

Built for Use:

How Virtual Learning Strategy Resources Shape Affordable, Flexible, and Learner-Centered Education

Author: Graeme Cannon

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Executive Summary

Ontario's Virtual Learning Strategy (VLS) supported innovation, collaboration, and the development of digital learning resources across Ontario's post-secondary institutions. Through the VLS, Ontario's provincial government invested \$70 million over three years (2021-2024) to enhance virtual learning and digital transformation in Ontario.

eCampusOntario continues to measure the impact of resources created through the VLS by speaking directly with those who have adopted and continue to use those resources.

Resources created through the VLS are available as open education resources (OER) for free use by instructors in their teaching practices on eCampusOntario's Open Library. Using an OER in this way is called adoption in the open education context. Adopted VLS-created resources drive impact through: supporting student savings by being free to access and use; providing high-quality activities that promote student reflection; supporting ease of access, being easy to update; providing multi-modal experiences; and promoting learner skills development. The modular nature of the resources enables replacing pre-existing, physical

textbooks in classes. Learners appreciate the use of these resources for similar reasons—especially the opportunities for reflection, accessibility, and that they are free to use—based on instructor assessments of students' beliefs and direct feedback provided to instructors. The adoption of these resources has encouraged instructors to participate in the open education ecosystem by promoting, developing, collaborating, and further adopting open education resources. They dream of a future in which open education is promoted, recognized, funded, and widespread, promulgating a culture of collaboration and knowledge sharing. Greater supports for the open education ecosystem such as the VLS help advance the legitimization and promotion of the open ethos in higher education.

VLS-created resources thus continue to have an impact on teaching, learning, and open education via their continued use in classrooms across Ontario, Canada, and internationally. Through the continued usage, adoption, and adaption of VLS-created resources and the collaboration promoted through them, post-secondary education is more accessible and digitally enabled. The legacy of the VLS endures and echoes through post-secondary education and lifelong learning.

Introduction

Ontario's Virtual Learning Strategy (VLS) supported innovation, collaboration, and the development of online learning resources across Ontario's post-secondary institutions. Through the VLS, Ontario's provincial government invested \$70 million over three years (2021-2024) to enhance virtual learning and digital transformation in Ontario.

The VLS was built on three key principles: prioritizing collaboration for sector transformation that impacts all institutions; being learner-driven by driving virtual learning excellence for all learners in Ontario both now and in the future; and being made digital-by-design with the development of online content. It was similarly predicated on three key pillars. They were:



Being the Future

Providing sector supports to drive a continued co-existence with hybrid learning: Ensuring learners have high-quality education: anytime, from anywhere. This requires quality and innovation, better data, and digital access to enable lifelong learning and fuel Ontario's global competitiveness.



Being a Lifelong Learner

Enabling learners to meet the needs of the rapidly evolving labour market at any stage of their careers by providing digital supports and infrastructure for new short duration training.



Being a Global Leader

Strengthening Ontario's leadership domestically and globally, by expanding access for Ontario's institutions to the global marketplace for virtual learning. With this, we aim to position Ontario as a global leader for virtual innovation in teaching and learning, including Ontario educational technology companies.

eCampusOntario sought to understand the continued impacts of the VLS by hearing directly from teaching and learning staff who indicated that they continue to use VLS-created open education resources. In the open education context, adopting a resource means using it in a classroom as teaching or learning material. Those who indicated using VLS-created resources are thus adopters of those resources. This report highlights the feedback that the adopters provided about the use of the resource in their classroom, including feedback directly received from learners. The impact of the VLS continues, as created resources support virtual student learning globally and inspire further open education adoption and creation.

Methodology

eCampusOntario's released a survey in June 2026 to those who had reported adopting at least one resource created as part of the VLS to eCampusOntario's Open Library. Adopters of VLS-created resources—and any resources adopted from eCampusOntario's Open Library—were reported through the OER adoption form located on the Open Library's website. It can be found [here](#). 134 individuals were contacted via a personalized email that included the survey link and a list of the VLS-created resources the individual reported adopting. 43 adopters participated in the survey. Those who completed the survey were eligible to further participate in an in-depth interview, should they be interested. 11 respondents participated in in-depth interviews throughout July 2026.

