

Learning Technology: Current State of the Canadian School of Public Service



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Contents

Background Information	4
In-Class Learning	4
Business Model and Transformation	4
GC Campus Suite	5
Events	6
Wider Environment	6
Mobile Learning	7
Notes from the Workshop	7
Defining Mobile Learning	7
Mobile device employment in the Canadian public service	8
Mobile policy frameworks	8
Mobile delivery standards	9
Devices	9
Pedagogical principles	10
Capacity and tools	11
Assessment and quality control standards	11
Adaptability to change	12
Personalized Learning	14
Notes from the Workshop	14
Defining personalized learning	14
Existing tools for performance management	15
Performance Support	15
Talent management framework or management systems	16
Competencies	16
Personal learning plans or learning paths	17
Recommendation systems	17
Informal learning	18
Personal learning records	19
Personal profiles or data archiving	19
Automated mechanisms in place for profile creation	20
Shared Learning Space and Crowd-Sourcing	21
Notes from the Workshop	21
Defining crowdsourcing	21
Crowdsourcing and the School	22
Crowdsourcing models	22

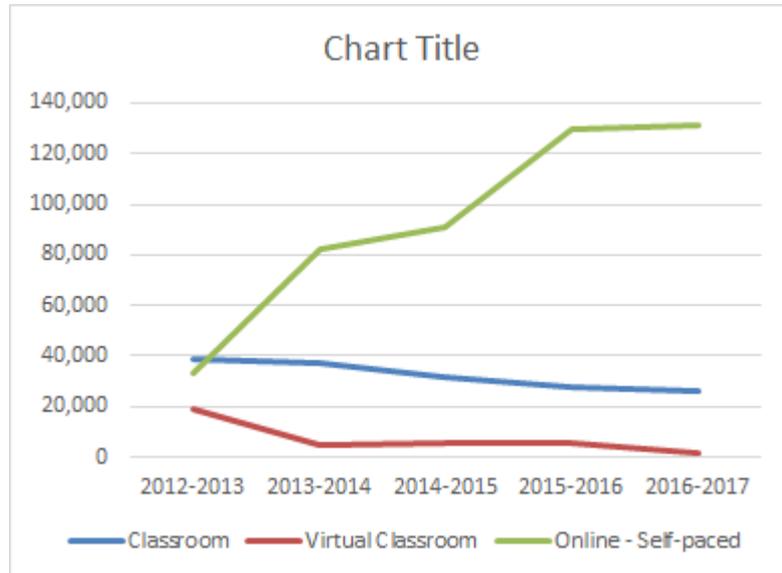
Open, shared, social and crowd-sourced learning environments	23
Automated social network formation and management?	23
Applications of crowdsourcing	24
Teaming environments and Messaging	24
Authorship, sharing, annotation and ratings.....	25
Social presence.....	25
Security and privacy constraints	26
The New GCCollab.....	27
Resources & IT.....	27
Virtual Library.....	27
Notes from the Workshop	27
Defining a virtual library	28
Existing VLS in the GoC.....	28
Canada's Open Government initiative	29
Linkages to the GoC and wider library community	29
Resource metadata standards.....	29
Read and using metadata records.....	30
Information and/or content management environment.....	30
Open educational resources	30
Material assessment and quality control	31
Rights management and copy control systems.....	31
Integration with Other Platforms.....	32
Notes from the Workshop.....	32
What does 'integration' mean?.....	32
Defining 'other platforms'	33
Knowledge of other platforms within GoC.....	33
Linkages with employment and occupational platforms	34
Identification and single sign-on	34
Support for distributed environments	35
Expertise & Resources	35
Strategic Directions	37
The New Business Model.....	37
Drivers.....	37

Background Information

In-Class Learning

The CSPS has focused traditionally on in-class learning. It is something the school understands and has developed expertise in.

In recent years, through online learning has increased dramatically, classroom-based learning has declined by only a bit more than 25 percent.



In addition to developing online learning, the school has been trying to modernize the classroom.

Business Model and Transformation

The school’s business model was recently fundamentally changed. Originally, the school offered learning to other departments on a cost-recovery basis. Today, learning is offered to departments as a centralized service.



This changes the way the school designs and offers courses. Whereas in the past it would develop custom learning for individual departments, today it is more focused on common learning offered to multiple departments. Access to learning is not managed through payment, but rather, enrollments in courses are capped.

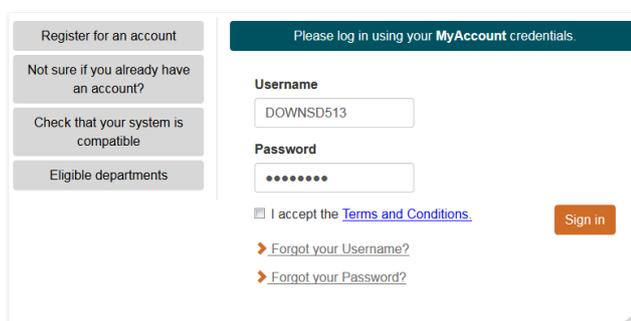
As a consequence, the school has also changed the way it tracks usage. It has migrated from a registration based service to an open platform. Therefore a form of data collection and storage is necessary to track usage.

GC Campus Suite

GCcampus is the school's online presence. Drawing together some legacy systems and incorporating some new products, development began three years ago in order to help meet the school's new mandate.

GCcampus itself can be accessed from the open internet without the need to be within a government intranet. A login is required using credentials provided by the school.

GCcampus consists of the following components:



Saba learning management system (LMS) - the system is used to manage initial login and user accounts. It also hosts a number of GCcampus courses, for example, the Phoenix pay system courses. It is used by a large number of learning advisors who create learning products based on policy statements.

The Saba system is a legacy system. There are complaints that it is process-heavy and very flexible but is difficult to administer and use. The contract with Saba, which has already been extended once, expires in 2018, and a process is in place to source a successor system.

Drupal 7 content management system (CMS) - this system provides indexing, filtered search, and some storage for learning resources provided by the school. The Drupal module has been customized with the installation of some modules, including custom modules, and is administered by a business administrative team. Drupal is an open source PHP application.

Moodle LMS. Moodle is an open source LMS written in PHP. It is easier to operate than Saba for both teachers and students. Moodle is used to host a number of GCcampus courses and to support discussion groups in the Moodle forums.

Kaltura online video platform (OVP). Another open source PHP application, Kaltura hosts the videos offered on the GCcampus platform.

CSPS service bus. This is a custom-built service in GCcampus deploying a RedHat Fuse product with a JBoss server. The service bus manages the exchange of data from one GCcampus application to another, and enables (for example) single-signon using the Shibboleth identity system.

The Campus can also integrate content products such as EBSCO for ebooks.

It should be noted that although GCCampus provides a single interface for users, each application has its own administration interface, which makes it more difficult to manage.

There is also a need for a better profile management function (users access the default function in Drupal) which might include LDAP credentials or a GConnex tie-in.

Events

GCCampus has recently launched an events service using WebEx for online access and Moodle for asynchronous content. Registration to the event is enabled with a single click within GCCampus.

We were told that a company called CanWebCast is broadcasting the events (CanWebCast has merged with another company to become [Collaborate.video](#)).



There are still some development issues to address with events, including closed captioning, the publication of transcripts, and data-reporting (especially for group logins).

Wider Environment

The wider environment in which GCCampus operates consists essentially of two families of applications:

- GC Tools, including including GConnex, though there is no real connection with them yet, and
- Human Resource (HR) and Treasury Board tools and applications, which include services such as MyGCHR ([see reference](#)). The richness of the data is on the HR side, but again there really isn't a good connection between them.

