Technology in learning benchmarking and developing sector capability

A report prepared by
Ako Aotearoa and Synapsys

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Contents

About the project

1

All tertiary education organisations (TEO) are faced with how to reframe the way they offer learning to incorporate technology in an effective way. This challenge impacts not only the learning experience itself, but also the systems and processes that underpin their design and development.

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This project engaged a diverse group of education sector organisations and provided them with a mechanism to benchmark themselves against a rubric of relevant indicators.

The specific objectives for the project were to enable Tertiary Education Organisations to:

— Better understand their organisation's current capability to respond to technology in learning, measured against an external rubric.

— Build internal engagement and understanding of the challenges to be addressed.

— Identify opportunities for development that will make the biggest impact to their organisation.

— Gain a better understanding of wide sector capability and benchmark themselves against it.

— Support the wider development of the sector as a whole.

A partnership project was completed by Ako Aotearoa and Synapsys (www.synapsys.co.nz). A collaborate development model was used throughout the process. The key project team consisted of:

— Ako Aotearoa Sponsor: Stanley Frielick

— Ako Aotearoa Lead: Helen Lomax

— Synapsys Sponsor: Kath Norton

— Synapsys Lead: Phil Garing

— Consultant: Carolyn Levy

— Project Support: Rachael Hemingway

Project design/methodology

2

Participating organisations comprised the following mix of Tertiary Education Organisations (TEOs), Industry Training Organisations (ITOs), and Private Training Establishments (PTEs):

— CareerForce

— Literacy Aotearoa

— NorthTec

— Otago Polytechnic

— The Skills Organisation Inc.

— Taratahi Institute of Agriculture

— Wellington Institute of Technology (Weltec)

— Whitireia New Zealand

The organisations function in a range of differing contexts. For example, while ITOs are responsible for delivering quality learning outcomes across their domains, they do not directly deliver learning. On the other hand, TEIs directly engage delivery staff. Smaller organisations typically lack the resources that some larger ones have to fund central development capability. There are also differences in terms of previous history and experience working with these issues.

However, all organisations face a common set of challenges:

1. Programme design: how do they design programmes that leverage the best use of technology?

2. Course design: how do they translate the vision for a programme into the most effective learning experience at a course level?

3. Content creation: how do they identify, develop, and make available the best mix of materials to support learning?

4. Delivery: how do they ensure the highest quality learning experience takes place?

5. Capability development: how do they plan for and manage capability development that will maximise success for an organisation and its staff and stakeholders?

These are the dimensions that underpin the project methodology. The elements comprising each dimension and the rubric informing the data gathering process is contained in Appendix A.

Organisations used a survey tool to gather information from the following common roles:

— Central development team: these people are responsible for programme design, course design, and content creation. They may work with subject experts or academics and typically include instructional designers, media developers, project managers, and those facilitating programme and course design documentation.

— Content/delivery specialists: these people have core domain expertise and might work with the central development team or be involved in actual delivery.

— Managers of the learning experience: these people manage delivery, either through their own organisation's staff or by managing the quality of learning experience delivered by third parties.

Institutions managed their own survey processes, identifying and engaging staff they felt most appropriate for the survey. Survey results were rendered in The Evaluator reporting environment, which comprised:

— A high level polar map describing the range of responses, 50% quartile, and mean for each element (Figure 1)

— Line graphs depicting the spread of responses by element and via role comparison (Figure 2)

— Respondent commentaries.

Each participating organisation brought together a review team to analyse the survey results and identify opportunities for building capability. Workshops at each organisation were led by Phil Garing and Rachael Hemingway from Synapsys. The organisation profiles detailed in this report describe the key outcomes for each organisation.