The survey disseminated to adopters consisted of up to 18 questions. Question types varied and, included selecting levels of agreement and short answers. All questions were optional. Topics covered by questions included:

- Location
- Current post-secondary education institution of employment (if in Ontario)
- Current usage of the adopted resource(s)

- Value provided by the adopted resource(s)
- Feedback from the survey participant about the adopted resource(s)
- Feedback from learners about the adopted resource(s)
- Hopes for the future of open education

In-depth interviews lasted for up to forty-five minutes. Interviews were conducted over Microsoft Teams, wherein they were recorded and transcribed. Questions asked covered several topics:

- The adopter's background and current role
- Why the resource was adopted
- How the resource is used in the classroom
- Any modifications made to the resource throughout its usage
- Feedback from learners about the resource
- Feedback from the adopter about continued usage of the resource
- Dreams for the future of open education

Interviews were conversational in nature. As such, questions were modified, skipped, moved, or added based on the discussion and flow of the interview. Results of the survey were analyzed in Microsoft Excel. Qualitative responses to each question were organized thematically. Similarly, interview responses were analyzed and coded thematically in NVIVO.



Results

Backgrounds

Resources built through the VLS are being used all over the world. Based on discussions with project leads and reports of resource adoption to eCampusOntario's Open Library, resources produced by the VLS have been adopted and adapted across Canada and countries around the world. This project validated and expanded on previous findings from eCampusOntario research, which can be found [here](#).

Of the survey respondents in this project 29 (67%) work in Ontario. 4 (9%) work in other parts of Canada, while the remaining 10 (23%) work outside of Canada. Interview participants were likewise Ontario focused, with eight working in Ontario, one who works in another province in Canada, and two participants who work outside of Canada.

Research participants within Ontario represented all three types of publicly funded post-secondary institutions: 15 survey respondents represented



universities (52%), 11 represented colleges (38%), and 3 represented Indigenous institutes. Overall, survey respondents in Ontario represented 16 distinct institutions. Interview participants also represented Ontario's Indigenous Institutes, universities, and colleges.

Interview participants described their background in academia and open education. For some participants, their past educational experience instilled in them the value of open education, whether from their own experience or what they studied. For others, professional development played a part in their interest in using OER, such as by participating in eCampusOntario's OER Ranger program¹. Others are trying to support students during a cost-of-living crisis by leveraging OER to lower the cost of education. All interview participants are instructors. Classes taught by interview participants range in size, level, and scope, from small, online classes to master's level classes to large, introductory classes.

VLS-created resources have reached instructors across the country and beyond, from a variety of backgrounds, and through them continue to reach, inform, and support the student learning journey.

Experience with the Resources

Adopted of VLS-created materials have a myriad of experiences and thoughts on their use of those resources. Research participants were willing to speak about that experience in order to provide a fuller view of the impact of the VLS.

Survey respondents were contacted due to their indication of a single instance of adopting a resource. However, VLS-created resources have long-term use once they are adopted: 36 (84%) of survey respondents indicate that they continue or plan to continue to use the adopted VLS-created resource in their classroom. Through the quality of their development, VLS-created resources ensured their continued use. VLS-created resources have been adopted because of the quality of the resources in their specificity for the course being taught, ease of access and use, accessibility supports for learners, and the cultural context. The role of resources varies by class: in some cases it is the only resource used, while in others it augments or is further augmented by other resources.

¹ The OER Rangers program was also funded by the VLS.



Role of Adopted VLS-Created Resources

In many classrooms, the VLS-created resource is the primary resource for the course. In these cases, it often replaced an existing textbook. Research participants described the resources they replaced as “super expensive,” “bulky,” and less relevant to the cultural context in which they were teaching. These ideas alone promoted the use of free-to-access, online, relevant materials that the VLS-created resource provided.

