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# Leveraging Resources Across Units and Universities to Address Academic Literacies and Research Skills in Ontario Graduate Students



Western

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## CURRICULUM DESIGN & PEDAGOGICAL APPROACH

## PROJECT DESIGN & THEORETICAL APPROACH

## CONSIDERATIONS FOR COLLABORATORS



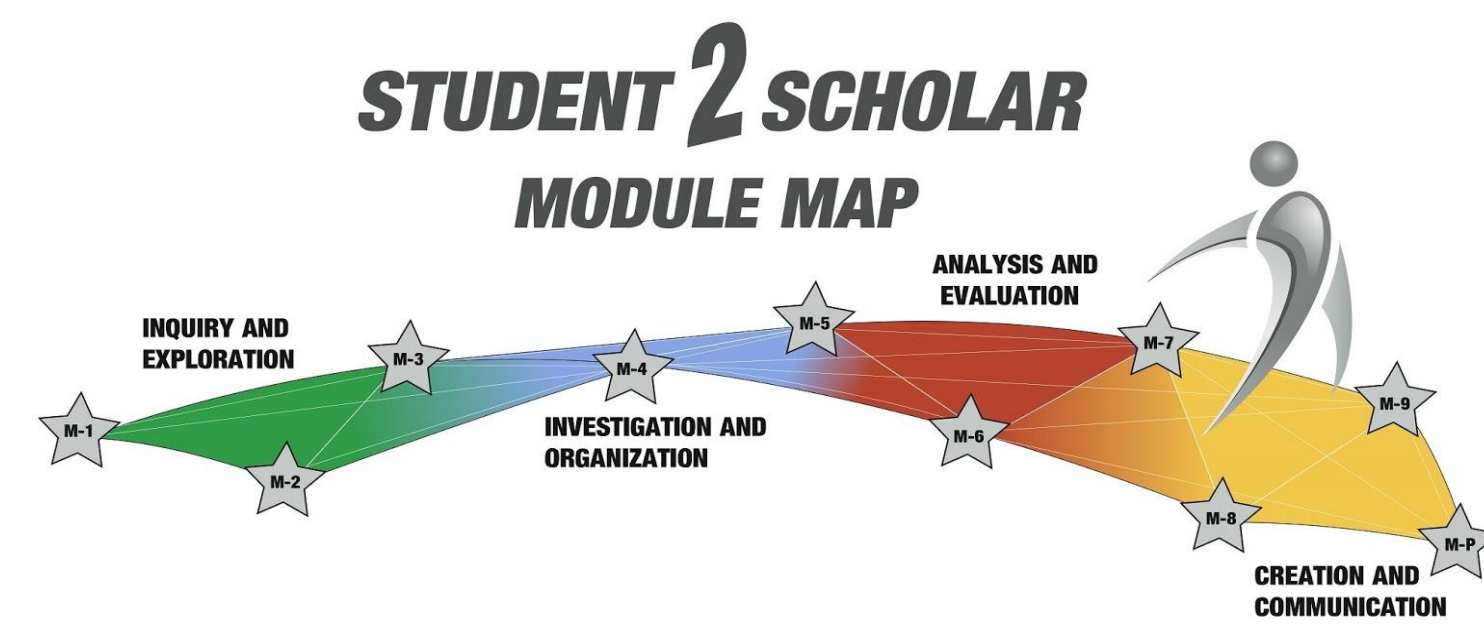
[www.student2scholar.ca](http://www.student2scholar.ca)

**Student2Scholar (S2S) Academic Literacies and Research Skills** is an e-learning resource designed to help students develop a systematic and scholarly approach to their research. In nine core modules, and one pre-module, students engage with self-directed, personalized activities and assessments that make explicit effective research practices while cultivating the critical thinking skills requisite for active, ethical engagement in communities of research. S2S is freely accessible for other publicly assisted universities under a CC-by-NC-SA 4.0 International license.

Modeled on OCAV's Graduate Degree Level Expectations as well as the Association of College and Research Libraries' *Framework for Information Literacy in Higher Education* (COU, 2012), S2S is designed to equip graduate students with a "repertoire of understandings, practices, and dispositions focused on flexible engagement with the information ecosystem, underpinned by critical self-reflection" (ACRL, 2014).

