



## Unit 31: Influence of Technology in Sport and Physical Activity

### Delivery guidance

#### Approaching the unit

This unit gives learners the opportunity to develop an understanding of the influence of technology in sport and physical activity.

Learners will explore the relationship technology has with sport and physical activity and develop a strategy for implementing technology for improved performance or experience. You could deliver this unit using a mix of theory (to introduce learners to the topics listed in the unit content), visits and guest speakers (to enable learners to apply the theoretical concepts they have learned).

Independent study should be allocated at the end of each topic, allowing the learner an opportunity to consolidate their learning by making their own notes both for revision purposes and in preparation for the summative assignments. Reinforced learning is crucial and should be embedded throughout the delivery of the unit content.

#### Delivering the learning aims

**Learning aim A** focuses on exploring how different types of technology are used in sport and physical activity. It is likely that most learners will have already experienced some types of technology in their own sport. Learners will explore a variety of technologies that can affect sport and physical activity. It is important in the delivery of this learning aim that learners understand the purpose of such technology and what potential impact it has on sport and physical activity. You may wish to organise guest speakers and visits to experience how technology is utilised. Case studies could be used to explore a range of related issues. Learners can explore the different types of technology in more detail through individual research and develop their own ideas.

**Learning aim B** investigates the role of technology in improving sport and physical activity performance and experience. To deliver this learning aim, teaching and learning should focus on issues surrounding the technology used to enhance sporting performance and experience. This learning aim could be covered via several methods, including independent research, visits and use of guest speakers.

Group discussion will enable learners to reflect on the variety of technology issues that can develop sporting performance and experience. Tutor-led delivery is vital to provide an accurate understanding of this topic area.

Guest speakers will provide first-hand accounts of the issues surrounding the role of technology, while incorporating real-life cases. This will enhance learners' experience and keep the unit vocationally relevant.

**Learning aim C** focuses on proposing a strategy to improve performance or experience in a selected sport or physical activity. Learners are required to produce such a strategy taking into consideration all the factors covered in the previous two learning aims. This learning aim will help learners to develop an appreciation of the value of research in sport-based contexts. Visits



from guest speakers will also allow learners to receive first-hand experience and information about improving performance or their experience in a selected sport or physical activity.

Case studies could be used to identify ideas, skills and methods employed to produce successful strategies.

The jigsaw technique is also a valuable tool, whereby each learner has a topic to research and then teach the rest of the group. Also 'marketplace learning' is effective, where learners research a topic area and then move around other learners' work and ensure that they have a full set of notes on the topic areas. Throughout learners are encouraged to prepare suitable notes for all their peers to use. To deliver this learning aim you could use several methods including formal lectures, independent research, and individual presentations.



### Assessment model

Learning aim	Key content areas	Recommended assessment approach
<b>A</b> Explore how different types of technology are used in sport and physical activity	<b>A1</b> Types of technology <b>A2</b> How technology is used	A report on the types and use of technology in sport and physical activity.
<b>B</b> Explore the role of technology in improving sport and physical activity performance and experience	<b>B1</b> Improving performance <b>B2</b> Improving experience <b>B3</b> Issues with technology	A presentation on a strategy for improving a sport or physical activity performance or experience through technology supported by a rationale.
<b>C</b> Propose a strategy to improve performance or experience in a selected sport or physical activity	<b>C1</b> Strategy <b>C2</b> Presenting <b>C3</b> Reviewing	

### Assessment guidance

This unit is internally assessed. There is a maximum number of two summative assignments for this unit. Tutors should refer to the assessment guidance in the specification for specific detail, particularly in relation to the requirements for Pass, Merit and Distinction grades.

The unit specification suggests a report on the types and use of technology in sport and physical activity for learning aim A and a presentation on a strategy for improving a sport or physical activity performance or experience through technology supported by a rationale for learning aims B and C.

The first assignment requires learners to write a report that provides evidence that the learner understands the types and use of technology in sport and physical activity. Learners should also include information on technology types, for example equipment and clothing etc. and how the technology is used, for example performance analysis, nutrition, broadcasting etc.

For the second assignment it is suggested learners produce a presentation on a strategy for improving a sport or physical activity performance or experience through technology supported by a rationale. Learners should include the key areas of the strategy, and must make the presentation to an audience. The audience could consist only of peers, but could also include other staff or visitors. The presentation could be given to the whole class or be given in smaller sub-groups if this makes it easier to administer in the time available. Observation records must be completed by the teacher.



