

Exchanging Digital Educational Resources among Teachers: a Survey in Vietnam

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Abstract: As a part of a PHD thesis about educational resource sharing and the design of specific functionalities to facilitate visualization of the life cycle of educational resources intended for classroom use, we have investigated opinions of Vietnamese teachers concerning resource sharing and sharing websites. After a first exploratory survey by questionnaire (N=69), we have participated in four workshops organized by the Ministry of education in Vietnam. We have administered questionnaires (N=905) and interviewed advanced teachers (N=25). This paper gives the main results we have obtained and provides some explanation linked to the cultural and social context in Vietnam.

Introduction

For several years, there has been a world wide interest concerning the sharing of educational resources (Downes, 2007; Larsen & Vincent-Lancrin, 2005; Johnstone, 2005), corresponding to the idea that knowledge should be made freely available to teachers. Often, it is a one-direction offer, from experts to other people, as for example the MIT open courseware initiative. But according to (Larsen & Vincent-Lancrin, 2005), in open educational resources communities “the innovation impact is greater when it is shared: the users are freely revealing their knowledge and, thus work cooperatively”. The OECD-CERI has launched in 2007 a project called *Digital learning resources as systemic innovation*, investigating “user-driven innovations related to digital learning resources, carried out by learners and teachers, such as innovative production and use of digital learning resources, and how the educational system responds to such innovations”.

In 2008, Times Educational Supplement has launched a social network towards teachers (TESConnect), based on a study entitled 'The Digital Staffroom: How social networking and resource sharing are transforming teaching', involving 5,000 teachers across all aspects of the teaching profession. This study reports that many teachers spend a lot of time in order to deliver the best quality teaching experience possible for their pupils: “73% of teachers use their evenings and weekends to plan for their lessons with many classroom teachers working a 50-hour week, 30% or more of that time is spent working out of school hours. [...] Teachers are constantly seeking to raise educational standards and are on a permanent quest for new ideas, but they are often isolated by the solitary, classroom-centric nature of teaching itself”. Online resource sharing could have a very positive impact on not only the lives of teachers but also those of the pupils they teach. Teachers could spend less time designing new resources and could be inspired by ideas and resources of other teachers. TESConnect propose over 50,000 free teaching resources to use in classroom and school.

In our laboratory, we have been studying exchange and sharing of educational resources among teachers for several years and the first author of this paper is preparing a doctoral dissertation on that subject. The general objective of this PHD thesis is double: on the one hand to better understand the conditions of educational resource exchange between teachers, and on the other hand to design some new functionalities for an exchange platform to ease sharing, indexing and reusing educational resources and to document and monitor the life cycle of educational resources all along from initial design to successive uses in different classrooms by different users. As cultural matters are certainly important and underline many issues concerning exchange between school teachers, and for conjectural issues, we have chosen to develop this research in a specific Asian country: Vietnam.

In order to better understand specific educational context in Vietnam, we have launched a survey concerning secondary school teachers and educational resource sharing. We have administered a first questionnaire during January 2010 (N=69) that has provided some interesting but limited results. We have decided to launch a wider survey in July 2010 by questionnaires (N=905) and interviews (N=25). In this paper, we present first results of this survey.

Resource exchange between secondary teachers: what do we know?

For the moment, very few research studies document the process of exchanging resources between teachers at a national level. But, in many countries, there are platforms or websites offering resources for teachers. For example, in Vietnam, two websites of the educational Ministry have been designed for educational resource sharing and for discussion about subjects concerning education (www.edu.net.vn/media and www.ebook.moet.gov.vn). The Violet (www.violet.vn) and Centea (www.giaovien.net) websites are private and well-known for sharing digital lessons and educational software. The website www.Thuvienkhoahoc.com proposes, in each educational subject, documents that can be modified by users, functioning as Wikipedia. While, on the website www.tailieu.vn, teachers have to pay to download documents.

In France, several teachers' associations promote collaborative work for producing educational resources. For example, *Sesamath* (<http://www.sesamath.net>) has produced several textbooks for lower secondary schools and has sold at a low price more than one hundred thousand books in 2009 (made freely available on Internet). *Les Clionautes* (<http://www.clionautes.org/>) for history and geography, *WebLettres* (www.weblettres.net/) for French and Literature, *LeManège* (<http://www.lemanege.eu/>) for economy and management, are associations promoting ICT use and offering space for sharing resources and exchanging ideas. We are studying how these online communities are functioning, but we face a problem concerning the lack of information about the use of resources by teachers and the way teachers modify resources to adapt them to their school context. In most cases, teachers download and modify resources but they do not upload the modified resources and very seldom comment their use and modification. For his doctoral dissertation, Huynh Kim Bang (2009) has designed an experimental website for the sharing of educational resources but he faced a lot of difficulty to find teachers interested in documenting the life cycle of educational resources. Then, he has implemented an open software called *SemanticScuttle* for bookmarks sharing and including free tag management tools. This bookmark sharing tool has been translated in Vietnamese in order to be used by teachers in Vietnam with an existing platform for educational resource sharing. But before setting up such environment, we wanted to better understand opinions of teachers concerning sharing process and conditions that could facilitate such process. We have launched two successive surveys.