It is worth noting that though each family of tools supports significant potential for online learning, neither is directly sufficient to replace the function of the learning management system.

Other tools employed by CSPS include an event scheduling system, survey functions (using Survey Monkey, which may be replaced with SimpleSurvey) and [Cognos](#) for reporting.

[MySchool News](#) is a quarterly publication available by email subscription.

Mobile Learning

Notes from the Workshop

Mobile learning is an emerging trend, favoured especially by an emerging generation of public servants, but it is much more than simply playing existing courses on a mobile device. We need to learn where mobile works well and where it doesn't. A lot is unknown; smartphones have only emerged in the last five years or so.

What is the business case for using mobile learning for the school - considering that most learners are using laptops?

We can look at the application of mobile in large classrooms, for example, answering quizzes online, capturing decisions and responses, or encouraging class participation. One challenge, for example, keeping our learners engaged? We could send notifications, advertise upcoming products.

What do our (CSPS) learners need? Challenge: how do we keep our learners engaged? One thing is to send notifications. Upcoming products, push notifications-need marketing or communication strategy.

Defining Mobile Learning

What is mobile learning? Staff approached that question from several different angles. A common thread, though, was that mobile meant something different from web-based. If mobile is just about being compliant, said one person, then we're missing the boat.

Access - we were told that mobile learning means having access on their device, in any browser, at any time. It means learning anywhere you want, or being able to learn on the fly, learning as you go, using different devices.

Device - there was some disagreement on the idea of device. Some people thought 'mobile' meant a focus on smartphones only, with tablets and laptops being more like desktop learning than mobile. Others included these, on the ground that they are mobile, in contrast to the desktop.

Location - learners can learn outside their office using mobile, some people said. However others pointed out that civil servants don't work at home. Not all civil servants are office-based, however, and many work in the field.

Design - a number of people mentioned the idea of content specifically designed for mobile. For example, mobile could be like the YouTube or Google of learning: you have questions and you can get immediate answers. The applications have to be re-engineered, which means asking what our business need is, who our audience is, and what we trying to accomplish. We can't just take GCCampus and make it fit into a 3 inch screen.

How does GCCampus currently support mobile? We were told people can use GC Campus on mobile and that they have a good experience. Several others, however, pointed out that GCCampus was not developed for mobile, and there's a lot of scrolling involved.

Mobile device employment in the Canadian public service

We asked whether people had a clear understanding of whether members of the Canadian public service are already using mobile devices, and whether they are using them to support learning.

People were generally agreed that most everybody has a mobile device, including especially smartphones. A significant number of public service employees had department-issued Blackberries. Meanwhile most people had personal devices, usually Androids or iPhones.

That said, not many people are using mobile devices to access content on GCCampus, we were told. People cited barriers to using mobile, The device itself was cited as part of the problem; Blackberries especially have very small screens, making them difficult to use for reading or responding.

The market for mobile would be different than that for traditional learning content, and would not include all of GCCampus content. Some people mentioned videos, podcasts and online events explicitly. The primary existing use of mobiles was for communication, especially by phone, but sometimes by text (it was noted people use text messaging a more in their personal life than they do for work).

People also mentioned the use of mobiles in classrooms (especially when tablets and laptops are included). One person mentioned a pilot project where all managers receive Surface tablets. But in-class use of mobile raised other issues, such as access to wifi, or where to plug in.

Mobile policy frameworks

We asked about mobile policy frameworks operational within CSPS, citing for example the GSMA Mobile Learning Policy Handbook ([2014](#)), which raises issues to be considered in mobile learning such as access and delivery standards, access considerations, and mobile-specific pedagogy.

Nobody was aware of any. The only policy frameworks mentioned (and these were raised at various points during the discussions) were:

Treasury Board Secretariat (TBS) guidelines, specifically the [Standard on Web Accessibility](#), the [Standard on Web Usability](#) and the [Standard on Web Interoperability](#), and the Government of Canada WET ([Web Experience Template](#)) kit for mobile.

The Government of Canada Policy on Acceptable Network and Device Use (should be [here](#); link isn't responding) governing employee use of mobile devices.

The World Wide Web Content Accessibility Guidelines ([WCAG](#)), which they noted were as useful for the design of mobile content as they are for their primary purpose, ensuring that web content is accessible.

In the context of this question some respondents referred to the need to incorporate background knowledge and best practices in online learning, citing specifically the work of people like Jay Cross and Clark Quinn.

When asked how they would approach developing a policy framework, people suggested starting from the perspective of the user and specifically user needs and working back from that. They also raised security requirements, device provision or device standards, equity of access, and the need for a smooth transition.

Mobile delivery standards

We asked about mobile delivery standards in order to get a sense of technical environment CSPS meant to support in terms of mobile delivery. In this context, 'mobile' could mean GSM or WiFi, it could mean certain operating systems, certain software specifications, and it could even mean specific devices.

For the most part, participants weren't aware of specific mobile delivery standards, and it was assumed delivery would be supported for both WiFi and telecom cellular phone standards.

It was noted by a number of participants that CSPS is available outside the intranet, which makes it available through any wireless or WiFi connection, as well as wired internet connections. For use inside the CSPS campus itself it was assumed that WiFi exists everywhere, though this turned out to be false.

In terms of software frameworks, Universal Design for Learning ([UDL](#)) was mentioned several times and a standard currently employed by CSPS.

As well, some participants mentioned compliance with Sharable Courseware Object Reference Model ([SCORM](#)) specifications and software as well as HTML and Javascript.

Various CSPS offerings were raised in this context, including the use of Moodle or other software to support learning for large cohorts, which would need notifications or some sort of support (because people don't 'check in' to see what's new in a Moodle environment. Additionally, it was noted that WebEx events do not play on Blackberry.

Devices

Canadian government employees, especially at management level, have traditionally been supplied with Blackberry devices. The purpose of this section was to assess the impact of

this policy and changes in the mobile device environment on expectations of device support by CSPA.

Nobody suggested standardizing on Blackberry, and there was wide recognition that CSPA would need to be able to support a range of devices. Additionally, it was noted that government is trending toward 'Bring Your Own Device' (BYOD) and that therefore not standard device environments could be expected.

It was understood by participants that supporting BYOD raised policy issues connected to support, security and service delivery, including those [concerns](#) raised by the Office of the Privacy Commissioner. Support was an especial concern, with it being noted that CSPA doesn't have the staff and expertise to resolve all delivery issues.

The question of whether CSPA (or the government generally) should provide devices was raised. In general, this was regarded as impractical and too expensive, except for the exception of Blackberries (and now Surfaces) for management and executive.

Several people mentioned the need to be as device-agnostic as possible, indicating a preference for development and design for general mobile standards, such as HTML5, rather than specific applications for each platform, both because of the time and resources required to do this, and because the installation of native applications raised security issues.

Pedagogical principles

We asked about the pedagogical principles employed by online courses at CSPA and whether they would support a model based on mobile delivery.

There was a good deal of disagreement on this question, and indeed on whether CSPA employs a specific pedagogical model at all. The school is set up to deliver 2- or 3-day in-person courses, and online courses have largely followed this model. It was not clear that mobile would support this model, nor how it would do so.

The only formal principle mentioned as [ADDIE](#), which governs the course design process, rather than the design itself (ADDIE" stands for Analyze, Design, Develop, Implement, and Evaluate).

Some respondents expressed a need for the school to revise and standardize on a pedagogical model generally. They described the current approach as artisanal, where each person does it their own way. This contrasts with DFO and the RCMP, which have adopted explicitly problem-based approaches to learning design.

