

Designing a professional skills matrix to develop practitioner's profile in sport and exercise science courses

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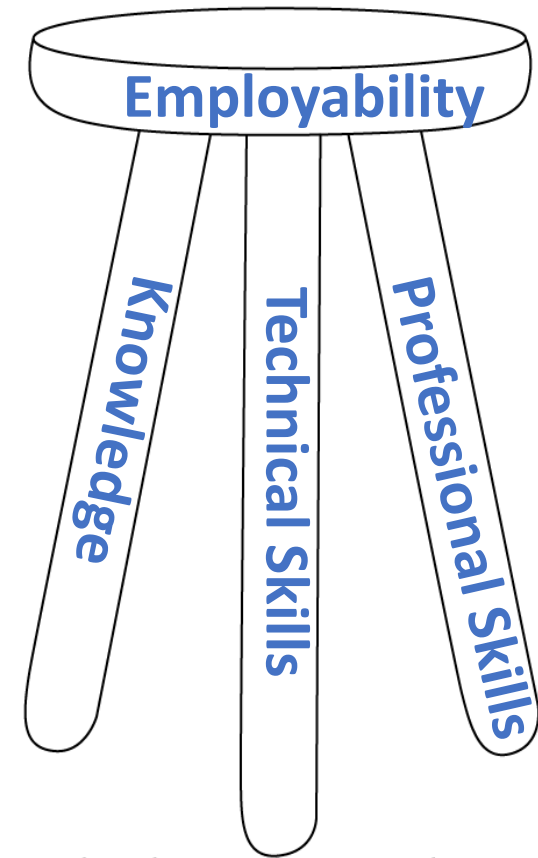
Designing a professional skills matrix to develop practitioner's profile in sport and exercise science courses

Dr Mohsen Shafizadeh, Tony Ker, Jae Hwan Park, Dr Alan Ruddock, Dr Mayur Ranchordas,
Dr Andrew Barnes, David Hembrough

Academy of Sport and Physical Activity

| The main ingredients of a subject discipline

- **Knowledge:** knowing the principles, concepts, awareness on evidence-based practice, theories and scientific facts
- **Technical skills:** problem-solving, designing/ planning, intervention delivery, assessment/ evaluation, etc.
- **Professional skills:** IT, presentations, communications, networking, negotiation, active listening, environmental awareness, etc.



| The values of work experience

- **Networking:** Enhance students' connections with professionals who can provide future job positions.
- **Experiential learning:** Gaining practical experience by observing and applying methods and theories to real-world scenarios.
- **Professional skills development:** Improving professional skills that are required in different careers.
- **Transition from classroom to actual contexts:** Providing opportunities to fill the gap between course curriculum and real problems.¹
- Students who are engaged with industry during course often succeed in their career after graduation.²



1- Burns & Chopra (2017)

2- Smith et al (2009)

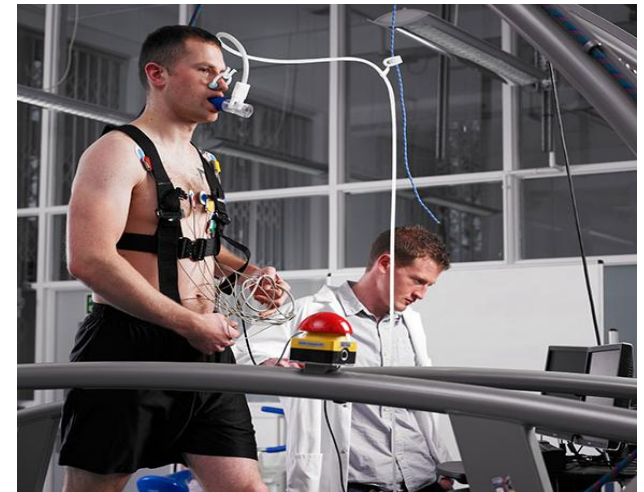
Students engagement and cooperative experience

Students engagement:

- Students involvement with an in-class and out-of-class learning activity.¹
- Student feedback, student representation and student approaches to learning in the classroom.²
- Student's efforts to be involved in activities undertaken for their learning.³

Cooperative experience:

- Gaining experience that is accompanied by classroom learning through internship and placements to implement and test the ideas⁴ and to enhance the employability skills.⁵



1- Trowler (2010)
2- Coates (2005)
3- Hu & Kuh (2001)

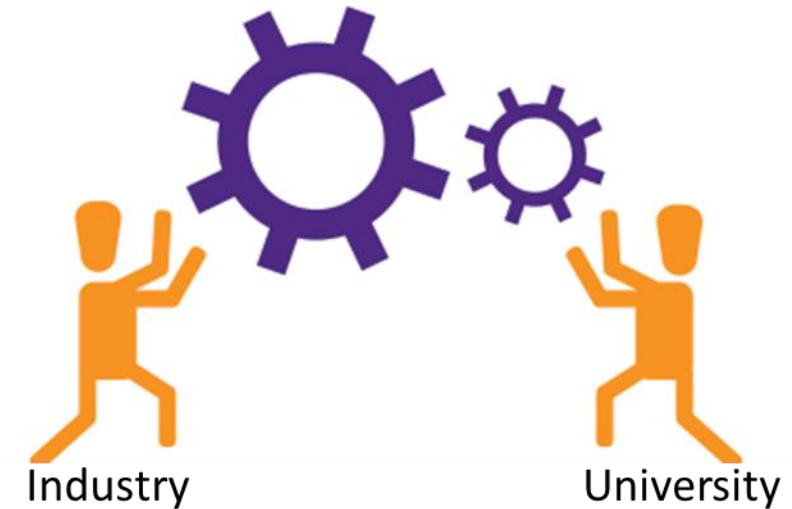
4- Cates & Jones (1999)
5- Schamback & Dirks (2002)

| The importance of industry collaborations in HE pedagogy

- ✓ A need for stronger and more collaborations with industry

“Universities must build more and more industry links to improve graduates' employability. UK graduates are struggling with the current job markets, so the universities must boost their links with industry to remedy this.”

- ✓ Traditional methods of teaching (building the foundation learning through subject-based teaching) cannot strengthen the close relationship with industry ever changing requirements.¹
- ✓ Structural unemployment issues are concerning because the graduates' skill sets do not comprehensively match the skill required.²
- ✓ Continuous feedback about the quality of programmes and reflections on students' skills set along with opportunities to increase the research partnerships are also paramount for the university ranking.