The entirety of adopted VLS-created resources need not be used in classes. Many research participants noted that they use specific parts of the resource in their teaching. The goal of selecting certain parts of the resource to use is, as one research participant said, “to keep [students] interested.” This is especially true in introductory courses, where instructors hope to encourage learners to take upper year programming later. These large-scale introductory classes are primed for OER adoption and usage to support the student experience. In many courses, adopted

VLS-created resources are augmented with other resources, including open access textbooks, publicly available research, and videos available on the internet. In some courses, the VLS-created-resource is used as supplementary material, providing a background resource for learners that can provide greater reinforcement and context on class content.

Research participants use the activities—including question banks, case studies, reflection opportunities, and review questions—provided in VLS-created resources and find them helpful in engaging and supporting the skills development of learners. Activities in these resources were assigned or references to students, with one interviewee noting that they deeply integrated the resource into class as they “had at least an exercise or reading [they] referenced every single week.” Some VLS-created resources were specifically designed as activity banks for instructors to use. Within the resources that research participants reported adopting, learners improve hard and soft skills: from areas specific to the program and course taught to more general skills like researching and presenting.



Reasons for Usage

Research participants highlighted several reasons for which they use their adopted VLS-created materials in their classrooms. For some, it is because they or their colleagues supported the development of the resource. In these cases, the resource has been specifically tailored to support the course it is used in. For others, they like the way the VLS-created resource supports students. With the resources being free and having accessibility supports built in, students are better able to engage with classroom materials. Students will not feel like they are wasting their money if the entire resource is not used. Materials can also be adapted or updated at a moment's notice due to their online nature. Several interviewees indicated they have provided updates to the resources they have adopted.

The digital nature of VLS-created resources also supports students with developing skills required in a digitally transforming world by exploring technology and participating in varied modalities. For example, one interviewee indicated that the VLS-created resource they adopted supported students in understanding the differences in types of learning and working modalities, such as in-person synchronous and online synchronous. Another interview participant, building on their personal ethos of encouraging OER use, “offer[s] one week where the students [are] able to work through a module at their own pace rather than being committed to [a specific] time [for in-person class].” Allowing students one week of asynchronous class encourages their learning to operate in different modalities (online asynchronous and in-person synchronous). VLS-created resources support the development of different, digital skillsets, which is paramount as workforce expectations and modalities shift.

Generally, research participants also like the content of the resource they have adopted: the information, supporting materials, the sources, and the way information is presented. All of these pieces help to support learning and the classroom experience. One area in which these resources shine for some research participants is the Canadian context of VLS resources. VLS-created resources may have sections involving Indigenous peoples of Canada and their specific experiences related to the subject matter. Similarly, it helps students relate to the material because the contextual and cultural differences align with the Canadian experience. Canadian-made resources are also made by and for their peers across the province or country, expanding a culture of collaboration between individuals.

Identified Supports for Learners

Research participants highlighted benefits for their learners that the OER they adopted provide. These include the accessibility and free aspects of OER, with one instructor highlighting a student who couldn't attend in-person class due to illness but was able to complete the course due to the online and accessible nature of the resource. Another interview participant indicated that they teach students with less income, so replacing the expensive physical textbook with a free OER was an easy decision to make. Learners being able to use the resource in later classes and after graduation was a bonus. Another instructor highlighted how the online nature of the resource—found on Pressbooks—allowed for easy use on any type of device and reduced barriers to sharing it. Instructors—and students—have also indicated they like the multimodal format of delivery in VLS-created resources, such as the use of videos and interactive elements.

