CSPS Technology Integration Projects Overview
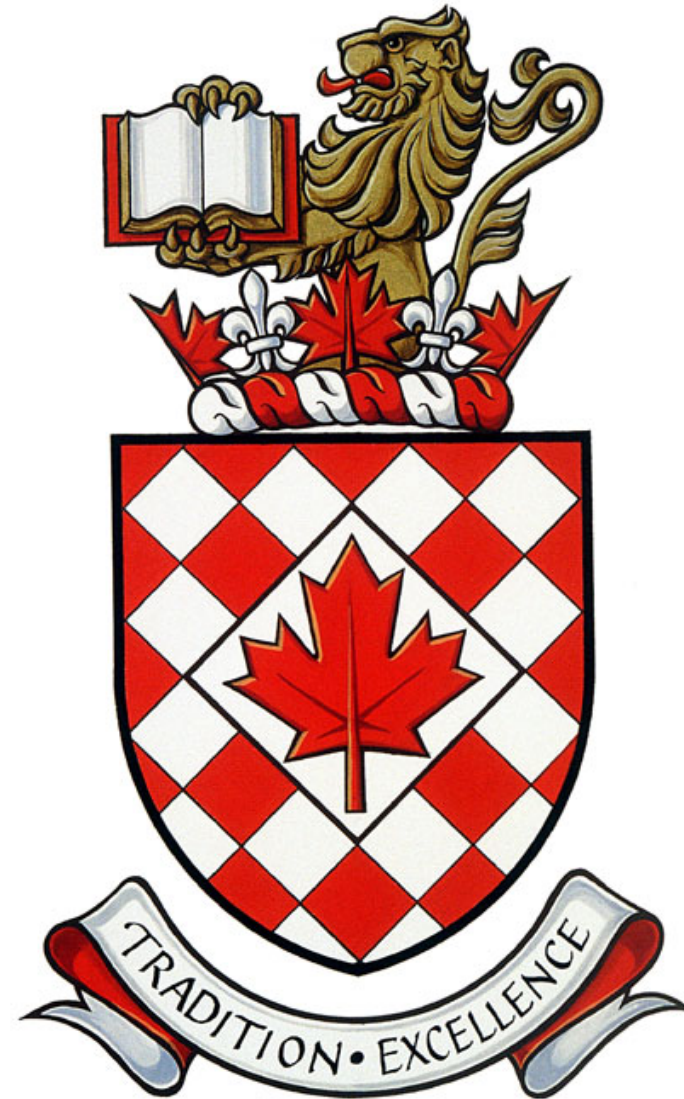
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National Research Council Canada   Conseil national de recherches Canada

Context

- 3 year GCcampus expansion project was initiated in 2014

- Planning for next phase of the project is underway

- CSPS required an evaluation of existing to work and roadmap for the next phase

- NRC was contracted to perform this work

SOW: Goals, objectives and outcomes

No.	Goals	Objectives	Outcomes
1	The main goal of the CSPS with the current statement of work is to define a business plan to support the strategic deployment of a set of medium to long-term projects.	• Provide a business plan outlining the state of the art, current states and gaps related to: a) learning through mobile, b) personalize learning, c) shared learning space (crowd sourcing), d) virtual library, and e) integration with the Government of Canada social and collaboration platforms. Measurement criteria: • The business plan conforms to the CSPS acceptance criteria defined through a series of project workshops.	• The CSPS successfully launches a set of projects in FY18. Measurement criteria: • The FY18 projects can be directly attributed to the business plan proposal as delivered through the execution of the current statement of work.

