

Using the ePortfolio as a help tool for student retention in postsecondary education

Louise Sauv , T LUQ / Center for Expertise and Research in Life Long Learning (SAVIE)

Introduction

Abandonment and student retention are major challenges for post-secondary institutions, particularly as they face increasing challenges in maintaining their student clientele during their first year of studies. In American and Canadian universities, between 20 and 25% of students drop out during their first year (Grayson, 2003) and 20 to 30% of those who continue abandon during their second year (CCA, 2008). "What are the measures that postsecondary institutions can place online in order to help their struggling students and increase student retention?"

It is in regards to this question that a research team has developed and tested an online help system, SAMI-Perseverance, with post-secondary students in which an ePortfolio tool has been integrated. This study aimed to examine how a help system offering personalized and adapted support for the difficulties experienced by students during their studies can contribute to student retention and academic success. The study was also done to examine the contribution of ePortfolios in the context of perseverance in postsecondary education.

The report presents the context of the study, the personalized folder for each student (PSF) and the intervention folder (IF). Also included are the testing results from the testing of the PSF in terms of its user-friendliness, its content and its usefulness.

Context of the study

Our society, founded on knowledge, openness to the world, creativity and innovation, requires for the maximum development of potential and a high quality education for present day citizens (CSE, 2008). In this context, the abandonment of post-secondary education can severely handicap individuals concerning their future prospects: finding employment, their income, their health and their future lives (McKinsey & Company Social Sector Office, 2009; UNETP, 2010) while a post-secondary education becomes a rather important asset for them (CSE, 2008).

Knowing that individuals need to be more and more educated and competent in order to meet the changing labour market (Parkin and Baldwin, 2009; McKinsey & Company Social Sector Office, 2009; UNETP, 2010), the development of tools is important in order to enable students to achieve these ends and the development of means to disseminate these tools is fundamental. We need to examine what are the difficulties experienced by students enrolled in college and university.

Parkin and Baldwin (2009) find that characteristics associated with abandonment differ considerably from one study to another. They state that "the findings from one study do not always apply to other studies [...]" (2009, p.8). Thus, some studies concentrate on student characteristics: gender, age, dependents, academic achievement and commitment, education and income of parents, financial aid, career counselling and indigenous status. Others focus on student motivation (Reeve, 2002; Racette, 2008) in undertaking their studies and their commitment throughout their studies. A limited number of research studies are concerned with deficiencies in terms of learning strategies or with prior knowledge of French, mathematics or technology. Finally, very few studies examine the influence of a set of characteristics on the students' decision to abandon (Sauv , Racette and Moisan, 2010). Like the CFS (2007). We have issued, as a first

hypothesis, that the decision to abandon studies cannot be only attributed to a single problem but rather to a set of difficulties.

Wanting to place and test an online help system for aiding student retention in postsecondary institutions in Quebec, we reviewed the measures already in place in these schools to help and support students experiencing difficulties as well as the research studies which report on the experimentation of these measures. Different findings emerge.

Several projects were completed and several measures have been experimented with: individual tutoring, mentoring program, introductory course for a program, help center for French or mathematics, presential workshops on learning strategies, etc. Some of these measures were abandoned while others were implemented and became autonomous services; other projects were planned, but unrealized (Task Force for Student Success at UQTR (2008). These many and varied actions show little coordination between them (Bégin and Ringuette, 2005). Too many different actors are involved. The fragmentation of the activities and support measures does not encourage an integrated and comprehensive approach, which thus creates disorganization. In general, these measures are often based on intervention approaches which are oriented towards the integration of students into the system and their adaptation rather than the student themselves (Dion, 2006; Box et al. 2012; Neslon et al, 2012). Finally, few measures are offered beyond the first year of study and even less that use technologies to support students in need throughout their journey through school (Santiago et al. , 2008; UNETP, 2010; Endrizzi, 2011). It is within this implementation context that we hypothesized that the online help system should consider the needs (difficulties) of the students based on their progress within their program (from the very first day until graduation) and not only at the beginning of their studies. The system also has to adapt to the needs of each student and suggest personalized measures in function with the student's progress in their studies. Finally, the system should provide a tool that would allow students to retain copies of the personalized approach and this throughout their entire studies: the ePortfolio. An ePortfolio provides a platform for the students to save and show their learning results. It is also a convenient way for the teacher to check student outcomes and supply online feedback (Dennis, Hardy & White, 2006; Chang, 2010). In this research, the ePortfolio is an evaluation tool to inspect the progress and outcome of student learning (Tsou, 2000; Barker, 2006).

The tools of the ePortfolio

During the design of the ePortfolio for the system, we wanted the collected data to serve both students and the intervention personnel who support course after course the students in their efforts to persevere and this throughout their study program.