There was broad agreement what whatever CSPA is doing is not sufficient to support mobile pedagogy. The bias toward formal courses and the widespread employment of presentation mode were seen as an issues. Other modalities that could be supported by mobile delivery,

such as performance support or knowledge management, would be difficult to deploy in the current environment.

Several participants suggested a focused approach to mobile delivery with would target a few specific applications, such as job aids. Other suggests included podcasting and spaced learning, where a mobile app could break courses into smaller pieces or chunks, and support for interactive and adaptive learning.

It was argued by several people that business needs should drive the mobile technology employed, and that numerous providers already support mobile learning. - we don't have to reinvent the wheel, there's a slew of companies that provide training. Mobile learning should be based on user needs and demographics, and should try to anticipate what they will want (and at the same time, not leave those who prefer to learn in person behind).

Capacity and tools

There were mixed opinions regarding whether CSPS has the capacity and tools to develop for mobile learning.

On the one hand, there was confidence in the development team's capacity to work in HTML5 and therefore to create mobile-friendly web resources. At the same time, numerous people pointed to a shortage of staffing resources, and were clear that the school did not have the capacity to venture into multiple directions.

Others suggested that skills upgrading, or extra time for learning on the fly, would be needed. Possibly specialist staff would be needed. Future trends and larger-scale applications were expected to be more challenging - managing big data, for example. Outsourcing and contract work (for example, by Algonquin students) were mentioned several times.

Governance was identified as an issue. If priorities shift too frequently, it impairs the school's ability to accomplish any given priority, such as a focus on mobile. Additionally, with 93 federal departments to serve, the needs of specific departments need to be weighed against the capacity to serve all other departments.

Finally, the cultural shift was deemed to be among the largest challenge, as CSPS would have to shift from producing longer-term resources, to resources that would be found and used in a short space of time more appropriate for mobile, shifting from powerpoint on the web, which is what's done now, to a quick 5 minute video, to a in-person call, to 5 minutes slides, etc.

Assessment and quality control standards

Questions were asked about the CSPS approach to assessment and quality control, and whether these processes would map to mobile devices.

Currently CSPA relies on course-completion surveys to judge course quality (several people mentioned [Kirkpatrick's](#) Level 1 assessment specifically). In some cases, '360 evaluations' are conducted, whereby supervisors are also questioned, in order to determine the transfer of learning to performance (hence reaching Level 3).

Overall, in-person courses score slightly better than online courses, with scores cited for the former at 4.5 to 4.7 out of 5, as compared to 4.0 to 4.2 out of 5. With respect to the level 3 evaluations, there were no mechanisms to track mobile specifically, though it was reported that the transfer rate is fairly high generally.

It was unclear how much learning actually occurs. Some learners simply skip through the units and answer the tests, retrying until they succeed. A lot of this is outside the control of CSPA, especially online, where learners aren't granted the time and resources they would be in an in-class course.

On the question of quality control itself, responses were mixed, with some (apparent) satisfaction with the current process. The employment of UDL and WETkit themselves ensured quality, said some. However, others argued that training is more than just transmitting information and more than just compliance. The language learning products are page-turners, said one person. Why do we even produce them.

There was recognition that quality control needs to focus more on business goals and learner needs. And CSPA needs to consider in its assessment process what feedback it actually needs, and how to get that feedback.

Adaptability to change

Adopting mobile delivery is a significant change and entails commitment to a rapidly changing environment, so we asked about the CSPA's capacity to adapt to change generally.

A number of people mentioned the school's recent transformation initiative in this context. A great deal of change has already taken place, including the development of GCCampus. From this it was possible to conclude that CSPA is adapting well to change, but also that there is a limit to how much change CSPA can handle.

In general, said some, the school isn't adaptable to change. Even though there are "keeners" who embraced the new approach, the structure of the school hasn't changed, and the major focus is still on classes and (albeit to a reduced extent) classroom delivery.

A number of people felt the school sometimes leapt into change without justification, saying that it was following "the next big thing", which generated unsurprising resistance. This led to some saying that CSPA is very good at changing, but lacks the follow-through, especially when the change champions leave.

Respondents were also asked whether their client base - especially at the management and executive level - would support and be willing to adapt to the changes. This drew mixed

responses, with some saying executives don't have time to learn and use new technology, while others say we draw conclusions about executives too quickly, and that change based on need is readily adopted.

Personalized Learning

Notes from the Workshop

The discussion of personalized learning turned almost immediately to a discussion of competences, and the two concepts are closely linked. On the one hand, CSPA works reasonably well with competencies, and has access to competency definitions created by TBS. On the other hand, the capture of learning activities is a difficult challenge.

There is perhaps a tension in different approaches to personalization. GCConnex and GCCampus were developed using open source tools. But by contrast, the government employs large enterprise systems such as Saba and PeopleSoft (which is [being deployed](#) by Shared Services Canada as the Government's new HR system). Maybe the school should embrace the formal standards-based approach to learning inherent in these large systems. But personalized learning also supports the trends towards lifelong and informal learning. Is this a philosophy CSPA wants to embrace?

The ministers and the public are demanding CSPA look at personalized learning to support the transferability of learning when one enters or leaves the public sector. Their records should follow them, perhaps tied to Prior Learning Assessment (PLA/PLR). But some records might be private or proprietary.

More general questions were raised around the approach to personalized learning in general. What is CSPA trying to do as an organization? How does CSPA manage privacy, especially across departments? What are the business requirements? How is collaboration managed with other platforms?

Defining personalized learning

We asked for definitions of 'personalized learning' and were presented with a relatively consistent perspective based on adaptivity and ease of use:

Content-awareness - when I log on the system knows who I am, it knows what I'm looking for, it knows what my job is and what department I work for, and it pushes content accordingly.

Broker – the system knows that I learn from a wide variety of courses, and brokers my access to them, according to my position and needs.

Adaptivity – the system adapts to my learning (what I've learned, how I learn) and adapts technologies to suit me, presenting only what I need.

Examples of personalization mentioned by respondents included Duolingo, which tests for achievement and delivers lessons accordingly, and Netflix, which recognizes viewing patterns in people like you and recommends accordingly.

In some cases respondents discussed some of the mechanisms that would be needed to support personalization, such as a focus on metadata. They also suggested specific functionality, such as recommendations for materials or learning paths.

Finally, they raised some issues related to personalization, such as being lured into the trap of always receiving the same kind of content, and such as the need to balance individual needs and preferences with corporate and business objectives.

Existing tools for performance management

We asked about existing tools and mechanisms to support personalized learning in CSPA. Perspectives we explored included the school's approach to performance management as well as mechanisms to support learning and development directly.

Most of the responses pointed to a learner's ability to pick topics of interest in GCCampus. The tool enables users to filter their search results as a consequence of these selections. No specific tools linked to performance management were identified.

We learned that discussions and work were under way to harmonize with the Office of the Chief Human Resources Officer at the Treasury Branch ([OCHRO](#)) as well as to integrate with existing and future talent management systems.

Some respondents raised the dichotomy between centralized and therefore fairly generalized job descriptions, and departmental and fairly specific job descriptions. As well, they pointed to the dichotomy between desire and capacity when it comes to supporting performance management. (Image: [TBS](#))

Performance Support

Although it wasn't explicitly addressed in the questions, a number of people raised the topic of performance support in this and other contexts.

One person reported having created a prototype in Moodle based on contextual and role-based navigation and focused on linking up workflow with processes and tasks. While completing tasks in a workplace environment a person could access tabs describing step-by-step instructions, details of steps, related resources, and contact information for help.