### S2S Module Titles

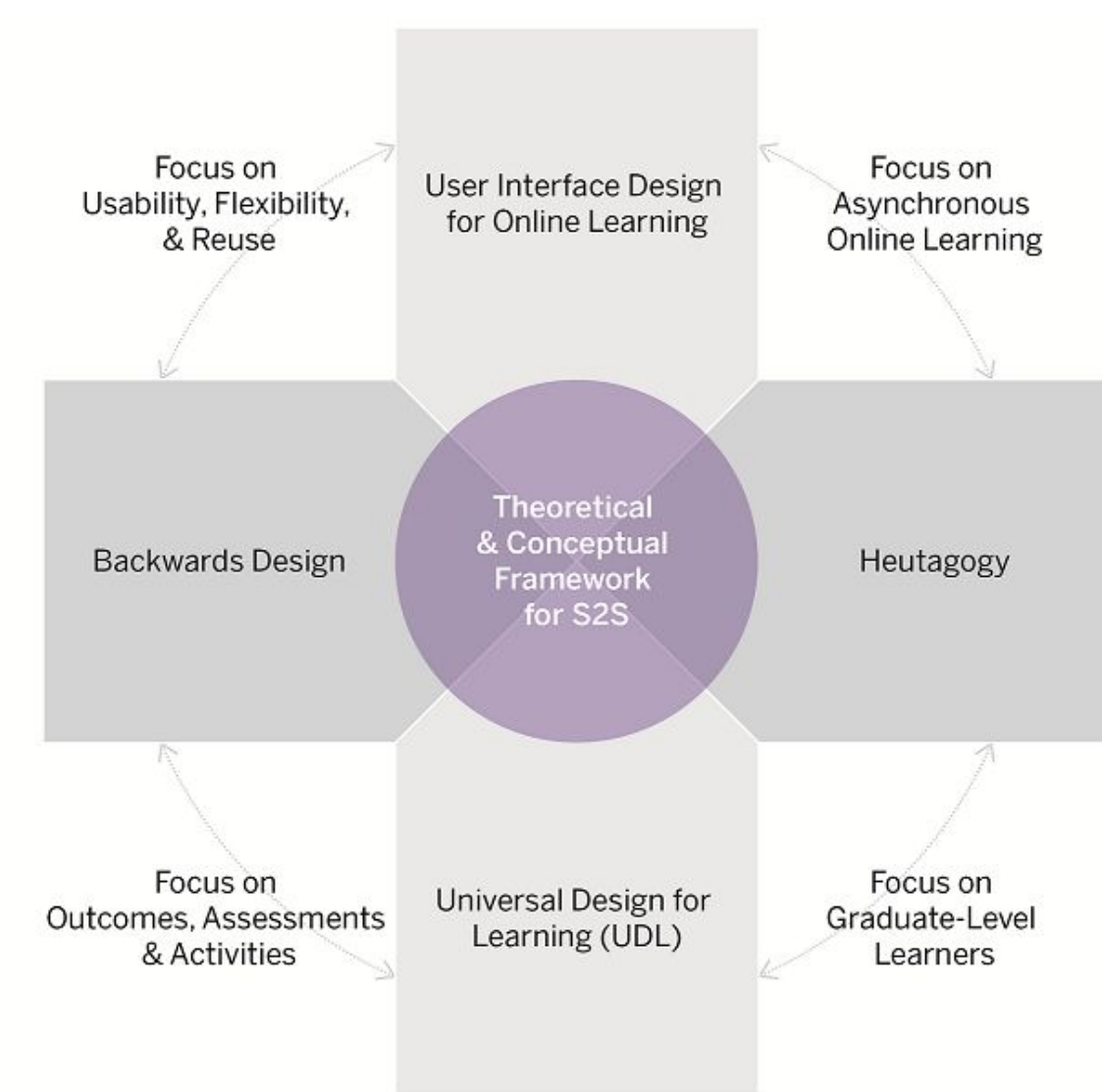
- + Collecting Citations and Creating Bibliographies (Pre-Module)
- 1) Thinking Like a Researcher
- 2) Defining Your Research
- 3) Introductory Search Techniques for Research
- 4) Advanced Search Techniques for Research
- 5) Exploring Grey Literature
- 6) Understanding Design and Authority in Research
- 7) Publishing and Research Impact
- 8) Your Rights and Responsibilities as a Scholar
- 9) Joining the Scholarly Conversation



The 9 (+1) S2S modules span across four broad phases of research: 1) Inquiry and Exploration; 2) Investigation and Organization; 3) Analysis and Evaluation; and, 4) Creation and Communication. Following the iterative nature of scholarly research, users may complete the activities in sequence, or enter the modules at any section at any time.