Data from all responding organisations was then aggregated to provide a sector capability view, and all organisations attended a sector workshop facilitated by the project leads as a way to share challenges and strategies for responding to them.
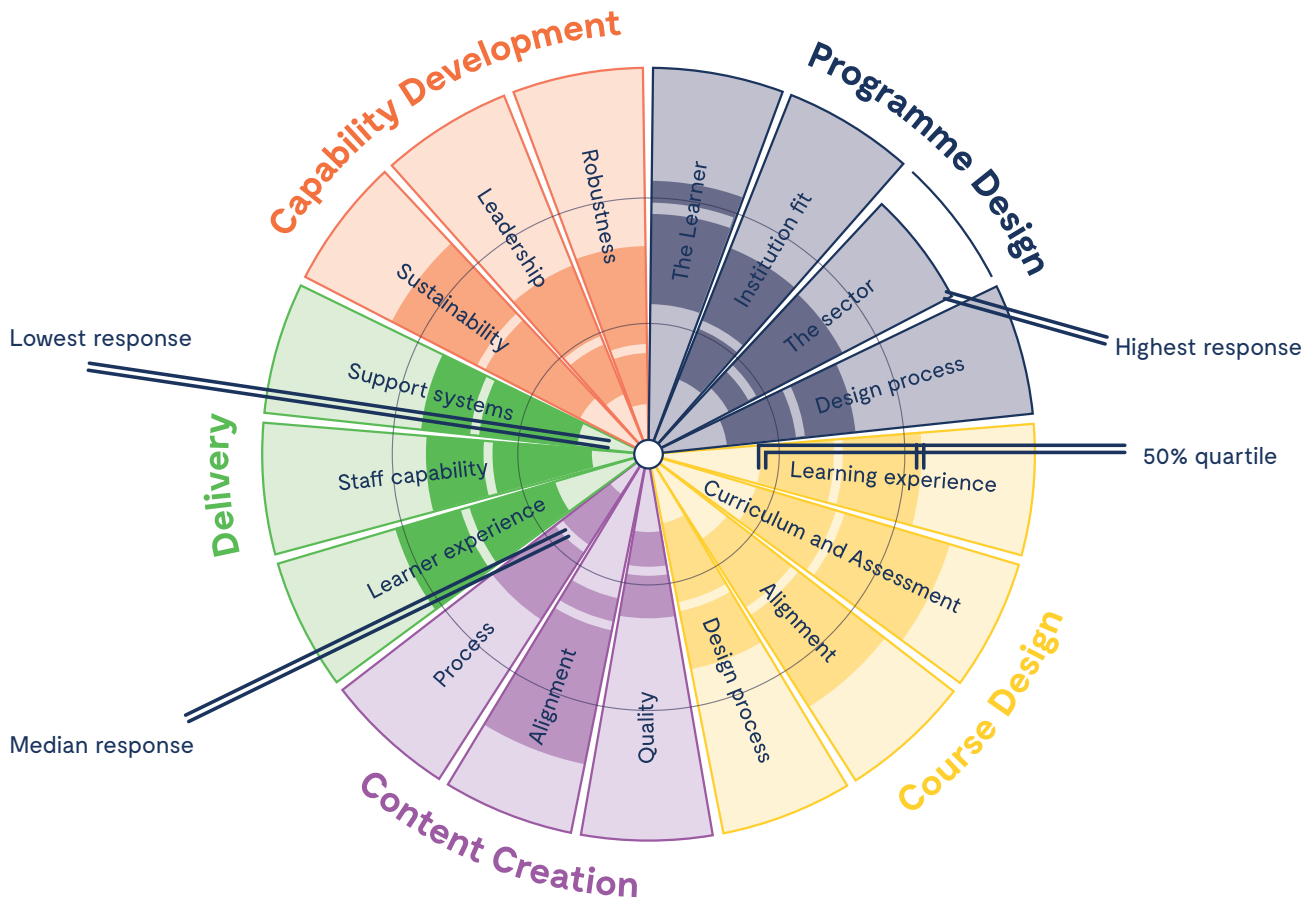
Fig 1. Survey range of responses

Capability Development

Programme Design

Leadership
Robustness
Sustainability
The Learner
Institution fit
The sector
Design process

