



# Professional Graduate Certificate in Education (PCET)

Module:  
ECPT5006  
Digital Innovation and Professional  
Practice

Title Of Study:  
A critical evaluation of the role of  
digital innovation in professional  
practice

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## **Introduction**

I am expected to evaluate digital innovation critically as it relates to professional practice for this project. It includes reading up on relevant literature in the areas, designing, creating, and analysing a digital tool that you may use to your work as a professional. I'll be discussing professional practice and digital innovation in this project. Therefore, how can we include technology into the classroom of today and explain to the children how it helps them learn? I will be looking into some different theories that teachers can use to potentially help them and create a framework and following a simple structure. As well as looking at theories I will be looking at different techniques for current and emerging technologies. Within the literature review I will be looking at different frameworks and talking about them but also looking at what is best practice and looking into the Welsh Government Standards and how I as a PCET educator can apply these into my lessons in future. Also, I will be looking at advanced new technology that teachers can use in the classroom which will be beneficial to learners. I will be discussing what tool I applied into a lesson and why it was used, how was it beneficial and what drawbacks might occur when using this tool. Then at the end I will be doing a reflection on what went well and what could I work on. This part will be crucial as I can work on my development and improve on best practice as a PCET educator.

## **The role of creativity and digital innovation**

The use of technology to enhance instruction and the efficient day-to-day operations of educational establishments is known as educational technology, or EdTech (Tobin ,2023). To present multimedia content and facilitate in-class activities, for instance, teachers can use interactive whiteboards. Alternatively, they can use tablets to give students access to digital learning resources (Michelle, 2023). Although tech-based learning is growing in popularity, is technology and education compatible? The importance of technology levels the playing field because it allows teachers to accommodate each student's unique learning style and even help them learn when they want to. It provides equal opportunities for learning, competition, and obtaining high-quality education for all students, including those with learning disabilities (Rezaid,2023). Looking back twenty years begins in 1998, when the internet became widely known. Dial-up modems were used to access it, and people were generally unsure of the implications for higher education as well as for society at large. It was seen by some scholars as a fad. My suggestion for a fully online course was shot down by a co-worker who said, "No one wants to study like that." Even though it was unclear where higher education would go in the next 20 years, the web clearly had potential in this regard (Weller, 2018). History of technology in classrooms is that a lot of people didn't believe it was the way forward within education. Nowadays, 20 years later we use technology every single day. Technology reduces both the time and cost of teachers and allows students to remain on top of their education by having permanent access to information, for example being able to check deadlines or emailing a teacher about queries that they may have at any time of the day (Onlinebusinessschool, 2017). The exact method a teacher uses to communicate their ideas to a class of students is known as pedagogy. Using electronic or digital tools, media, and resources to improve a student's

learning process is known as tech-based pedagogy (CADimensions, 2023). By assisting educators in incorporating information and communications technology into their lesson plans, Technology, Pedagogy and Education aims to benefit the global education community. It focuses on empirical data and critical analysis of all facets of ICT and how it relates to professional development and teacher preparation across the board in education (Ortiz, 2022). When digital learning technologies are used effectively in the classroom, they can help teachers create more engaging lesson plans, promote personalised learning, and raise student engagement. It also assists pupils in developing critical 21st-century abilities (American university Washington, DC, 2020). By using technology into the class raises the student engagement which is crucial for pupils learning. With the help of computers, students in today's student-centred classrooms may work together, apply critical thinking, and come up with different ways to solve problems (Jaber, 1997). However, there's a chance that the move from a teacher-centred delivery paradigm to a student-centred one would encounter change resistance. Teachers are being challenged by student-centred teaching to reevaluate both their own and their students' teaching and learning strategies (Jaber, 1997). The use of digital classrooms has grown in popularity recently, providing both teachers and students with a host of advantages. The benefits of digital classrooms are manifold, ranging from enhanced collaboration and personalised learning to more flexibility and accessibility (Digital Mahbub,2023). Students gain skills in navigating digital platforms, using productivity tools, collaborating online, and successfully communicating through digital media when technology is integrated into the classroom. Information management, Students can access, arrange, and evaluate a lot of data thanks to technology (Explorance, 2023). Students can collaborate more when they use technology. Students who work with

technology develop critical thinking abilities as they figure out how to overcome obstacles in the digital world. Additionally, students who are more comfortable with technology can benefit from the chance to help others. They can interact with each other's work and share information via shared learning platforms (RM-Admin, 2020).