Industry Oriented Education (IOE)

- Effective education should increase the links between the industry and the university.¹
- Workplace readiness skills include personal qualities, technology knowledge and skills and professional skills.²
- The teaching pedagogy should implement the IOE method and include graduate's skills set and employability skills.³
- The educational programmes must be designed to produce graduates that are work-ready and are competent with broadly multi-disciplinary focus contents.⁴



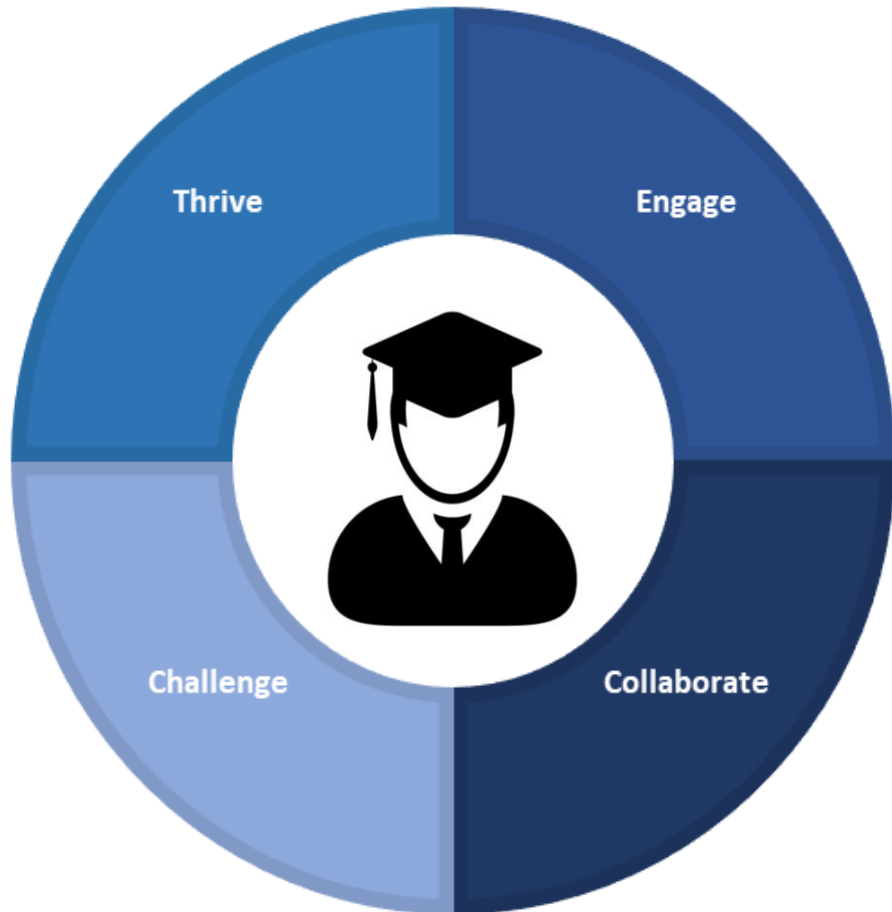
1- Saroyan & Frenay (2010)

2- Peary (2014)

3- Hunter (2012)

4- Stewart (2012)

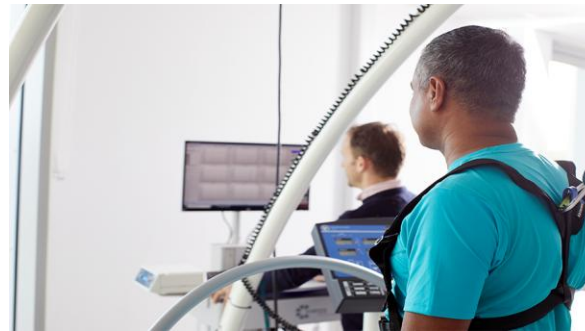
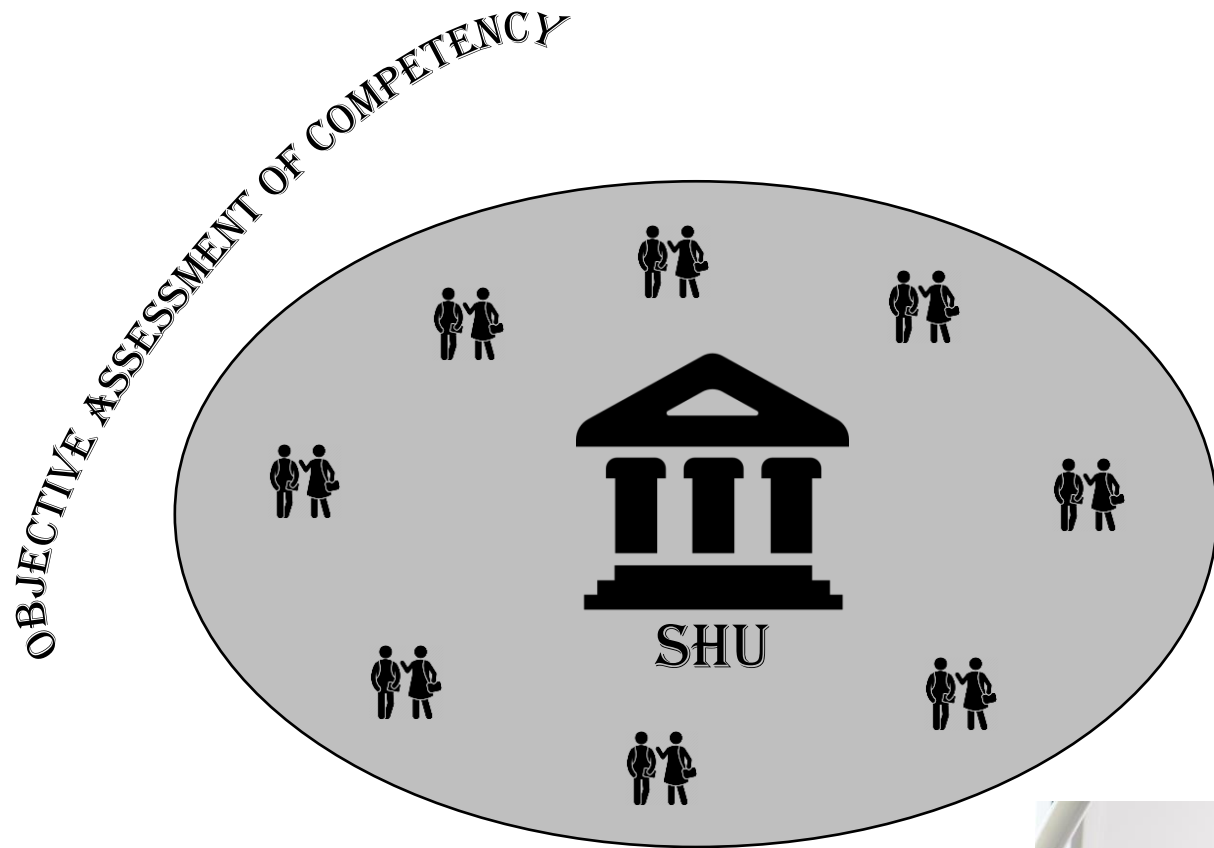
Hallam Model: *Concepts and promises*