Support systems

Delivery

Staff capability

Lowest response

Highest response

50% quartile

Learner experience

Median response

Learning experience

Curriculum and Assessment

Alignment

Design process

Process

Alignment

Quality

Course Design

Content Creation

Fig 2. Survey response comparisons by element and role

Emerging

Developing

Integrated

Project design/methodology

Key outcomes

3
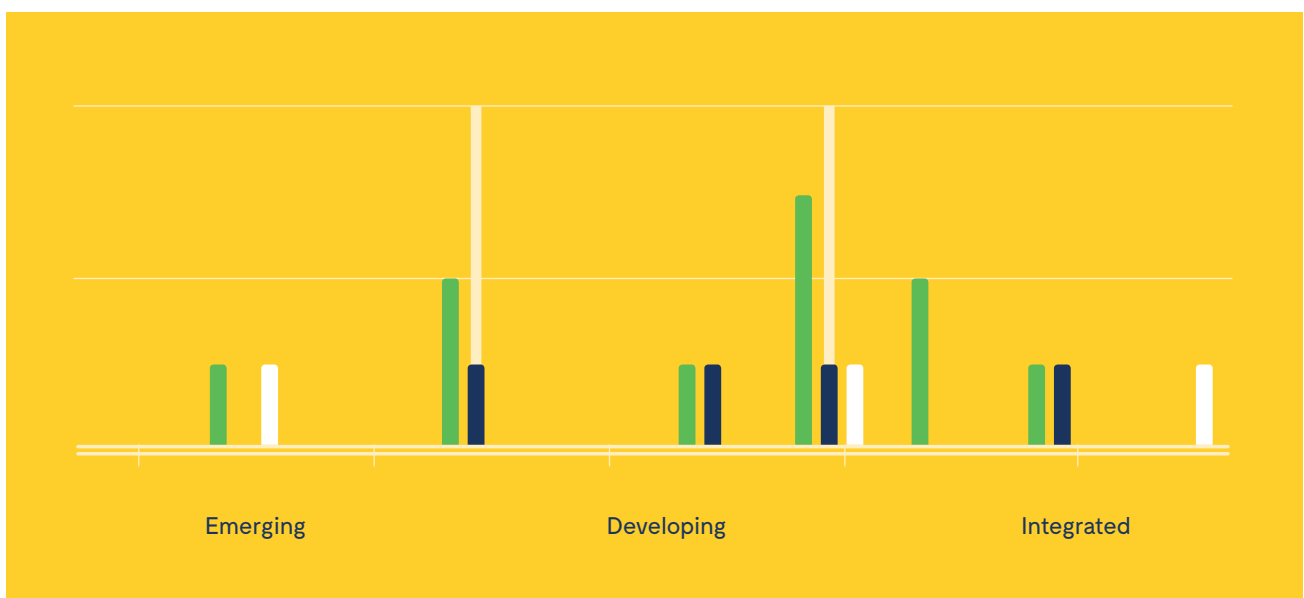
Individual outcomes for each institution are confidential to them. The following are the outcomes and key themes that have emerged at a sector level.

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Sector level capability

What areas provide the greatest opportunity for development?

The lowest five ranking elements for each organisation were aggregated to provide a sector view of the priority dimensions and elements.

Dimensions, in order of importance:

1. Content creation
2. Capability development
3. Programme design
4. Course design
5. Delivery.

Elements, in order of importance:

1. Content creation: quality
2. Capability development: robustness
3. Content creation: process
4. Programme design: process
5. Course design: process
6. Delivery: staff capability
7. Course design: learning experience
8. Programme design: institution fit
9. Capability development: leadership
10. Programme design: the sector.

This prioritisation is broadly reflected in the organisation profiles that describe what each organisation is doing in practical terms. The following key themes also emerged from overall respondent feedback and the various analysis workshops held at each organisation.

Keeping the focus on the learner

As organisations move to assimilate technology in learning on a broad scale, they develop processes, hire specialists, and put together teams to manage the scale of activity required. Content specialists work with instructional designers, design templates, and tools help to ensure the "right thinking" is applied. Keeping the vision for the learner central to the design process is something every organisation is committed to. But as the scale of the change grows, this can become harder and harder.

