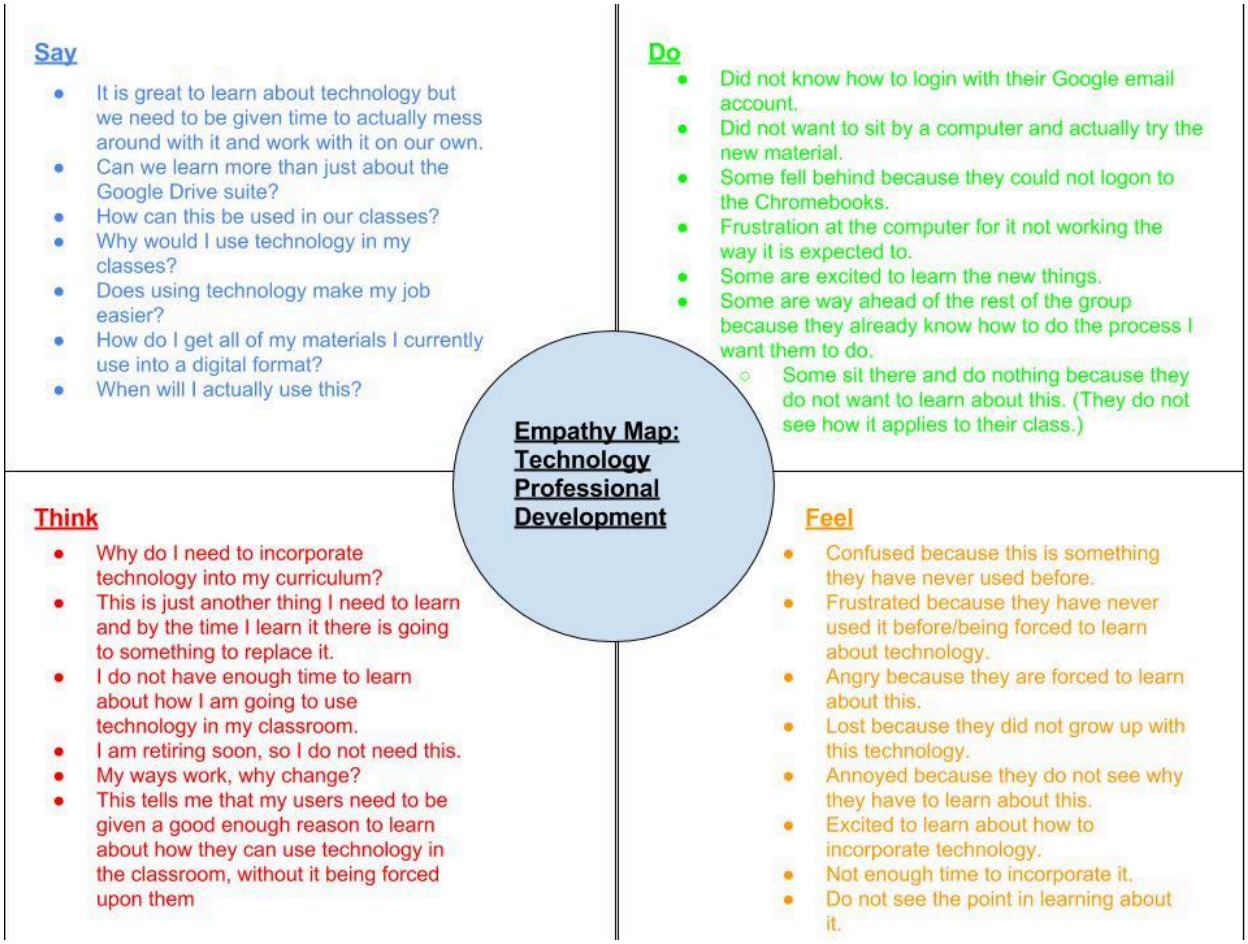
At the start of the semester we had to recognize a problem that we wanted to go through the design process with. Teachers face a variety of problems every single day but I immediately was able to think of one that impacts my entire school site. In addition to being a teacher in the classroom I am also a technology coach on my school site. Being a technology coach means I am readily available to help my fellow colleagues with technology and how they can incorporate it into their classes. Along with being there for support throughout the week, I also host technology workshops after school on Thursdays and I also have to lead Professional Development on the topic of educational technology with a primary focus on Google Classroom. Before I could actually define what my actual Problem of Practice was, I had to go through the design process steps.

The first step to design thinking is to empathize with your audience. This step is to learn about your audience and where they are coming from on your specific problem. The main problem I was facing was that my colleagues were not willing to learn about technology and using it in the classroom, at least this is what I thought the problem was before I completed this empathize step. For my empathize step, I decided to use the empathy map. In order for me to actually make my empathy map, I decided to use Google Drawing. Even as I was setting up my empathy map through Google Drawing I quickly started to realize how frustrating this would be to someone who has never used Google Drawing because it is even frustrating to me sometimes and I have used this application many times before.