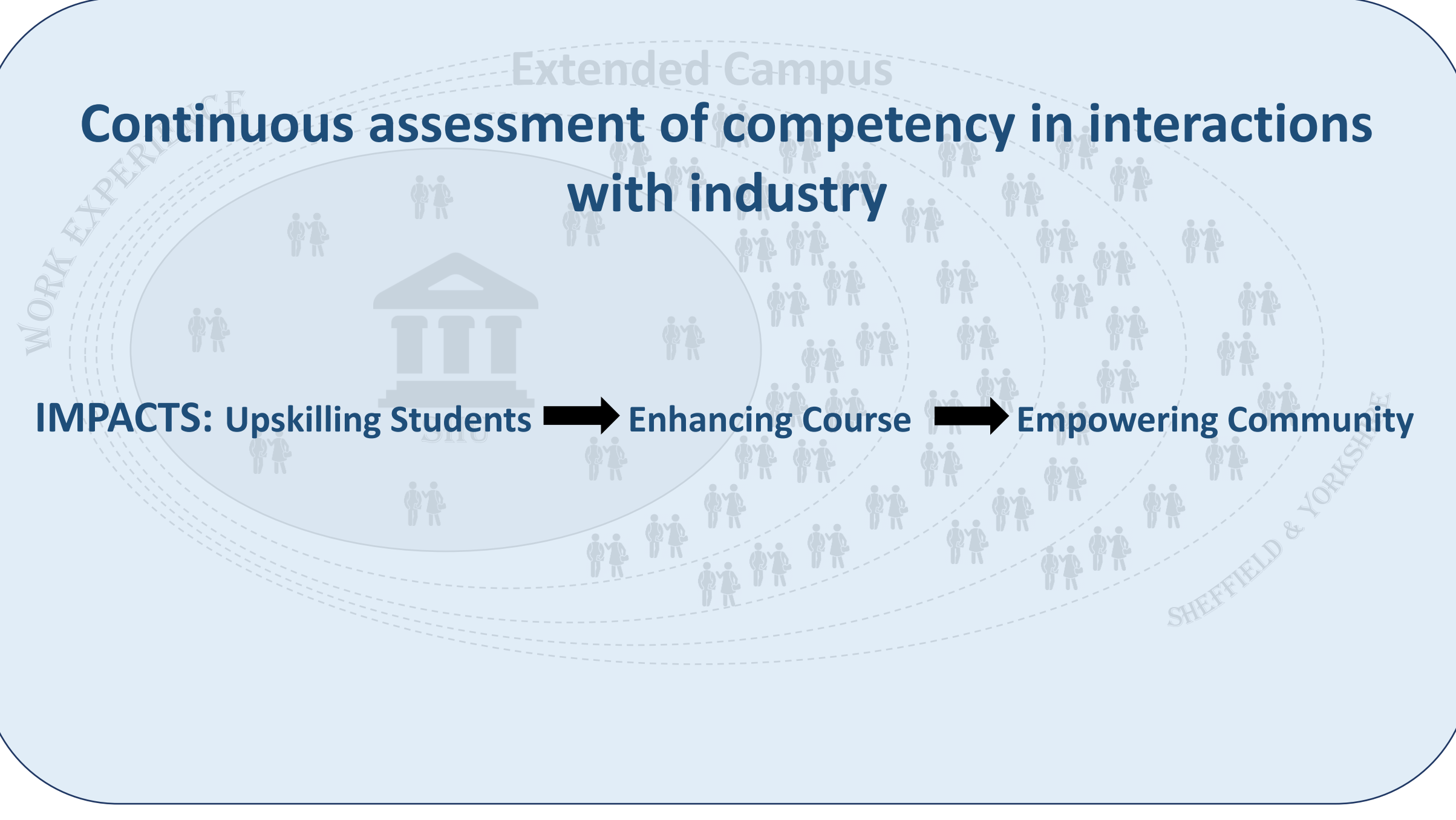
The University provides ***engagement opportunities for all students through work-based learning, placements***, embedded digital capabilities and structured programmes which provide services to the community beyond the university. ***Every course engages students with local, national and global contexts.***

The University embeds collaboration by ensuring that all courses provide opportunities for students to work in teams, to develop entrepreneurial capabilities, and to explore beyond disciplinary boundaries. ***Opportunities to collaborate with partners locally and globally will be embedded in every course.***

Problem statement and rationale



Continuous assessment of competency in interactions with industry



IMPACTS: Upskilling Students → Enhancing Course → Empowering Community

| Aims

- The aim was to develop a practitioner competency inventory in sport and exercise science students.
- *Impacts*
- Improving students' awareness of employability skills and matching with the industry needs and expectations.
- A self-assessment tool could help our students to organise academic activities and work-based experience in the right direction and make themselves more employable in sport and exercise science areas.

Methods: *Phase 1*

- **Participants:** Two cohorts from industry partners (n=5) and academy staff (n=7) were selected non-randomly through advertisement and direct contacts. The partners worked with our students through placements and internships and the staff taught in both UG and PG courses. The proposal was approved by the SHU ethics in Converis.
- **Procedure:** Different focus group interviews via zoom (3-5 people); semi-structured interview method; 45-90 minutes duration. The questions of interviews mainly focused on practitioner's attributes, student engagements, industry expectations, and employability opportunity.
- **Analysis:** A deductive (framework) thematic analysis was used; 2 independent reviewers extracted the interview data from recorded audio files; the PI and other reviewers analysed and extracted the sub-themes (codes and categories).

Methods: *Phase 2*

- **Participants:** SHU UG and PG students in sport and exercise science (n=20) were selected non-randomly through advertisement and direct contacts. The students had previous work experience as part of the L5 placements or internships.
- **Procedure:** The participants completed an online 7-Lickert inventory; 49 questions were developed from the phase -1 themes and codes; the questions mainly focused on practitioner's attributes, student engagements with industry works, and working in a multidisciplinary environment.
- **Analysis:** A principal component analysis (PCA) was used in SPSS; a minimum 0.40 threshold was determined to include the items in the factor; alpha Cronbach was used for internal consistency.

Results: *Thematic analysis*

Subject knowledge and skills	Adaptability and ability to develop person and skills (11)	Professional skills for working in MDT	Appreciation and awareness of others (9)	Employability Skills	Ability to deal with conflicts and uncertainty (4)
	Awareness of practical competences and practitioner skills (10)		Being challenged, integrity and punctuality (6)		Appreciation and awareness of all specialties (6)
	Communication/ listening (18)		Communication and collaborations (9)		Broad and applied experience and internships (21)
	Confidence to learn, focus, motivation and independence (10)		Confidence, competence and self-awareness (6)		Communication (7)
	Creativity, critical thinking and questioning (8)		Critical thinking and curiosity (6)		Delivery and application (6)
	Data management and analytic skills (18)		Decision making skills and articulating rationale (2)		Expanding knowledge base (4)
	Decision making and problem solving (3)		Drive for development (6)		Getting vocational qualifications (3)
	Delivery of practical skills (12)		Eagerness for involvement and enthusiasm (11)		Independent learning and generating ideas (3)
	Developing relationships, networking and collaborations (6)		Flexibility (3)		Involving in research and digital skills (5)
	Digital and research skills (13)		Goal setting and Identifying roles and responsibilities (5)		Job application technique (6)
	Emotional intelligence, professionalism and personal skills (9)		Listening skills (5)		Reflection (2)
	Interpersonal skill, organisation, time management (4)		Open to learning and feedback (7)		Technical and practical skills and specialisation (8)
	Perseverance and resilience (7)		Personality, respect, tone and vibrant (6)		Translation of knowledge in different contexts (6)
	Practical experience and experiential learning (34)		Reflection(4)		Volunteering (2)
	Reflection (4)		Specific knowledge and understanding of subject area (17)		
	Subject knowledge and understanding (32)		Supporting (7)		
	Translation of subject-related technical skills and knowledge to practice (15)		Team work (4)		
	Team working (2)				