A repeating theme was the need for new ways to keep engaged with the reality of learners. Challenges include:

— Training needs analysis and learner profile analysis tools are useful, but can become mechanical and lose insight into what really matters to learners.

— When it comes to understanding bespoke or employer-specific programmes, there is a danger of promising outcomes or experiences that are not adequately informed around genuine learner needs.

— It can be unrealistic to get learners intimately involved in the development process.

Ideas tabled in response include:

— Subject Matter Experts/Content Delivery Specialists often have the best view of learner needs, even if they don't necessarily bring deep expertise in the potential application of different learning technologies. Sometimes their role can be too narrowly defined to focus exclusively on the content and it makes sense to have them effectively engaged in the early stages of programme design to answer the question, "What works best for learners?"

— Emerging approaches such as informal learning, curating content, and social learning offer opportunities to better engage learners in the design/development process. Many of these approaches shift the emphasis away from large scale resource production to working with existing resources and learners themselves to build knowledge.

"Keeping the vision for the learner central to the design process is something every organisation is committed to."

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Communicating for change

Several organisations were surprised about the spread of response in some key areas, such as:

— How well the vision for learning was understood across the organisation.

— How clear people were about the approach to using particular technologies.

— What progress was being made against strategic and development objectives.

Many organisations are going through large scale transformation programmes. Those in management and leadership roles often have clearer visibility about progress than those in the teams they managed. It is apparent that there are opportunities to improve both the frequency and quality of communication across the organisation.

This can help address a common perception issue. There can be a natural tendency to assume the worst in an absence of information. Proactively connecting work teams and formalising communications strategies are seen as important initiatives. Actions on the ground might include:

— Formal management team reporting across the organisation against key objectives

— Staged reporting of development initiatives

— Anecdotes and feedback on actual learner experiences

— Networking and sharing learning and improvements to processes.

Staff capability development

The scale of change many organisations are going through throws up large capability development challenges that touch on almost all aspects of activity, from high level programme design that incorporates thinking on new technologies, through to the skills required to deliver effectively in a blended learning model.

Many organisations are planning for and executing fundamental changes to many or all of their programmes. This has resulted in the development of process models and central design/development teams that work with content delivery specialists. These new ways of working require significant staff capability development to function effectively.

The other key focus for development involves delivering learning effectively via blended learning models. This includes issues such as online engagement and managing a seamless experience across multiple modes of learning. Systems and skills for maintaining the quality of learning experience are likely to become an increased area of focus as new programmes emerge.

Approaches to resolving these challenges vary, but there are two common strategies, each with their own challenges:

1. Make capability development a deliberate part of the design and development process. This includes:

   a. Workshops for content delivery specialists on development processes and deliverables such as programme and course design documents

   b. Skills transfer from central development team specialists to content specialists.

2. Dispersed development being offered directly to staff more widely, supporting them to adopt new practices and approaches in their own programmes.

The central model has the advantage that consistent standards and pedagogical models can be advanced. It also helps staff better understand the process of development, as well as opportunities that improve the actual learning experience. However, activity is limited to those directly involved in central development processes, which in many cases is only a small proportion of overall staffing. Because those functions are often more focused on design/development than delivery, there is also potentially a lack of capability development on delivery itself.

The dispersed model has the advantage that it can achieve development objectives across a much wider front, but conversely the risks are:

— Unrealistic expectations put on content specialists to evolve design or development skills that are beyond what could be expected of their role

— A lack of consistency in the application to practice, for example online content being developed that does not meet organisational quality standards.

Neither model is therefore seen as an answer in itself; the underlying issue is that the sheer scale of change means that capability development needs to happen across more people and in more contexts than ever before.

Some strategies being considered to help balance these challenges are:

— A practical toolbox for staff on strategies for effective online facilitation

— A faculty-based model for gathering feedback on programmes and prioritising and managing improvements

— The development of a capability framework for staff that describes a pathway for skills development and informs the performance management cycle.