## PEDAGOGICAL FRAMEWORK

The core pedagogical (conceptual/theoretical) framework of the modules reflect current approaches to teaching and learning while ensuring high quality, interactive experiences for online graduate students. Although all team members brought their own frames of theory and practice to their individual work, the project's overall design and development draws upon the following theory- and research-based concepts:



Pedagogical Framework that informed the S2S module design.

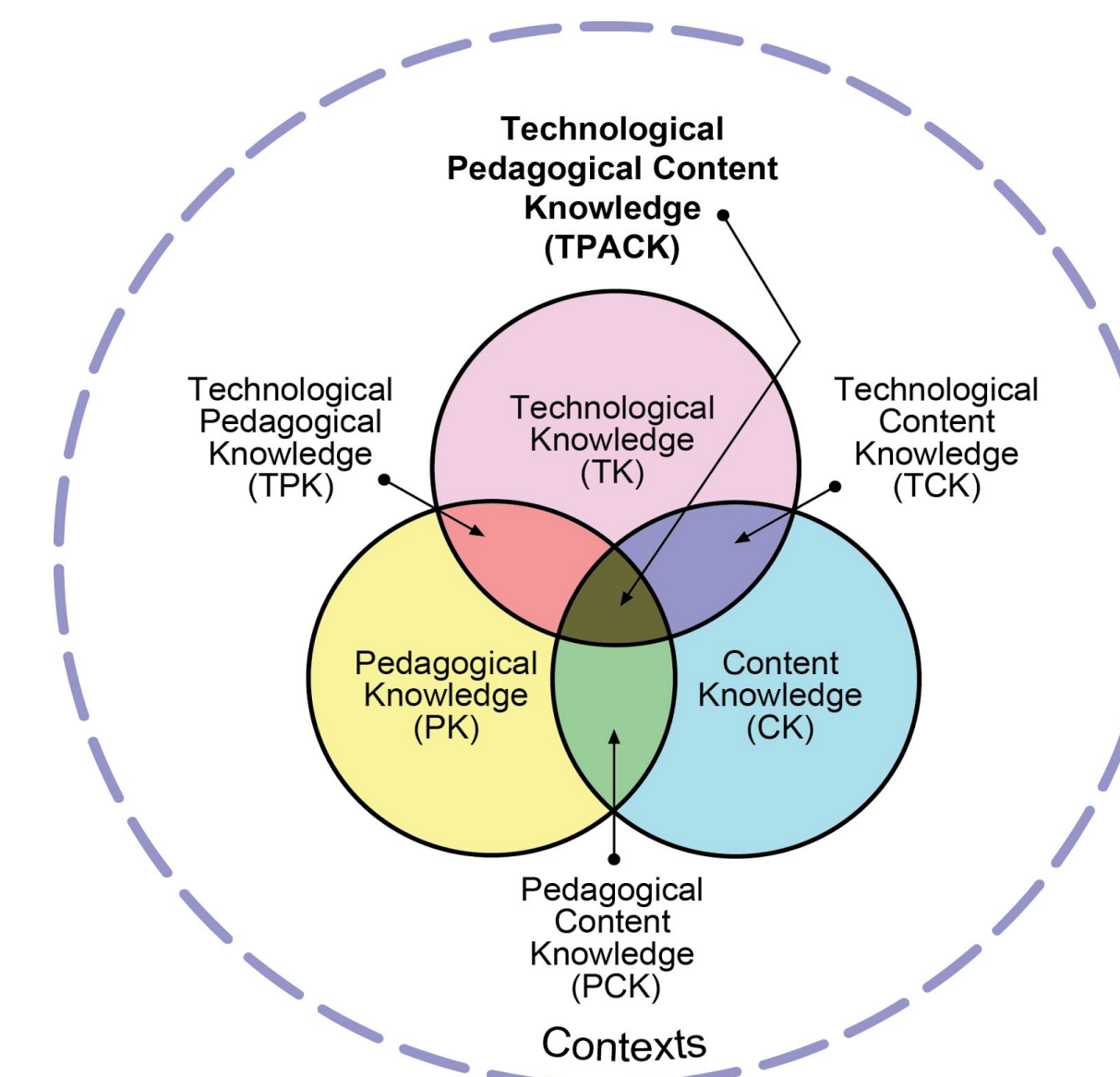
- **Models of User Experience and Interface Design for Learning**, as described in research-based resources such as Kjell Erik Rudestam and Schoenholtz-Read's *Handbook of online learning 2nd ed.* (2009), and *Shneiderman's Designing the user interface* (2009);
- **Heutagogical Practice**, which embraces learner-centred design and self-directed learning (Blashke, 2012);
- **Universal Design for Learning (UDL)**, which promotes equitable, barrier-free access to learning (Rose & Meyer, 2002; CAST, 2011); and
- **Backwards Design** for systematic curriculum development (Wiggins & McTighe, 2005).