The existing system employed by CSPA was seen by several as offering poor performance support. What exists, they said, is basically a catalog of courses where you have to browse, register, search, and find what you need on page 42 (which is reported as a non-completion).

They saw personalized learning and performance support as linked, suggesting the service should be more like Google than anything, where it knows what you need and will help get it for you. At the executive level there have been many promotions in the system and the school hears a desperate need for "show me how":

- "show me how to think strategically"
- show me how to reframe an issue
- show me how to deal with the ambiguity of the world right now

Related to this, several people expressed enthusiastic support for the online events being broadcast on WebEx (and which also could be distributed as podcasts). A specific block of time is allocated for them, which makes scheduling much less *ad hoc*, and they address current and timely issues, and support immediate feedback.

Talent management framework or management systems

We raised the question of support for talent management explicitly, as this forms the core of numerous commercially available personalized learning technologies.

In the Canadian public service, the Treasury Board (and OCHRO specifically) employs PeopleSoft as the primary talent management system. A number of people raised the issue of using PeopleSoft for talent management while using Saba for learning management, and suggested that there would be a change of approach when the existing Saba contract expires in 2018.

Individual departments also have their own learning management systems and their approach varies widely. CSIS, for example, manages both talent and learning using Saba, so this is all integrated (but incompatible with the central system). Several people wondered why are we not using one standardized tool.

Talent management is closely related to performance agreements both with respect to productivity and workplace output, and also with respect to learning plans and objectives. Many of these learning plans were collected into a single database, however, the plans are freeform text, and do not map to existing competencies or any learning taxonomy.

In the case of management training there is a more specific linkage between courses and competencies.

Several people gave examples of talent management to design learning in the corporate sector and contrasted the approach at CSPA as being much more *ad hoc*. In many cases, courses are created not in response to a talent management plan, but rather in response to specific needs. "Oh there's a learning problem, make us a course."

Competencies

We asked respondents to discuss the role competencies currently play in the design and delivery of courses and learning resources at CSPA. The responses weren't completely consistent but it is evident work is progressing in this area.

More frequently mentioned were the Key Leadership Competencies ([KLC](#)) defined by the Treasury Branch. Leadership courses are built on the leadership competencies, but it's not a standardized approach. Respondents also referred to the "16 core competencies" as well as

competencies for functional communities. For example, the IS group (IS1-IS6) has 20 or 30 competencies which are increased as you go along (in a grid).

There has been a project underway to map competencies to courses. There have also been discussions about tagging learning materials directly. Respondents stressed that this was a significant undertaking, especially when consultations with the 16 functional communities is included. The question here is: what tags have business value, and what will be the outcome of this work?

Support for the competency-based approach was strong but not universal. Some respondents questioned the business value of competencies, while others suggested that competencies are subjective and subjectively evaluated. On the other hand, without competencies, there is no clear mechanism for creating learning objectives for courses and materials.

In the context of competency-based learning we asked several respondents about prior learning assessment. The response was essentially that there was support for the idea but nothing currently in place, and it wasn't clear respondents has a clear understanding of the concept.

Personal learning plans or learning paths

One of the hallmarks of personalized learning is “the ability of a learner to develop a personal learning plan in some ways different from that of other learners,” so we asked about CSPS support for personal learning plans or learning paths. What we heard was that CSPS would like to support personalized learning paths, but that it's not there yet.

Right now, people can create their own learning plans (as mentioned above, a database of these has been created) and they can ‘shop around’ the school website looking for resources, but there is no formal support for a personal learning plan or learning paths.

Until recently, we were told, CSPS was offering personalized learning plans for executive. Also, people in regulatory functional communities have personalized learning paths. But these were paper-based and not part of the online learning system, and not automated in any way.

Personal learning paths have been discussed with TBS, but more needs to be done. There is a need for better exchange of data, better needs analysis and prioritization, a better understanding of what kind of learning is needed from an organizational standpoint, and what kind of programs are desired. Learning paths might be a ‘nice-to-have’, but it's not clear they are a high priority.

It is worth noting, said some respondents, that the technology currently exists to support personal learning paths in Saba. The school launched Saba s with the promise of all that, but the features were never turned on. And again, with Moodle and GCCampus, it could have been done, and users said they would love it, but it was never turned on.

Recommendation systems

A number of people mentioned resource recommendations specifically during the interviews as something that would be quite desirable but which would pose challenges for the school.

Aspects of content recommendation exist, such as the 'MyPicks' system in Drupal, but full-fledged collaborative filtering and push notifications have yet to be implemented (though there are some email-based notifications). It's something that learners have said they would like, especially executives (who do not have time to go searching for resources), and especially for ephemeral things like events.

As mentioned below, a significant challenge for the effectiveness of recommendations is the low number of resources in the learning management system and in GCCampus. One person remarked that the unfiltered list of resources looks the same as the recommended list. On [GCCampus](#) there 310 courses are listed, 33 job aids, about 100 videos, 2 case studies and a couple dozen blog posts.

The underlying platforms have the capacity to support recommendations. For example, Kaltura could capture user data, rankings, and more, but this function is not enabled. Ratings and views could be exposed, for example - 50K people did this, 4.8 rating on this – but there is a perceived fear of truly opening up this data.

Recommendations would be more useful if they included external resources, but this raises a new set of issues. In the section on virtual libraries we examine issues such as content sourcing and curation.

Informal learning

Informal learning consists of personally managed learning activities that take place outside the scope of formal courses and programs, are typically uncredentialed, and arise typically as an effort to solve a problem or complete a task rather than to achieve some learning outcome or competency.

Responses varied from an acknowledgement that informal learning is permitted to agreement that it is extremely important but unsupported. Several respondents suggested that the school should take a hands-off approach to informal learning, on the ground that allocating resources would be tantamount to formalizing it. It is something people naturally do, we were told, though something not everyone does.

We heard that there is a lack of buy-in in the sense of thinking informal learning is a key piece of a person's biography, though managers should support it by allowing brainstorming, networking, WebEx conferences, and the like, so long as it's in a government context.

The concern that informal learning would lead to abuse was mentioned several times. Respondents were worried that people tend to fill the space with non-value-added content, so informal learning would have to be managed. The school would need to shape the orientation, would need curation and moderation, and would need to manage the framework and approach.

There were also concerns expressed about the creation of resources and artifacts for both performance support and informal learning, and about the supervision of resources created informally. CSPS would not want to get into the business of producing a whole new body of artifacts. There are potential legal risks – one person cited an example where an RCMP program had to be shut down because of the need for lawyers to vet the material.

Personal learning records

In order to personalize learning there must be at least some record pertaining to the individual person, so we asked about the state of personal learning records in CSPA and hopes for work in this area in the future. Personal learning records were recognized to be of increased importance because of the number of different departments managing learning in the public service.

Responses were mixed. There is a record contained in the school's learning management system of courses taken at GCCampus, but this record does not extend to courses taken outside the school. There is a personal record in the sense that there is a login to the school, and preferences in (for example) the Drupal system can be remembered. For executives, a stronger system exists, as it's used to record prerequisites for promotion.

Some respondents referred to a business intelligence (BI) project that was undertaken about a year after GCCampus was started (and which is about 1.5 years into its mandate). This project is not yet mature enough to support learning, however. They are focused only on collecting and reporting; to extend this mandate they would need a client to make a business case explaining how they might leverage the data.

Several respondents commented on the importance of personal learning records but expressed concerns about the resources needed to undertake such an effort, the focus of management on personal learning records, and the risks created by issues such as learner privacy and data security, and the difficulty of undertaking such an initiative given the load of day-to-day operational requirements.