Process

Participating organisations recognised the need for new skillsets and new ways of working to respond to challenges with technology. However, simply hiring instructional design and project management capability is not, in itself, enough. Changes are as much around change management as they are pedagogy. Recurring themes in this space are:

— The working relationship between the instructional designer and content specialist is critical. Workload pressures often mean content specialists are a scarce resource. For development targets to be met:

   a. Clear templates and tools for course design and content creation must exist.

   b. Collaboration is critical, as it is hard to be creative in isolation. Well-managed team development processes often breed success.

   c. Large development workloads often mean that a clearly defined Minimum Viable Product (MVP) must be used as a baseline for the first round of redevelopment.

— Common quality standards are critical to a consistent learner experience across the organisation. However, programme and course design must be flexible enough to respond to different learner profiles and content and context requirements. That means quality standards can't simply be framed around particular delivery methodologies. The following may be useful:

   a. Exemplars of courses, learning assets and online material that meet standards

   b. Tight review cycles with peers

   c. Essential/desirables classifications for changes that focus on MVP for development.

What's ahead?

4

The following trends were identified as likely to have a significant impact in the near future:

1. Microlearning and credentialing: while qualifications and programmes will remain central to learning, there is a growing desire for more flexibility in learning pathways and recognition of progress at smaller, granular levels. Organisations are challenged to break learning up into smaller, bite-sized chunks that give learners more flexibility in the sequence of study. There's also a flow-on expectation that learners can get recognition for completion of these chunks long before they add up to a course or qualification.

2. Less content development, more curation. There is a growing recognition that:

    a. The world is full of content that learners can be supported to access without organisations needing to redevelop it.

    b. Organisations do not have the capacity to develop and maintain all content for all programmes.

    c. In the future, development will be more about setting up content specialists to work effectively with learners to curate and work with their own content.

3. Transfer of learning on the job and learning impact measurement: employers are less interested in training activity and more interested in outcomes. That is, they want to know what learners are doing differently on the job that delivers value. Again, curricula and qualifications will remain important, but organisations are being challenged to reframe them around outputs and impact of learning.

Future implications

What does this mean for staff capability development in the future? The following are suggestions that emerged out of consultation that may be relevant:

— Break up courses into smaller, bite-sized chunks of learning and develop them as stand-alone experiences

— Use instructional strategies that have learners building or adding their own repositories of knowledge.

The following are being considered for a follow-on to this project:

1. Collaborative piloting of emerging technologies that might support the above objectives[1]

2. Conducting a follow-up evaluation to measure the success of current initiatives to build staff capability

3. The roll-out of the evaluation framework on a wider basis to support further targeted capability development initiatives.

[1] May include, for example, xAPI bookmarklets and interactive video.

Project outcomes

5

This project set five objectives:

1. Enable participating organisations to better understand their organisation's current capability to respond to technology in learning, measured against an external rubric

2. Enable participating organisations to build internal engagement and understanding of the challenges to be addressed

3. Enable participating organisations to identify opportunities for development that will make the biggest impact

4. Enable participating organisations to gain a better understanding of sector wide capability and benchmark themselves against it

5. Support the wider development of the sector.

The following table summarises the success of the project against each objective. It is particularly pleasing that all organisations attending the sector workshop want to extend the collaboration model beyond the end of the project.

Project objective	% of organisations that met objective
Better understand current capability	63%
Build internal engagement and understanding	72%
Identify opportunities for development	81%
Better understand sector capability and benchmark	72%
Support the ongoing wider development of capability[2]	100%

[2] All participating organisations wished to continue involvement in an ongoing collaboration around capability development.

Organisation profiles

6

Literacy Aotearoa

Overview

— Literacy Aotearoa is a national organisation of adult literacy providers and is a leading commentator on literacy issues in Aotearoa.

— It currently has 36 member providers nationwide delivering to nearly 8,000 students.

Context

Literacy Aotearoa primarily delivers its services face to face via a network of relationships. It has been exploring models for blended learning and is in the early stages of moving to a blended learning model.