Technology kills creativity. Because Google can answer any problem, many students no longer believe in the value of individual innovation. This encourages indolence and stunts the growth of critical thinking, which is necessary for success in life (Adeyemo, 2023). Yes, technology is great in the classroom but looking at some negatives to that it kills critical thinking which is crucial for learners in future. Students in the modern classroom need technology in the classroom because we live in a more advanced society, to enhance knowledge is to start in the classroom. Numerous studies have revealed that teachers of young learners frequently harbour concerns and anxieties about the unfavourable consequences of technology use on children, as well as uncertainties about its suitability and effectiveness. This states that these teachers will neither actively use technology in their classrooms, nor will they encourage students to use it for learning (Taghizadeh, 2018). Some educators worry that students might not be motivated to participate, that there are negative effects of technology use on kids, and that there are questions over the usefulness and suitability of the technology. With the speed at which emerging technologies are evolving, it is critical that students begin developing their skills early in their education and use appropriate case studies to teach and learn about digital citizenship. For knowledge acquisition and self-directed learning, new pedagogies support customised teaching and learning approaches. Social media, online gaming, and browsing are some of the distractions that can result from using technology in

the classroom. Pupils who find it difficult to stay focused on the task at hand often perform poorly academically (Nadine, 2023). Numerous digital education tools have been created to improve collaboration, foster student autonomy, strengthen academic process management, and facilitate teacher-student communication (Almufarreh and Arshad 2023). For both auditory and visual learners, integrating technology into whole-class instruction can increase student engagement. Simple technological integrations in the classroom, such as Power Points, games, online homework assignments, or online grading systems, can have a significant impact on students' development (Drexel, 2023). (Jones, 2020) asserts that the student-centric approach would let kids select their own learning goals and speed based on their unique interests, all under the direction of chatbots, artificial intelligence, and video-based instruction. This would suggest more of a discovery learning environment would let learners progress and learn by themselves with a little guidance from teachers, this would allow critical thinking whilst using technology. Theoretically grounded in a humanist philosophy of education, discovery learning is a learner-centred approach that starts with topics that are directly relevant and of interest to the students. Lesson planning and delivery should consider the needs of the students in terms of their social, emotional, and personal development (Oxford University, 2023). Discovery learning is learning style for educators to use for students to learn on their own, to find the answers and be creative as it is a more student-based approach. But there are drawbacks to discovery learning as well. According to certain research, students in discovery settings are more likely than those getting direct instruction to run into problems with encoding, causal misattributions, inconsistent or misleading feedback, and insufficient practise and elaborations.

## **Teaching Tools/Resources**

In this section, I will choose a teaching tool or tools that I could use in a particular area of my teaching by applying a theory I have learned about digital innovation and creativity. As part of this, I will show how the theory in the field supports the tool(s) I have chosen and how innovation, pedagogical theory, and professional practise are synthesised.

Pedagogy refers to the method and practices of a teacher. It's how they approach their teaching style, and relates to the different theories they use, how they give feedback, and the assessments they set. When people refer to the pedagogy of teaching, it means how the teacher delivers the curriculum to the class (Learning Journals, 2021). The study and application of modern digital technologies in teaching and learning is known as digital pedagogy. Digital pedagogy can be implemented in face-to-face, hybrid, and online learning settings. Another theoretical foundation for digital pedagogy is constructivism.