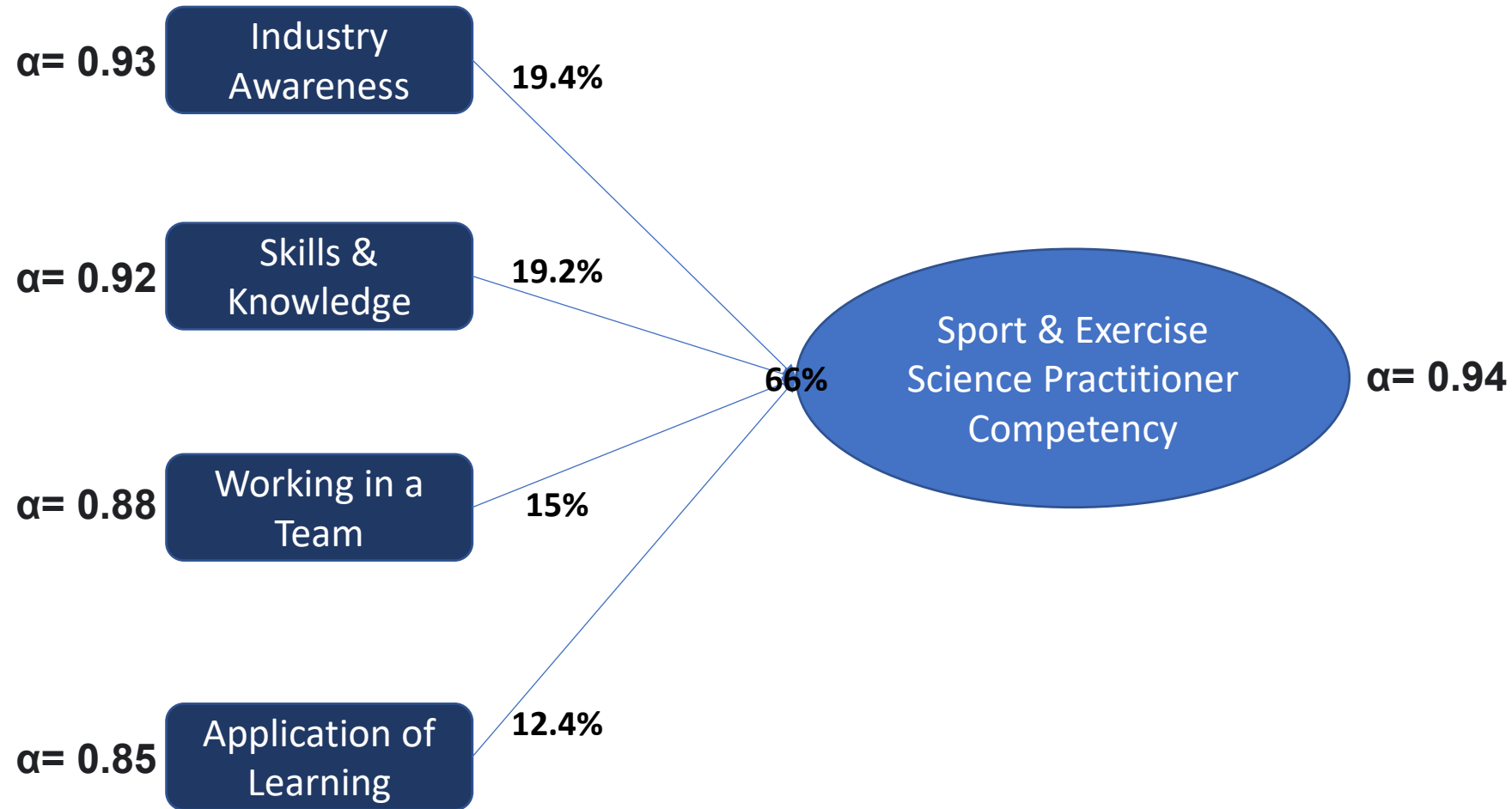
Practitioner Competency in Sport and Exercise Science