A vision for the organisation has been determined and its adoption across the workforce and other stakeholders is in progress. Collaboration with stakeholders and partner organisations is key to success.

Key priority areas

— The processes of programme design and content creation

— Building capability to deliver effectively

— Ensuring quality of content.

Actions

A key focus is on supporting people who will be delivering under the new blended model. Understanding their needs as trainers and how they can be supported to deliver in the new environment is the main priority. This may result in programmes and pathways for staff to plan and develop their capability.

Another priority is to support those responsible for managing the delivery of teaching. While the overall vison has been developed, the operational implications for delivery are now being worked through. Tools for gathering feedback from managers are in development.

Moving to a blended model also requires that a clear process model is put in place for the development of programmes and resources with clear quality standards that will ensure a consistent national experience for learners. Those processes and standards are in development.

Otago Polytechnic

Overview

— Otago Polytechnic currently has over 7,000 students spread over three campuses in Dunedin, Central Otago, and Auckland.

— The institute offers more than 100 programmes from Certificates to Postgraduate qualifications.

Context

Otago Polytechnic has been implementing a Design for Learning Success (D4LS) multi-year initiative to transform learning. D4LS spans the complete value chain from programme design to content maintenance and capability development. Many programmes are now completing the design/development phases and attention is turning to delivery, maintenance, and the capability development required to support them.

Key priority areas

— Robustness of capability development, particularly with respect to delivery and maintenance

— Refinement of D4LS design and development process.

Actions

The key focus is on building a robust capability development model for staff delivering and supporting reframed learning experiences. A range of initiatives are being considered, including:

— Developing a practical support kit for academic staff in the effective delivery of blended and online learning

— Staff undertaking the Graduate Diploma in Tertiary Education

— Ensuring that educational technology champions have the tools and time available to support their colleagues with education technologies

— Establishing a core competencies framework for effective delivery that informs and guides professional development activity

— Extending support from the central development team into the first cycle of delivery of redeveloped programmes.

There is also a focus on developing a generic review and maintenance process and tools that faculty can use to ensure programmes are kept current and innovation in delivery continues to occur.

Skills Organisation

Overview

1. Skills Organisation is an ITO based in Auckland with additional offices in Hamilton, Wellington, and Christchurch.
2. Skills have developed over 100 New Zealand qualifications specialising in real estate, trade, state sectors, and local government.

Context

As a large ITO, Skills has a number of functions that touch on the learning technology space:

1. The main ITO body itself
2. Shift, an eLearning consultancy that develops learning solutions
3. Skills International, which delivers consulting services both offshore and onshore.

This provides a deep pool of expertise to draw on but also raises challenges in ensuring consistent approaches across a wide range of activity. Ultimately, a "whole of Skills" model is envisaged, but there are a number of areas of activity required to achieve this.

Key priority areas

— Building capability development across the organisation

— Focusing on front end solutions design

— Building collaboration and engagement.

Actions

— Developing a common language, for example creating a glossary

— Earlier engagement of the wider team in the solutions design process before decisions on the best solution for learners are made. This involves further developing the Learner Profile Analysis

— Boosting collaboration/engagement across teams, for example via monthly meetings for the whole development team, and the use of OneNote for information sharing

— Developing better systems for the measurement of impact of learning interventions to demonstrate value to industry, generate buy-in, and improve programmes

— Leveraging social tools to boost learner engagement and delivery support including forums, Yammer, and OneNote

— Analytics tools have potential but require further development. They are currently modelled around the employer rather than the learner and further work on defining minimal standards will be undertaken

— Boosting capability development through development plans and appreciative inquiry and better use of Skills' own programmes.

Taratahi Institute of Agriculture

Overview

Taratahi Institute of Agriculture has been successfully preparing students for careers in agriculture since 1919. Taratahi offers full-time courses, diploma programmes, short courses, and an Agriculture in Schools programme which includes Primary Industries Trades Academy, STAR, and extramural study.