Thus, the organization of the ePortfolio in SAMI-Perseverance reflects the activities to be undertaken by the students throughout their progress and having it available in real time to the intervention personnel so they can support students in difficulty by responding appropriately to their needs.

The ePortfolio tools should therefore generate at least two folders for consultation:

- A personalized student folder for each student (PSF) containing the following information: (1) their learning profile, (2) the results from the tools for screening difficulties (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities), (3) personal notes, (4) results from the self-assessment activities (refresher courses, skills to develop or to be perfected), (5) their personal help tools for succeeding in their studies and (6) comment cards on their activities from the intervention personnel.

- An intervention folder (IF) for the person or persons assigned to supporting the students which contains the following data: (1) personalized folders of the students enrolled in the system which is updated when accessed by the assigned personnel, (2) the quantitative and qualitative statistics of the difficulties experienced by the students and the means they used to alleviate these difficulties.

With the help of the PSF from SAMI-Perseverance, a student could do the following at any time: check on their progress within SAMI-Perseverance, examine their results from the different questionnaires of learning profile, check their difficulties from the different screening tools, consult with help tools for achieving success in school (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities), evaluate their learning (in french and mathematics), take notes and examine the comments cards,. As for the intervention personnel, they could: directly comment on the student’s actions in their IF, provide feedback at the appropriate time, exchange in real or differed time with one or more students and provide help and support tools for achieving success in postsecondary institution to a student or a group of students. Figure 1 presents the links between the two folders.

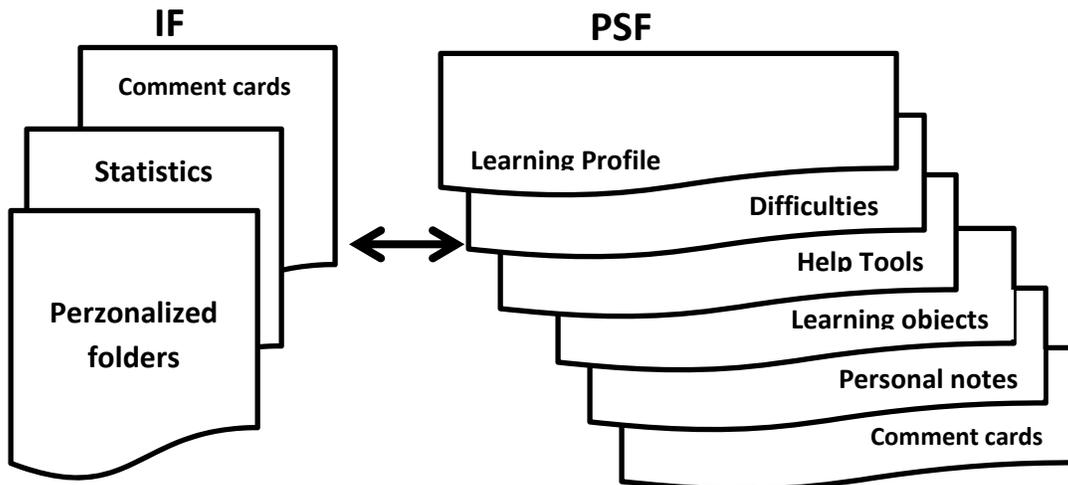


Figure 1. The links between PSF and IF

The PSF and the IF of our system were created with the help of Personn@lisa (<http://personnalisa2.savie.ca>), a design platform for online courses. Several technological criteria were also taken into account when developing these two folders: simple to use, supports various file types (texts, images, audio or video files, presentation documents, hyperlinks, etc.), indexed (each trace from the user is integrated in the structure of the ePortfolio which facilitates its consultation at any time), managed according to the contexts (public, private), mobile (via download in PDF format) and updated at the right time (the posted details are updated with a simple click from the users).

Methodology

In order to validate the contents of the SAMI-Perseverance TA support tool, we used the *Learner Verification and Revision* (L.V.R.) method. This method focuses on the user, is characterized by

flexibility and is well adapted to the context in which the product will be used (Nguyen et al, 2008). It allowed us to identify and then correct the errors and problems (Thulal, 2003; Maddrell, 2008) and to effectively validate a prototype through its course of development with a sample of the targeted users. This method, also known as a user trial, has also been used in learning object development research (Sauvé & Hanca, 2008; Sauvé & Royer, 2008; Sauvé & Pépin, 2009). The process involves validating the prototype through a sample of the target audience in order to measure its effectiveness.

In the present study, the sample is comprised of students who registered with SAMI-Perseverance between September of 2010 and March of 2012. Respondents were informed about the research and signed a consent form that confirmed their participation in the evaluation of the SAMI-Perseverance TA help tools. Part III of the Questionnaire on the SAMI-Perseverance TA Help Tool has three groups of questions according to the categories of the variables being studied of the ePortfolio: (1) the design, (2) the contents and (3) the usefulness. The statements use an appreciation scale with five choices aiming to determine the level to which respondents agree or disagree with the statements corresponding to each criterion. The questionnaire is administered at the end of the experimentation with the help of the tool itself.