The view was expressed that any personalization project would need to do a needs analysis. Some work was done on this but it was different people at different times. Advanced technology and applications such as learning record stores and xAPI were not raised nor discussed by participants.

Personal profiles or data archiving

We also asked about whether people could create personal profiles and upload resources, content or data onto the GCCampus website.

These functionalities are extremely limited. There is a basic profile learners can complete (with an avatar and basic personal information). Users can comment on posts and videos. Otherwise, there are no provisions for individuals to make their own resources available to others on GCCampus. Even the blogs are open to instructors only.

Moreover, there was significant resistance to the idea of supporting that capacity and the view was expressed that GConnex might be a better option (this will be explored more in the next section).

Automated mechanisms in place for profile creation

CSPS supports no mechanisms for automated profile creation or activity updates, and while this may be a useful activity, it seems to be beyond CSPS's capacity at the moment.

Shared Learning Space and Crowd-Sourcing

Notes from the Workshop

Crowdsourcing ties in well with mobile learning, and as well supports the idea of social learning and collaborative learning.

However the question came up immediately about whether we could trust the information being uploaded by people. Different mechanisms were suggested, from reviews to automated trust-evaluation algorithms.

Additionally, there is a need to have a sense of where the school is going with crowdsourcing. Co-creation, collaboration - What's the project? What's the strategy? The school (CSPS) used to build projects themselves As will be discussed in the next section, there is a proliferation of platforms available, and hence a need to synch GCCampus with services like GCTools.

There's a challenge to the idea of the school itself. The very act of bringing people to the school (CSPS) takes them away from their network. Perhaps the role of the school should be to contribute to other platforms or other networks.

Defining crowdsourcing

The idea of crowdsourcing can range from having a “messyspace” to encourage public servant contributions to orchestrated collaborative and social learning activities.

Respondents to our request for a definition included these and various shades in between:

The messyspace - the deputy minister came up with idea of a 'messy space' for user-generated content.

Course commentary - For example, a person could write that they took a course, went to apply it and made a selfie video about the results.

User-generated content – several people talked about gathering content from users to create courses or other learning resources.

External content – in a related manner, people talked about sourcing learning content from other departments, for example, a recent security course created through consultation with 24 departments, or job aids created in another department and posted in GCCampus.

Content curation – the idea here is that large groups of people get together and share (and rate) resources from a variety of sources.

Collaborative learning and social learning, where people would get together to solve problems, create resources, or evaluate policy.

A number of respondents also addressed the alternative pedagogies enabled through crowdsourcing methods. In addition to helping the school develop flexible responses to emerging issues, it supports hands-on experience-based learning, and it helps in the formation of personal networks and communities.

But is it useful? It depends on the learning objective, and it depends on the interests of the learners. Online crowdsourcing could support networking, for example, but so can in-person courses, and people like to be able to get away, they can see what other people are doing, they get direct feedback from instructors, and they like the free parking at the campus.

Crowdsourcing was seen by several people as essential to producing meaningful and relevant content. In many cases, content expires very quickly. With the election in the U.S., for example, an understanding of how to adapt to Donald Trump was immediately necessary. If it takes 6 months to produce a nice video on the subject, however, by that time the ship has gone somewhere else.

Crowdsourcing and the School

During the discussions the question of the school's existing capacity to support crowdsourcing was raised.

The consensus was that existing support is quite limited. Few examples were given, and only one course (the aforementioned security course) was mentioned. The technology infrastructure for crowdsourcing does not exist in GCCampus or even in the CSPC technical environment generally.

Respondents agreed that there is no standard approach or understanding of crowdsourcing in the school. There is no mechanism for addressing even simple mechanisms as comments on GCCampus. One person noted that discussions forums are limited to management or above. Another raised the fact that only CSPS staff are able to blog in the GCCampus blogs.

The voices in favour of crowdsourcing were very strongly in favour (and frustrated by the school's resistance). They identified it as a mechanism to help with needs analysis, to obtain feedback and evaluation, to source new resources and new information, and to keep the school up to date with current approaches to teaching and pedagogy.

Crowdsourcing models

Over the last ten years various approaches to shared learning spaces and crowdsourcing have been defined, some of which were mentioned in the background document. We wanted to assess the level of awareness of these models at the CSPS.

For the most part, respondents were not aware of specific models, and speculated about some of the different ways crowdsourcing could be approached. Some people mentioned Massive Open Online Courses (MOOCs) while others talked about communities of practice. Other models, such as the ADL Open Social Learner Model ([OSLM](#)) or even the 'voting-up'

method employed by sites such as [Stack Overflow](#) were new to most participants. We were told people do not read the books on social learning in the library (Jane Hart, Jay Cross).

Several people discussed Communities of Practice (CoP) specifically, but with the observations that they had been tried before without success, and that that these were now located (and becoming more successful) on GCConnex.

Other people couldn't imagine the idea of people uploading their own content to GCCampus, particularly if that content were to be used for learning. There are rules that govern such content, ranging from accessibility requirements to copyright clearance to bilingualism.

Open, shared, social and crowd-sourced learning environments

In order to estimate the school's capacity to implement shared learning spaces and crowd-sourcing we asked about existing support for open, shared, social and crowd-sourced learning environments such as distributed authoring and versioning ([DAV](#)), source version control ([Subversion](#), [GitHub](#)), wiki and design space technology, and the like.

Beyond discussion groups in Moodle and comments on other resources, there are no such environments supported by the school. Some people did not that the school was attempting to augment the role of informal learning through the addition of job aids and similar resources. We have 3rd party content on the site, said one person, but not content from departments or individuals. Another person noted that the school adopted a wiki maybe 10 years ago and was working on [Tomoye](#) (a social network platform now owned by [Sitriion](#)).

Several respondents spoke of the time and effort it would take to set up such a space. It would take time, resources, and money to research what tools are best used, IT tools to see what fits best, and money for systems to be upgraded.

Interestingly, one participant spoke of an effort to set up an 'innovation hub' in a physical space at the school. However, nobody knew what to do with the space, and it ended up being mostly used for meetings. It was suggested that people be put into the room for a week and tasked with making a course in that time. Such an approach would contrast with the [waterfall](#) design process currently employed by the school.

Several people talked about the challenges of creating a resource base sourced by members of the public service, for example, courses informed by functional communities, departments such as Indigenous and Northern Affairs ([INAC](#)) and OHCRO. But the school does not leverage people on the ground who have benefitted from the courses. It does not do needs analysis on the one hand, and on the other, and what takes the most time is approvals.

Automated social network formation and management?

Collaborative filtering and privacy preserving technologies exist to facilitate the automated creation of social networks and groups, and we asked whether any such

technologies were employed at the school. They were not, with the exception of tools available in Moodle to create a cohort.

Applications of crowdsourcing

In our presentation on the state of the art in crowd-sourcing and social learning we enumerated a list of potential applications, ranging from resource creation to problem solving to civic engagement. We asked respondents how they could imagine crowd-sourcing being used; this would give an indication of where they saw the value in this approach.

By far and away the most common response was the suggestion that participants could support the creation of a shared knowledge base. Methods for doing so ranged from the collaborative development of resources to the development of tools to the facilitation of conversations and discussions around selected topics.

The current approach, we were told, is *ad hoc*. For example, when an issue arises, in EduTalk an interview with a relevant speaker is scheduled (note that this is relatively recent). Podcasting would make this approach even more relevant and timely. For other programs, WebEx is being used more extensively, and the school is piloting the insertion of one WebEx session for each program.