Teaching and learning frameworks are models based on research that support educators in integrating assessment into instruction, creating inclusive and motivating learning environments, and matching learning objectives with classroom activities (Twinkl, 2023). The acronym RAT stands for replace, amplify,

and transform. According to this model, technology can be used in a classroom to either amp up existing learning or transform it in ways that would not have been possible without it (Hughes, Thomas, & Scharber, 2006). Alternatively, technology can be used to replace a traditional approach to teaching (without significantly changing student outcomes). Additionally, because the RAT model stresses technology as a means of bolstering effective pedagogy, it is highly compatible with other high-quality educational practises. RAT encourages creative instruction and pedagogy that is always changing to move towards transformative methods. By emphasising student engagement and active/creative learning through RAT, the model's student focus naturally supports teacher practises that use technology to empower students to take charge of their own education, never viewing it as more than a tool to that end (Kimmons., Et al, 2020). Techniques for Technology-Aided Instruction and Intervention (TAII) can be used at any stage of the instructional process. It can be used as a tool for student self-monitoring, video modelling, task selection, scripts, or visual schedules for familiar routines, and prompts for the class (ABA, 2023).

There were various digital tools that were used such as Google slides, Google Classroom, Jamboard and videos. To sum up, Google Slides is a flexible tool that has a wide range of applications in the educational setting. The options are endless and include interactive presentations, group projects, formative evaluations, interactive exercises, and digital portfolios (Herb, 2023). As Herb suggests that Google slides is a flexible tool and easy to use, as a teacher it is a relief when tools are easier as you don't want to complicate it for students. Using Google Slides, create and deliver presentations in a polished manner. Presentations can be made directly within your web browser. Every edit is automatically saved when you and your class work together on slides at the

same time. This allows you to see changes as they are made (Google, 2023). Google Classroom facilitates the creation of dynamic learning environments that teachers can control, monitor, and assess. It is a feature of Google Workspace for Education that enables teachers to increase their influence and better prepare their students for the future (Google, 2023). So why do students or teachers like using Google Classroom? It facilitates my ability to monitor my development and identify areas for improvement. I also enjoy how simple it is to use Google Classroom to access and turn in assignments. Being able to electronically turn in my work eliminates the hassle of needing to remember to bring it to class, which is convenient (Tarik, 2022). Jamboard allows all participants in the jam session to see and access the learning that occurs. Additionally, Meet makes it simple to share or establish in-person connections by letting you easily showcase your jams in real time (Google, 2023). Compared to traditional text-based materials, videos give students a more dynamic and engaging way to see and hear information. They may also aid students in better information retention. Teachers can also use instructional videos found on the internet to either replace or add to the content they teach (Ansaldi, 2022). Videos in a classroom is a great way for visual learners to learn instead of the typical lecture of a textbook. Videos related to the students' hobbies may appear in this section if they are watching the video on their own devices. In either scenario, the overwhelming number of eye-catching thumbnails reduces engagement. These recommended videos are, at most, irritating. In the worst-case scenario, they purposefully undermine learning (Boclips, 2020). As videos may have its benefits, the drawbacks of videos would be that learners can easily get distracted and watch other videos on their own devices how can you prevent this from happening as a teacher? Personally, I would walk around the classroom ensuring all learners are on the correct tabs and engaging with the lesson.

## Application of the chosen learning tool(s)

## Lesson Plan Template



## Lesson Plan

|                                                                                     |                           |                                  |                                        |
|-------------------------------------------------------------------------------------|---------------------------|----------------------------------|----------------------------------------|
| Topic: Knowing how activities contribute to a healthy lifestyle                     |                           | Class: Health and social level 1 |                                        |
| Date:30/11/23                                                                       | Length of lesson: 2 hours |                                  | Number of students:<br>8 – 12 students |
| Resources required:<br>PPT<br>Jamboard<br>Video<br>Assessments                      |                           |                                  |                                        |
| Aim of Lesson<br><br>Knowing how activities contribute towards a healthy lifestyle. |                           |                                  |                                        |

**Learning Outcomes – The Learners Should Be Able To:**

**Knowing that being active can create more of a healthy lifestyle.**

**Previous student knowledge required for the session:**

- **Knowing what contributes to a healthy lifestyle.**
- **Knowing what contributes to an unhealthy lifestyle.**

**Anticipated difficulties (if applicable):**

**Some reading and writing  
Grammar and spelling**

**Professional Standards (where are these being met within the session)**

**V2 - Promote engagement in learning and equity of opportunity for all to reach their potential - by including question and answers throughout the lesson to engage the students and promote input from individuals.**