The results of the study

There are 318 students in our sample: 62% are women and 38% are men. The respondents are enrolled full time (54.1%) and part-time 38.7% while 7.2% are visiting students. Finally, 47.9% of respondents are studying on campus and 52.1% are studying at a distance.

In terms of the ePortfolio, by grouping together the responses for *Strongly agree* and *Agree*, the results show that students consider that it is easy to navigate the ePortfolio (91.6%), that the presentation is clear (91, 7%), that the organization facilitates the consultation of their realizations and help tools (86, 9 %) and finally that the navigation buttons are explicit and easily seen (89, 3%).

Regarding the content of the ePortfolio, students (94.4%) consider that having access to help tools in order to help them succeed in their studies and choosing them through their portfolio helped them to solve their difficulties. They also consider that the results obtained with the questionnaires concerning learning profiles represent them well as students (95.4%). They feel that the results they obtained with the screening tools (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities) reflect the difficulties they encountered during their studies (90.7 %). They estimate that the logbook has helped them in their efforts to gather their thoughts and take down personal notes (94.3%). They consider that the results obtained from the self-assessment activities (ex. refresher courses, skills to develop or to be perfected) reflect well the difficulties they experienced during their studies (86.7%). They appreciated the comment cards from the intervention personnel on the activities they have done and believe that this feedback has encouraged them to continue their efforts with SAMI-Perseverance (88.8%).

In terms of the usefulness of the ePortfolio, the respondents found it useful (94.6%) and quite useful (5.7%) in helping them succeed in school. Finally, they consider that the consultation of their portfolio by intervention personnel has facilitated exchanges between the latter (89.3% agree or strongly agree and 10.7% somewhat agree). It also allowed the students to obtain comments that motivated them to continue with their efforts in SAMI-Perseverance (100% agree or strongly agree).

Conclusion

SAMI-Perseverance has been tested in two teaching modes (at a distance and on-campus) with students enrolled in postsecondary education. The results show a high degree of usefulness for the ePortfolios for supporting students trying to find measures that are susceptible in helping them resolve their difficulties. Students consider that the ePortfolio helped them reflect on their difficulties and find ways to resolve them. Thus, the ePortfolio assessment should involve: a learner's reflection to allow the learner to review his own learning process and an identification of the help tools that best fits their difficulties and finally to develop the learner's capacity to take charge for solving these problems during their studies and so persevere until graduation.

Today, thousands of French speaking students use the ePortfolio from SAMI-Perseverance in colleges and universities throughout Quebec. SAMI-Perseverance is available at the following Web address: <http://taperseverance.savie.ca>.

Works Cited

- Barker, K. C. (2006). *Environmental scan: Overview of the ePortfolio in general and in the workplace specifically*. [En ligne] <http://www.FuturEd.com>.
- Bégin, C., & Ringuette, M. (2005). L'étendue de nos actions. In Chenard, P. et Doray, P. (2005). *L'enjeu de la réussite dans l'enseignement supérieur*. Sainte-Foy : Presses de l'Université du Québec, 223-240.
- Box, G., Callan, N., Geddes, T., Kemp, H., & Wojcieszek, J. (2012) University First Year Advisors: A network approach for first year student transition and retention. A Practice Report. *The International Journal of the First Year in Higher Education*, 3(1), 91-100.
- Chang, C-C. (2010). Self-Evaluated Effects of Web-Base Portfolio Assessment for Various Student Motivation Levels. *Learning Forum London 2010 Proceedings*, 119-127.
- Conseil Canadien sur l'apprentissage - CCA (2008). *État de l'apprentissage au Canada : Vers un avenir axé sur l'apprentissage*. Rapport sur l'enseignement au Canada. Juillet. [En ligne] http://www.ccl-cca.ca/NR/rdonlyres/E1E66229-93EA-4DB3-A019-0765E614E42B/0/SOLR_08_French_final.pdf.
- Conseil Supérieur de l'éducation – CSE. (2008). Plan stratégique 2007-2011. Mars. Document administratif. [En ligne] <http://www.cse.gouv.qc.ca/fichiers/documents/publications/DocAdministratifs/50-0202.pdf>.
- Dennis, C., Hardy, J., & White, P. (2006). Development of a model to advance the uptake of ePortfolios for undergraduates in teacher education and registered nurse preparation: An exemplar of best practice. In E. Pearson & P. Bohman (Eds.), *Proceedings of Ed-Media* (pp.248-253). Norfolk, VA: AACE..
- Dion, C. (2006). *Évaluation du processus et de l'effet d'un programme d'aide à la réussite des études en enseignement supérieur universitaire*, UQTR : Thèse de doctorat, octobre.
- Endrizzi, L. (2010). Réussir l'entrée dans l'enseignement supérieur. *Dossier d'actualité de la VST*, 59. [En ligne] <http://www.inrp.fr/vst/LettreVST/59-decembre-2010.php>.
- Fédération Canadienne des Étudiantes et Étudiants [FCEE] (2007) *Une stratégie pour le changement : L'argent c'est important. Une solution de remplacement pour un système*