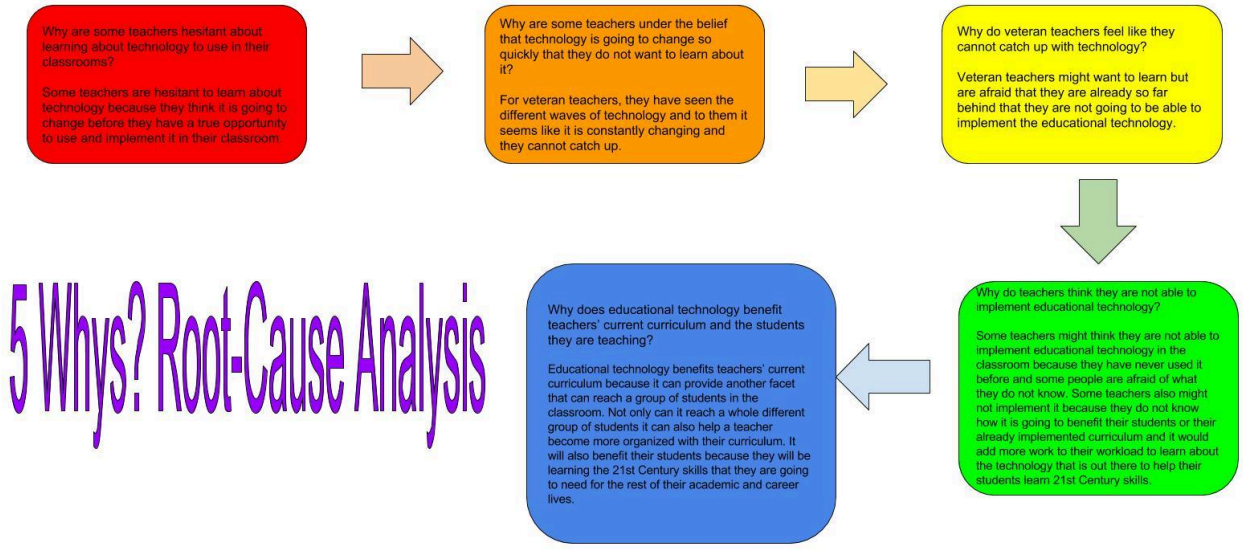


From my empathy map (shown above), I learned that my colleagues might not be showing up to the weekly technology information sessions because they are nervous about using technology that they do not fully know how they would use it themselves, nevermind in the classroom. My colleagues need to be provided with the confidence that they are able to learn about this new technology that is out there and that it is not hard to use with just a little bit of time put in to learn about it. Additionally, I learned that my colleagues need to have buy-in about how educational technology will actually improve their classes from the way they normally teach. By getting buy-in from my colleagues about how they can actually use a variety of educational technology in their classes then I would have more of them show active interest at Professional Development and the weekly Thursday sessions. Finally, I realized that teaching people how to use technology in the classroom should not be forced upon people because when it is forced then people are even more reluctant to learn about it and try to apply it in their classes.

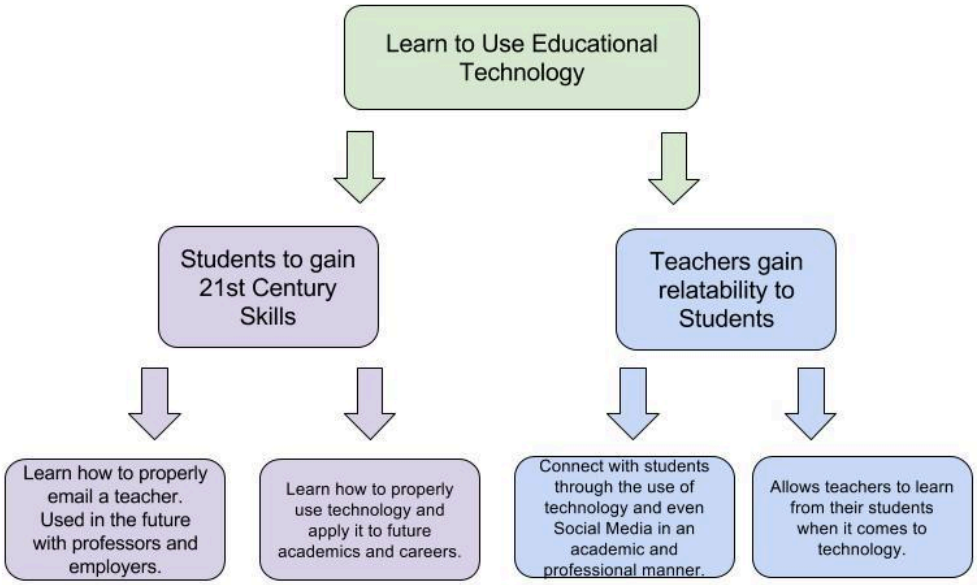
Through this step, I learned that it is not the fact that my colleagues do not want to show up to my weekly technology information sessions because they are not interested in using technology but because of their feelings of being forced to learn about technology and not being provided with an understanding of how technology can positively help their current curriculum in their classes. Through the step of empathize I was able to truly understand where my

colleagues are coming from on the idea of educational technology and having to learn about it, which would help me with actually defining my problem of practice.