**V5 - Collaborate with others to enhance practice - including questioning and answering on the kettlebell as well as using group work to collaborate with others.**

**K3 - Critical evaluation as a basis for effective practice - through discussion with the students after the lesson and session to gain an understanding of how they think the session went. Thus, providing learners opinions to add to evaluating the session.**

**K4 - Appropriate use of digital and/or other technologies, and resources for learning - through using PowerPoint and providing students with all equipment needed for the session.**

**A1 - Design and plan learning activities and/or programmes - through designing the lesson and session.**

**A2 - teach and/or support learning through appropriate approaches and environments - using different teaching styles (whiteboard and demonstrations).**

**A3 - Assess and give feedback for learning - using question and answers throughout the lesson as well as after the lesson.**

**A4 - Support and guide learners - Q and A, opportunity to ask questions throughout the lesson.**

**Lesson Detail:**

| Stage | Focus | Strategy | Time |
|-------|-------|----------|------|
|-------|-------|----------|------|

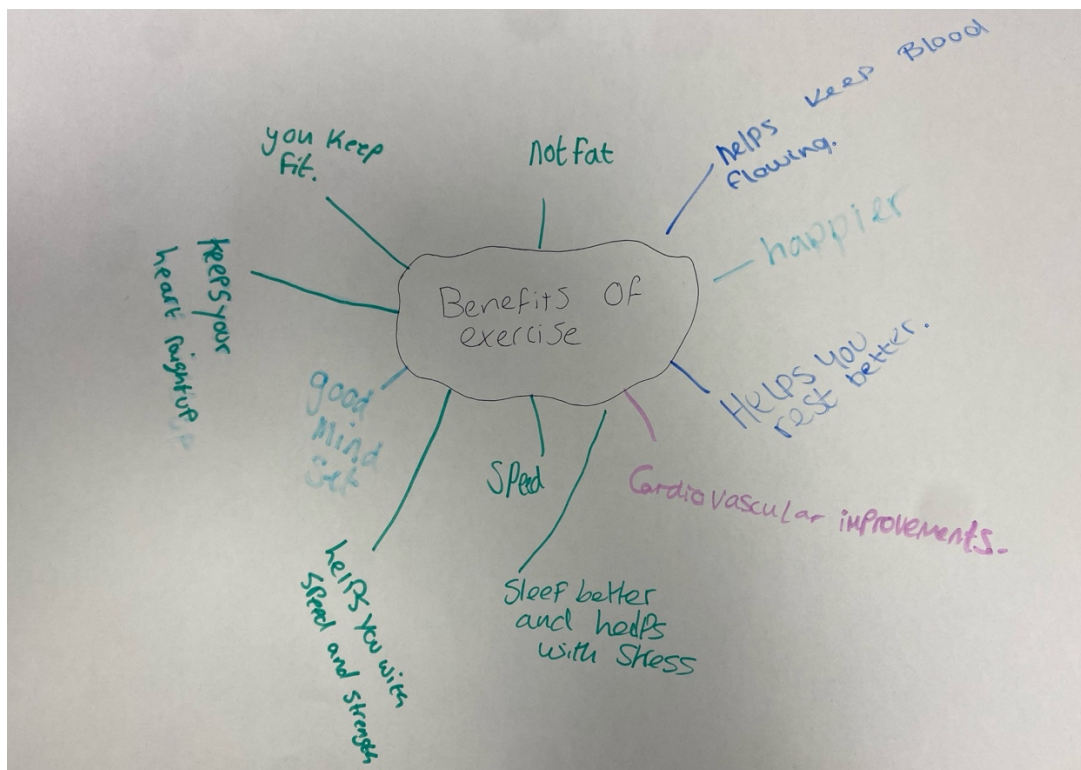
|                           |                                                                |                                             |               |
|---------------------------|----------------------------------------------------------------|---------------------------------------------|---------------|
| <b>Introduction</b>       | Recap of last lessons                                          | Brainstorming                               | 11:30 – 11:45 |
| <b>Development</b>        | Task – listing 10 activities.                                  | Group work                                  | 11:45 – 12:00 |
|                           | Going through different activities                             | Lecture – research                          | 12:00 – 12:05 |
|                           | Jamboard collaboration                                         | Jamboard                                    | 12:05 – 12:20 |
|                           | Mind Maps                                                      | Collaborating work                          |               |
|                           | Look into the benefits by using the list they already created. | Assessment – research                       | 12:20 – 12:30 |
| <b>Plenary/conclusion</b> | Video to conclude learning.                                    | Visual learning – Video                     | 12:30 – 1:30  |
|                           | Different activities to make them understand                   | Gaming – Demonstration – Discovery learning |               |