Context

Taratahi has been through a period of significant change, which now opens up opportunities for developing and delivering new methods of learning. The focus is now on clear communication nationally around the vision for the future, and a proactive, managed approach to the redevelopment of learning.

Key priority areas

— National roadshow and proactive communications strategy, both internally and externally.

— Building content specialist capability to design and develop new ways of delivering learning.

— Ensuring the voice of the learner is captured through programme surveys and tutor feedback.

Actions

— Putting in place a proactive communications strategy that sees consistent messaging across the whole of the organisation. There is a very wide geographic spread and getting regional teams engaged early is important.

— A roadshow that communicates the vision.

— Ensuring champions who are leading the way in content creation are supporting others to adapt to new roles.

— Shifting the assessment model from open book to portfolio/presentation.

— Expanding the review cycle to get better feedback from learners to drive the programme maintenance process.

WelTec/ Whitireia

Overview

— WelTec and Whitireia are both Polytechnics based in the Wellington and Porirua regions with additional campuses nationwide.

— WelTec currently has close to 10,000 students and there are a further 8,000 at Whitireia.

Context

WelTec and Whitireia operate under an agreement that sees a shared Council and Executive leadership team, with various levels of collaborative activity occurring across the organisations. Various initiatives are designed to leverage the respective strengths of each organisation.

Key priority areas

— Quality of content creation

— Robustness of capability development

— Programme and course design process.

Actions

The key focus is on getting an overall central view of capability development requirements by gathering information from staff directly and mapping this into a matrix of requirements. This will provide an overall view of requirements that will enable a whole-of-organisation response.

It is likely that one priority area will be content creation. Content/delivery specialists are expected to have an active role in content creation so skills development for them will be particularly critical.

Both centralised and decentralised models are being considered. It is likely that a central design team will provide targeted capability development and content creation as part of priority development projects.

Appendix

7

The following table provides a breakdown of the rubric that underpins the survey process. It details the broad dimensions that defined the scope of the survey, the elements that make up each dimension, and the focus of the slider statements.

Dimensions	Elements	Indicator
Programme Design	The Learner	Does the programme design tightly align to the learner profile documentation?
	Institution fit	Is there a clear vision for learning within the organisation?
		Does the programme design align with the institutional vision for the use of learning technologies?
	The sector	Does the programme design meet the needs of employers?
	Design process	Is the process efficient/effective?
		Does it have a working quality assurance process?
		Does the institution have the capacity to deliver programme design requirements?
Course Design	Learning experience	Are the learning technologies well matched to learner needs?
		Do the instructional strategies meet the learner's needs?
	Curriculum and assessment	Do the learning outcomes, content, and assessment align?
	Alignment	Does the course design align with the programme design?
		Does the course design align with the institutional and programme philosophies?
	Design process	Is the process efficient/effective?
		Do the course design processes incorporate sound quality assurance systems?
		Does the institution have the capacity to deliver course design requirements?
Content Creation	Quality	Does the course content meet the quality standards of the organisation?
		Are learning technologies being used effectively in content creation?
	Alignment	Does the finished content meet the design requirements?
	Process	Is the process efficient/effective?
		Do the content development processes incorporate sound quality assurance systems?
		Does the organisation have the capacity to deliver the course design requirements?
Delivery	Learner experience	Are new technologies delivering a better experience?
		Are learners getting a better overall learning experience?
	Staff capability	Are staff able to deliver an effective experience?
	Support systems	Are the wider support systems fit for purpose?
Capability Development	Sustainability	Is there adequate capacity and capability to develop the required staff skills for the organisation's vision?
		Is there a high level of engagement/commitment to the new vision for learning?
		Is there a culture and process of continuous improvement and innovation in place?
	Leadership	Is there a culture of innovation/supported risk taking?
		Is there a shared vision for learning across the organisation?
		Is there demonstrable leadership support for change?
	Robustness	Are the capability development initiatives prioritising the right areas?
		Are capability development initiatives delivering the intended results?

"Collaboration is critical, as it is hard to be creative in isolation. Well-managed team development processes often breed success."

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