Before I could actually truly define my problem of practice, I had to use three different techniques to get to the definition of my problem. The first brainstorming method I used was the 5 Whys? Rooth Analysis. With the 5 Whys? Root Analysis, I started with one why question that I had about my problem of practice and then answered that question. From that answer, I then came up with another why question and this process continues until I had five why questions. This was actually a pretty challenging brainstorming process to me because it was difficult to develop a well thought out why question from the previous answer that would actually provide an even deeper answer. To see my 5 Whys? Root Analysis in more detail please click here.



The second brainstorming method I used is the Why-How Ladder. The Why-How Ladder is an exercise to help someone get deeper insights and underlying issues of a given challenge or in my case my problem of practice. The way I set-up my Why-How Ladder was to have one side that focused on the student side, so what will they gain from the use of technology in the classroom and then the other side I focused on the teacher's side and how it will increase relatability with their students by using educational technology. To see my Why-How Ladder in more detail please click here.

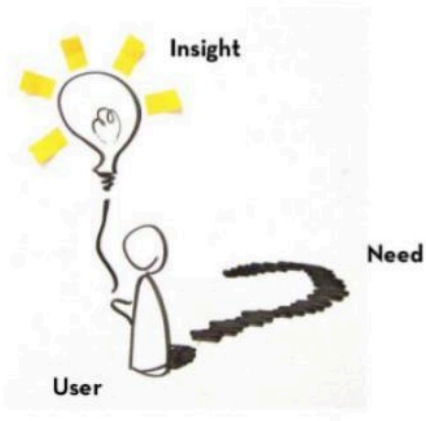


Why-How Ladder

The last brainstorming method I used is the Point-of-View Madlib. Through this Madlib I was able to gain an understanding of the problem from the point of view of my students, which in this case are the colleagues on my campus. Below is the image of my Point-of-View Madlib and to see it in more detail please click here.

Teachers need to learn to use educational technology because it would allow teacher to connect to their students on a different level.

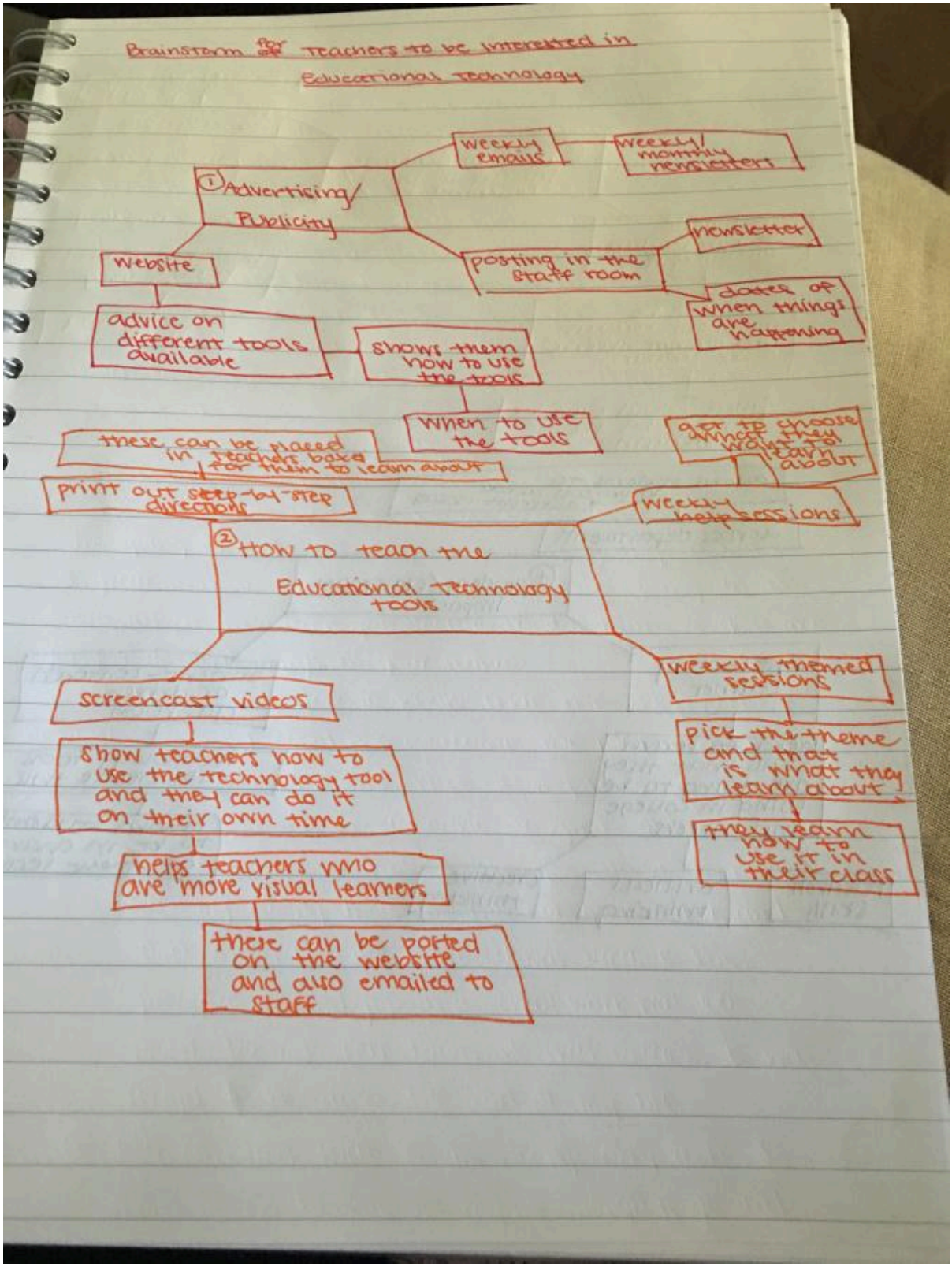
Veteran teachers need to learn to use educational technology because it would allow them to add a new tool to their already solid box of tricks.

