

PCET

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Digital Innovation and Professional Practice (ECPT5004 & ECPT6006)

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Introduction

During this assignment, the subject that will be researched is the evaluation of the role of digital innovation in professional practice. The use and importance of digital tools are increasing as the years go on. The importance of having teachers who are skilled in using digital tools is rapidly increasing because of the rapid advancement of technology. Education must be reorganised using new strategies and properly qualified teachers who are skilled with a range of digital teaching resources (Meirbekov et al., 2022).

The digital tool that will be researched is video feedback. Feedback is crucial to teaching, as it gives the learners the tools to improve but also encourages them when they have succeeded in their work. It is also crucial for the teacher to be able to give out feedback effectively. A study by Poulos and Mahony (2008) states that the results of the evaluation showed that the credibility of the lecturer providing the feedback is just as important to its effectiveness as the mode of delivery and timing. In addition to improving instruction and learning, effective feedback also plays a key role in smoothing the transfer from high school to college.

Video feedback for a teacher can be a very useful tool, as it allows the teacher to give the student the opportunity to show them either what is going well or what needs improvement. Suhrheinrich and Chan (2016) did a study on the effectiveness of video feedback in coaching. The results found that teachers outperformed paraprofessionals in terms of implementation fidelity. The results add to the scant body of research on how technology can improve teacher in-service training and suggest that using an iPad may have an impact on training outcomes and participant satisfaction with procedures.

The role of creativity and Digital Innovation

Raja and Nagasubramani (2018) found that the use of today's equipment, technology, and tools has been found to enhance student learning and interactivity, according to the most recent insights regarding how precisely modern students of today prefer to use technology and how using it affects their learning. When technology is used to help, they also find it to be much more interactive and full of interesting areas. Knowledge transfer becomes incredibly simple, practical, and efficient.

Raja and Nagasubramani (2018) also state that words do not have the same power as visual images. Utilising projectors and visual aids to facilitate learning is an excellent application of technology. To keep learning engaging and dynamic, world-class universities increasingly rely on the use of incredible PowerPoint presentations and projections. The use of technology in schools and colleges, such as projectors, can significantly increase interaction and interest levels while also boosting motivation. In contrast to simply reading text, students prefer to see engaging images and content that makes them want to think. With technology, the learning process also becomes fairly efficient.

Everyone can benefit from the new educational opportunities that technology can bring. It presents enormous potential to change international education for students of all ages. Technology is still developing at a breakneck speed, and more people are having access to devices like smartphones and the internet (*Technology and Education* 2022).

Nair, M. (2023) continues to state the benefits of technology by stating that our world has been overtaken by technology, which has fundamentally altered the way we work, live, and learn. Technology has revolutionised the teaching and learning process in the education sector, changing the rules. Students are frequently presented with a large amount of information to quickly process in a classroom setting. This may be confusing and overpowering. Technology makes a wealth of online resources accessible, facilitating self-directed learning and research.

Additionally, it facilitates learning by simplifying concepts through instructional videos, for example.

Children and teenagers can be creative while learning new skills and gaining an understanding of how things work through technology and design lessons. Students who study technology can acquire a wealth of knowledge and information that they can use to pursue related careers or as a fascinating and interesting subject in the future. Since technology is becoming a bigger and bigger part of the world in which kids are growing up, it makes sense that they should be taught about the devices and systems they use on a daily basis (*Importance of technology in schools, 2023*).

Odley (2023) also states the importance of technology in the classroom by stating that, more than just a useful tool for educators, technology in the classroom engages students and motivates them in ways we never would have imagined. Children learn in a more stimulating environment when technology is incorporated into the classroom, and it also allows them to express their creativity. As educators, one of our responsibilities is to help students get ready for life after school, and technology can support us in this endeavour. The use of technology in the classroom promotes group learning and teamwork, two important life skills that can help students learn practical advice for their future careers.