In order to understand and distill how the S2S project was resourced and ultimately realized, a socio-cultural theory of learning and conceptual framework was applied retrospectively to S2S project design and development.

While Collaborative Knowledge Networks (Gloor, 2005), Communities of Inquiry (Pierce, 2015; Dewey, 1938), and Communities of Practice (Wenger, 1999) were each considered, Koehler and Mishra's Technological Pedagogical Content Knowledge framework (TPACK), which builds upon Shulman's Pedagogical Content Knowledge model (1986), proved to be the best fit for the way that it considers knowledge domains as "resources" for implementing technology-based projects.

The **TPACK Framework** (2006) suggests that "at the heart of good teaching with technology are three core components: content, pedagogy, and technology, plus the relationship among and between them" (Koehler & Mishra, 2006, p. 62). Koehler and Mishra propose that the most effective teaching and learning initiatives – those that integrate technology successfully – seldom derive from individuals who work in isolation or exclusively within any single domain, but are instead the result of collaborative efforts by educators who recognize and leverage the knowledge of the collective; members of the teaching and learning community whose experience, knowledge, and skills lie across the domains.

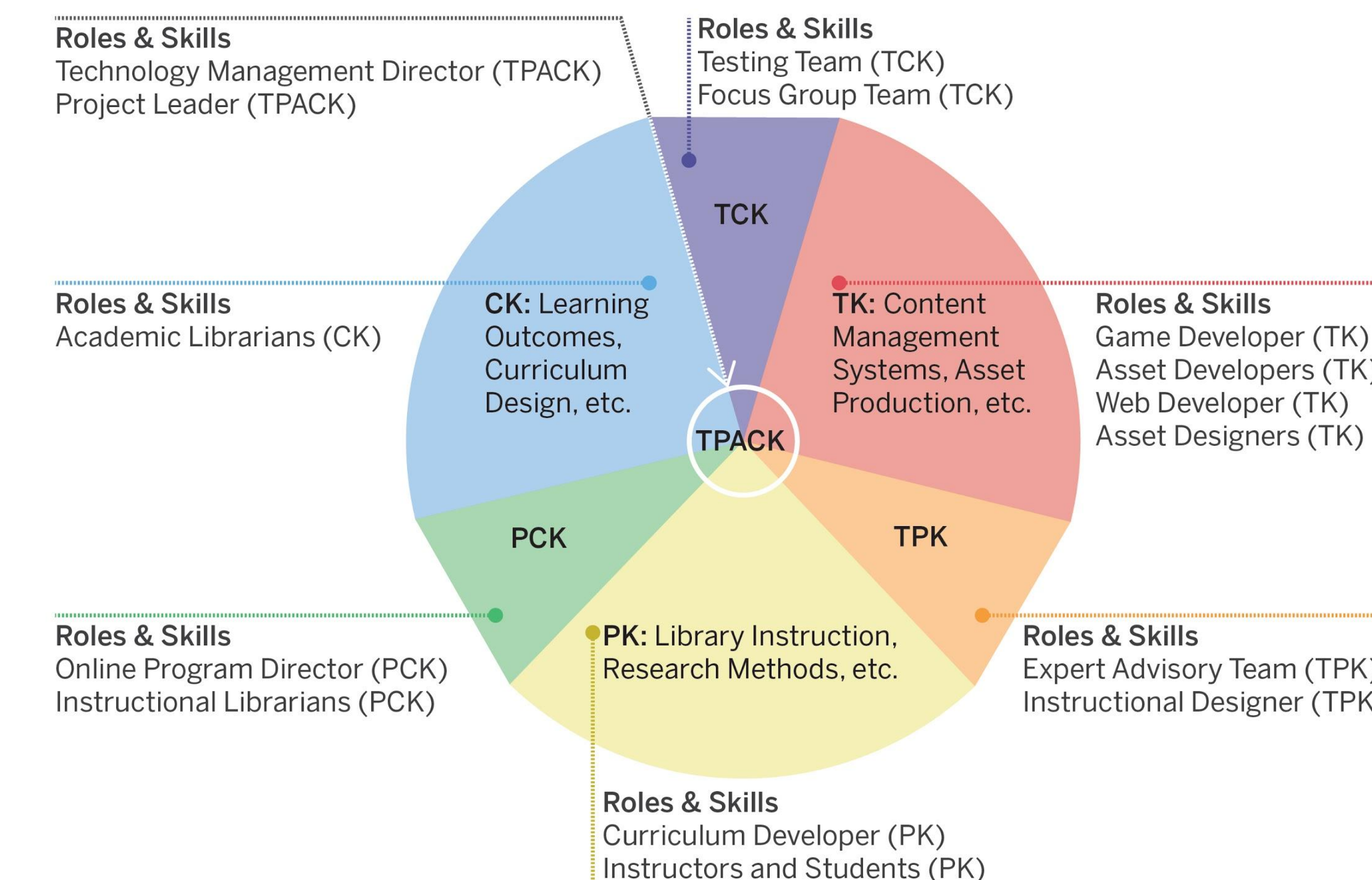
"[E]ffective teaching depends on flexible access to rich, well-organized and integrated knowledge from different domains [...], including knowledge of student thinking and learning, knowledge of subject matter, and increasingly, knowledge of technology" (Koehler & Mishra, 2009, p.61).