d'enseignement postsecondaire accessible et de qualité supérieure, Octobre. [En ligne] http://cfsadmin.org/quickftp/Une_strategie_pour_le_changement_2007.pdf - format PDF.

Grayson, P. (2003). *Les recherches sur le maintien et la diminution des effectifs étudiants*. Fondation canadienne des bourses d'études du millénaire : Montréal.

Groupe de travail sur la réussite étudiante (2008). *Plan quinquennal de soutien à la réussite étudiante*. Rapport final, Trois-Rivières : UQTR, 9 mai.

Maddrell, J. (2008) *Article Review*, IDT 848 Evaluation Study Abstracts, Old Dominion University. October. [En ligne] designedtoinspire.com/drupal/files/ArticleSummary%20Maddrell.doc.

McKinsey & COMPANY SOCIAL SECTOR OFFICE (2009). *The Economic Impact of the Achievement Gap in America's Schools*, NY: McKinsey & Company, Social Sector Office

Nelson, K.J., Quinn, C., Marrington, A., & Clarke, J.A. (2012) Good practice for enhancing the engagement and success of commencing students. *Higher Education*, 63 (1), 83-96.

Nguyen, T., Chang, V., Chang, E., Jacob, C., & Turk, A. (2008). A contingent method for usability evaluation of Web-based learning systems, In K. McFerrin, R. Weber, R. Carlsen et D. A. Willis (eds), *Proceedings of the Society for Information Technology & Teacher Education Annual International Conference- 19th International Conference of SITE 2008* (p. 579-585), Chesapeake, VA, AACE,.

Parkin, A., & Baldwin, N. (2009). *La persévérance dans les études postsecondaires au Canada : Dernières percées*. Note de recherche du millénaire n° 8.

Racette, N. (2008). *Expérimentation d'un modèle de motivation dans un cours universitaire à distance*. Thèse. Québec : Université Laval.

Reeve, J. (2002). Self-determination theory applied to educational settings. In E.L. Deci, and R.M. Ryan (Eds.). *Handbook of self-determination research*. University of Rochester Press : Rochester, New York.

Santiago, P., Tremblay, K., Basri, E., & Arnal, E. (2008). *Tertiary Education for the Knowledge Society*, Volume 2. Paris : OCDE.

Sauvé, L. & Royer, M. (2008). *Banc d'essai des capsules d'apprentissage du programme Asthme à la carte*. Québec, SAVIE, juillet.

Sauvé, L., & Pépin, K. (2009). *Banc d'essai des objets d'apprentissage Distance Zéro*. Québec, Télé-université.

Sauvé, L., & Hanca, G. (2008). *Banc d'essai des outils d'aide à la persévérance aux études*. Rapport de recherche, Québec : SAVIE et Fonds Inukshuk Sans-fil, février, 31 pages.

Sauvé, L., Racette, N., & Moisan, D. (2010). *Entre l'abandon et la réussite aux études postsecondaires : offre institutionnelle et recours des étudiants aux dispositifs d'aide*. Rapport de recension, Décembre, 42 pages.

Thulal, A.N. (2003). *Application of Software Testing in E-Learning*, Delhi, Dept. of Information Technology, Amity School of Engineering and Technology, [En ligne] : <http://www.jmi.nic.in/Events/witsa2003/AmritNathThulal.pdf>.

Tsou, H.-I. (2000). Concept and assessment of project-based learning. *Proceedings of Conference on Management of New Century Learning* (pp.35-52). Tainan: Tainan University Center for Test Development. .

USA National Educational Technology Plan [UNETP] (2010). *Transforming American Education: Learning powered by technology*. [En ligne] <http://www.ed.gov/sites/default/files/NETP-2010-final-report.pdf>

Author

Professor, Dr. Louise Sauvé

UER Education, Télé-université

Director of the *Center for Expertise and Research in Lifelong Learning* (SAVIE)

455, rue de Parvis, C.P. 4800, succ. Terminus, Québec, (Québec) G1K 9H5

lsauve@teluq.ca

Référence : Sauvé, L. (2012). Rules to develop an online support system for students with attention deficit disorder and learning disabilities for persevering in their postsecondary education. *E-LEARN - World Conference on E-Learning*, Montréal, October 9-12 [En ligne], 6 pages.