Learner Feedback

Survey respondents were asked to what degree they believe that students would agree with particular provided statements. 42 (98%) survey respondents believe that students would somewhat or strongly agree that the adopted VLS-created resource provides value in the course. Similarly, 42 (98%) survey respondents believe that students would somewhat or strongly agree that the free VLS-created material is preferable to using a resource they would have to pay for. 40 (93%) survey respondents believe that

their students would somewhat or strongly agree that the material in the resource is accessible and easy to use. Finally, every survey respondent (100%) indicates that they believe that students would somewhat or strongly agree that the material in the adopted VLS-created resource is understandable and easy to read. Considering the wide-range of courses and disciplines in which these instructors teach, VLS-created materials provide an improved experience for learners.

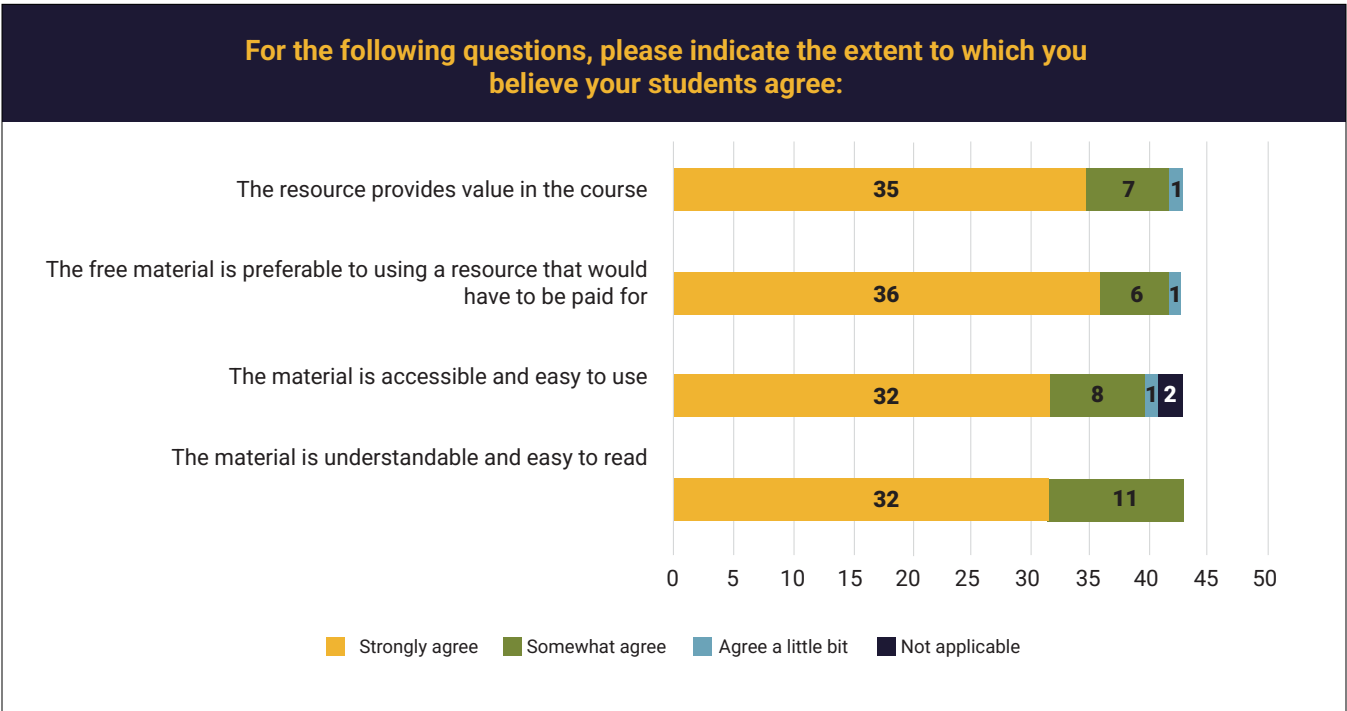


Figure 1. Respondents were asked how much they believed their students would agree with the presented statements: strongly agree, somewhat agree, agree a little bit, or don't agree at all. Respondents could also select that the statement is not applicable.

