Curriculum Design Pattern

Global Learning by Design

As well as providing a mechanism for capturing solutions to common education problems, curriculum design patterns can also serve as a way to share, document and publish academic work that can be informally peer reviewed and expanded upon. Below is an outline of the fields that will be used to capture and share the Curriculum Design Patterns that are produced as part of the Global Learning by Design project at RMIT.

Name of Pattern	**Clinical Coding—Virtual Work Integrated Learning**
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Abstract

The School of Vocational Health and Science have recently begun delivering an Associate Degree in Health Science. In the second year of this two year program, students have a choice to specialize in Health Promotion or Clinical Coding. Clinical Coding is a relatively new job role in the health sector and there is an increasing demand for graduates to fill such roles. Clinical Coders translate medical diagnoses and procedures into codes which capture healthcare data and influence funding allocation to service providers. Consultation with the Department of Health, Workforce Development Unit provides evidence that there is currently a severe workforce shortage of clinical coders and it is anticipated that there will be a growing demand for graduates with these skills in the future. Concerns have also been expressed that graduates are not "work-ready" when they graduate and require further training in the workplace. Clinical placements which traditionally provide students with "on the job" skills and enable them to become "work-ready" are severely limited and highly contested with other education providers.

To address this issue and ensure the School produces "work-ready" graduates we have decided to act on advice from our industry partners and design a technology enhanced, simulated workplace environment which will enable students to engage in authentic workplace coding activities and be taught and assessed by industry experts.

Rationale

This pattern will provide an synopsis of factors that need to be considered in developing a virtual work integrated, learning experience for students. A well designed environment will ensure that the learning experience is as close to the real work activity as possible and will engage students with industry experts for learning and assessment activities.

Learners

This pattern is applicable to a broad range of learners and contexts. It is specifically applicable to contexts where work placements are limited or highly contested and where the relevant knowledge, skills and dispositions can be demonstrated in a technologically enhanced, simulated work environment.

The environment can be utilised by students across a range of disciplines levels and courses.

Category	Virtual WIL
Outcome/impact	— Graduates will be equipped with the knowledge, skills and dispositions required to obtain employment in a contemporary health sector workplace as a beginning practitioner. — The project will enable staff to develop capability in curriculum design for technology enhanced learning in a simulated work environment. — Industry partners will have the opportunity to become more engaged in shaping their future workforce.
Alignment	This pattern aligns the relevant course learning outcomes, industry expectations of graduates, and student expectations to develop real world skills to enable them to gain employment.
Challenges	There have been a number of challenges in developing this pattern. — Managing industry engagement and ensuring that appropriate stakeholders are involved in planning. — Securing suitable facility/space within RMIT to redesign as a simulated workplace. — Obtaining appropriate industry standard coding software to incorporate into the learning design to ensure students experience "real world" learning. — Navigating the range of stakeholders expectation of what constitutes a work-ready graduate—professional bodies, special interest groups, employers etc
Instructions/process	Agile and Lean project management methodologies were utilised in the planning and development of this project. This methodology means giving up "control" and reliance on "prescribed models" in favour of a collaborative, inquiry based exploration of what works well for the collective good of students, industry, clients and educational providers.

The focus is essentially on people, communications, the product, and flexibility.

Such methodology espouses the values of:

— Individuals and interactions over processes and tools

— Working models over comprehensive documentation

— Customer collaboration over contract negotiation

— Responding to change over following a plan.

This methodology worked well for this project as there was no clear vision of what a virtual work integrated learning environment would look and feel like. The team were fortunate to be working with a new qualification and course so there was a blank canvas for learning design.

Initially it was anticipated that this virtual workplace needed to be operating by Sem 2, 2014, however due to a number of factors including student attrition it will now not be required until Sem 1, 2015.

At the first planning meeting four components were identified that required simultaneous planning and design and these were the focus of subsequent meetings.

