Quick read report: Technology for employability

Study into the role of technology in developing student employability

November 2015

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This study was commissioned by Jisc in the light of student employability becoming increasingly important in policy across the higher education, further education and skills sectors. Employers are demanding that students are better prepared for work, though views on what this means in practice vary.

The study found that there is wide variation in how institutions are developing student employability. Some are focusing on helping students to prepare for and obtain jobs as an end-of-programme activity (typically via careers departments). Others are treating employability as integral to curriculum design, delivery and formative/summative assessment beginning at the start of a programme, all with a view to students taking ownership of their ‘lifelong employability’. The reported case studies highlight this variation. Some reflect top-down institutional approaches driven by senior management and others where bottom-up approaches are instigated by innovators, though not necessarily taken-up more widely by the institution.

There is similar wide variation in institutional adoption of technologies for employability, with the case studies highlighting applications that provide powerful benefits for students, institutions and employers. For example, some are helping students to partner with employers across the globe in identifying and solving real-world problems. This is highly motivating for students, but also offers institutions efficient and cost-effective ways of providing authentic learning experiences (eg compared with finding placements) and benefits for employers.

One further surprising item is that employers seem to have low aspirations in respect of graduate digital literacies, often looking to their IT staff to be their digital entrepreneurs. Our sectors are perhaps missing a trick here and should consider working more closely with employers to develop and promote all graduates with the wherewithal and confidence to be digital entrepreneurs eg applying student creativity with technology to solve real employer issues.

As well as providing many case studies, this report identifies five ways in which institutions are using technology for employability, highlighting the benefits. It draws out good practices for programme teams and shows how institutions can implement more orchestrated approaches to developing student employability. Finally, it provides recommendations for how sector bodies can support institutions, for example by facilitating benchmarking to help spread the good practices identified in this report.

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Sir Tim Wilson’s review of university-business collaboration (2012) suggests a gap between UK business and HE, stating that “Universities should reflect on the opportunities that are provided for students to develop employability skills through the formal learning methodologies used within the university” (Wilson, 2012, p.10).

Similar reports from Lord Young, the Confederation of British Industry (CBI) and the House of Lords for example, have alluded to the same problem of learners in FE. They have described them as not being ‘work-ready’, adding to it a degree of personal readiness as well as a skills gap. A recent Jisc project exploring assessment and employability further evidenced the ‘employability gap’ suggested in the review (University of Exeter, 2013). Recent surveys have also highlighted employability as amongst the foremost reasons for students considering a university education (Pollard et al 2008). The FE TAG Report and BIS response (2014) cite the purposes of FE as giving its learners “line of sight to employment”.

Institutions tackle student employability in a number of ways, including through for example personal development planning (PDP) and employability modules, careers services, work placements and experiences, work-based mentors, apprenticeships, volunteering, graduate internships, entrepreneurship and increasingly through looking at employability awards and the notion of ‘graduate attributes’ (more prevalent in Australia and the US), not yet developed in FE. We know there is already some excellent practice, particularly in vocational and professional disciplines (eg medicine, physiotherapy, education, social work and social care). Here, notions of what it is to be professional are embedded in the curriculum, but for other disciplines this is less apparent. Few use technology really effectively in an integrated way, embedded in the curriculum, to support student employability - although some are exploring this.

Previous Jisc activity has demonstrated that technology can be an enabler to the development of employability skills in a number of ways. E-portfolios can be used to ensure that opportunities are integrated throughout the curriculum in a scaffolded way for learners to reflect, plan, articulate and showcase their knowledge and skills. There is a good history of using mapping portfolios in FE for competence-based vocational qualifications. Technology can enable assessments to be made more authentic, more closely aligned to professional contexts. Learners can be given opportunities to engage with their feedback, and have regular opportunities for self, peer and tutor review in order to develop as self-aware, independent learners. There is evidence to show that empowering students as agents of change can be a key opportunity for students to develop a range of employability skills.

However, few colleges and universities are using technology to best effect to support an integrated approach to the development of employability skills notwithstanding the clear benefits technology offers.
Why this study was commissioned

This study provides an initial exploration of the role of technology in supporting the development of student employability skills. It aims to provide an overview of the key skills employers are looking for, and the opportunities offered by universities and colleges to provide those skills.

It also aims to explore and articulate the role of technology in enhancing the development of student employability, and make recommendations on how sector bodies can best support institutions moving forwards.