Beyond resource creation, there was broad agreement that the other suggestions in the list were good ideas, but there hadn't been any thought or effort around this. One person suggested using crowdsourcing to help CSPA set priorities, for example, about its future, its strategy, lines of business, needs analysis, and the like. "Let them vote up or vote down which things they want us to work on."

Teaming environments and Messaging

We asked whether the school employed internal teaming software such as [Slack](#) or [messaging](#) services.

Many respondents were familiar with teaming software but nobody reported using it in a CSPA environment. Some people mentioned that the development team might use project management or development software. So far as can be determined, no such services are officially supported at the school, though there may be 'skunkworks' applications.

A number of respondents had experience using such systems in other departments. These included Slack, [JIRA](#), and [Asana](#). There is a ticket system in place for some services, but this is inconsistently used.

With respect to messaging, the LMS supports some messaging, and Cisco [Spark](#) had been supported in the past and may still be used by some. There was also an initiative to use [Yammer](#) in the past, but it did not gain momentum. Social media are not generally used, though some people did point to an increasing acceptance of GCMConnect. The major form of communication at the school is via email, with text messaging also being infrequently used.

Several people expressed support for using such environments in the future. Some suggested that messaging would eliminate email glut, which is especially important given size limitations on Outlook mail boxes. Others reported that services such as Slack remove the back and forth considerably.

With respect to teaming and messaging in CSPS classes, several people reported informal activities that take place. For example, in some programs, there is a 6-8 month gap between classes, and participants form small teams to meet together and report on how the application of their learning is progressing. They organize themselves; the school does not keep track, but they report back at the next class session.

The current environment may be changing. Some respondents reported on efforts by Shared Services Canada to deploy messaging and video-conferencing capability across the public service. This would directly impact teaming and collaboration in the school, and would also greatly impact the scope in which CSPS could operate.

Authorship, sharing, annotation and ratings

We asked about support for authorship, resource sharing, resource annotation and ratings. These are common forms of participation employed in sharing and crowd-sourcing networks.

Support for such mechanisms at CSPS is limited. Some people mentioned the use of electronic surveys for Level 1 course evaluations. Others mentioned comments on resources. There is no rating or annotation system used.

With respect to authorship, as noted previously, no such technologies are currently employed. A cautious approach to such facilities was recommended, for example, a more traditional forum approach where subject matter experts (SME) can validate the quality of information shared, or where curation (maybe from/for a community of practice) would be enabled.

Such practices already exist informally offline and in courses with discussion areas. People feel free to recommend resources and videos to each other, for example.

Social presence

Research and distance learning theory have identified social presence as an important component of online courses and communities. "[Social presence](#) relates to the need for users of technology-based communication to perceive each other as real people." We asked about this in order to assess the depth of theoretical knowledge at the school and to assess its understanding of social presence.

There was some awareness but not a deep awareness. Research in this area (from, for example, Terry Anderson and Randy Garrison) was not mentioned or cited, nor were alternative theory-based approaches discussed.

Several respondents commented that the school does not have a theoretical approach to design or distance learning development; some people think about it, but not the school as a whole. There is no real school philosophy, but it might be a good idea to have a concrete vision.

Others suggested that aspects of social presence are or would be valuable. Some discussed the “grey zone” of introducing more marketing and communication to influence social presence. Respondents also discussed mechanisms such as responding to comments. At the same time, it was suggested that social presence is seen as creating risk for the school.

Security and privacy constraints

The use of shared learning spaces and crowd-sourcing creates obvious privacy and security implications, especially in an environment like the Government of Canada. There is a need for technology developers to focus on providing tools for the employers that can help in mitigating disclosure risks for sensitive business information.

We heard a wide range of responses. All agreed that the Treasury Board Secretariat (TBS) has a variety of rules governing accessibility, bilingualism, common look and feel, information management, the protection of personal privacy, and more. These regulations apply to services managed and offered by CSPS.

We asked about who makes decisions regarding these issues at CSPS. In many cases, we were told, TBS itself won't say yes or no; they simply refer the department to the policy. In some cases, decisions are made by the communications office. In other cases, employees or departments police themselves.

Several respondents made the point that these regulations make it effectively impossible for the school to manage or host third party or user materials. For example, one person said, suppose someone uploads a video - are they asked to go back and re-record it in French? Another person pointed out that people's reputations could be harmed and that organizations could be harmed. Do people have a right to just speak their mind?

Respondents also pointed to the responsibilities of the school with respect to personal learning information. For example, content in the LMS is [protected B](#). The improper release of this information - how often they failed their Delegation of Authority, for example - could impact their career. Several questioned the use by other departments of cloud storage, pointing out that these servers are not hosted in Canada.

In general, respondents agreed with the characterization that security and privacy issues create risk for the school. There was disagreement on how risk should be managed. The school as a whole, said several people, is very risk averse. Some argued strongly for the minimization of risk, expressing the preference to see the risk assumed by the managers of GCTools.

It was also argued, however, that the risk faced by CSPS is not quantified. The exact security risks are not known. No Privacy Impact Assessment ([PIA](#)) has been performed by

the Privacy Commissioner. Meanwhile, it was argued, security is more stringent for CSPA services than it is for other Government of Canada accounts, for example, those at the Canada Revenue Agency.

The New GCCollab

After a three-month pilot, a new service called GCCollab has been launched by the Treasury Branch. This service is similar to GCConnex, with the difference that members of the college and university community in Canada may also be members. We asked how this would impact people's thinking on the use of external services.

Some people thought there could be a role, while others disagreed, saying there's no role at this time.

It was suggested that GCCollab could be used by the school to illustrate what it takes to perform various jobs in the public service. They also felt that there might be a marketing and communications role.

Others suggested giving access to colleges and universities to the school's language products, so people who come in to the public service would have language skills. They also saw opportunities where students could get involved in learning with policy developers, or to have real world case studies.

Resources & IT

We asked some respondents whether existing staff and financial resources would be sufficient to support a shared space or crowd-sourcing initiative.

More knowledge would be needed, we were told. An effort of perhaps 5 more people on IT, plus 3-4 people on GC Campus side, would be needed to support it.

Virtual Library

Notes from the Workshop

The original intent of plans to develop a virtual library was to offer online access to texts and resources employed in CSPA courses analogous to the manner in which the physical library offered resources to participants in in-class courses. The model would be to implement a library services-agreement with service providers for e-books, with all the functionalities.

Participants at the workshop address the impact of government language policies on this initiative. The requirement is to be able to offer resources in multiple languages. This raised legal implications related to GCCampus.

The proposal also raises questions with respect to the corporate culture at CSPS. What are the top priorities for the school: a virtual library vs performance support? What's more important?

There are also practical issues. For example, many learners haven't learned how to use the [EBSCO](#) online database. The management of license and varying numbers of readers creates overhead, and it's difficult to use use-limited resources as recommended reading. Then there was a complaint (by a learner) regarding too many resources.

Defining a virtual library

We asked participants to comment on what they thought a proposal to develop a virtual library would entail, that is, what sort of resources would be hosed and what sort of services would be provided by a virtual library.

As mentioned in the workshop, the concept initially just meant providing resources beyond courses. The school used to have a learning library and every department every department had libraries. So a virtual library was just a way to provide additional content support.

But we can imagine a wider possibility. With all the departmental libraries closing there is a greater opportunity to do something meaningful. Is the Government of Canada maintaining EBSCO and for-fee academic databases? Perhaps there is an opportunity for all of the public service to be covered under a single service. This would go well beyond the mandate of the CSPS, however.