Research participants provided direct feedback that they had received from their students. A common theme heard was the increased accessibility of the VLS resource compared to a regular textbook: the ease of use, the use of multimodal methods to present information, the choice of language and wording, the selection of information presented, and the built-in support for assistive technologies. Using mixed modalities—using text, videos, and images—to present information was brought up many times as successfully supporting those who need more support, including those who struggle with English or have disabilities. One interviewee elaborated on their own classroom's experience by noting how videos that duplicate the text make it feel more alive by presenting it in another modality. Learners reported to research participants that interactive, virtual activities are fun to partake in and how they appreciate the speed at which changes to content, wording, or grammar can be made to these resources to increase clarity and currency.

Learners also told research participants that they appreciate that the materials are online and free. Specific areas that students appreciated mentioned by research participants include: being able to resources search by key words; access the resource

not expiring; being able to access the resource just with an internet connection anywhere at anytime; and being able to save money by not needing to buy a textbook. One interviewee described students, upon learning the required class materials are free, as having “an audible sigh of relief, like ‘Oh, thank God, there’s not another \$200 textbook I need to buy’”. Being mobile responsive is also a boon for students, as to access the resource students do not need to use a computer.

Learners indicated that they like having access to the materials after the class in which they used it has ended. This allows them to refresh themselves on information or skills at any time. Many of the resources used also facilitate learners gaining skills that are helpful and practical for them finding employment, including in specialized fields.

Finally, interview participants highlighted that students used the resources and material therein to provide reflection. In this way, students affirmed their own learning. Several interview participants recounted the high level of reflection on course content they saw in assignments. The adopted materials clearly supported student reflection on the materials.



Dreams for the Future of Open Education

The ideal future of open education differs from person to person. Research participants were asked about how they hope the future of open education looks. Some participants mentioned their want for greater funding of open education, other participants mentioned changes to the modality of teaching and learning, and other participants still mentioned changes in culture. Overall, there was a hope for a culture of accessibility and collaboration for the future of open education.

To start, participants want to see more funding for the creation of resources. Participants identified this as a barrier to creating or adapting OER: developing resources takes time and instructors would like to be paid for the time they spend working. More funding to develop resources would further enhance the ability of instructors to create, adopt, and use OER in their classrooms. Likewise, more funding would also increase the likelihood of OER being updated. Textbooks published by publishers release new, updated versions, so the digital nature of OER should help to promote upkeep. Research participants would also like to see OER supported more by institutions within institutional policy. This could involve promoting the use of OER and providing support and recognition for instructors in adopting OER. Building a culture of open into institutions supports building it into the post-secondary ecosystem at large. Open education practitioners want recognition for the work that they undertake in the open education space and for it to be seen as equivalent to working with traditional publishers. They expressed that those who create and adapt OER should be formally recognized and compensated for their efforts, whether through financial remuneration, publishing credit and recognition, or other ways that support career advancement. Indeed, one interview participant credits their tenured position for why they are able to have the time to engage with OER. When instructors have the

opportunity, such as the time and bandwidth, to adopt OER, they are better able to engage with the ecosystem and culture. Building and expanding policies at institutions that support open education development are key to encouraging the culture of open.

Many participants hope that OER as free resources replace traditional physical textbooks. In many cases, that is exactly what adopted of VLS-created materials has done: replacing the bulky, expensive, physical, large textbook with a free OER resource. Two interview participants emphasized this point. One stated that they “wish none of the students had to pay for the textbooks.” This aligns with their personal values and is why they continue to use and adopt OERs. Another participant strongly emphasized this view by stating that they “sincerely hope that OER publications eradicate traditional high-priced textbook publishing from the face of the earth.” The sentiment remains that OER provide a free alternative to textbooks that can enhance the student experience.