**Assessment Strategies: when and how are they included within the lesson?**

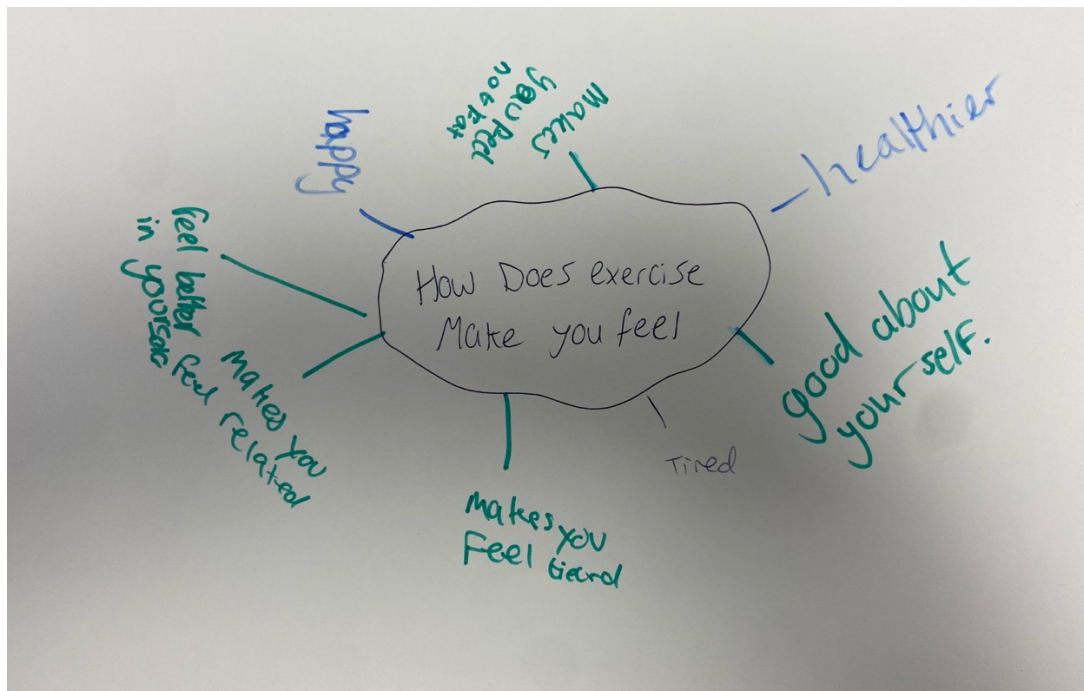
Group work to create a list together – Identify the benefits of activities by writing all down on the google document.

Informal reflection (to be completed after the session)

Lesson went well, few pupils were missing from the lesson. All students engaged until the video they switched off maybe I should stop and start the video and prepare questions for the video. 1 group of pupils were very hard to engage 0 motivation, maybe next time I should be more fun and bring more activities in the lesson.



Mind map 1 benefits of exercise collaborative working in groups.



Mind map 2 how does exercise make you feel working in groups collaborating.

