implementing GAFE allowed them to individualize assignments for students on IEPs.

**Question 9: Improved Collaboration with Colleagues**

Q9 In comparison to before the project, how often do you now collaborate with colleagues?



**Note 9:** Team members felt that there was a significant increase (average of 86%) in the collaboration with their colleagues.

## **Reinvestment - Resources Produced:**

We strongly encourage other schools to explore GAFE as a means to develop cross-curricular collaboration. Not only was expertise developed in GAFE, but the understanding of how the tools can be used to be more effective was an important part of the experience. Below are the links to the resources produced by our team members.

1: [Training Students in GAFE TOOLS](#)

2: [Cross-Curricular, Gilgamesh](#)

3: [Cross-Curricular, Mesopotamia](#)

4: [Cross-Curricular: Natural Disasters](#)

5: [Other GAFE resources produced](#)