This quick read report outlines the headline findings and messages in the full report.

**Student employability is becoming increasingly important:**

- Employability is becoming increasingly important in policy and strategy across the HE, FE and skills sectors

- Qualifications are increasingly seen, particularly in FE and skills, as a stepping stone to employment from which economic independence and active citizenship flow. The qualification is no longer the end point

- There is evidence of an ‘employability gap’ in the skills that students are starting with on day one of employment and the skills that employers are expecting from their new employees. However, views vary on what this gap means in practice

“Businesses look first and foremost for graduates with the right attitudes and aptitudes to enable them to be effective in the workplace - nearly nine in ten employers (89%) value these above factors such as degree subject (62%)”

CBI/Pearson Education and Skills Survey 2015
(CBI / Pearson, 2015)
An increasing appreciation that technology for employability can provide many potential benefits to students, institutions and employers:

» There is evidence that technology can be a significant enabler, but it’s not clear how institutions are using technology most effectively to support learners.

» Digital savvy graduates are essential for shaping tomorrow’s entrepreneurial activities, but digital literacies aren’t well articulated in relation to employability skills.

The study therefore provides an initial exploration of the role of technology in supporting the development of student employability skills.

“Managers, entrepreneurs, and business executives must have e-competences to grow, export and be connected to the global digital markets. In a digital economy, e-leadership skills are essential.”
Michel Catinat, Head of Unit ‘Key Enabling Technologies and ICT’ at DG Enterprise and Industry, European Commission (European Commission, 2015)

20 case studies were carried out across the HE, FE and Skills sectors:

<table>
<thead>
<tr>
<th>HE</th>
<th>FE and skills</th>
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<tbody>
<tr>
<td>University of Greenwich</td>
<td>City of Glasgow College</td>
</tr>
<tr>
<td>University of Northampton</td>
<td>South West College, NI</td>
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<tr>
<td>University of Edinburgh</td>
<td>Loughborough College</td>
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<tr>
<td>Keele University</td>
<td>Portland College</td>
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<tr>
<td>University of Southampton</td>
<td>Reading College</td>
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<tr>
<td>Birmingham City University</td>
<td>S&amp;B Automotive Academy, Bristol</td>
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<tr>
<td>Glasgow Caledonian University</td>
<td>South Devon College</td>
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<tr>
<td>University of London</td>
<td>The Mindset</td>
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<tr>
<td>Bath Spa University</td>
<td>The Welsh Baccalaureate</td>
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<tr>
<td>Staffordshire University</td>
<td>St Helens College</td>
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The full case studies and case study vignettes are detailed in the full report.
## Four key challenges