SOW: Milestones

Milestone	Description	Date
Project starts	The start of the project	2017-01-09
"State of the art" workshop	Four hours working session with NRC and CSPS on the first phase of the project "State of the art"	2017-01-27
"Current state and gaps" workshop	Four hours working session with NRC and CSPS on the second phase of the project "Current state and gaps"	2017-02-24
"Business plan" workshop	Four hours working session with NRC and CSPS on the third phase of the project "Business plan"	2017-03-24
Business plan	Delivery of the business plan document.	2017-03-31
Project ends	The end of the project	2017-03-31

SOW: Schedule

#	Traits	Title	Planned Start	Planned End	Q4 / 2016	Q1 / 2017			Q2 / 2017
					12	01	02	03	04
0		**CSPS**	**Dec 12, 2016**	**Apr 28, 2017**					
4		Project execution	Jan 03, 2017	Mar 31, 2017					
5		Execution starts	Jan 03, 2017	Jan 03, 2017					
6		Project Management	Jan 03, 2017	Mar 31, 2017					
7		Business plan development	Jan 03, 2017	Mar 31, 2017					
8		State of the art	Jan 03, 2017	Jan 27, 2017					
9		Current state and gaps	Jan 30, 2017	Feb 24, 2017					
10		Business plan	Feb 27, 2017	Mar 31, 2017					
11		Execution ends	Mar 31, 2017	Mar 31, 2017					
12		Milestones	Jan 27, 2017	Mar 31, 2017					
13		State of the art workshop	Jan 27, 2017	Jan 27, 2017					
14		Current state and gaps workshop	Feb 24, 2017	Feb 24, 2017					
15		Business plan workshop	Mar 24, 2017	Mar 24, 2017					
16		Business plan delivery	Mar 31, 2017	Mar 31, 2017					

SOW: Deliverables

| Deliverable 1	Description
Description	Business plan • Description of the state of the art, current states and gaps related to: a) learning through mobile, b) personalize learning, c) shared learning space (crowd sourcing), d) virtual library, and e) integration with the Government of Canada social and collaboration platforms. • Description of project options related to CSPS strategic interests.
Acceptance criteria	The specific acceptance criteria will be determined and agreed upon between CSPS and NRC through a series of workshops.
Date	2017-03-31

The Challenge

- Evolving model of online learning support
  - from classes to mobile support, personalization and crowd-sourcing
  - example: Accenture Connected Learning
- Expansion of GoC intranet support
  - Gctools (GCconnect, GCcollab, GCpedia, etc.)
- Requirement to follow-up development of GCcampus
  - CSPS identified five areas for program
  - mobile, personalization, integration with GCtools, crowdsourcing and virtual library.

Outline

1. Mobile Learning
2. Personalized Learning
3. Shared Learning Space / Crowd-Sourcing
4. Virtual Library
5. Integration with Social and Collaboration Platforms
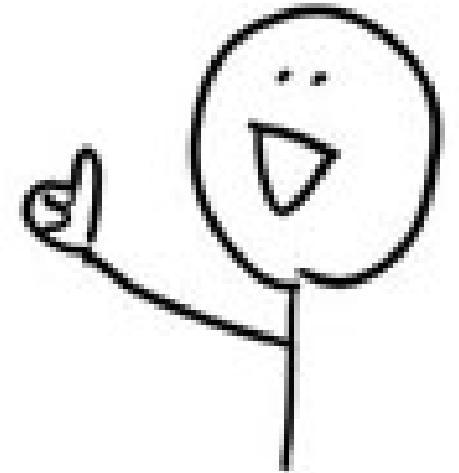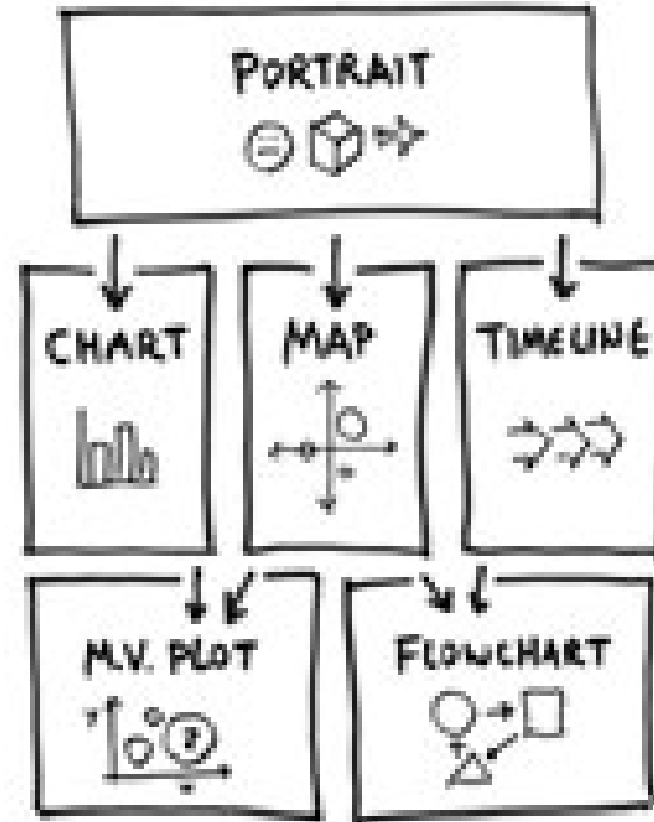
Methodology – Phase 1