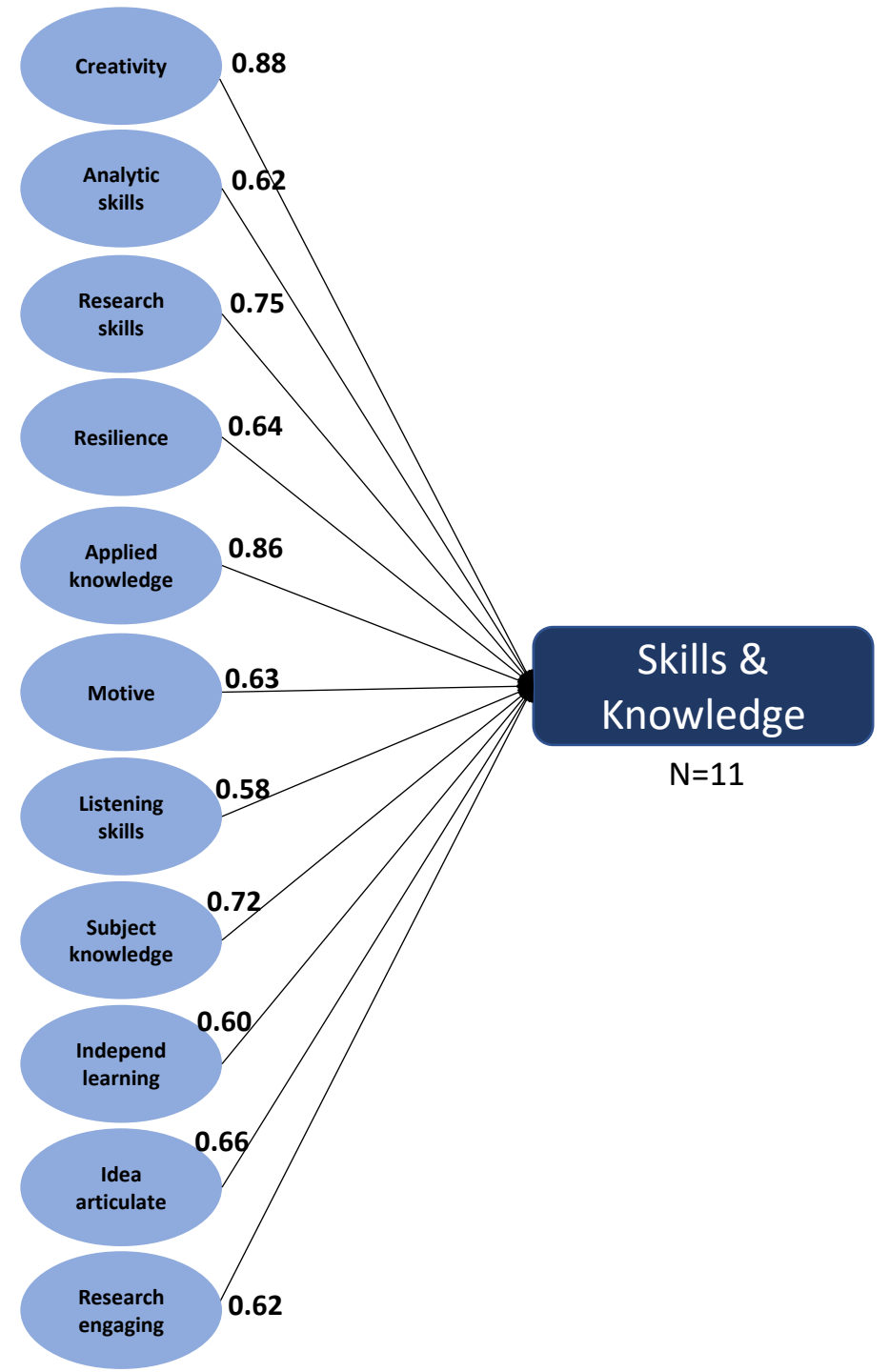
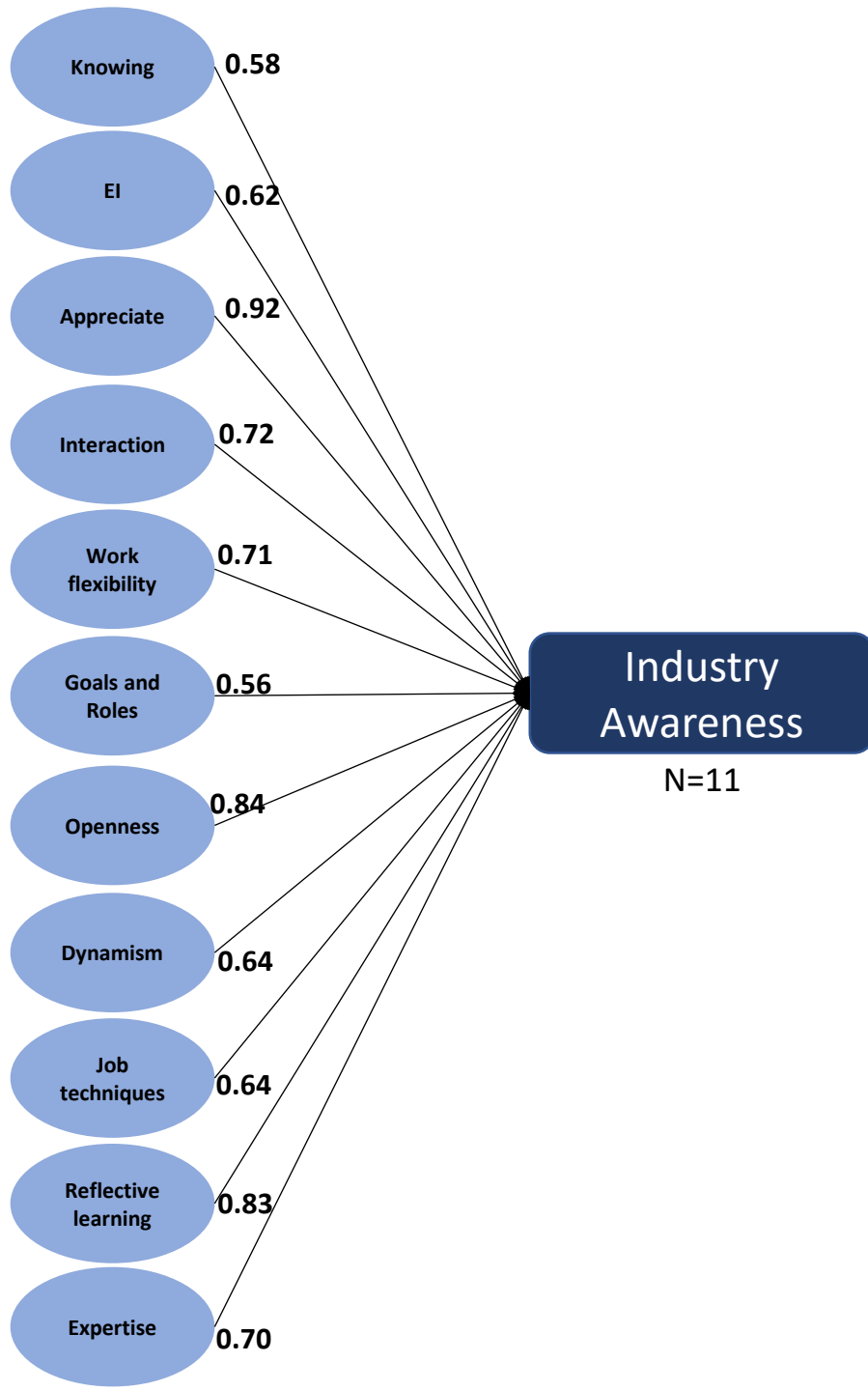
This is a self-assessment inventory to help sport and exercise science students develop the required personal and professional skills and attributes, organise academic activities and work-based experience, and prepare for careers in sport and exercise science disciplines.