# Benefits of exercise and how does it make you feel?



**RUN**  
IN THE  
**MORNING**



 [Edit in Google Slides](#)

EXERCISING



## Exercising

<https://www.youtube.com/watch?v=BHY0FxzoKZE>

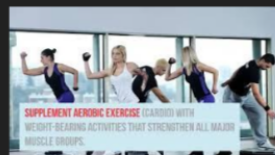
[https://www.youtube.com/watch?v=hmFQqjMF\\_f0](https://www.youtube.com/watch?v=hmFQqjMF_f0)

Exercise is good for your cardiovascular system and muscle growth.  
It makes me feel tired.  
-Bethany

Exercise



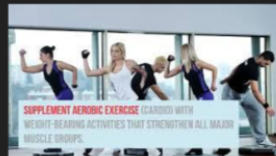
Exercise benefits- mia



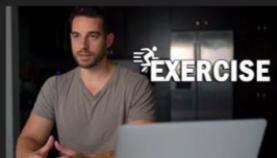
Edit in Google Slides

Regular physical activity is important for your health. Being physically active can improve your brain function, help manage weight, reduce the risk of disease, strengthen bones and muscles, and increase energy levels.

## Exercise benefits- mia



Regular physical activity is one of the most important things you can do for your health. Being physically active can improve your brain health, help manage weight, reduce the risk of disease, strengthen bones and muscles, and improve your ability to do everyday activities



Megan



Edit in Google Slides

The pictures above are screenshots of the collaborative Google slides document that the class created in their group. They would have a slide each as a group or in pairs to find videos or some research on the benefits of exercise and how does it make you feel.

My Drive - Google Drive x H&S Lvl 1.pptx - Google Slides x Application Form English.c... x rat framework in tech base... x The Dangers of Using You... x Bolick, C

docs.google.com/presentation/d/1AJBWjvIaVleRwFiLLWms\_8yMFXb8ke/edit#slide=id.p1

H&S Lvl 1 .PPTX

File Edit View Insert Format Slide Arrange Tools Help

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1 2 3 4 5 6 7

1

KNOWING HOW ACTIVITIES  
CONTRIBUTE TO A HEALTHY  
LIFESTYLE

CIAN.ANDERSON@COLEGSIRGAR.AC.UK

1

Click to add speaker notes

My Drive - Google Drive x H&S Lvl 1.pptx - Google Slides x Application Form English.c... x rat framework in tech base... x The Dangers of Using You... x Bolick, C

docs.google.com/presentation/d/1AJBWjvIaVleRwFiLLWms\_8yMFXb8ke/edit#slide=id.p2

H&S Lvl 1 .PPTX

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1 2 3 4 5 6 7

2

TASK

List 10 activities in pairs/groups that you might  
find within your local area by researching.

2

Click to add speaker notes

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## ACTIVITIES YOU MIGHT FIND IN YOUR AREA



Click to add speaker notes

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## WHAT ARE THE BENEFITS OF TAKING PART IN ACTIVITIES?

## HOW DOES TAKING PART IN ACTIVITIES EFFECT YOUR PERSONAL WELL BEING



Click to add speaker notes

My Drive - Google Drive x H&S Lvl 1.pptx - Google Slides x Application Form English.c x rat framework in tech base x The Dangers of Using You! x Bolick, C x +

docs.google.com/presentation/d/1AJ8WjvIaVleRwFiLLWms\_8yMFfXb8ke/edit#slide=id.p5

H&S Lvl 1 PPTX File Edit View Insert Format Slide Arrange Tools Help

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1 TASK

Identify the benefits of a range of activities on personal wellbeing as a result of taking part in activities.  
(Work together find videos and findings and add into the collaborative Google slides)

Click to add speaker notes

My Drive - Google Drive x H&S Lvl 1.pptx - Google Slides x Application Form English.c x rat framework in tech base x The Dangers of Using You! x Bolick, C x +

docs.google.com/presentation/d/1AJ8WjvIaVleRwFiLLWms\_8yMFfXb8ke/edit#slide=id.p6

H&S Lvl 1 PPTX File Edit View Insert Format Slide Arrange Tools Help

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1 THE BENEFITS

Benefits Of Exercise

Click to add speaker notes

Knowing how activities contribute to a healthy lifestyle

3.1 - List 10 activities in your local area that support a healthy lifestyle.

|  |
|--|
|  |
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|  |
|  |
|  |

3.2 - Identify the benefits of a range of activities on personal well-being as a result of taking part in activities. (Use 5 of the examples above and extend on what the benefits are).

U1.2 - Activities and choices that hinder a healthy lifestyle

Describe activities and choices that hinder a healthy lifestyle.