As there are many positives to having technology in the classroom, there are also negatives, as Luciaclemares (2023) states that the use of technology can lead to a lack of focus and distractions. Digitalization entails providing unrestricted access to a multitude of resources and information sources, including social media, chat rooms, and websites. Consequently, these platforms detract from the topic at hand. Luciaclemares (2023) also states that students who use technology excessively and inappropriately may develop a compulsive relationship with it, making it difficult for them to control their consumption. This can have a negative impact on their social, familial, academic, and health lives.

Feedback is a very effective way to help students with their work. Feedback can help with improving work or complimenting any good work. A study by Clynes and Raftery (2008) states that feedback has been shown to improve clinical practise and boost students' self-esteem, motivation, and confidence. The supervisor also gains advantages like improved interpersonal skills and a feeling of fulfilment in their work. The lack of proper supervisory education and training, the unfavourable ward learning environment, and the short amount of time spent with students are all cited as barriers to the feedback process.

Sandal et al. (2020) states that feedback is essential for assessment and learning because it has been shown to have a significant impact on students' learning. Nonetheless, certain elements of feedback have an impact on how well students learn and react to it. This requires teachers to be aware of and comprehend students' perceptions of feedback in addition to their own understanding of students' understanding. Feedback must support students' agency in seeking feedback and connect to their comprehension of the learning objective in order for it to be beneficial (Boud & Molloy, 2013)

Another form of feedback is video feedback. Video feedback can be very effective, as stated by When coaching trainees, video feedback is an effective teaching tool. A study carried out by Halim et al. (2021) stated that during the learning process, visual cues have been demonstrated to elicit significantly more attention. Rather than needing to recall from memory, the trainer and trainee can both see the mistakes made during the procedure. Both trainers and trainees will be able to give more precise and effective feedback due to their improved ability to recognise specific deficiencies. With encouraging outcomes, video-based coaching and feedback have been implemented in a variety of fields, including teaching, music, sports, rehabilitation, and workforce development.

Martinali (2023) agrees with Halim et al. (2021) that video feedback is an effective tool to use when teaching by stating that direct feedback is something that both teachers and students

can gain from when they use audio and video recordings in the classroom. Students' actions and behaviours during skill-training sessions, role-plays, simulations, or presentations can be evaluated by recording them. Interactions can also be seen during the review. Students will find it easier to relate to feedback that is more specific and personal. Students become more motivated as a result. The next time they partake in these activities, it aids them in maintaining their success and improving their abilities.

On the other hand, Miller (2014) discusses some issues with using videos in the classroom, such as It is very difficult to capture an audience's attention and hold it for longer than a few minutes, even though videos are more likely to be remembered than text (primarily due to the moving images). This can have an impact on the effectiveness of the video. For this reason, a video response that lasts more than a few minutes may have the opposite impact. However, it can be very difficult to fit all the important information into a two-minute video.

Miller (2014) also states that Making a video, whether you are a professional or an amateur, can be very draining. It can be a difficult task to compile the raw data, pick the most crucial details, film every actor, and adjust the equipment. On the other hand, the rendering and editing of the video can be very time-consuming and counterproductive if not done by a qualified professional with experience in the field.

Here is a brief history behind video feedback. The study by Tochon, F. (2013) stated that "situated research," which refers to lived experience for comprehension and reflection, is made possible by video. Hence, video has released research from a purely laboratory-based methodology and expanded its focus to encompass self- and other-viewing in contemplative communities. One way to support the subjective meaning-making process is through video feedback. As a result, it is among the places where knowledge in professional development is validated. Teachers and foreign language learners can interpret each other's actions through video feedback, which can be viewed as an applied semiotic process. The

subsequent focus has ramifications for the conception and study of language instruction and learning at different levels.

Selection and Justification of appropriate teaching tool(s)/resources

The digital framework that will be used in the lesson is the RAT framework. RAT stands for replacement, amplification, and transformation. The idea behind replacement is that technology acts as an alternative digital tool for the same instructional methods. Amplification is the process by which technology boosts an intrusive practice's productivity, efficacy, and efficiency. Transformation occurs when technology creates new curricula, methods of instruction, or learning (R.A.T. Model, 2019).