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Details</th>
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| **1** Institutions are on various points of the continuum towards student employability maturity | » Different visions of maturity and variation in approaches to developing employability skills, capabilities and attributes exist  
» Students can learn employability skills from a broad range of experiences but there must be processes in place for them to reflect on, articulate and evidence the learning  
» Authentic experiences can develop skills, but depend on the degree of ‘authenticity’ and the degree to which students learn/reflect on them and articulate them  
» Many creative uses of technology, but ‘embedding’ remains elusive to many institutions (including at local levels e.g. faculty, school, department)  
» Embedding employability/ attributes into curricula and assessment may be ‘ideal’, but there are challenges  
» In many institutions, there appears to be a lack of joined-up approaches between academic departments and corporate careers/employability services  
» FE very focused on ‘line of sight’ to employment, rather than employability or self-employability  
» There are more similarities than differences between HE, FE and skills sectors |
| **2** Technology is under exploited for employability | » Variation in practices and understanding of potential of technologies for employability - by institutions, students and employers - particularly with e-portfolios and social media  
» Institutions could do a lot more to unleash student creativity in using digital networks/media to engage with employers, alumni and other stakeholders  
» Digital literacies are not well articulated in relation to employability skills  
» Employers and HE/FE generally have low aspirations in relation to ‘digital entrepreneurialism’  
» Growing band of knowledge in terms of what technology infrastructure is required for progressive employability development and ‘connected curricula’  
» Not much evidence of use of data collection/analytics to support student employability, QA and QE  
» Possibility of aligning e-portfolio usage with development of HEAR  
» FE has a well-established use of e-portfolios to map vocational competencies (hard skills) and in supporting apprenticeships |
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<tr>
<th>Challenge</th>
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<tr>
<td>3 Insufficient engagement and partnership working with employers</td>
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<td><strong>Details</strong></td>
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<tr>
<td>» Core employability skills, capabilities and attributes are typically being addressed, with variations, but they are continually evolving</td>
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<td>» The degree to which employers (large and small) are involved in defining and developing employability skills remains unclear</td>
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<td>» Not much evidence of institutions evaluating impact of employability policies/initiatives with employers despite destination surveys</td>
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<td>» Not always easy to identify truly authentic learning experiences with employers for ALL students, though there is much potential for student cohorts to work in partnership with employers on real and challenging employer/sector problems</td>
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<tr>
<td>» HE in particular needs to develop greater partnership working with employers and alumni e.g. curriculum design, mentoring, assessments</td>
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<td>» HE and FE need to find ways of improved working with a broader range of employers e.g. SMEs</td>
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<td>» There is potential for ‘students as partners and innovators’ initiatives to be focused on student employability and raising the profile of digital entrepreneurialism with employers</td>
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<td>» There is potential for HE and FE to better collaborate in joined up approaches to technology for employability</td>
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<tr>
<th>Challenge</th>
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<tr>
<td>4 Variability in resources to support institutions in using technology for employability</td>
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<td><strong>Details</strong></td>
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<tr>
<td>» Despite excellent resources existing in relation to using e-portfolios, there is a lack of awareness of them and their value to institutions; they could be further developed with guidance to support students in effective use</td>
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<td>» There is insufficient emphasis in sector resources on making the case for using technology in employability and the importance of student digital literacy as an employability capability in its own right</td>
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<td>» Guidance on digital literacies could be better contextualised and articulated in relation to employability skills</td>
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<td>» There are minimal resources relating to digital entrepreneurialism (digital enterprise)</td>
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<td>» There is insufficient guidance on effective use of social media to support employability</td>
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<td>» There is potential for greater adoption of multimedia communications approaches as part of guidance materials e.g. using screencasts, videos</td>
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<td>» Resources on their own are insufficient – institutions need to be supported in using them effectively for example through consultancy, mentoring, coaching, collaborative benchmarking</td>
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Institutions are using technologies in five key ways to support development of student employability, providing significant benefits to students, employers and institutions

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<tr>
<th>Technology use</th>
<th>Details</th>
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| **1 Technology-enhanced authentic and simulated learning experiences** | » Active and real world learning experiences - supported by technologies - that help to develop employability skills  
» Simulated experiences that help to overcome issues such as health and safety and large costs issues of authentic learning  
» FE provides real environments in which to learn like kitchens, workshops, garages and salons that include vocational standard technologies |
| **2 Digital communications and engagement with employers including development of digital identity** | » Researching, identifying and developing contacts and relationships with employers  
» Developing digital and employability identity  
» Developing digital collateral as evidence of student ‘rounded self’  
» Showcasing student ‘rounded self’ to employers in order to show distinctiveness  
» Sharing industry identified problems for learning opportunities develops professional relationships |
| **3 Technology-enhanced lifelong learning and employability** | » Self-directed personal and professional learning (planning, reflection, managing, recording, review) - supported by technology  
» Digital feedback and engagement with a variety of stakeholders including employers to help develop learner self-regulatory skills  
» Employer-supported/ related assessment for learning |
| **4 Technology-enhanced employability skills development** | » Learner skills diagnostics  
» Technology-enhanced development for skills gaps  
» Computer-aided assessment  
» Institution audit of organisational and course preparedness to support development |
| **5 Employer-focused digital literacy development** | » Developing student technology-enhanced employability skills  
» Developing ‘digital entrepreneurialism’ |
## Three ways programme teams can enhance practices