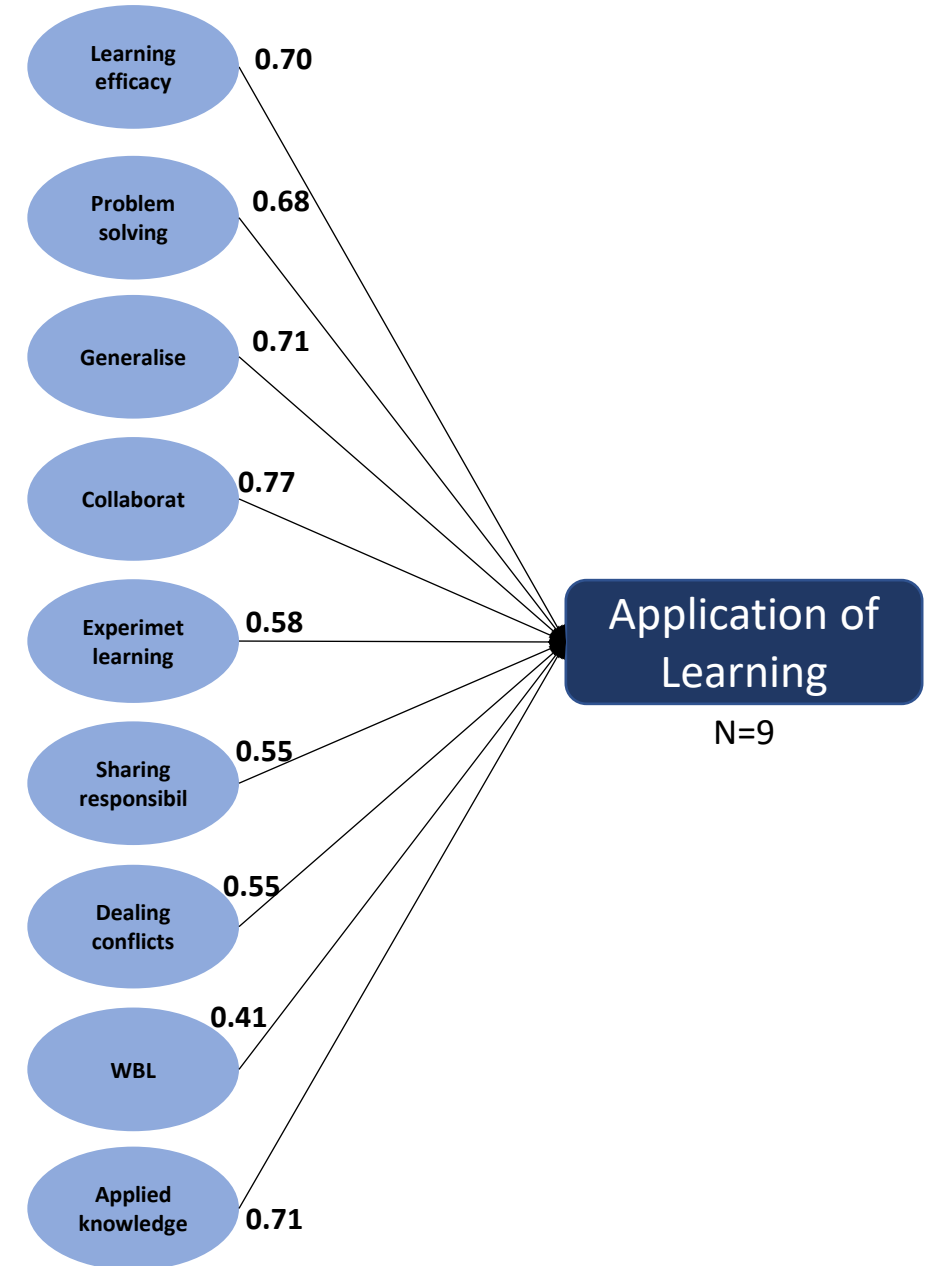
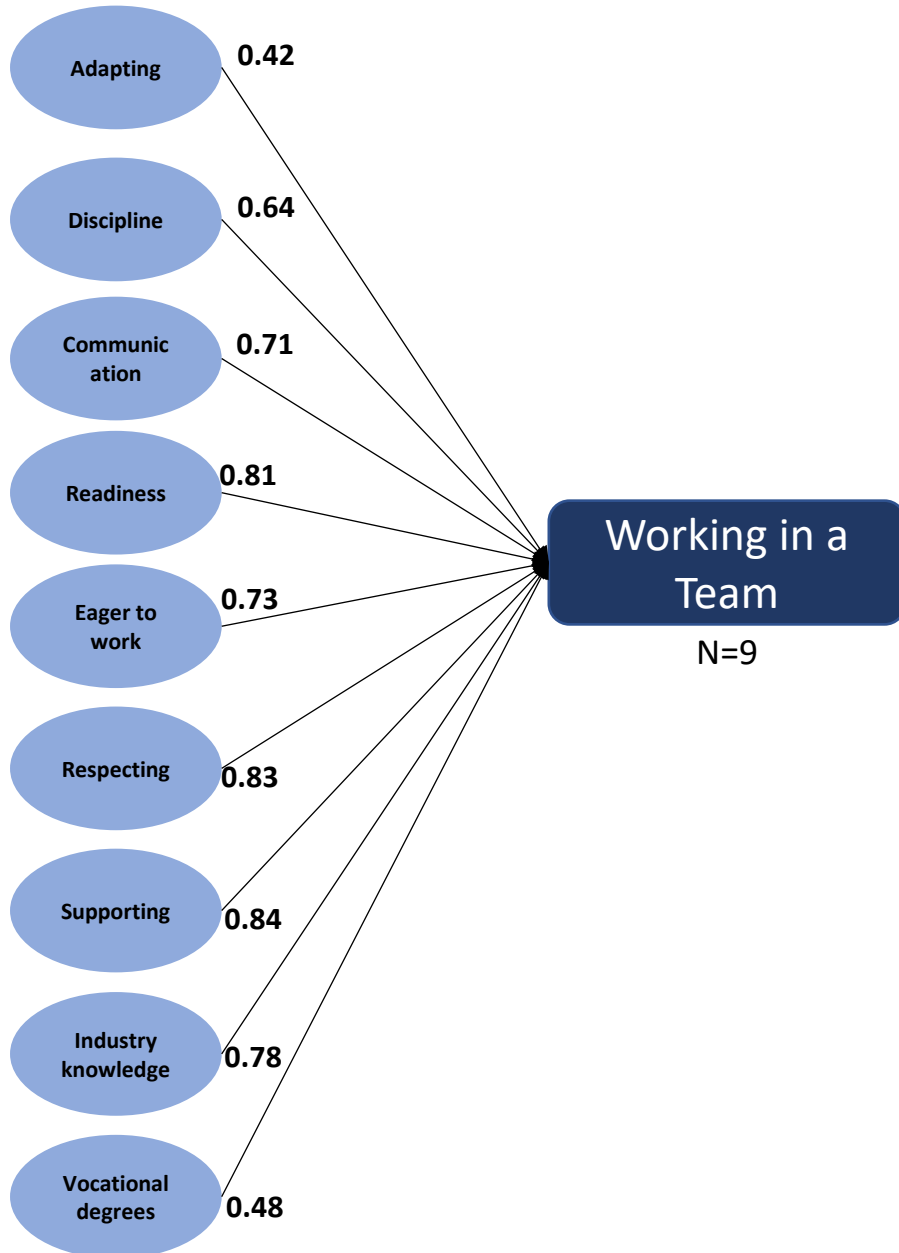
Please rate the importance of each question by selecting an option (✓) from Strongly Disagree (1) to Strongly Agree (7). Please answer all questions.

Items	1	2	3	4	5	6	7
A. To be an effective sport and exercise scientist, the graduate requires:							
1-Adaptability and an ability to work under pressure							
2-Awareness of practitioner's skills and competencies							
3-Verbal and non-verbal communication and active listening							
4-Confidence to learn, focus, motivation, and independence							
5-Creativity, critical thinking, and questioning skills							
6-Data management and analytical skills							
7-Decision making and problem-solving skills							
8-Capability to use practical skills in different contexts							
9-The ability to Develop relationships, networking, and collaborations							
10-Digital and research skills in sport and exercise settings							
11-Emotional intelligence, professionalism, and personal skills							
12-Interpersonal skills, organisational discipline, and time management							
13-Perseverance and resilience							
14-Practical experience and experiential learning (learning through doing)							
15-Reflections on practice and the learning process							
16-Subject knowledge and understanding concepts							
17-Translation of subject-related technical skills and knowledge to practice							
18-Team working and sharing responsibilities							
B. To work in a multidisciplinary team in sport and exercise science, the graduate requires:							
19-Appreciation and have awareness of others' knowledge and skills							
20-Openness to be challenged by members of the team							
21-Effective communications and collaboration within the team							
22-Confidence, competence, and self-awareness of strengths and weaknesses							
23-Curiosity and ability to ask good questions							
24-Ability to articulate a rationale and justify an approach to solve a problem							
25-Drive for personal and professional development							
26-Eagerness and enthusiasm for involvement as a team member							
27-Flexibility in workplan and time							
28-Goal setting and identifying roles and responsibilities							
29-Listening skills and engagement with the tasks							
30-An openness to learning and accepting feedback							
31-Personality, respect, tone, and vibrant							