RAT is an assessment framework that was created initially for K–12 education, but it has since been used in higher education, particularly in pre-service teacher preparation. It helps to understand the role that technology plays in teaching, learning, and curriculum practices. The RAT framework was first intended to be used by preservice and inservice teachers as a self-assessment tool to improve their ability to make critical technological decisions (R.A.T. Model, 2019).

One of the digital tools that were used in the lesson was PowerPoint. Using a PowerPoint presentation, the instructor can clearly communicate to the entire class the objectives and tasks of the lesson while also helping the students' cognitive learning abilities. This then benefits classroom students who learn visually. According to Hashemi (2012), PowerPoint can be a helpful tool in the classroom for content presentation and student learning promotion. Images that would be difficult to bring to class can be projected using PowerPoint.

Another way of implementing technology was by using videos in the teaching process. This was done in an effort to offer the students an alternative perspective on the subject. Before and after the film, a question was posed to the class to find out if it had affected any of the students' opinions. The three main areas of research into educational videos, according to

Fyfield et al. (2019), are improving video design, investigating platforms and technologies that increase student engagement, and developing pedagogical strategies that fully utilise the affordances of videos.

During the lesson, video feedback will be utilized, as this is a good form of immediate feedback and also a good way to improve on a skill. A study by García-González (2013) found the effectiveness of a combination of video feedback and questioning on cognitive expertise, resulting in long-term memory adaptations that improve tactical knowledge quality (content, sophistication, and structure). This, in turn, affects athletes' decision-making abilities, resulting in a higher percentage of successful decisions made during game play.

Being able to provide immediate feedback through the use of videoing the students performing gives them immediate knowledge of the performance results and provides the learner with a type of feedback that helps to improve his performance (Kadhim, 2020). Kadhim (2020) also states that the conditions for learning are external factors that provide the learner in the educational situation with immediate knowledge of the results during the various stages of learning. It promotes appropriate responses.

Application of the chosen learning tool(s)

Lesson Plan

Topic: Clean & Jerk Technique	Class: Rugby Team	
Date: 01/12/2023	Length of lesson: 1 Hour	Number of students: 6-10
Resources required: PowerPoint, Video Feedback, Weights & Resistance Bands		
Aim of Lesson: How to Clean & Jerk Better the students technique		
Learning Outcomes – The Learners Should Be Able To: Identify three stages of the Jerk Able to perform the Jerk		
Previous student knowledge required for the session: All able to perform a clean All able to do a split Jerk		
Anticipated difficulties (if applicable): Participants have played a game in the week and could be stiff or fatigued.		
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- Q&A to get students to talk and engage with each other V4 Collaborate with others to enhance practice- Working in pairs to have the students peer review each other and have the chance to have rest between sets K3 Critical evaluation as a basis for effective practice- Through discussion throughout the lecture students will be identify this themselves K4 Appropriate use of digital and/or other technologies, and resources for learning - Video the students performing the movement to give instant feedback A1 Critical evaluation as a basis for effective practice- Through designing lecture and content A4 Support and guide learners- Q&A, opportunity to ask questions throughout the session		

Lesson Detail:

Stage	Focus	Strategy	Time
Introduction	Warm up	Demonstration- Show the movement students copy	10 minutes
Development	Example video Three stages	Video Screenshots of the three stages	2 minutes
	Clean Warm up	Practical	10 minutes
	Jerk Technique	Practical	10 minutes
	Clean & Jerk	Practical	10 minutes
	Slight increase in weight	Practical	10 minutes
Plenary/conclusion	Recap	Q & A- recap the session	3 minutes

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

Question and Answer - To recap the session

Group Work - Working with a partner to get one working and one resting

Discussion - To ensure everyone's understands

Video - To give a visual example

Demonstration- Breakdown the movement

Practical- Students doing the movement

Informal reflection (to be completed after the session)

- I took care to provide additional support and guidance when individuals were completing the repeats to make sure they are completed safely and correctly.
- I explained well how the new lift moves build on the learning from the last session and how to complete it safely.
- I circulated the room well providing one-to-one support to your learners, building confidence, and making sure they were using the correct lifting technique.
- Good use of media clip to demonstrate before using the physical apparatus—the model is relatable to your learners.
- Outline the aims and objectives for the session clearly at the outset of the lesson. My lesson objectives need to be sufficiently detailed so that I can measure whether they are successfully achieved by the end of the session.
- I may want to consider turning the volume down on the background music when you are explaining new moves using the TV as your teaching aid.
- Rather than asking, "Have you got any questions?" use, "What are your questions? At the end of my topic or session, this changes the mindset of the learners to think that they should have questions to ask.