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<th>Idea</th>
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| 1. Maturity is probably best developed through ‘connected curricula’ - embedding employability in curriculum and assessment combined with authentic experiential learning and employer engagement and underpinned by technology | *Some excellent examples of ‘connected curriculum’ where employability is embedded into curricula and assessment*
*‘Connected curricula’ inextricably linked to assessment for learning approaches and authentic assessment*
*Curricula and assessment must incorporate student articulation of their experiential learning and employability skills*
*Connected curricula map well to the QAA Flexible Curricula framework ([http://bit.ly/1jTtu1e](http://bit.ly/1jTtu1e))*
*Connected curricula requires a learner-centred connected technology infrastructure, programme-wide student support, employer engagement and joined-up institutional polices, plans and resources* |
| 2. ‘Lifelong employability in a digital world’ needs to be a core student capability - with students encouraged to take ownership early on | *HE and FE need to prepare students for taking ownership of identifying, developing and presenting their employability skills and capabilities early on - using technology*
*‘Lifelong employability’ is a key employability capability in its own right*
*Self-directed personal and professional learning (planning, reflection, managing, recording, review) can be effectively supported by e-portfolios*
*Digital feedback and engagement with a variety of stakeholders including employers can be facilitated by technologies such as e-portfolios*
*Students can be provided with technology-enhanced self-diagnosics and development resources to aid self-review and development* |
| 3. Technology is used to underpin student employability development with clearly identified rationale, benefits to stakeholders and adoption of good practices | *Authentic and simulated learning experiences*
*Digital communications and engagement with employers*
*Lifelong learning and employability*
*Employability skills development*
*Employer-focused digital literacy development* |
Draft indicators of good practice in two key areas

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<tr>
<th>Theme</th>
<th>Summary of (draft) key indicators of good practices</th>
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| 1 Good practices in programme design and delivery to incorporate employability | Connected curricula  
  » Connected curricula approaches are adopted to incorporate employability into programme design, learning outcomes and assessment  
  » Curricula design requires students to take ownership and self-direct their lifelong employability from early on in their programmes of study  
  » Assessment for learning approaches are adopted which place emphasis on formative approaches to dialogue and action on feedback |
| Employer engagement | Employers are engaged with programme design and delivery |
| Student personal, professional and academic development | Programme design incorporates supported student personal, professional and academic development  
  » Students are required to regularly collect evidence of, articulate and showcase their learning and how they have applied it |
### Theme

<table>
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<tr>
<th>Good practices in programme design and delivery to incorporate technology for employability</th>
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#### Summary of (draft) key indicators of good practices

**Technology-enhanced authentic and simulated learning experiences**
- Curricula include active and 'real world' learning experiences – supported by technologies – that help to develop employability skills
- Technology is used to allow large cohorts of students to collaboratively engage with employers and authentic learning opportunities including with a broader range of employers such as SMEs and employer networks
- Simulated experiences are used where appropriate
- Data analytics is used to support student progression, quality assurances and quality enhancement

**Digital communications and engagement with employers**
- Technologies such as social media and multimedia are used for:
  - Researching, identifying and developing contacts and relationships with employers
  - Developing digital and employability identity
  - Developing digital collateral as evidence of student rounded self
  - Showcasing student rounded self to employers and personal clients

**Technology-enhanced lifelong learning and employability**
- Technologies such as personal learning spaces are used for:
  - Self-directed personal and professional learning (planning, reflection, managing, recording, review)
  - Digital feedback and engagement with a variety of stakeholders including employers to help develop learner self-regulatory skills
  - Employer-supported/related assessment for learning

**Technology-enhanced employability skills development**
- Technologies are used for:
  - Learner skills diagnostics
  - Technology-enhanced development for skills gaps
  - Computer-aided assessment

**Employer-focused digital literacy development**
- Digital literacies are articulated and aligned within an employability skills framework
- Curricula and employability skills development activities require students to apply their digital literacies
- Curricula encourage digital entrepreneurialism
- Students as digital change agents are used to address employer business issues
## Five key ways institutions can prepare for supporting good practices

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| **1** Embedding and aligning technology for employability (and its development) into polices, plans and processes | » Institutional strategies and policies require programme teams to enhance curricula design using a connected curricula approach  
» Institutional strategies and policies require programme teams to fully support student personal, professional and academic development throughout a programme using learner-centred technologies  
» Institutional strategies and policies require students to be provided with personal tutors focused on their personal, professional and academic development  
» Faculties, schools and departments are required to embrace connected curricula in their business/operational polices and plans which are monitored and evaluated centrally  
» Institutional strategies and policies in respect of technology infrastructure, tools and resources meet the needs for learner-centred teaching, learning and assessment  
» Institutional strategies and policies place emphasis on effective employer engagement at the local level  
» In HE, consideration is given to integrating technology and processes for the HEAR with student personal learning |
| **2** Professional development of staff in relation to employability and technology for employability | » Professional development of staff incorporates a range of topics focused on development of student employability and adoption of technology tools to facilitate this  
» Staff professional development is supported through activities such as peer review and communities of practice, in recognition of the centrality of teachers sharing ideas and practice as means of effecting change  
» Teachers need to take responsibility for maintaining their own employability |
| **3** Technology tools, resources, infrastructure and support for employability and student-centred flexible curricula | » Institutions regularly review, benchmark and evaluate their technology infrastructure, tools and resources  
» A one-stop-shop support service is provided to faculties, schools, departments and programme teams that brings together the various departmental support teams such as IT, teaching learning and assessment, technology enhanced learning, employability, inclusion  
» Resources are provided for staff to self-review, plan and develop their skills, knowledge and capabilities in relation to student employability and use of technology  
» In HE, consideration is given to integrating technology and processes for the HEAR with student personal learning technologies |
## Idea