- alcohol- it makes your body unhealthy and can make you gain weight
- Not sleeping because it can lead to forgetting things
- drugs because it ruins your body - megan
- junk food because it can make you fat
- irregular sleeping patterns because it makes you low of energy
- drinking too much alcohol can effect your organs
- junk food because it can make you feel sluggish
- Alcohol because weakens muscvles

In groups they had to work together on working on a jamboard to put all their ideas together about activities and choices that hinder a healthy lifestyle.

These are the Google slides that I utilised for the lesson on how different activities fit into a healthy lifestyle. After reviewing the previous lesson's content, which focused on the drawbacks of leading a healthy lifestyle, the students immediately began their assignment to conduct local research while working in buzz groups. then made suggestions for potential sports or activities in their neighbourhood and among various clubs. After that, you instructed them to consider and investigate how their personal wellbeing is affected by various activities in a Google Doc, which they were then required to turn in for an assignment via Google Classroom. After that, showed them how to use the group Google Slides to collaborate on researching the advantages and consequences of exercise. Then concluded the lesson with a video on benefits of exercise, after the lesson we then moved onto practical some activities that the learners decided on as a class. After the lesson was over, I asked them on feedback on how the lesson was.

## Evaluation and Reflection

For this reflection I will be using The Boud Reflection Model. With the Boud Reflection Model, we examine our actions as though we were an outsider observing, unbiased when it comes to ideas and opinions, and unafraid of criticism (Avendano, 2023). The original lesson was working alongside the curriculum/criteria on what the health and social level ones must achieve, using Google slides to teach the class about how various pursuits fit into a balanced lifestyle. Following a review of the material from the previous lesson, which concentrated on the disadvantages of maintaining a healthy lifestyle, the students got right into their assignment, which required them to work in buzz groups to conduct local research. then offered ideas for future sports or events that could take place in their neighbourhood and among different clubs. Then you gave them an assignment that they had to turn in via Google Classroom, asking them to think about and research how different activities affect their personal wellbeing in a Google Doc. After that, demonstrated to them how to work together to explore the benefits and drawbacks of exercise using the group Google Slides. A brief reflection of this lesson went well, few pupils were missing from the lesson. All students engaged until the video they switched off maybe I should stop and start the video and prepare questions for the video. 1 group of pupils were very hard to engage 0 motivation, maybe next time I should be more fun and bring more activities in the lesson.

Looking at the lesson from external point of view it was a great flowing lesson, collaboration together in groups was very engaging from when I walked around the classroom. One or two learners did however get too distracted into some different YouTube videos, as (Boclip, 2022) mentioned in the teaching tools section "Videos in a classroom is a great way for visual learners to learn instead of the typical lecture of a textbook. Videos related to the students' hobbies may appear in this section if they are watching the video on their own devices." Yes, videos are great, but once a student goes off and watches other videos, they stop paying attention in class. As a teacher, you would need to constantly monitor your students. When students are not participating in the lesson, it can be very frustrating for teachers. One way to address this is to try to make the lesson as enjoyable as you can. With a retrospective view of the lesson, I could have included games and knowledge-testing quizzes. Looking back at the whole lesson I could maybe look at introducing a game at the start of the lesson, looked at bringing in the collaborative slides, back to a quiz and a video at the end. This way the students are always busy and takes them away from getting distracted. As a teacher this would make me feel less frustrated as

everyone is taking in the information and everyone is engaging, even when put in groups they will be working on teamworking skills. With this in place the outcomes would be seeing the learners in a new perspective as you can observe that everyone knows what is going on and completing the work and really engaging. Next lesson as a teacher I would be prepared to apply all this into the lesson to make it more of a fun lesson to increase engagement of the classroom. I will gain as a teacher from using the RAT framework since it will enable me to analyse how teachers' use of technology in the classroom benefits both their students and them.

To enhance my learning as a PCET Educator is to understand the Welsh Government Standards and keeping up to date with the latest curriculum. The 5 new standards are pedagogy, leadership, professional learning, innovation, and collaboration. These are the key elements that move with us as our career develops for best practice, we must follow these standards (WelshGov, 2023).

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