

Assignment Two

Learning and Teaching Resources

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for

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Resource One - Technology

This resource (Axe Axford, 2019) will be used as a subsequent lesson prefaced by a video by Thinked (2015), which will explore the proliferation of technology in history and how that technology will shape our future culture, lifestyle and, importantly, jobs and industry. This resource shows the functional capability of the M1A2 Main Battle Tank, similar to tanks used by the Australian Army and until recently, based at Robertson Barracks near Darwin. Following the video, the students will be prompted to discuss, the computing power required by the Fire Control System of the M1A2 to analyse information input. It will be revealed to the students that the RAM size is 1 kilobyte, compared with the latest mobile phones, which are about 6 million times the capacity at 6 gigabytes.

This will prompt students to analyse and compare the capabilities of technology accessible to them in daily life. The background aim is to also influence students to better understand the capabilities they can access with the technologies available and use them more effectively to learn, conduct research and produce more technologically creative assignments.

The lesson will further be used to explore the capabilities of current technologies and how they affect society, locally, nationally and globally. This will be a continuation from previous lessons to further develop students' understanding of how technology effects daily life and comparing that to previous generations.

For students with diverse learning needs, scaffolding will be provided to assist in identifying the various ways in which technology effects daily life. This will include classification examples and examples of technologies that are currently available, including those that are easily researchable for those students. Students with varying backgrounds will also be able to discuss technology they are more familiar with, such as those from other countries and in languages other than English. A prudent example of this is electronic dictionaries.

The advantages and disadvantages of electronic dictionaries and translation programs are not often discussed. This provides a unique opportunity for students, whose first language is not English, to understand the difficulties of students that are learning English and to understand the disadvantages of these technologies.

This resource will be used in one of a series of lessons to explore the following General Capabilities: Ethical Understanding, Literacy, Critical and Creative Thinking and Personal and Social Capability, through the Content Descriptor “Investigate the ways in which products, services and environments evolve locally, regionally and globally and how competing factors including social, ethical and sustainability considerations are prioritised in the development of technologies and designed solutions for preferred futures.”

Whilst this lesson is targeted at Years 7 and 8, the same resource can be delivered to Year 9 or 10, through the following Content Descriptor: “Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved.” Both Content Descriptors are from the Design and Technologies Knowledge and Understanding Strand of Design and Technology, as such are similar in content. They do differ in the level of critical analysis outcomes that are desired from the students. Initially, they are required to “investigate” the technologies and then, in Year 9 and 10, “critically analyse” technologies and their impact on societal considerations. Specifically, this unit will continue through the exploration of developing drone technology, such as their capabilities, ethically considerations, safety and beneficial uses. (Australian Curriculum. n.d.-a)

Ethical Understanding, Literacy and Personal and Social Capability will be explored by discussing the capabilities of technology and how it can affect society in a variety of contexts, such as for EAL/D learners, within regional and rural Australia and other countries. Students will be encouraged to investigate the consequences, good and bad of technological advances

and consider how the same technology may affect various groups in different ways. They will also be guided through comparing and classifying technologies and their effects.

Students will be able to choose technologies that they desire, which will enable them to identify an area that interests them, therefore improving the level of engagement they attain with the context. They will also be able to work in pairs or small groups to achieve the same outcomes. The authority given to students to choose the technology they investigate and in what method they conduct this in, support constructivist pedagogies, by supporting the students' ownership of their learning. (Brown & King, 2000. Krahenbuhl, 2016)

Additionally, this presents the opportunity for students with diverse learning needs to identify and utilise their preferred methods and techniques, which will ensure learning goals are able to be achieved by all students.

Resource Two – Health and Physical Education

This video will be used in a series of lessons revolving around the sport of Field Hockey and other Health and Physical Education concepts. The video is an interview with Desmond Abbott and Joel Carroll, both Indigenous players from the Northern Territory and have played at the international and Olympic level. Specifically, they discuss how they began their careers in field hockey, playing in backyards and with friends from a young age, where they were regularly physically active. This will serve to provide role models of how regular physical exercise and socialisation leads to long term bonds and excellence in sport.

Subsequent lessons in Years 7 and 8 may be followed by a game similar to field hockey, yet culturally diverse from it. The game Aurukun is an indigenous game from Northern Queensland played by students of Aurukun Community School. This serves to develop physical literacy through game sense that utilises sports contexts but differs to develop skills not necessarily achieved through specific sport contexts. (SportAus, n.d.)

The approach of Teaching Games for Understanding, removes the contextual restrictions and rules that are applied to specific sports and requires students to think critically, facilitates integrated learning, allows for cross curriculum educational achievements, and ensures inclusiveness. This teaching approach allows for students to develop skills from across the curriculum in a, traditionally perceived, linear subject of Physical Education. (Phil & Hewitt, 2017)

Specifically, this resource will be used to target Aboriginal and Torres Strait Islander students, as both are recognised as Australian Indigenous Olympians. It further provides more local context as both were born in Darwin and developed as players in the NT Stingers, the territory's representational team, before selection into Australia's Under 21 and Men's teams. Additionally, they continue to play in the Darwin Hockey League, making their success seem more achievable through their proximity. This can be used as a resource to utilise the Eight Aboriginal Ways of Learning, specifically story sharing and community links. (8 WAYS. n.d.)

This resource can be used across a number of year levels. In the earlier years of secondary schooling, it can be used to further investigate individual and community values of inclusivity and diversity, and through rules modifications to allow fair play and inclusive participation. In year 9 and 10, the resource can be broken down and segments discussed in greater detail. One such part is where both, Joel and Desmond, discuss injury management and being removed from teams and squads. This can be used and developed to investigate issues such as mental health, performance management in response to external influences, both positive and negative. (Australian Curriculum. n.d.-b) This further reinforces the capacity for Health and Physical Education to use the skills of critical thinking, collaboration, creativity and communication, within a broader context encompassing general capabilities and curriculum content from beyond Health and Physical Education.

Initially during the lesson, the teacher would present the video within the context of the sport of Field Hockey before continuing with guided group discussion directed toward the lesson aims. As discussed, the resource covers a number of areas available for further exploration, therefore the lesson can be catered to a variety of year levels or abilities. It should also be managed for mixed ability classrooms. Key themes for discussion are, but not limited to: athlete development, injury and emotional management, lifelong fitness activities, health benefits of physical activity and games and sport.

Using this resource as an example, or the resource itself, students will be able to complete a project for assessment in a number of methods. This can be used to investigate, document and critic the pathways these or other elite and non-elite athletes have completed or are pursuing. When students are developing later in their learning journey, this resource can be used to investigate more specific themes and ideas. This will further integrate the students' skills of critical thinking by designing assessments that allow students the breadth to investigate a theme that interests them, within Health and Physical Education.

The use of this resource can be as varied as the teacher's creativity. Benefits of resources, that provide broader application, are that whilst the teacher may not have contextual knowledge within the specified resource, they will be able to apply it to their own knowledge. This then reflects this benefit to students, as they can utilise the information drawn from the resource and apply it to their own experiences, whilst maintaining contact with the learning outcomes.

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