In any case, there is conflict between the EBSCO user-pay model and the school's everything-is-free model. Additionally, it is not clear that departments would be willing to install digital rights management (DRM) software required by the publishers.

Another interpretation of the meaning of 'virtual library' might be like GCCampus itself - a collection of courses, job aids, videos and other resources that support personal and informal learning. Related to this topic the question of hosting 3rd party content was raised, and the Phoenix training materials were cited as a warning about the risks of such an endeavour.

Existing VLs in the GoC

Our research uncovered the existence of a large number of virtual libraries in other government departments, including for example the Federal Science Library and the libraries hosted by the National Research Council. We asked CSPS staff about their knowledge of these other libraries and their thoughts about using them.

Awareness of these libraries was limited, but there was awareness at a superficial level, especially with regard to the activities of Library and Archives Canada ([LAC](#)). There was some support for working with or interoperating with other departments, but respondents questioned whether it is a core focus for the school.

The respondents also discussed the need for curation of materials that would be housed in a CSPS library. This would create significant overhead - “do we want to invest in resources in people whose jobs would be almost full time - scan, assess, describe?” One person said there's a culture and economy in the scientist's' mind that requires less curation, and that a similar approach could be cultivated for the school.

Some people referenced possible interoperability via GCCampus. Some suggested the school could scan for and add resource listings, without any additional work - “but there would have to be some kind of caveat or waiver that we are not all encompassing.”

Canada's Open Government initiative

We were not able to include questions about Canada's Open Government initiative, and it was not raised by respondents.

Linkages to the GoC and wider library community

We were not able to include questions about linkages to the wider library community, and these were not raised by respondents.

We were told, however, that the school's our strategic directions branch is reaching out to possible development by universities, and the new executive development branch is looking at public-private sector development, for example, doing a 'teach plan' with [Helios](#) - where the school's participants and their participants get together.

Resource metadata standards

Any library initiative essentially entails the employment of resource metadata standards, and so we asked about these from the perspective of both the virtual library and CSPS's resource offerings more generally.

What we heard was that work on resource metadata standards have been an ongoing activity for the school for some time now and that over the years there have been a few groups working on this. Some staff were aware of initiatives such as Learning Object Metadata and [Cancore](#).

We were also told that GCCampus was conceived with the idea that metadata was not important, with the result that the system employed - Drupal - has very little metadata capability. We asked specifically about the use of Drupal's metadata and were told [CCK](#) and [SOLR](#) are employed.

Respondents also described initiatives to employ metadata for learning resources ([MLR](#)). There was an effort to develop a taxonomy, and there was a formal role assigned to the task, but the school laid off all its librarians a few years ago so the knowledge of how to do that is missing.

Read and using metadata records

The utility of metadata is dependent on the deployment of tools that can read and work with metadata records, so we asked about the existence of these at the school.

We were told of work being done in this direction. Developers are working on a tool for 'learning product application' - an in-house tool built from scratch.

Additionally, we were told of efforts to make metadata creation more integrated with content creation tools, so when staff enter resources they have to tag them to get to the next page in the input process.

Respondents also described the role of the School Content Integration Committee (SCIC) with respect to metadata - in order to get Gate 3 approval from this committee certain metadata fields have to be completed, for example, 'target audience'.

The only *use* of metadata discoverable was the set of filtering options available in the Drupal search tool. One respondent contrasted the distinction between a formal taxonomy and a [folksonomy](#) that might be created through user-generated content.

Information and/or content management environment

Libraries typically employ content management systems in order to manage assets. We asked whether the school employs a CMS.

The school does not have a Learning Content Management System ([LCMS](#)). There is lightweight LCMS capability in the Saba LMS. It should be mentioned that Kaltura can function as a video asset CMS.

Open educational resources

We asked about the concept of open educational resources, both from the perspective of the use of them by the school, and from the perspective of the production of them by the school.

There is no CSPS policy on open educational resources and no school-wide approach to them. There is some support for the concept but it is not universal. As mentioned in other sections, there was a great deal of scepticism about the use of third party resources, with one person commenting that open licenses were often attached to work that was not genuinely open.

A number of people expressed support for opening the school's own resources, and support from the Deputy Minister was cited with respect to some specific courses. Frustration was expressed at the slow pace in distributing resources openly, as there is greater scrutiny of materials which may become public-facing.

Material assessment and quality control

A common library function - virtual or otherwise - is content curation and materials assessment. We asked about this and it frequently became a discussion of materials assessment at the school generally.

There appeared to be no assessment function with respect to third party materials (to be fair, there was very little use of third party materials cited generally).

The major quality control initiative at the school is the School Content Integration Committee. We heard that membership on this committee was unstable, and that it should be valued more than it is currently.

One respondent suggested that an electronic performance support system could employ a ratings system such that quality content would “float to the top”. That said, the school should look at what other institutions are doing, we were told. Other universities have published white papers on that and there is no need to reinvent the wheel.

Rights management and copy control systems

For CSPS materials, translations / copyright / accessibility requirements are validated by SCIC and are based on TBS standards.

Staff generally felt that the school was very compliant with these regulations , though because the standards are constantly changing it’s impossible to be 100% compliant. Concerns were expressed about the quality of translations.

Integration with Other Platforms

Notes from the Workshop

A number of other platforms, both internal to the Government of Canada, and also external, were identified as potential targets for integration in our background research. This part of the workshop looked at these, though the focus was almost entirely on integration with GCTools.

The possibility of integration with GCTools creates business challenges for CSPA. First is the question of exactly what would be connected. Then there is the question of how deep the integration would go. Who would be responsible for technology development? What would branding look like? How would user access be managed?

What does 'integration' mean?

In our questioning we tried to explore what respondents thought the concept of 'integration' meant. Several scenarios were discussed:

Linkage - each system would be represented with a tab or an icon on the other system.

Single signon - GCCampus already has single sign-on within its own suite of tools. TBS has expressed interest in single signon with GCCampus and GCTools.

Common Services - CSPA services would be listed among the other services in a single Government of Canada employees' dashboard or menu.

Extending the bus - user information and data would be exchanged between CSPA applications and other applications, especially GC TOOLS. OCHRO, for example, would be interested in the data from Saba.

Learning Tools Interoperability - GCTools services (and perhaps other services) would be launched using [SCORM](#) or [LTI](#) mechanisms and specifications.

Full integration - CSPA resources are available throughout GCTools and vice versa. Thus, for example, GCConnex discussion groups could be created and accessed from courses, while courses (especially those on how to use GCTools) could be accessed directly from GCTools.

Respondents also addressed the business value of integration. A few things stood out. There was near universal support for a single signon mechanism, with respondents citing it as the most frequently sought-after improvement by learners. Additionally, respondents looked at integration as an excellent means to enable CSPA to deliver on its core mandate of offering training and support to the federal public service.

Several people mentioned the need for extended training and support to help learners use the new system. People complain that they cannot find things on GCConnex, for example.

But CSPA doesn't have the resources to support everybody on GCTools. This means that for some services accessed through a CSPA course, if a person asks a question, there's no one to answer.

Defining 'other platforms'

Though research identified a variety of platforms, the CSPA plan envisioned integration with GCTools specifically. However the possibility of integrating with other services intrigued respondents.

Discussions are already underway with GCTools. Ideas mentioned include support from GCConnex with blogs, of GCpedia for information, etc. But there is a concern that TBS is moving ahead too quickly and missing aspects of CSPA.

One issue raised early was that, while GCCampus courses are open to the wider internet, GCConnex services are located behind the intranet. So there is a disparity of access. Some people suggested that this would not be a problem, as people do not typically access courses from outside the office. But it does pose an issue for mobile and other forms of access.