- Academic literature search in relevant areas
- Trade literature and product identification
- Hands-on experience with many of the technologies
- LPSS projects with deep dive in some subject areas
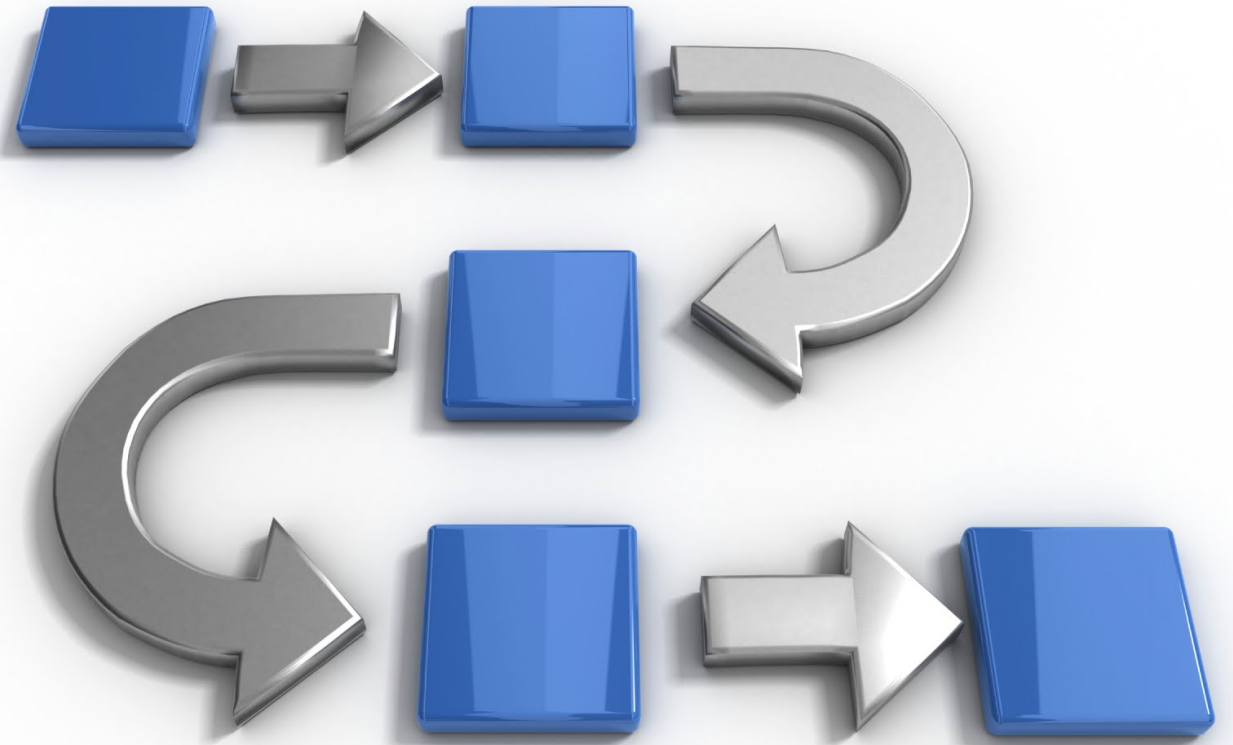
Methodology – Phase 2