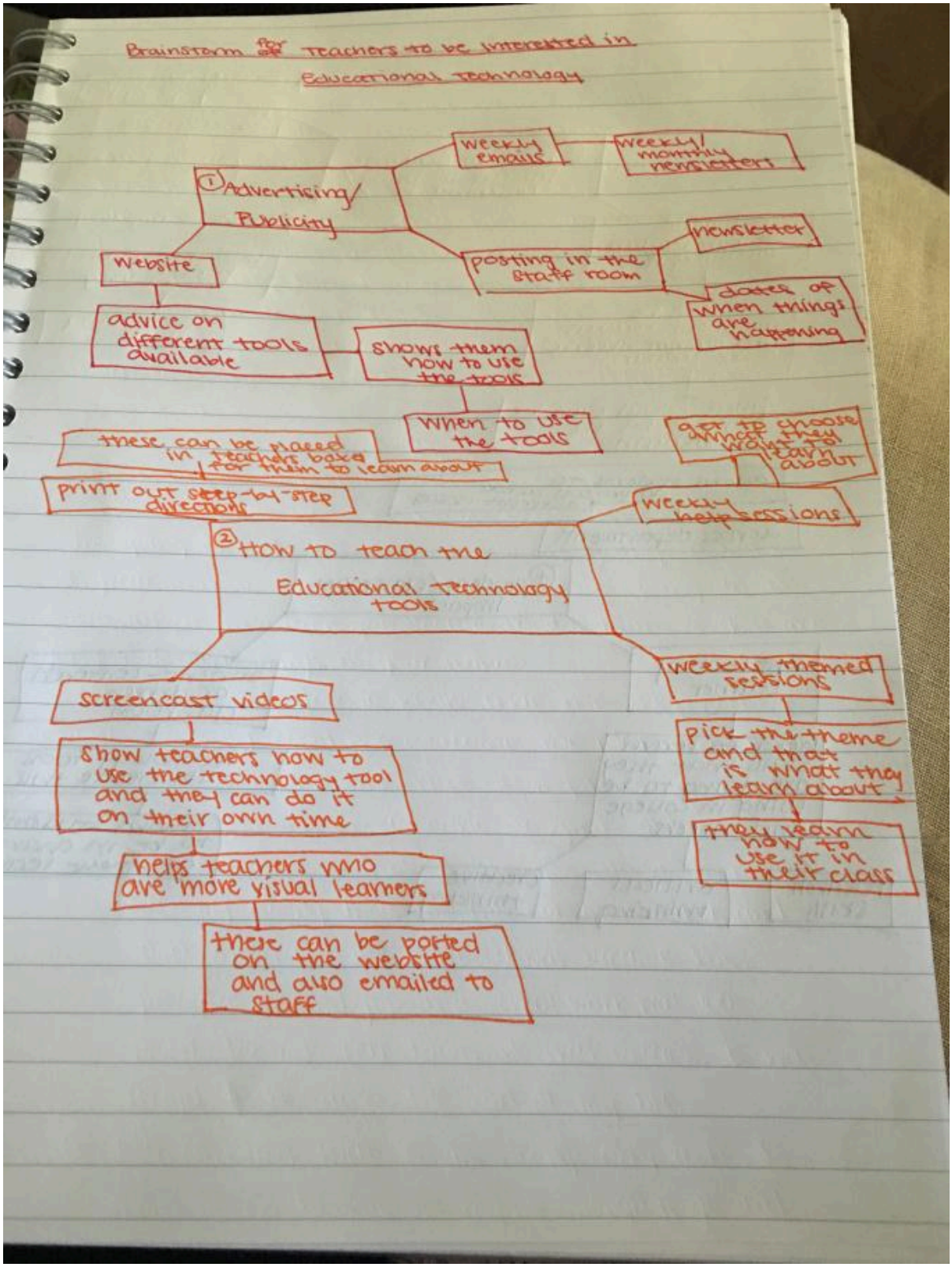


Teachers need to learn to use educational technology because it would allow their students to teach them something new and create an equal community in the classroom.

From these three different brainstorming techniques I was able to come up with a problem of practice focus question. The question that I chose to focus on is the following: Why should teachers continue to learn and develop their skills about educational technology and introduce it into their curriculum? Through this brainstorming process I was really able to refine what my problem of practice is going to be. Also from this define and brainstorming process, I realized that my problem of practice was going to take a slightly different turn from making sure the focus was on educating my fellow colleagues about how using a variety of technologies in the classroom can benefit our students and prepare them for their future lives outside of high school into their future academics and careers. Now that I have a clear direction for my problem of practice, I was then able to move onto the ideate phase.

For the ideate phase, I had to take my time brainstorming through the use of an incubation journal. The first step was to actually brainstorm about different ways I could solve my problem of practice and what it would take. The images below show how I methodically brainstormed solutions to my problem.


