

TITLE: Celebrating 30 years of BASES: How has education and teaching developed and what does the future hold?

With BASES reaching this milestone we look back at the evolution of sport and exercise sciences education over the last 30 years and look forward to what the future may hold. According to HESA data there are now more than 15,000 graduates per year from undergraduate Sport and Exercise Programmes alone and the 2019 GuildHE report states that Sport and Exercise Science higher education provision provides an impact of £3.9 Billion in added income to the UK economy each year.

Then Vs Now

Over the last 30 years Sport and exercise science as a discipline has expanded; whilst degree programmes and accreditation routes aligned to the three core disciplines of physiology, psychology, and biomechanics have been maintained, sub-disciplines including nutrition, strength and conditioning, physical activity and health, performance analysis, and coaching are encompassed within the profession more broadly and this is reflected in the curriculum. The delivery of these wide-ranging sub-disciplines differ between institutions with regards to named degrees, pathways, and/or optional modules, but what is now common is the opportunity for students to both develop expertise within a given area whilst developing an appreciation of the work of other practitioners and the importance of multi-disciplinary collaboration.

Approaches to delivering sport and exercise science curriculums have developed to incorporate a wider range of teaching and assessment practice designed to enhance the student experience and promote experiential learning. Whilst lectures are still employed as a way of sharing important theoretical and conceptual underpinnings, greater emphasis is placed on the application of theory to practice using interactive and technology-enhanced sessions which promote discussion, collaboration, and the use of real-world scenarios. This is part of a clear shift from expert focused teaching to student centred teaching.

There has been an increased emphasis on practical application and experiential learning in sport and exercise science programs. In 1993 teaching was more theory-focused, with less opportunities for hands-on experience. The hands-on experience gained as part of these degrees was primarily laboratory based whereas now, fieldwork, internships, and placements are more commonplace allowing students to apply theoretical concepts in real-world settings. This practical exposure helps students develop essential skills and prepares them for careers in sports and exercise-related fields. This reflects the changing end goal of Sport and Exercise science degrees with more emphasis on graduate employability than academic attainment.

In 1993, the internet was still in its early stages, and online resources were limited. The equipment a lecturer would have at their disposal would typically be an overhead projector using pre prepared acetates or slides and a blackboard, while the students sat in class would have a paper and pen. Today lecturers will typically be able to use computers with a range of software and high-speed internet access to aid presentation with interactive whiteboards and mobile phone applications to enhance interactivity. Students will typically have their laptops and smart phones in front of them with the majority not bringing pen and paper.

Technological developments have also supported the way in which we deliver degree programmes and the nature of the learning experience. Whilst face-to-face instruction is still the most common form of delivery, it is often supplemented with online learning to form a 'blended' approach, with many institutions now offering full online degrees as. This is true of the HE sector more broadly, however within sport and exercise science specifically we have had to be creative in how we

embrace technology and online learning to maintain the development of essential practical skills and promote the multi-disciplinary collaboration previously discussed. For example, being present on campus is key to learning how to set up testing procedures and collect athlete data, however students can now remotely access software packages and analyse the data off-campus having learned the analysis skills in a more traditional environment.

Over the last 30 years higher education has become more diverse in terms of the student population. There has been an increase in the number of non-traditional students, including older adults, working professionals, and international students. For Sport and Exercise Science as a discipline one of the key growth areas has been students from 'non-standard' entry routes i.e., those not transitioning straight from school into the 1st year of university programmes. Students can now undertake courses at collage or university foundation degrees in order to enter university at a later stage. This enhances the accessibility of education in the field.

What will the future hold?

Predicting the exact future changes in education is challenging, as it depends on various factors such as technological advancements, societal shifts, economic conditions, and educational policies. However, based on current trends and emerging developments, we can anticipate some potential changes in education in the future including: Technological integration, Lifelong learning and micro-credentials, Interdisciplinary and experiential learning, Personalization and adaptive learning, Focus on transferable skills, Globalization and internationalization and Focus on sustainability and social impact.