Some others also raised doubts about the utility of GCConnex tools, saying, for example, that discussions are already available in Moodle. However the majority indicated growing support for some sort of integration with GCConnex, pointing especially to the rising popularity of GCTools generally.

The other major target of integration was based around OCHRE in the areas of human resources and talent management generally. Some felt CSPA is being pulled in two directions - are they more interested in tools, or performance management?

There was some discussion about integration - or at least interoperability - with external tools such as Facebook and Twitter. On this, opinions were probably more divided than anywhere else, with some vehemently opposed to social networking services, and others pointing out that this is where most people work and communicate online already.

Knowledge of other platforms within GoC

We asked about participants' knowledge of other platforms, primarily to evaluate what range of options was being considered.

All respondents were familiar with GCTools (though not necessarily every part of GCTools). Others mentioned services such as GEDS and the HRMS service that existed before Phoenix.

Several participants discussed the state of learning management systems within the Government of Canada generally, suggesting that with the expiration of the Saba contract

there may be a rationalization of all human resources and learning management systems in the government.

Linkages with employment and occupational platforms

In addition to linkages with GCTools and OCHRE applications, we explored the question of integration between GCCampus and employment or occupational platforms. This covered a wide range of possibilities, from talent management to employment opportunities platforms.

One thread of discussion considered the integration of GCCampus and performance management. Both directions were explored, with participants saying managers should be able to see learning records as part of performance review, and also saying that there should be recognition of prior learning from work experience by the school.

The view was expressed that GCCampus could be linked with Government of Canada employment services, but not external services such as Monster or LinkedIn. “We should have a solid internal platform that’s seamlessly integrated & not worry about what’s outside.”

Identification and single sign-on

Single-signon was the single most discussed issue in the entire consultation. Two major themes emerged:

1. *Everybody* wants single signon, defined as “you sign on once to your government account, and then you have access to everything,” and
2. *Multiple* single signon projects exist in the Government of Canada. For example, CSPS has its own [Shibboleth](#)-based system. There is also the [MyKey](#) initiative. There is in addition the general desktop login people use in their own departments (note that we did not attempt a full survey of signon mechanisms).

However, several issues were raised.

First, the level of security provided by (or required by) different signon systems varies. Examples include password change requirements, location (in or outside the intranet) requirements, and hardware requirements. Additionally, security needs vary department by department.

Second, there is not a clear definition of the need for, or business value, of signon requirements. For example, given that all CSPS courses are free, one might ask why a signon is required at all. Part of the reason for this is record-keeping, so people can be tracked and recognized for the learning they do. But there is also the perceived risk of allowing the public to view CSPS materials, in case they spot copyright violations or other flaws.

The idea is that CSPS is so integrated with other departments there would be one group responsible for sign-on, said one respondent. Why have five groups doing single signon? I asked whether we could trust Shared Services Canada to do that, and the response was

that there would need to be extensive awareness in GoC about how websites work, how programs work, and how computers work. Otherwise, there will always be a concern about people without knowledge making decisions, like Phoenix.

Support for distributed environments

The future of internet applications lies not in the traditional client-server technology that characterizes software like Saba, Moodle and Drupal, but distributed cloud-based applications created by integrating hosted services.

There was not any indication of awareness of this specific model, however the answers to this question resulted in an interesting set of observations about distributed learning.

One respondent spoke of 'distributing learning' and made the point that 'build it and they will come' does not work. The school needs to do more than to simply support power users; it needs to address the wider culture and deal with where people are.

Another respondent interpreted 'distributed learning' as subscription-based learning, and expressed strong support for the idea. The schools needs to remove the walls of learning from the containers they're in right now, said the respondent. With subscription-based learning, the self-activation of learners will happen, and the school can help with the transition.

Another interpreted the concept as the development of specific learning solutions for different departments. With the right application of metadata school staff should be able to approach a department and created a tailored program for them, we were told.

Another respondent focused on geographical distribution. The government's social presence in the regions is very important, maybe more important, we were told. In the long run, even Mirimichi (Phoenix) will work.

Expertise & Resources

We raised the question of whether respondents felt the CSPA has sufficient expertise and resources to implement the sort of integration programs being contemplated.

The most common response was that the resources do not exist. There were some qualifications. Respondents expressed the view that staff were capable of doing the work, but that there was a gap between expectations and the resources needed to do the job.

The view was also expressed that the school could leverage a lot of the work other people are already doing. The school has fuelled the idea that specialists should perform certain tasks, while in fact people could do much more themselves, with the right amount of support. One person talked about someone at NRCan who has his own podcasting server (he calls them [ToddCasts](#)) and is given some time by his employers to do them.

We asked specifically about the stability and robustness of the existing platform, and especially the enterprise bus, which was created specifically for GC Campus. The expertise is there to maintain it, we were told, and it's a long-term stable solution.

That said, there is a need for renewal in the workforce. People with the background and enthusiasm for new technologies join CSPA, but they do not stay. The workforce as a whole needs to be led to think in terms of online learning and performance support.

Strategic Directions

The New Business Model

As seen from the systems/solutions perspective:

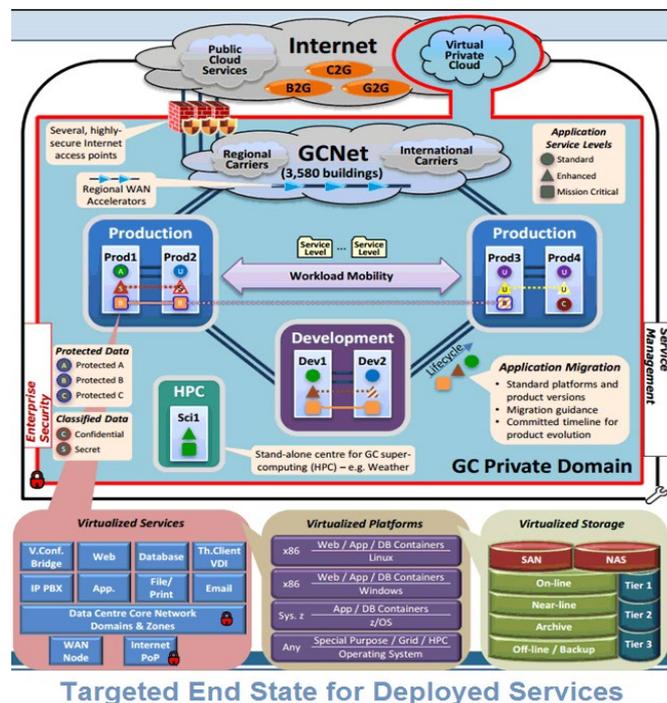
- no service catalogue / pay once, you're in
- looking to create 'opt-in' strategy for those outside core audience (eg. Canada Post)
- key challenge: knowing who CSPS clients are

They're trying to do partnerships (3 pillar sourcing strategy)

- eg universities/3rd party vendors
- High interest in OGDs having place to publish content

Messy space /crowdsourcing

- DM wants to move forward with that
- But the department does not take risks (privacy, language, accessibility)
- Same sort of risks with ebooks/3rd party etc.



Drivers

Up to now, IT has been driving functionality, but we can't push it much further without content following

Great opportunity & the business value

- but the business requirements are not yet defined
- need the business cases & visions for the future

Need to change the delivery model

- can't imagine sitting in front of the screen for 4 hours
- want to be able to learn quickly
- or I want the traditional method
- it's not just the learning opportunity but also the networking opportunity