Brainstorm for teachers to be interested in Educational Technology
1 Advertising/ Publicity
weekly emails
weekly/ monthly newsletters
website
posting in the staff room
newsletter
dates of when things are happening
advice on different tools available
shows them how to use the tools
when to use the tools
these can be placed in teachers box for them to learn about
print out step-by-step directions
get to choose what they want to learn about
weekly help sessions
2 How to teach the Educational Technology tools
screencast videos
weekly themed sessions
show teachers how to use the technology tool and they can do it on their own time
pick the theme and that is what they learn about
helps teachers who are more visual learners
they learn how to use it in their class
these can be ported on the website and also emailed to staff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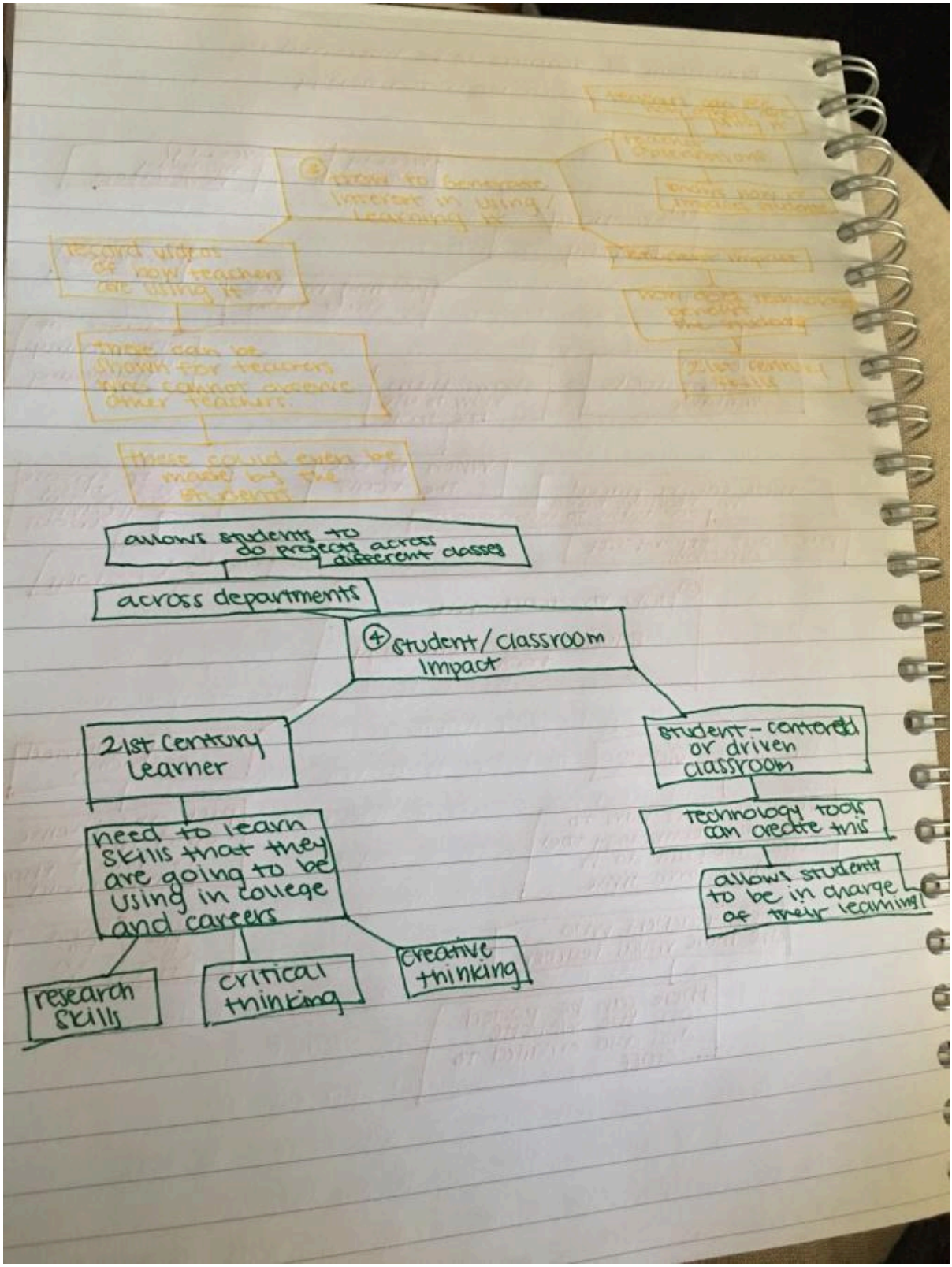
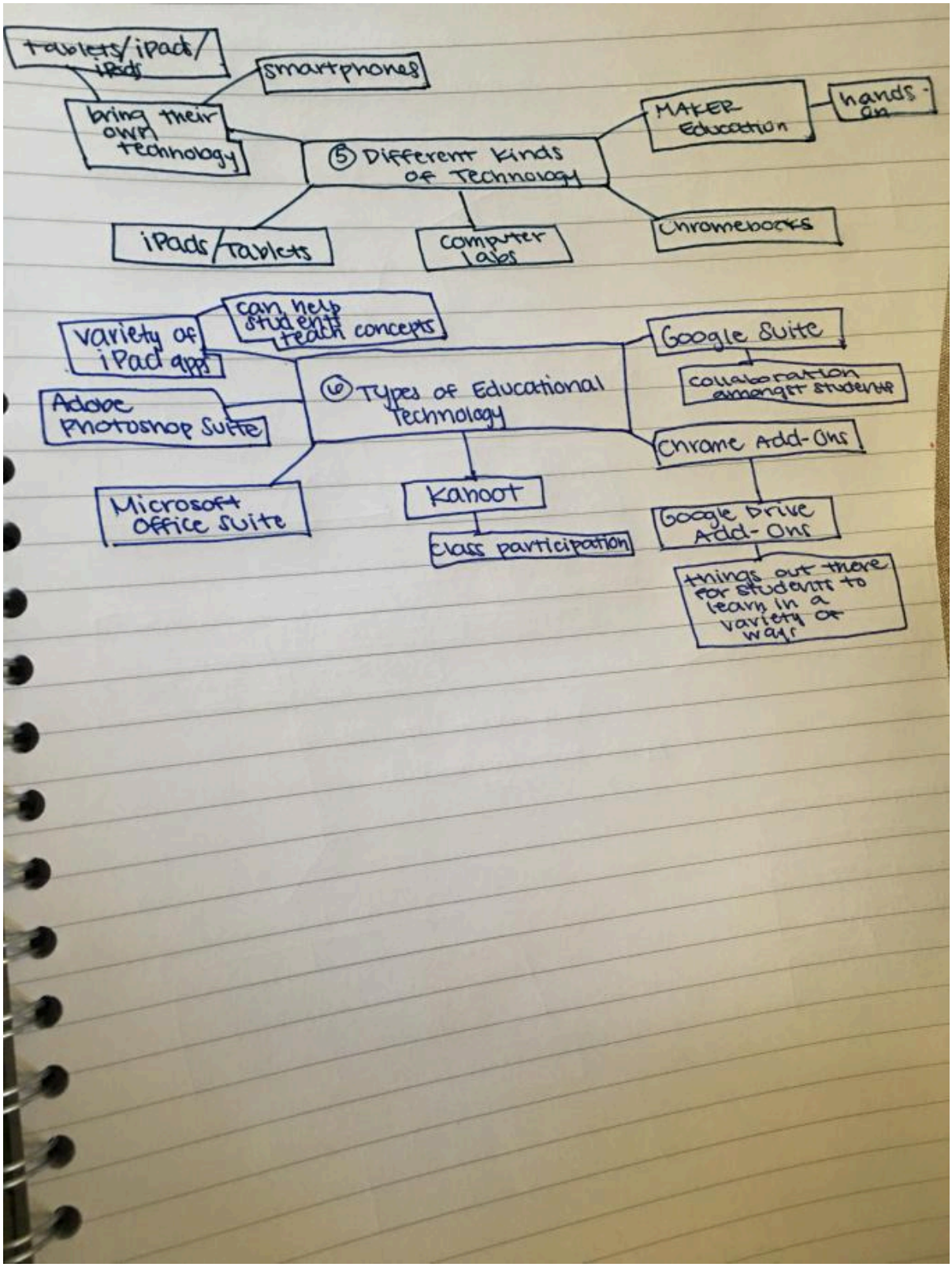