Component	Considerations
Curriculum	— Mapping Learning outcomes to authentic learning activities and assessment. — Refine language used in activities e.g. change language from "assessments" to "coding activities" — Design a variety of self- paced and group, problem based learning activities — Define and incorporate the required skills, knowledge and dispositions for the discipline and the contemporary health workplace (incl Grad Attributes) — WIL—policy, procedures, guidelines. — Legislation—related to workplace and Health sector — Workplace Health and Safety.

Component	Considerations
Space	— What does a coding workplace look and feel like? (arrange visits to real workplaces and ask questions) — Securing appropriate multipurpose space that could be refurbished to replicate a contemporary workplace. This proved a challenge and negotiating the timelines for capital works requires significant support from senior school and college management. — Investigating what others at RMIT have done with simulated workplace—Business "simulated business agency" provided a tour and some good pointers. — Security Issues—for management of authentic records and data. — Accessibility—needs to run on normal clinical workplace hours. — Sponsorship—Some companies will provide corporate resources and materials to contribute to the authenticity of the environment.
Technology	— Coding and Health Information Management software procurement—licence or purchase? Difficulty engaging vendors to get quotes as many of them are based in USA! — Interoperability with RMIT system—sharing and transferring data to other agencies. — Security and integrity of data management. — Design of interface—most hospitals use their own corporate opening screen.
Industry Engagement	— Identify "critical friends". — Engage with Industry Advisory Group and Discipline Special Interest Group. — Recruit mentors and advisors through health websites. — Present at industry conference and Network +++. — Involve industry contacts with curriculum and space design.

Conditions

The team included Deputy Head of School (L&T), Deputy Head of School (Industry) Program Manager, Health Information Management Educator, WIL expert, Librarian, Project Manager and Learning Designer from the ODLT. This group met on a weekly basis and all meetings were written up as action sheets and progress against activities updated at subsequent meetings.

Resources

What is a work-ready graduate? Interview with Industry Expert

Presentation on Project

References

Health Information Management Association of Australia
http://www.himaa2.org.au/

Herrington, T., & Herrington, J. (2006). *Authentic Learning Environments in Higher Education* (pp. 1-340). Hershey, PA: IGI Global. doi:10.4018/978-1-59140-594-8

Herrington, J., Oliver, R., & Reeves, T. C. (2003). Patterns of engagement in authentic online learning environments. *Australian Journal of Educational Technology* 19(1), 59-71

Institutional approaches to Curriculum Design, JISC,

Reflection

It was probably ambitious to try to complete this project in one semester! Due to the challenges in procuring software and getting approval to refurbish a learning space for the purpose there have been delays in getting the space operational. However there has been significant support from senior school and college management which bodes well for successful completion.

The industry engagement has been extremely positive and valuable. A number of videos have been produced as learning resources for students and staff.

It is anticipated that an evaluation will be conducted with the students and industry stakeholder at the end of semester 1, 2015 to ascertain the value of the experience for the pilot group.

The ultimate test however will be the employment patterns of our graduates.

Acknowledgements

References

— E-LEN Network: Design patterns for e-learning (**www2.tisip.no/E-LEN/tutorial/02.html**)

— Laurillard, D (2012) *Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology.* Routledge, NY.

— Queensland University of Technology: Developing Reflective Approaches to Writing (**https://wiki.qut.edu.au/display/draw/Home**)

— University of Queensland – eLearning Implementation Patterns Trial (**www.uq.edu.au/cipl/imp-patterns**)

Components of a Virtual Work Integrated Learning Environment for Clinic Coding

Curriculum
Skills
Knowledge
Dispositions
Problem solving
Authentic assessment
Legislation
WIL policy

Technology
Licences
Security
Coding software
Health info management software
Interoperability with RMIT system

Space
Location
Security
Accessibility
Capital works
Multi-purpose
Workplace standards
Authentic resources

Industry Engagement
De-identified records
Evaluation
Industry advisory group
Mentors
Moderation
Specialist teaching