Many participants noted the changes to teaching modalities in a future where OER are in widespread use. In the dreams or research participants, there are changes in the teaching modalities, where online and technology-enabled education, including artificial intelligence, support the personalization of learning. The creation and updating of OER is supported by AI agents. However, the human component is also important. Humans would verify AI-generated content in OER, increasing the importance of reviewing and updating resources. The personalization of learning in OER could also include interactive elements that increase accessibility. Scenarios, including those done via augmented or virtual reality, can be tailored to match where learners need further experience. Advancements in technologies integrated with OER could allow for greater customizability and personalization for learners.

A shift in modalities to online and technology-enabled learning also supports student accessibility. OER are free resources, so students who are facing affordability challenges are able to use their education resources at no cost. Similarly, the online nature means that OER can be designed to be accessible to students with disabilities. Greater adoption through more funding and support and the building of a community and culture of open supports instructors and learners. The expanded adoption of open education is the main, biggest, most popular dream of participants—who are already open education practitioners.

Finally, instructors would like to see an increased culture of collaboration in higher education, especially with regards to the uptake of open education. With OER, knowledge and resources are freely available, can be less formal and more accessible, and operate as part of the “democratizing of [higher] education.” A shared culture of collaboration increases OER usage, updates, and adoption, and also increases the quality of resources under peer review.

Researchers can share their rare expertise, providing a breadth of subject areas from subject matter experts. OER support community building globally between instructors and learners and breaks down barriers, promoting collaboration.

Fostering Inspiration

Adopting a VLS-created resource and continuing to use it has inspired adopters to become more enmeshed with open education. The adoption of VLS-created OER has spurred research participants to consider making or wishing that they had more time to commit to creating their own OER. Several interview participants have received created or received funding to their own OER already. The culture of collaboration expands when more people are involved in the creation and adoption of resources. VLS resources inspired that creation and collaboration.

Research participants also highlighted the importance of providing support for open education, including incentivizing keeping OER updated. By continuing to develop and update OER, education can “not just keep pace with the future... [but] empower learners to shape it.” Many interview participants also emphasized their support for greater investments for funding and support for the creation and updating of OER materials, as the impact of one resource can proliferate over time. The continued funding of open education resource development, uptake, and updating can thus support the sector at large. Indeed, open education works best when it is a fostering and within a shared, collaborative culture.

Many survey respondents also provided their thanks to the original creators of their adopted VLS-created resources, to the province for funding the creation of such materials, and to eCampusOntario for providing those resources. The principles and pillars on which the VLS was built ring true: the resources have met long-term use that support collaboration and digital learning experiences for learners while promoting access to high-quality resource at any time, from anywhere and positioned Ontario as a leader globally in providing these resources.

Conclusion

Resources created through the VLS continue to support teaching and learning in meaningful ways. The participants in this research represent institutions within Ontario, Canada, and internationally, demonstrating the widespread reach of VLS-created resources. These resources may be used as primary materials, supplementary materials, or reference materials, but the impact is noticeable: learners continue to benefit from their accessible and free nature. The continued usage indicates that VLS-created resources remain relevant, useful and adaptable.

The free and open nature of these resources remove financial barriers, while the virtual format supports accessibility and flexibility for learners and continuous improvement of the resources. The usage of these resources is helping to expand a collaborative culture of open, in which practitioners adopt, improve, and create new resources for others. Many research participants described how their experiences of using VLS-created resources inspired them to share resources with colleagues, advocate for open education, or develop resources of their own.

Research participants are hopeful for a future in which open education flourishes, a future in which open education resource development and adopted is funded, sustained, promoted, and recognized. As new technologies, especially AI, emerge and evolve, they are hopeful that these tools can support the creation of personalized, interactive, and accessible learning experiences, but that the human touch and oversight is not lost.

The impact of the Virtual Learning Strategy continues to be felt by supporting students in Ontario, Canada, and across the world to have accessible and high-quality online and technology-enabled learning experiences. Through continued usage, adoption, adaption, and promoting collaboration, VLS-created resources are contributing to a more accessible and digitally enabled post-secondary education system. The legacy of the VLS exists through its resources, but also through the connections and experiences of all those who have and continue to interact with VLS-created resources.