allows students to do projects across different classes
across departments
④ student/classroom impact
21st century learner
need to learn skills that they are going to be using in college and careers
research skills
critical thinking
creative thinking
student-centered or driven classroom
technology tools can create this
allows student to be in charge of their learning!



Once I was finished brainstorming, then I took a couple of hours and went on a drive to clear my mind because this is when I usually come up with the best solutions. When I went back

to my brainstorm, I was then able to come up with a list of questions in reference to my solutions and then came up with even better solutions that I could eventually use for my prototype phase. Below are the flushed out solutions I came up with after my incubation drive time.

How do I get other teachers to show up to things about educational technology?

↳ Through the use of variety of advertisements.

↳ ① emails to the staff with a brief description of what they are going to be learning about

↳ ② poster in the staff room about when, where and what they are going to be learning

↳ ③ print-out placed in each staff box about upcoming events

↳ ④ monthly newsletter (emailed and placed in staff boxes) about what has been taught and what is going to be taught

↳ ⑤ make sure they know that they will be given time within the session to actually use the tool and practice with it.

↳ Varying locations of where it's held

↳ ① my room, when needing to use chromebooks

↳ ② computer labs that are more centrally located

How do I teach about these educational technology tools?

↳ ① Step-by-step How-To Guide

↳ creating guides that have words and screenshots to help teachers who want to learn on their own and need more of a physical copy.

↳ these can be printed and emailed out

↳ ② Screencast Video

↳ showing teachers through a video on how to use a

tech tool.
↳ this can be emailed to my student teachers or it can be posted on the website (both can be done)
↳ ⑤ Create their own Help Sessions
↳ Teachers can come to me or I can go to them and help them with technology tools they already have in mind
↳ help them learn and adapt the tool they have in mind and how they want to use it in their classes.

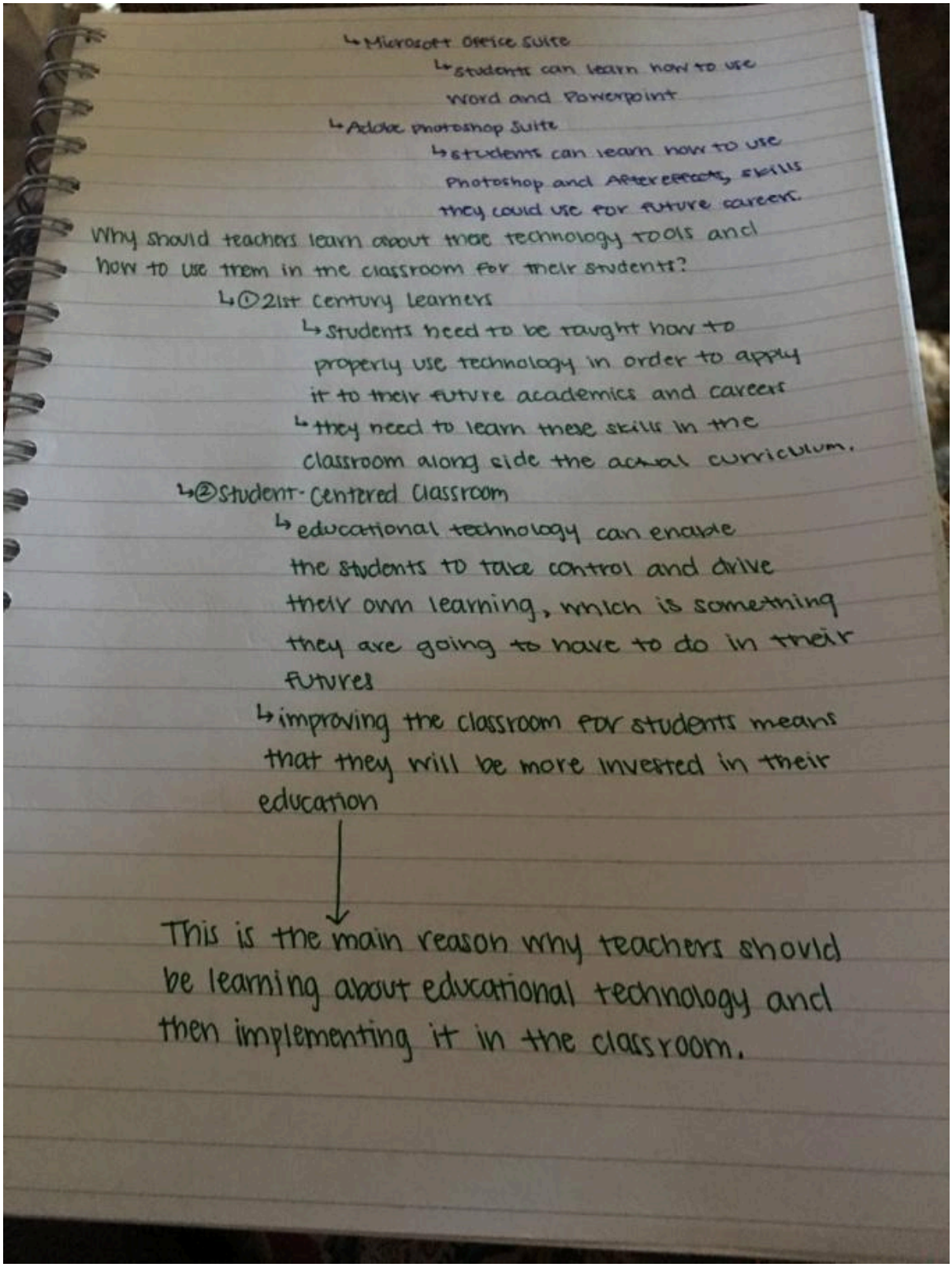
What are the different types of technology and educational technology that can be implemented in the classroom?