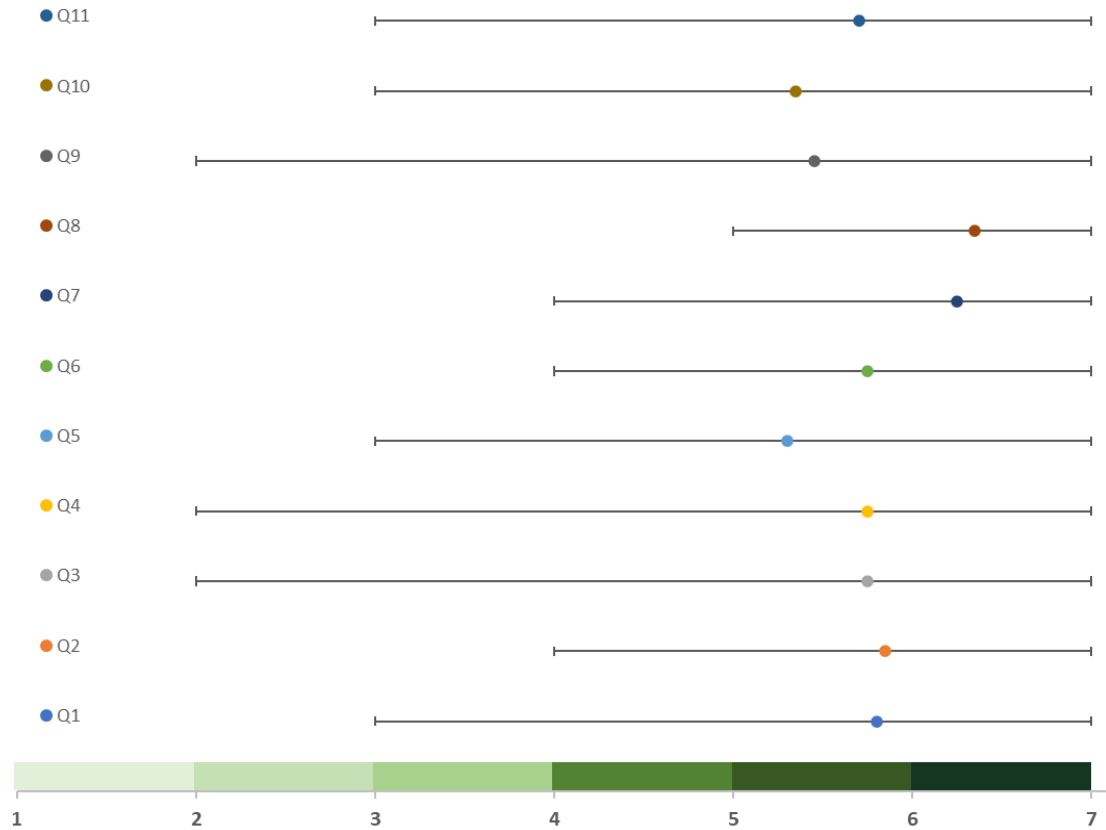
Results: *Factor analysis*



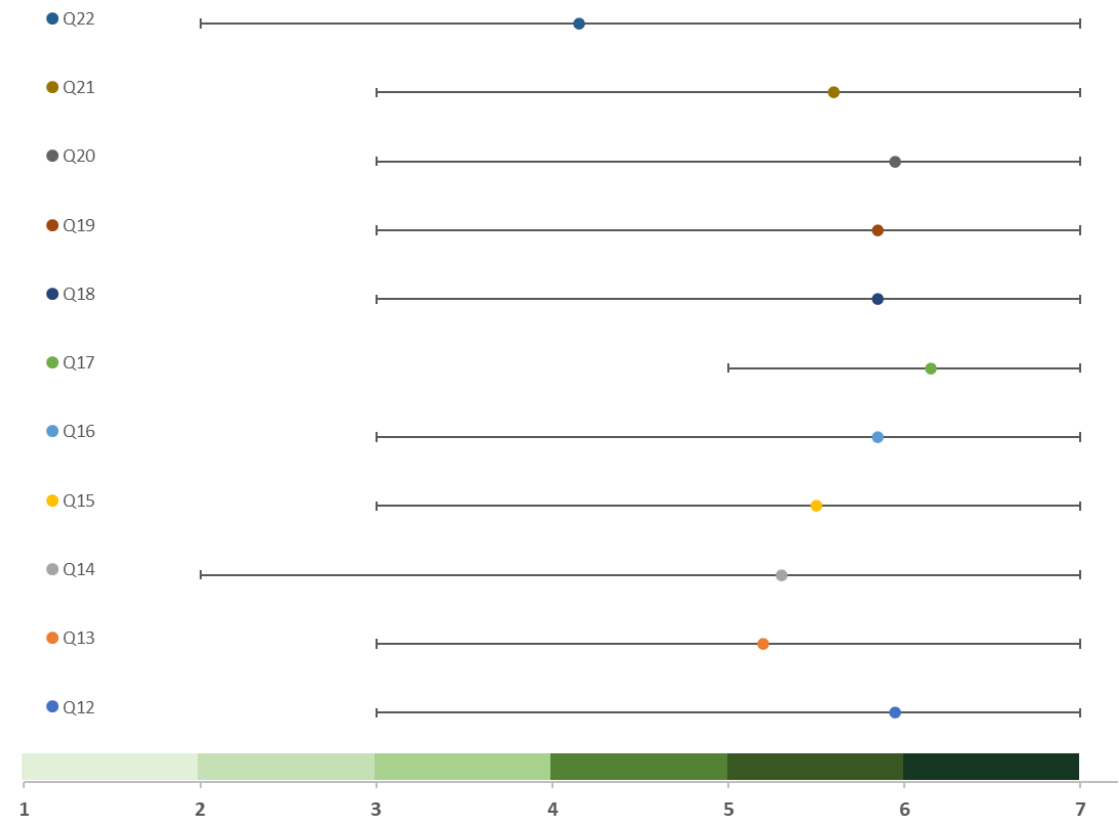




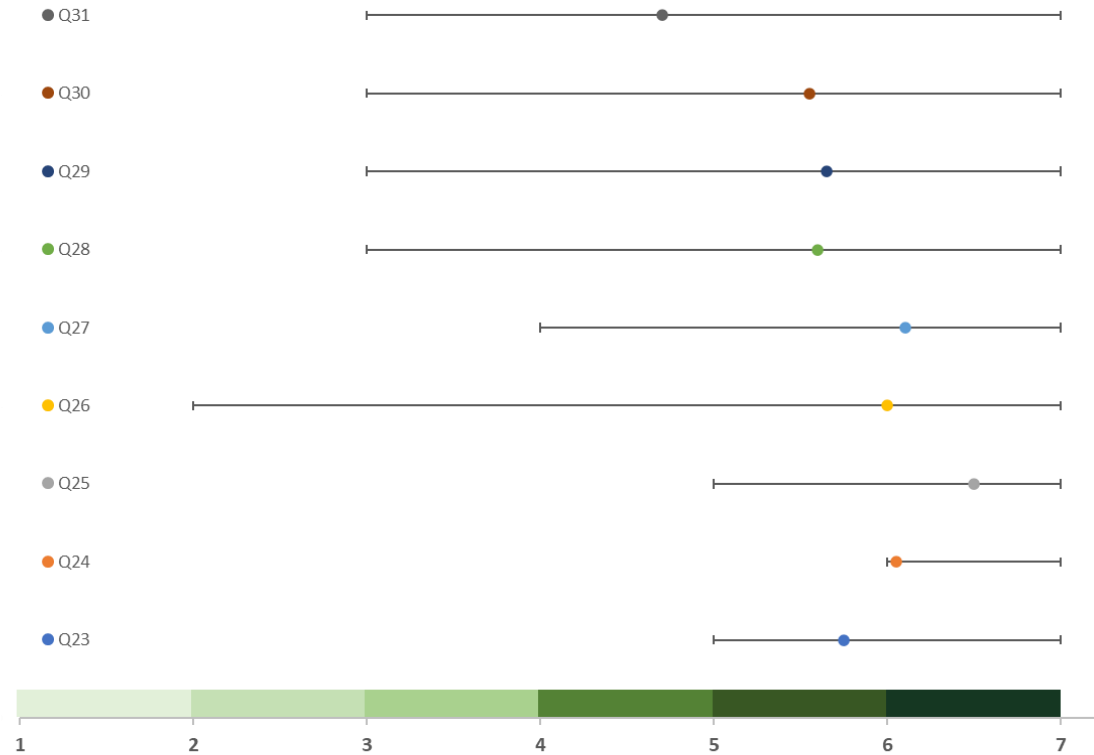
Industry Awareness



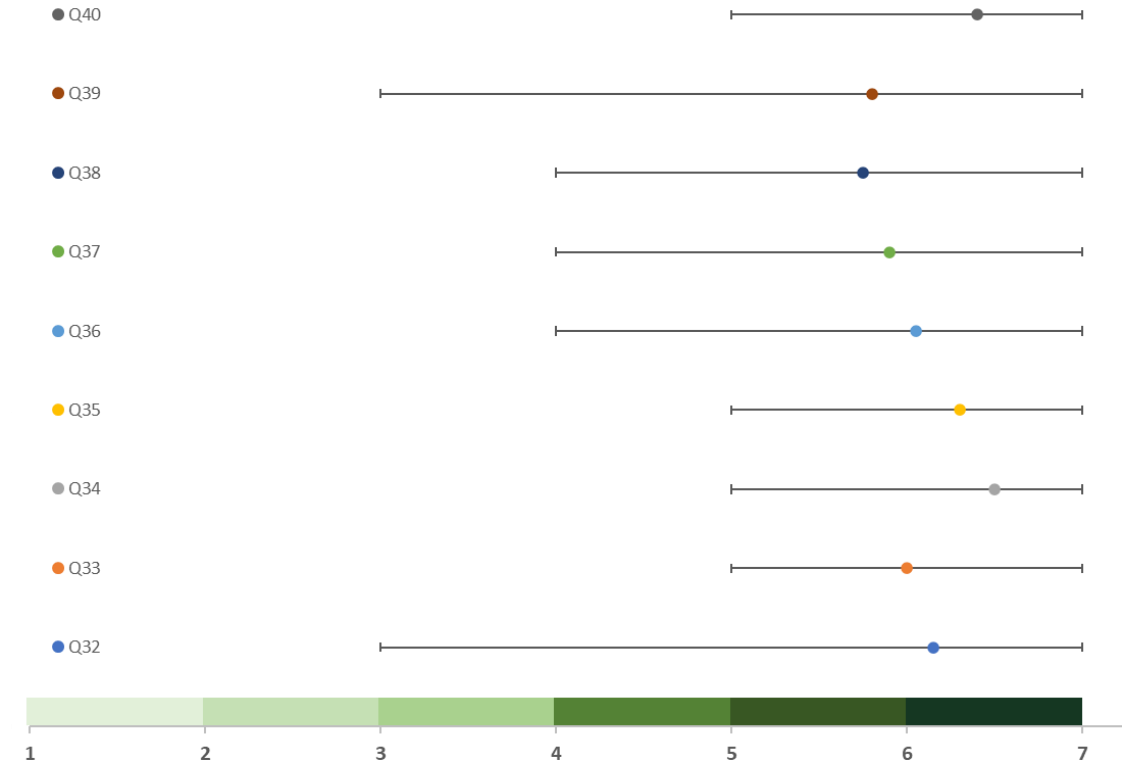
Skills & Knowledge



Working in a Team



Application of Learning



Key findings and discussion

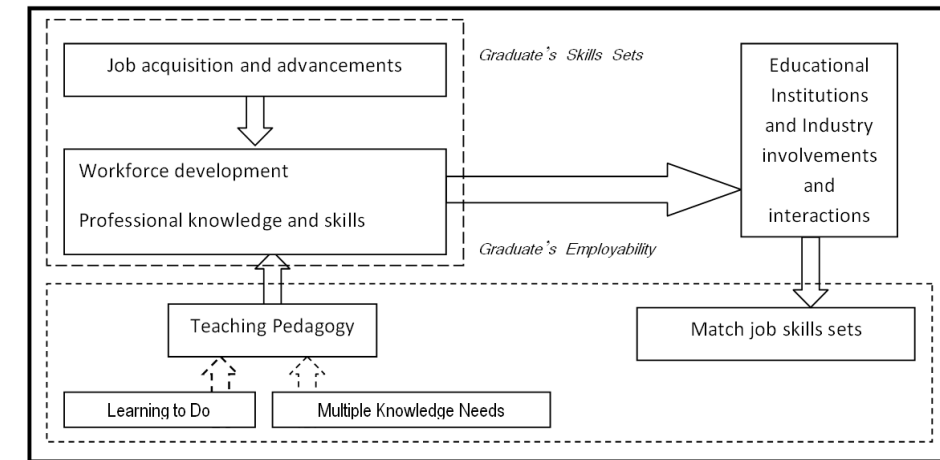
- **Competency in sport and exercise science is multidimensional.**

Work experience at HE help students to develop professional skills.¹

- **The current model of support cannot meet the students and their future careers needs.**

There is a concern that the graduates' skill sets do not comprehensively match the skill required.²