| 4 | Improving communication and collaborations to drive change in technology for employability |
|   | » Faculties, schools, departments and programme areas in FE (i.e. at the local level) undertake a range of communications and engagement activities |
|   | » Students as change leaders and innovators initiatives focus on employability and employer engagement |
|   | » Encourage alumni to offer mentoring through on-line technology and in FE, use apprentices to talk to prospective apprentices about the world of work |

| 5 | Quality assuring and continuous improvement through employability data monitoring, analytics and review |
|   | » QA processes are fully defined and communicated |
|   | » Data monitoring, analysis and evaluation processes are set up |
|   | » Analysis of trends and individual student performance data informs students and staff in (formative) approaches for enhancing student performance |
|   | » In FE consider how to demonstrate employability credibility in line with the Common Inspection Framework |
## Six key ways sector bodies can potentially support institutions

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| **1 Benchmarking**  
Develop benchmarking toolkits that reflect effective practices and support institutions in collaborative benchmarking | » Develop a benchmarking (self-review) toolkit for programme teams, building on existing sector toolkits  
» Develop an institutional benchmarking (self-review) toolkit about institutional preparedness for technology for employability, building on existing sector toolkits  
» Use these benchmarking toolkits to underpin institutional support services (see idea 5) such as benchmarking, consultancy and coaching  
» Ensure educational agencies collaborate to ensure technology is an integral part of generic employability frameworks and toolkits  
» Facilitate a UK-wide benchmarking programme addressing employability and technology for employability, led by a collaboration of educational agencies |
| **2 Sector resources**  
Develop coherent sector resources targeted to different stakeholder needs that inform and enable stakeholders to develop student employability | » Review existing available resources with a view to creating a one-stop-shop approach that can be contextualised and personalised for different stakeholder groups and include specialist areas such as technology for employability for special needs students  
» Provide resources that help institutions to visualise exemplar good practices such as with student portfolios and use of social media  
» Consider embedding the connected curricula in all resources  
» All resources should clearly communicate the rationale for using technology for employability, highlighting the benefits to different stakeholders and with a major focus on impact of employability initiatives and policies  
» Develop processes supported by technology to sustain the capturing and communication of case studies/vignettes of good practices, using many different media approaches  
» Ensure educational agencies align and link resources with their resources, frameworks and toolkits |
| **3 Sector communications and engagement**  
Facilitate improved sector communications and engagement with respect to student employability | » Develop a communications and engagement plan targeted at a range of stakeholders which focuses on technology for employability  
» Explore the potential for a collaborative approach to communications and engagement with institutions and a range of stakeholder groups, (including educational agencies) in respect of employability and related technology |
**Idea** | **Details**
---|---
4 **Sector online collaborative spaces**  
Develop online collaborative spaces to support engagement between sector stakeholders | » Support the development of online spaces to support new and creative collaborations between staff, students, alumni, employers  
» Negotiate with institutions that have already created such online collaborative spaces with a view to opening them up to other institutions nationally

5 **Institutional support services**  
Provide a range of institutional support services that enable institutions to achieve measurable impact in enhancing student employability | » Provide consultancy, coaching and training services to institutions in the area of technology for employability/self-employability  
» Ensure any consultancy utilises fully the resources available from sector bodies, including benchmarking and diagnostic toolkits as well as information, support and guidance resources

6 **Joined-up related work areas**  
Identify synergies with other areas of work across the sector and develop a joined-up approach for student employability and use of technology across all activities | » Ensure that the findings and implications of this report are explored across related work areas such as exploration into digital literacies, students as change agents, and learning analytics
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