↳ ① Students use their own devices (smartphones, tablets/iPads)
↳ Kahoot
↳ allows teachers to test and survey their students about what they have learned in class

↳ ② Chromebooks
↳ Google Suite
↳ allows students to learn how to use the features of the Google Suite for their future academics and career.

↳ ③ Tablets/iPads
↳ Variety of Applications
↳ students can teach the class about different concepts and topics.

↳ ④ Computers



Once I had time to reflect on my brainstorm and incubation journal about the solutions I had come up with, I was now ready to design and create actual prototypes.

For the prototype phase, I was able to come up create and implement three different prototypes that all went hand in hand with one another. The very first step of my prototype was to re-introduce myself on campus as the technology coach and what exactly that meant to my colleagues through our first Google Classroom Professional Development of the year. I decided to introduce myself through the use of a very brief Google Slide Deck which you can view by clicking here. Leading up to this Professional Development, I sent out a Google Form that allowed my colleagues to self select what level they were at whether it be beginner or intermediate/advanced. You can see the Google Form that I sent out to my colleagues by clicking here. Teachers were then supposed to split according to the guidelines that are mentioned in the Google Slide Deck and it was also mentioned in an email that I had sent to all of my colleagues about where they should go for Professional Development. Naturally more teachers decided to stay in the beginners group simply because it was in the same location where I gave my introduction presentation. This meant that the groups were very unbalanced because my colleagues did not split accordingly.

From this experience I went back to the prototyping drawing board. I thought in order to have more teachers involved from different departments in Professional Development then a teacher from each department would host a workshop about an educational technology tool that they use. This would mean that teachers would have to sign up ahead of time for the workshop they are most interested in instead of just being forced to learn about Google Classroom.

The second prototype I wanted to create and update a WordPress website for my fellow teachers about a variety of educational technology tools that are available. I would update this website once a week or every other week. Once I have updated this website then I would email it out to all of the teachers. To see this website please click here.

The last prototype I developed was to create a small half sheet with information about educational technology and placing it in each of the teachers' boxes so they are not just receiving emails about technology but also physical copies because I know from my own experiences I need a physical copy of some things.

Overall, from the process of prototyping I have learned that not all prototypes are going to be successful in their final form presented to an audience but even this itself can be prototype in itself. I have learned ways I would change the way I educate my fellow colleagues and also how to further engage them about educational technology and for them to implement it in the ways that they see fit to their classes.

Once you have your prototypes designed and ready then it is time to go through the process of testing them. To explain how I used the testing process for my problem of practice please click here to watch the short video that I have made about how I applied it. Through this video, I use my problem of practice to demonstrate how the testing process is implemented. I actually used the prototypes I mentioned above in my testing process and to learn about how my testing process went, read my test report that can be found by clicking here.

From my problem of practice and having to implement design thinking, I have learned that you really need to trust the process and do it by the steps in order. If you try and skip ahead then it is going to ruin the whole process. I also learned that the more thought you put into each step then the better outcome you will have with the overall process. It is true when people say that what you put into it is what you are going to get out of it. I have learned that I have always been more of a design thinker, I just never realized that I actually do this exact process on a daily basis with my lesson plans and with the interactions I have with my students. I actually enjoyed the design process so much that next year I would like to recreate my classes so that my students are using the design thinking process for the culminating projects at the end of each unit.