The TPACK Framework and its knowledge components. Koehler & Mishra, 2009. <http://tpack.org/>

### Resource Allocation Across the Knowledge Domains: TPACK applied to S2S

The core ALRS organizing group was populated by members from multiple units across three Ontario universities. Where there was limited expertise in any one knowledge domain, or at a point where any two domains intersect, external contracts were sought as additional supports to meet project objectives. Initially, sub-teams designed the curriculum, with three modules assigned to each. CK, PK, and TK expertise was distributed across the sub-teams. Those with TPACK expertise also provided additional resources and contributed to team management. When new project items arose, project resources were redistributed and deployed into new sub-teams, allowing talent to be strategically positioned across the project.



The development of Student2Scholar was funded by the Council of Ontario Universities' Ontario Online Initiative (2014-2015).

Grounded in our experiences, as well as the theories and research we used to make sense of these, the following recommendations are offered for the successful collaborative development of online modules. Note the tensions that emerge between what we regard as effective **strategic** (planning) and **tactical** (implementation) practices, which are listed below:

**Adopt a Strategic Approach:** Based on a "holistic" design approach, ensure that team members are clear about the shared vision of the project and their own roles and responsibilities at the outset (Brown, 2008). Define a strategy that includes identifying and allocating resources for implementation. Ensure internal and external stakeholders have "buy-in" (Burrell et al., 2015).

**Leverage Existing Resources:** Use a range of resources, especially when disruptive forces (e.g., new or evolving stakeholder expectations, finite resources, changes in roles, responsibilities) shift or constrain existing practice. Identify a project leader, someone intrinsically motivated who will compel others to meet project objectives (Burrell et al., 2015).

**Harness Technology:** Use information and communications technologies (ICTs) to: 1) facilitate project processes; 2) foster a sense of community and shared responsibility among team members; and 3) design and develop compelling online learning artifacts and experiences.

**Respect the Individual:** Recognize that heterogeneous groups such as inter- and intra-institutional project teams will include individuals with diverse abilities, experiences, and knowledge, as well as distinct work styles and communication preferences.

**Adapt to Challenges:** Take an inquiry-based, problem-solving approach to authentic problems of practice. Recognize the value of working and learning together. Meet adaptive challenges with empathy and optimism (Brown, 2008; Donohoo, 2013).

**Develop Capacity:** Stretch yourself and others beyond existing domains of knowledge. Do not limit your responsibility or role within the community (or on a project) to areas of personal mastery alone (Gloor et al., 2015; Koehler & Mishra, 2009).

**Build Community:** Find like-minded, highly-motivated individuals who share a common vision. Look beyond individuals' immediate roles, departments, disciplines, or institutions; focus instead on shared goals and mutually beneficial outcomes (Gloor et al., 2015; Shulman, 1986; Wenger, 1999). Find ways to help one another other.