## Getting started

This gives you a starting place for one way of delivering the unit, based around the recommended assessment approach in the specification.

### Introduction

Introduce the unit by discussing learners' experiences as consumers and 'receivers' of marketing communications. What types of marketing communication influence them the most in their purchasing decisions and their loyalty to particular brands? Ask learners to provide examples of both effective and ineffective marketing communications.

Explore how the effectiveness of marketing communications may change over a range of different consumer groups, differentiated by characteristics such as age, gender, social class, ethnicity and income level.

### Learning aim A: Explore how different types of technology are used in sport and physical activity

- Introduce the topic and content to your learners. You could begin by introducing the aims of the unit, an overview of the content of the learning aims, and how your learners will be assessed. This would give a basis for the types of activities in which your learners will be engaged.
- You could explain the learning aim, how different types of technology are used in sport and physical activity, by organising a visit to a sports club training venue, e.g. local premier league football club, with learners gathering ideas and notes on how technology, e.g. clothing, equipment and facilities, is utilised. This would be an excellent way to excite learners about the practical elements of the unit while emphasising its links to important work skills and employability.
- A guest speaker from a sports technology company, e.g.: Garmin, could give a more detailed insight into the performance enhancements that their technology offers, e.g. GPS watches, performance analysis, ergogenic aids etc. This would potentially give a critically evaluative outlook that will provide a context for the unit.
- It is important for learners to understand the scope and scale of the types of technology and how they are used to impact sport and physical activity. Learners could work in pairs to consider the positive and negative impact that technology can have.
- Tutor-led discussions and practical sessions can be utilised to explore the impact of different technologies. Learners could monitor their own daily/weekly fitness levels etc.
- Small groups can undertake learner-centred research activities to deliver the learning aim content, e.g. each group to research one of the examples of technology used in sport and physical activity.
- The groups could then prepare a mini presentation as an annotated poster for their peers outlining their researched technology. This could be followed by a question and answer session.
- You could show the YouTube clip - <https://barcainnovationhub.com/monitoring-technologies-for-sports-analysis/> which will initiate some interesting discussion on how different types of technology are used in sport and physical activity.
- Following formative holistic delivery of the first learning aim, time should be allocated for the summative assessment period and submission of the first summative assignment.



### Learning aim B: Explore the role of technology in improving sport and physical activity performance and experience

- This learning aim requires learners to investigate the role of technology in improving sport and physical activity performance and experience.
- Learners could explore and discuss a range of case studies regarding how sports performers etc. utilise technology benefit their performance.
- This could lead to whole-class discussions about why sport and physical activity need technology. The positive and negative aspects of such technology can be debated.
- Within small groups, learners discuss and write questions for a guest speaker.
- A guest speaker from a sports technology company, e.g. High5, could discuss the importance of nutrition technology on athletes and sports science advances.
- As individuals or in pairs ask learners to research how sports and physical activity experience is enhanced by technology. Make the activity time constrained and then ask learners to move around the room clockwise to add further ideas to their peers' sheets. Once learners have added to all the other sheets and returned to their own area, they can take it in turns to explain to the rest of the class two of the ideas on their sheet.
- A tutor-led discussion could take a look at the issues with technology. Then learners could be asked to give examples of issues affecting their own experience or performance.
- It could be useful to show learners relevant video clips to enhance the content and reinforce learning. <http://10passmdcc.weebly.com/term-4-technology-participation-and-performance.html>

### Learning aim C: Propose a strategy to improve performance or experience in a selected sport or physical activity

- Learners could recap the previous learning aim.
- Tutor presentation to introduce the final aim and discuss the components of a strategy to improve performance or experience in a selected sport or physical activity.
- A group activity could be undertaken where learners are asked to research components of such a strategy and identify common success factors, such as concept and target audience.
- You should also include discussion on what are the implications for the improvement of performance or experience of the selected sport or physical activity if all the factors are not considered.
- Learners could use 'mind mapping' to consider these factors, culminating in learners delivering 'mini' seminars to their peers around different factors, examining areas of particular importance, whilst enhancing their presentation skills.
- A guest speaker, e.g. a head coach from a local rugby club etc., could be invited to discuss how they produce a strategy, including which factors they prioritise and why.
- Tutor presentation outlining the key aspects of presenting and reviewing a strategy. Introduce learners to the types of information a strategy needs, e.g. use of support materials: images, diagrams, information graphics, flow charts.
- Learners could be encouraged to work in pairs to explore examples of well-compiled strategies. Examples could be provided by the tutor. Learners could produce a PowerPoint presentation or a set of notes, which they can share with the group at the end of the lesson.