- Review of background Documents
  - Usability studies
  - GCCampus Business Plan
  - CSPS Annual Reports
- Interviews with CSPS staff
  - 12 interviews, 1 hour avg, 16 people
  - Wide representation of functions
- Assessment of CSPS website
  - Review of videos, learning aids
 - Enrollment and completion of several courses
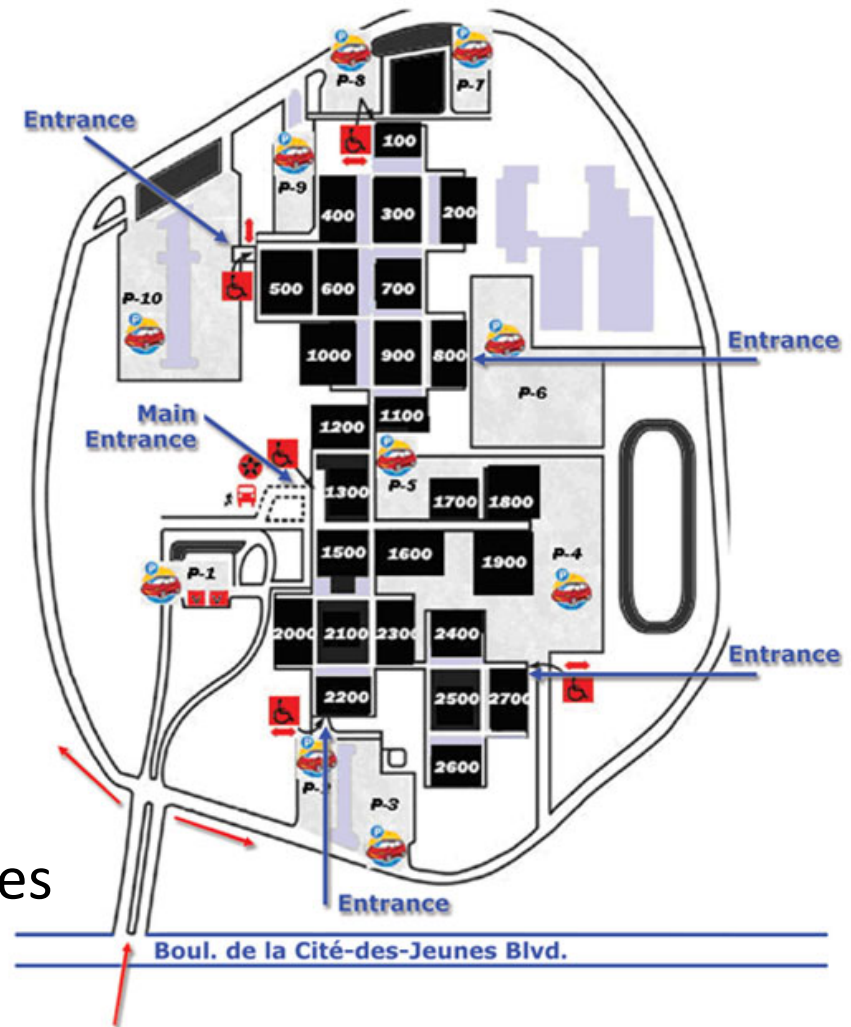
Methodology – Phase 3

- Development of 'moot' business case and roadmap based on research
- Collaborative editing of business case and roadmap
- Workshop presenting and discussing new business plan document
- Finalization and submission of the document