**Honour the Collective:** Assume that "collective team-based work has the potential to be better than [any one] individual's work" (Burrell et al., 2015, p. 756). Acknowledge that researchers and practitioners alike derive benefit from working and learning together (Gloor et al., 2015; Wenger, 1999). Supplant "the myth of the lone creative genius with the reality of the enthusiastic interdisciplinary collaborator" (Brown, 2008, p. 3).

Key to the success of the project was the team's ability to balance sometimes conflicting or competing factors that shaped project development and resource allocation.

## PROJECT RESOURCES

### WESTERN UNIVERSITY

- Melanie-Anne Atkins (TPK, CPK)
- Colleen Burgess (CK, CPK)
- Colin Couchman (TK, TPK, TPCK)
- Denise Horoky (CK, CPK)
- Melanie Mills (CK, CPK)
- Christena McKillop (CK)
- Dr. Elan Paulson (PCK, TCPK)
- Caryl-Anne Stordy (CK, PK)
- Caroline Whippey (TK, TPK)

### UNIVERSITY OF TORONTO

- Monique Flaccavento (CK, CPK)
- Jenaya Webb (CK, CPK)

### QUEEN'S UNIVERSITY

- Dr. Cory Laverty (CK, PK, CPK)

### EXTERNAL CONTRACTS / TEAMS

- Caleb Dobby (TK)
- Hi-Lite Design (TK, TCK)
- Red Meat Games (TK)
- Trevor Tyre (TK)
- Expert Advisory Team (TPK)
- Focus Group Team (TCK)
- Testing Team (TCK)

## REFERENCES

ACRL (2014). Framework for information literacy in higher education. Retrieved from <http://acrl.org/standards/wp-content/uploads/2014/02/Framework-for-IL-for-HE-Draft-2.pdf>

Blashke, L. (2012). Heutagogy and lifelong learning. A review of heutagogical practice and self-determined learning. *The International Review of Open and Distance Learning*, 13(1), 56-71. Retrieved from <http://www.irodl.org/index.php/irodl/article/view/1079/2087>

Brown, T. (2008). Design thinking. *Harvard business review*, 86(6), 84.

Burrell, A. R., Cavanagh, M., Young, S., & Carter, H. (2015). Team-based curriculum design as an agent of change. *Teaching in Higher Education*, 20(8), 753-766.

CAST (2011). Universal design for learning guidelines version 2.0. Retrieved from [http://www.udccenter.org/sites/udccenter.org/files/updateguidelines2\\_0.pdf](http://www.udccenter.org/sites/udccenter.org/files/updateguidelines2_0.pdf)

Council of Ontario (2008). *A guide to learning outcomes, degree level expectations, and the quality assurance process in Ontario*. Retrieved from [https://www.uwo.ca/tsc/faculty\\_programs/pdf/ensuring-the-value-of-university-degrees.pdf](https://www.uwo.ca/tsc/faculty_programs/pdf/ensuring-the-value-of-university-degrees.pdf)

Dewey, J. (1938). *Logic: The Theory of Inquiry*.

Donohoo, J. (2013). *Collaborative inquiry for educators: A facilitator's guide to school improvement*. Thousand Oaks, Calif: Corwin.

Gloor et al. (2015). Intelligent collaborative knowledge networks. Retrieved from <http://www.ickn.org/index.html>

Gloor, P. (2005). *Swarm creativity: Competitive advantage through collaborative innovation networks*. Oxford University Press.

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)? *Contemporary issues in technology and teacher education*, 9(1), 60-70.

Mishra, P., & Koehler, M. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *The Teachers College Record*, 108(6), 1017-1054.

Peirce, C. S. (2015). *The fixation of belief*. Media Galaxia.

Rudestam, K. E., & Schoenholtz-Read, J. (2009). *Handbook of online learning (2nd ed)*. Thousand Oaks, CA: Sage Publications.

Rose, D., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. Alexandria, VA: ASCD.

Shneiderman, B. (2009). *Designing the user interface*. Boston, MA: Addison-Wesley Longman Publishing Co.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(4), 4-14.

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge, England: Cambridge University Press.

Wiggins, G., & McTighe, J. (2005). *Understanding by design*. Upper Saddle River, NJ: Pearson: Merrill Prentice Hall.

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