Figure 4.1 Screenshot of Presentation



Figure 4.2 Screenshot from student performing the technique



Figure 4.3 Screenshot from student performing the technique



Figure 4.4 Screenshot from student performing the technique



Evaluation and Reflection

Reflection is necessary for me to improve my methods and learn from my past experiences, which is critical for my personal development. I've been using Gibbs' reflective cycle to accomplish this. This writing technique has aided in the organisation of my reflection. The Gibbs Reflective Cycle is an evidence-based self-reflection tool that has helped me review my experiences and provide me with new perspectives and ideas for improvement. It inspired me to consider all factors, both positive and negative, and to learn from them. The cycle is beneficial to teachers because it provides a clear example of how to reflect on the lesson (Gibbs, 2022).

In the lesson, I used the digital tool of video feedback. By using this method of feedback, it allows me to give instant feedback and also gives students the opportunity to have a new perspective on the skill or technique. The way I used video feedback in the lesson was that I would record the student performing the skill, show them the video back, and give pointers or anything else they did well. Once the student had seen the video and taken in my feedback, they would then perform the movement again while having the feedback in mind. This technique was also new to the students; they have done a variant of the movement in previous weeks but have not attempted this technique yet. This is why the lesson started slowly, with not much weight being lifted, as we did not want anyone to get injured. Firstly, we had resistance bands on the bar to work on stability and technique before any weight was added. Doing this allowed the students to learn the technique before increasing the weight on the bar, which then made the movement easier as it is difficult to perform with no weight on the bar.

While teaching the lesson, I felt like the lesson flowed well, and everyone that received the feedback understood the point I was giving them. This was helped by the video, as they could see what I was talking about and see it for themselves. This felt like a very useful tool

to use in the practical lessons, as it is easier to give a point of improvement while showing the student the video of them performing the technique.

While using video feedback, some things that were good were the ability to break down the whole movement, be able to slow it down, and really pin point the area of improvement. Something that did not go so well was that because there was only one of me, I could not get the best angle and was only able to get one side angle. This could then hide a part of the movement that needs to be improved, or it looks good from one angle but is clear from another angle that it needs to be improved.

While only having one angle limits my ability to view all angles, I could be looking at one angle while recording another. This could possibly allow me to find the best angle to record from. Ambler (2023) states that users can capture footage from various video angles and switch between them while tagging and reviewing clips. Now, multi-angle live capture provides a new perspective on what is happening on the pitch and why. When creating presentations, the solution allows users to easily select which angle best represents their coaching point. The most impressive aspect of multi-angle live capture is how well it integrates with other Vision features to allow coaches to influence performance in real time.

Also, showing the students the video shows me that they prefer visual learning or visual feedback over a written piece of feedback that would come after the session. Raiyn (2016) did a study on visual learning and stated that visual learning also assists students in developing visual thinking, a learning style in which the learner better understands and retains information by associating ideas, words, and concepts with images. Visual information is presented using a variety of interactive visual tools, such as information and communication technologies and two- and three-dimensional visual environments.

To conclude, if I were to do this session again in the future, I would set up another camera to gain a new angle and have the best chance to locate any improvements needed. Also, when using the PowerPoint, I would turn the music down to ensure all focus was on me while explaining what the technique was. Next time, I should outline the aims and objectives for the session clearly at the outset of the lesson. I should not ask, "Have you got any questions?" and ask, "What are your questions?" At the end of my topic or session, this changes the mindset of the learners to think that they should have questions to ask.

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