In-Class Learning

- Traditional focus on in-class learning
  - something the school understands and has developed expertise
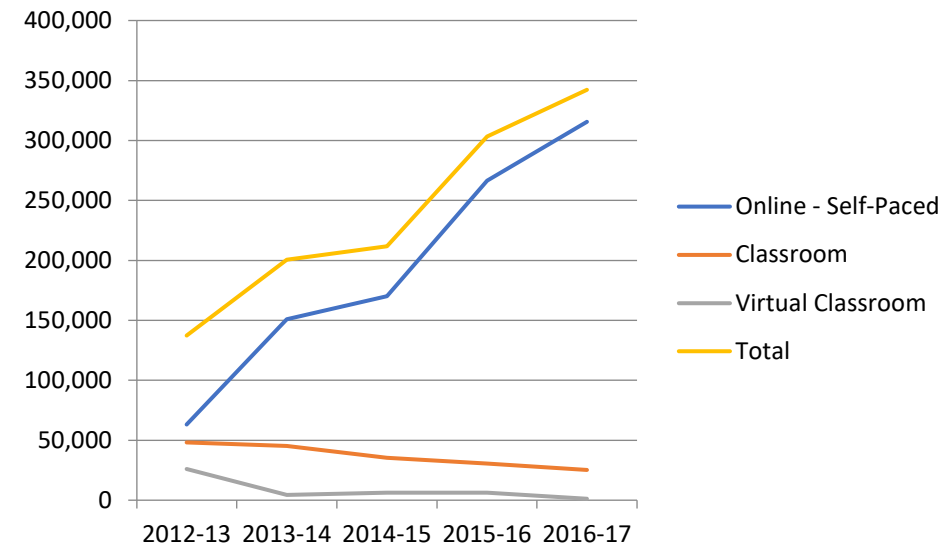
- Through online learning has increased dramatically, classroom-based learning has declined by only a bit more than 25 percent.

Business Model and Transformation

- Learning is offered to departments as a centralized service.
- This changes the way the school designs and offers courses.
- Data collection and storage is necessary to track usage.

GC Campus Suite

- Saba learning management system (LMS)
- Drupal 7 content management system (CMS)
- Moodle LMS
- Kaltura OVP
- CSPS service bus
- Events using WebEx

Analysis

- CSPS has made significant progress extending its platform beyond the LMS (to include Drupal, Moodle, Kaltura)
- The school's structural and service orientation has not aligned to new technologies and pedagogies.
- Analyst Recommendations:
    1. define and align to a contemporary model of online learning support
    2. conduct an incremental, rather than a rapid expansion of any individual service

Personalization

- Existing resource base does not support personalization based on adaptive systems

- The future LMS environment (if any) must be defined

- Concrete steps can be taken to prepare staff and students
  - Content recommendations from GoC libraries
  - Personalized subscription-based services
  - User learning dashboard with metrics

Crowdsourcing

- Depends on the ability and willingness to integrate learner and third party feedback and contributions
- Necessary to develop the school's capacity and comfort level with crowdsourcing
  - Learning and development pedagogy review and pilot process
  - Pilot user blog, ratings or recommendations
  - Risk assessment for accessibility, privacy, security