- Learners should be encouraged to review their strategies and check that key benefits are covered and areas for development are explored.
- Following formative holistic delivery of the unit content and learning aims, time should be allocated for the summative assessment period and submission of the final summative assignment. It is a good idea to let learners develop and practise their presentation skills in front of their supportive peers ahead of their final summative assignment. Therefore, this gives an opportunity for feedback to be given and reflected upon before their final presentation.



## Details of links to other BTEC units and qualifications, and to other relevant units/qualifications

This unit links to:

- Unit 3: Research Project in Sport
- Unit 4: Ethics, Behaviours and Values
- Unit 16: Applied Coaching Skills
- Unit 35: Practical Sports Performance.

## Resources

In addition to the resources listed below, publishers are likely to produce Pearson-endorsed textbooks that support this unit of the BTEC International L3 Qualifications in Sport. Check the Pearson website at: (<http://qualifications.pearson.com/endorsed-resources>) for more information as titles achieve endorsement.

### Textbooks

Fridell, R. – *Sports Technology* (Lerner, 2009) ISBN 9780822575870

Fuss, F. K., Subic, A., Strangwood, M. & Mehta, R. - *Routledge Handbook of Sports Technology and Engineering* (Routledge, 2013) ISBN 9780415580458

Marinho, D. A. & Neiva, H. P - *The Use of Technology in Sport: Emerging Challenges* (IntechOpen, 2018) ISBN 9781789844825

### Journals

The following journals provide comprehensive and up-to-date articles and research relating to the use of technology in sport and physical activity.

*Exercise and Sport Sciences Reviews* (Lippincott Williams & Wilkins) - a quarterly peer-reviewed medical review journal covering sports medicine and exercise science.

*Sports Technology* (Taylor and Francis) – explores leading edge sports technology research and development.

*Journal of Physical Education and Sport* (ISSN 22478051, 2247806X) - is an electronic journal that provides easy access to scientific research in the field of sports science.

*International Journal of Sports Science & Coaching* (Sage) - aims to bridge the gap between these areas.

### Videos

<https://barcainnovationhub.com/monitoring-technologies-for-sports-analysis/> - investigates technology used for sports analysis.

<https://digitalsport.co/why-technology-has-a-powerful-impact-on-sport-today> - looks at why technology has a powerful impact on sport today.

<https://www.youtube.com/watch?v=ZaallEANc0I> – explores technology in sport.

<https://blog.peoffice.co.uk/incorporating-new-technology-into-pe-lessons/> - incorporating technology into PE lessons.

<http://10passmdcc.weebly.com/term-4-technology-participation-and-performance.html> - are athletes really getting faster and stronger?

<https://www.bbc.co.uk/bitesize/guides/zw4gk7h/revision/4> - explores the many aspects of sport affected by technology.



## Websites

The following websites provide information on a wide range of topic areas and can be used in conjunction with key textbooks and journals. They provide good sources of information on the use of technology in sport and physical activity.

*Tutor2U* – A useful website containing resources, case studies, articles and revision materials, plus links to other sources of information. Search online for 'Tutor2U'.

<https://sportstechnologyblog.com/> - information on the changing face of sports technology.

<https://www.sporttechie.com/> - explores new innovations in sports technology.

<https://sporttomorrow.com/10-striking-predictions-about-future-of-sports/> - interesting peek into the future of sports technology.

[www.sportengland.org](http://www.sportengland.org) – covers all aspects of sport in England, including sports technology.

<https://thefutureishere.economist.com/> - an interesting look at the world of sports technology.

<https://ventsmagazine.com/2020/02/10/the-future-of-sports-technology/> - advances in sports technology are investigated.

*Pearson is not responsible for the content of any external internet sites. It is essential for tutors to preview each website before using it in class so as to ensure that the URL is still accurate, relevant and appropriate. We suggest that tutors bookmark useful websites and consider enabling learners to access them through the school/college intranet.*