In fact, all the elements listed in the previous paragraph have already begun to occur, this might well be because that last paragraph was written by ChatGPT a current hot topic in Higher Education. Based on the wealth of discussion and contention around AI's impact we are not going to discuss this here and instead refer you to the BASES position stand on the use of AI. However, we do agree with some of AI's ideas.

Technological integration & Personalization and adaptive learning: Technology will continue to play a pivotal role in education. Virtual and augmented reality, artificial intelligence, machine learning, and data analytics are likely to be further integrated into teaching and learning processes. Online and blended learning formats may become more prevalent, offering flexible education options and personalized learning experiences whereby educational platforms could dynamically adjust content, pacing, and assessment based on individual learner needs and preferences. Adaptive learning systems could identify knowledge gaps, provide targeted support, and optimize learning pathways for each student.

Lifelong learning and micro-credentials: The concept of lifelong learning is growing increasing traction as job roles and the skills required are constantly evolving. Higher education institutions are beginning to offer modular and stackable programs, allowing learners to build their qualifications over time. In addition, they are also offering micro-credentials which are smaller credited 'bites' of learning which may become more recognized and valued by employers as employees can more easily gain these whilst already in the workplace.

Interdisciplinary learning: Sports and exercise sciences core disciplines of physiology, biomechanics and psychology no longer operate in isolation but conduct multidisciplinary research and operate as multi-disciplinary teams in practice. Interdisciplinary teaching, learning and assessment has become a key part of degree programmes and is set to increase in the future reflecting the interconnected nature of real-world challenges. Modules such as, exercise prescription, sports medicine, exercise

medicine, maximising elite performance or optimising health outcomes demand the application of principles from across the disciplines to perform client consultations, evaluate needs, critique current approaches, design interventions and appropriate programmes. Students will increasingly be required to engage with real-life patients, athletes, community groups, and industry partners. As employers demand critical, creative thinkers, problem solvers and excellent communicators providers must ensure there is opportunity to hone these skills. A move towards choice in traditional research or project-based capstone dissertations maximises the application of cross discipline knowledge and understanding and experiential learning required for graduates entering the graduate market.

Focus on transferable skills and holistic development: As noted above job requirements are constantly evolving, it is therefore increasingly important that education supports the development of core transferable skills such as critical thinking, creativity, communication, collaboration, adaptability, and cultural competence. Holistic development, including emotional intelligence, well-being, and ethical considerations, may be integrated into curricula to prepare students for a rapidly changing and interconnected world.

Globalisation & Decolonisation: HEIs are globally connected and reputationally ranked within that global context. 2023 saw the Times Higher Education rank nearly 1800 HEIs across 104 countries and regions – a trend in increasing diversity which is set to rightly continue. Many sports and exercise scientists collaborate internationally and produce world renowned research, and deliverers of sports and exercise science programmes include study abroad opportunities and perspectives from across the globe within teaching. In the future a widening of the global perspective from the western dominance of America, Canada, Australasia, and Europe to increasingly accessible research outputs from Africa and Asia is likely to enhance diversity further and provide students with intercultural competencies and a broader understanding of global issues.

Sustainability and social impact: HEIs are morally bound to be a positive global force, to create cultural, societal and environmental change. The BASES Equity, Diversity and Inclusion Advisory Group was created in 2020. Equity, diversity and inclusion is a moral responsibility which has gathered pace and all sports and exercise science providers should be committed to tangible efforts to decolonise curriculums and widen participation to ensure academics, graduates and practitioners fulfil their potential and serve their community fully. BASES actively works to maintain pace with environmental sustainability and social responsibilities. The Climate Change Action Team was born in 2021 and BASES signed the UN Sports for Climate Action Framework and Pledge to Net Zero. It will be the responsibility of all Sports and Exercise Science providers to promote sustainable and responsible practices and diffuse evidence-based education to future graduates and practitioners in the field.

Summary

The changes in Sport and Exercise Science education over the last 30 years have been immense and although we can only guess at its future one thing that we can be certain of is that it won't stay the same.

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