Integration with other government services

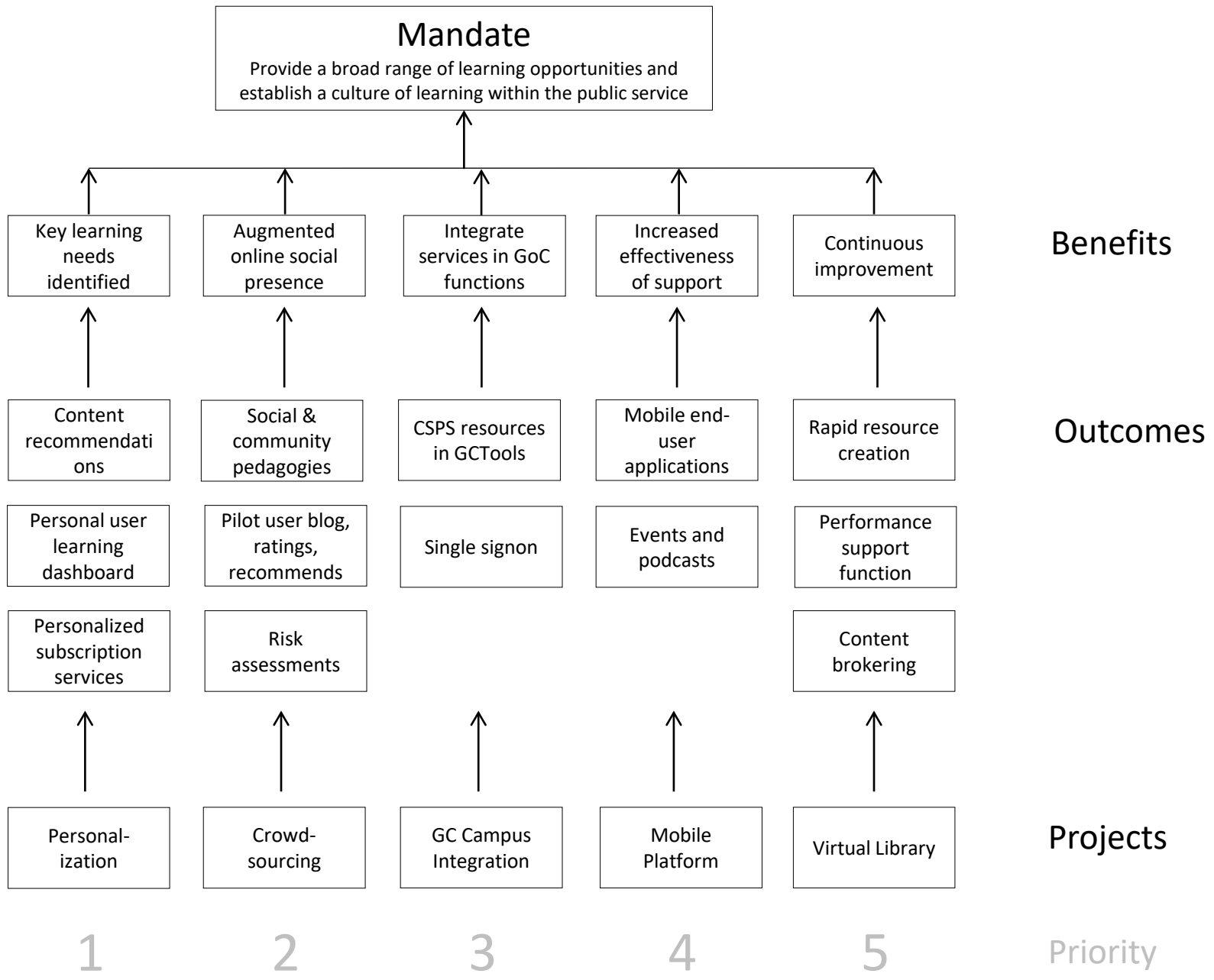- Primary target for integration is GCTools

- Desirable to integrate with human resources, competency and performance management systems

- All integration requires coordination with external services, some of which are not yet fully developed
  - Integration with single signon services – this was single most-requested feature was single-signon
  - CSPS resources launched from GCTools, GoC dashboards

Mobile

- Mobile devices are not suited to the delivery of online courses
- Not practical to develop platform-specific apps (eg. iPhone app).
  - Mobile support in this context should focus on responsive and cross-platform design (for example, HTML5-based design)
- 'Mobile learning' entails support for learner *mobility,*
  - Support for specific end-user applications
    - Includes elements of GCcampus website
    - Includes learning resources
    - Support for crowdsourcing
  - Events and podcasts in audio/video viewers

Virtual Library

- Desirable to provide access to eBooks to support online courses
- Not desirable to duplicate library services are being offered in various departments
- Purpose of a CSPS virtual library is to support performance support
- More than just eBooks; learners require access to videos, podcasts, learning objects
  - Standardized performance support function
  - Collaborative rapid resource authoring
  - Content brokering from GoC and partner libraries