- **Long-term and strategic collaborations with industry partners can enhance the quality of courses and make our students more employable.**



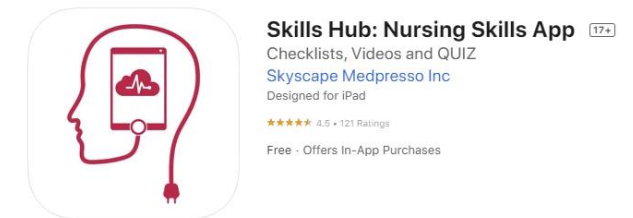
The relationship between industry, students and university

1- Burns & Chopra (2017)

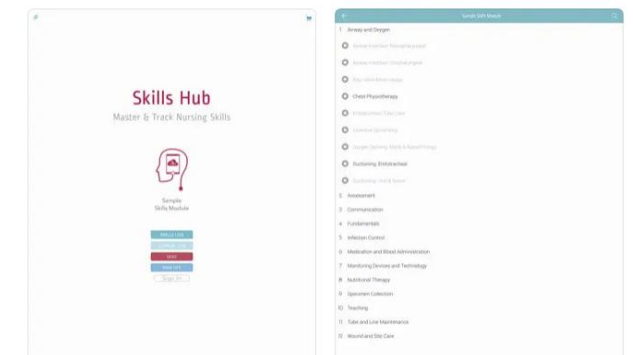
2- Steward (2012)

Next steps

- **Scaling up the inventory:** Creating normative data in a bigger population.
- **Embedding to the courses:** Using the inventory in the sport and exercise science courses as a tool for systematic reflections.
- **Developing a user-friendly application:** Building an interactive application for monitoring the competency areas from L4 to L7.



Screenshots iPad iPhone



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