Benefits

1	2	3	4	5
Identify and deliver key learning and performance support needs	Augmented online social presence	Integrated CSPS services with those of other departments and functions	Increased effectiveness of learning and performance support	Continuous improvement in learning technology
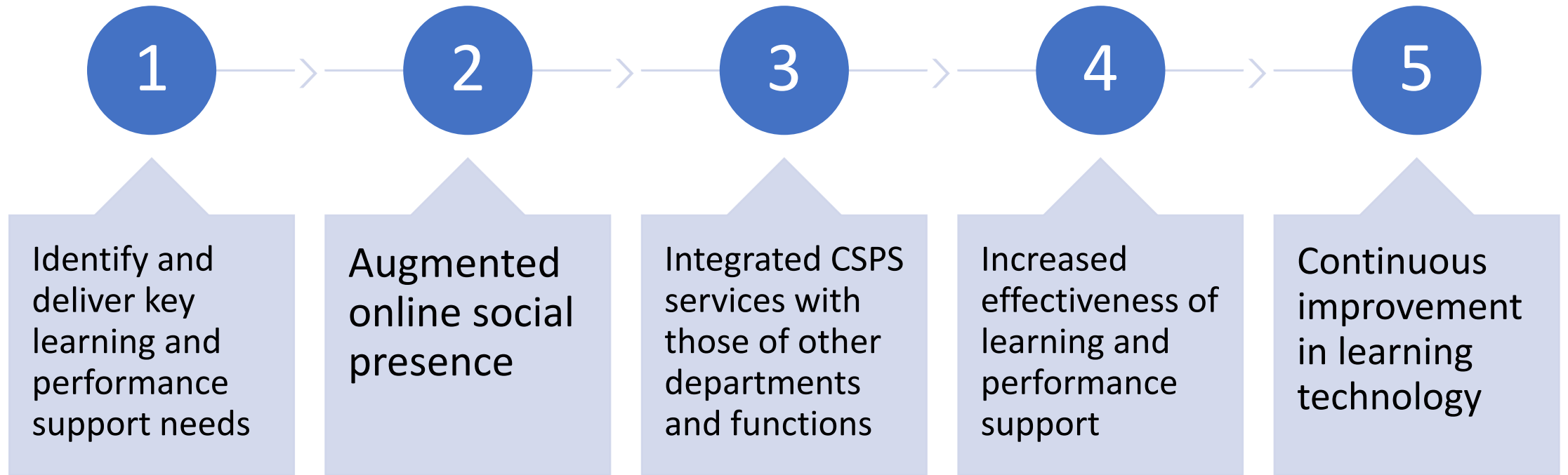
Benefits	Why*	Projects^	How	KPI
Identify and deliver key learning	- skills and competencies - assist deputy heads	P,C,M	standardize needs assessment and service requirement strategy	pre/post assessment
Augmented online social presence	- pride and excellence - purpose, values and affinity	C,I,M	responsive, personalized and relevant learning and performance support	participation rate, sense of belonging
Integrated CSPS services	- assist deputy heads	I,M	service delivery into & through 3rd party platforms	scope and relevance of support available
Increased effectiveness of learning and performance support	- growth and development - skills and competencies	M,C,L	transform service from courses to social & collaborative performance support	rate of reported errors, rate of escalated service requests
Continuous improvement in learning technology	- pursue excellence in public management - growth and development	L,C,I	ongoing needs assessment, rapid prototyping and pilots, ongoing testing and assessment	increases in other kpis

Resources

	2017-18	2018-19	2019-20	
General	0.5	2	1	3.5
Mobile	2	2	1	5
Personalization	3	3	3	9
Crowdsourcing	3	3	3	9
Library	2.5	2	2	6.5
Integration	2	3	2	7
Other	0.5	0.5	0.5	1.5
	13.5	15.5	12.5	41.5

Operational

	2017-18	2018-19	2019-20	
Software	0.04	0.02	0.02	
Travel & Training	0.05	0.05	0.05	
Other	0.01	0.01	0.01	

Budget ($ millions)

	2017-18	2018-29	2019-20	
Wages & Benefits	1.35	1.55	1.25	4.15
Operational	0.10	0.08	0.08	0.26
	1.45	1.63	1.33	4.41

Risks

	Risk	Response
	Disruption from integration of new LMS	Be involved in planning up front for LMS selection, integrate needs created by this project with LMS sourcing needs, adapt platform-agnostic approaches where possible
	Resistance from CSPS staff to employ new technology & pedagogy	Include staff in design and review process, deploy new pedagogy and technology in staff learning initiatives, ensure strong performance support and feedback mechanisms
	Resistance from GoC learners to new technology & pedagogy	Perform strong needs assessment, ensure strong staff support, be responsive and available, demonstrate results with impact assessments
	Availability of staff to run projects	Project plan will be coordinated with staffing projections
	Knowledge of new technologies	Development of learning resources by CSPS to support CSPS learning needs
	Technical issues with deployment of new technology	Employment of specialized IT consulting staff

Project Team

- Stephen Downes – principle investigator
- Bruno Emond – project lead
- Hélène Fournier – research officer
- Irina Kondratova – research officer
- Shirley MacLeod – knowledge management

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