The first survey used questionnaires and main results are reported in Nguyen & al. (2010), including information about ICT use in secondary education in Vietnam. With difficulty, we obtained 69 answers giving preliminary results concerning ICT use of computer science teachers and other teachers and some ideas about the exchange of educational resources. The clearest result is that nearly all our respondents declared using textbooks and reference books to prepare their lessons, but also the Internet. Three quarters of them said they used their lessons of the preceding year in order to spare time. They discuss with colleagues of the same subject about their methods, their experience and their ideas. They say they prefer to use lessons from Internet because lessons from colleagues of other school are based on different ideas. Another reason is the fact that using lessons from a colleague of the same school is not allowed in Vietnam. Teachers have to show that they are preparing their own lessons. All teachers declare that resource sharing is essential. But half of them do not upload their own educational resources and most of the respondents confirm they do not want to share their lessons by internet. We can imagine that some teachers have done a lot of effort to design their lessons and to obtain a good "product" and do not want other teachers to easily take what they have produced. Concerning teachers from excellence schools, it is likely that they prefer to keep for themselves their own tricks, to make money with supplementary lessons, also because they train their students for national competitions.

This first survey has given some hints, but due to the small number of respondents and too general questions, it has not provided a sufficiently precise picture of educational resource sharing in Vietnam. We have decided to go more in depth concerning opinions and activities of teachers and to launch another survey.

Second survey: methodological issues

Objective and practical issues

During July and August 2010, MEF (Ministry of education of Vietnam) has organized several workshops for secondary teachers: for teachers teaching in schools of excellence (there are only 76 such schools) and for teachers that play a pivot role in their secondary school, i.e. who are supposed to “transfer” the training offered by the Ministry to their colleagues. Participating in these workshops offered a good opportunity to gather opinions from these teachers who are considered as good teachers by their educational administration. We have prepared a short questionnaire and a canvas for interviews. The questionnaire is divided in three sections: (1) personal information including names, discipline, school address and email address (to have the possibility to contact them afterwards for them to be involved in our forthcoming educational resource sharing website); (2) their use of ICT in their professional work, advantages and drawbacks; (3) their knowledge of sharing website, their opinions and current practices. The questionnaire has 22 closed questions and 7 open questions. We have used a spreadsheet to code the answers and Modalisa for statistical analysis.

We have been involved in four workshops (2 in the north of Vietnam and 2 in the south). Paper questionnaires have been distributed to teachers and we focused on 9 main disciplines: mathematics, physics, chemistry, biology, computer science, literature, history, geography, and English. 905 questionnaires have been filled and interviews have been passed with 25 teachers. They have been selected because they are active users of ICT in their teaching and active participants of educational resource sharing websites. The objective was to get a better idea of their use of downloaded resources and their possible actions concerning the life cycle of educational resources. For example, we asked them about their use of ICT resources with their students, their eventual modifications, their comments, their preferences for a sharing website (static or dynamic resources), mode of functioning of a sharing website, etc.

Main characteristics of respondents

In order to analyze the characteristics of the population, we have the information filled in the questionnaires, the list of invited teachers provided by the MEF and some general statistics given by the Ministry. The list provided by the Ministry is certainly not very different from the list of people who attended the workshops.

The return rate of respondents is 55% but as one can notice, there are some differences among disciplines. One explanation is that teachers were in rooms and it has not been possible to distribute our questionnaire in some of them. We do not think we have important bias. It was more difficult to access in rooms in the workshops concerning excellence secondary schools explaining some differences (Table 2).

Table 1: Teachers involved in our survey

	Number of teachers in our survey	Number of teachers invited in the workshops
Mathematics	102	194
Physics	149	179
Chemistry	133	179
Biology	97	176
Informatics	168	226
Literature	57	183
History	61	163
Geography	74	162
English	64	179
Total	905	1641

Table 2: Origins of teachers: general or excellence schools, rural or urban schools

	Department of education	General	Excellence	Urban	Rural
Number of teachers in our survey	28	485	392	491	414
Number of teachers invited in the workshops	211	950	970	1183	737

Some participants to the workshops were representatives of the regional department of education. They do not teach anymore, their role is to manage the discipline.

Table 3: Male / Female

	Male (%)	Female (%)
Rate male/ female in our survey	55	45
Rate male/ female invited in the workshops	51	49

According to a statistics for the school year 2008-2009 concerning teachers in upper secondary schools, there are 58% of females and 42% of males (<http://www.moet.edu.vn/?page=11.10&view=1708>). Only 49% of females were invited in the workshops, and only 45% filled our questionnaire. The reason is certainly mainly social and cultural. In Vietnam, men are more interested in travelling and freer to do it than women who are mostly in charge of the family.

Main results

In this section, we will present main results obtained by the analysis of answers in our questionnaire, giving general tendencies and more significant results in crossing some characteristics of our population with general answers.

Table 4: Rate of searching and using information from websites (N=905)

	More than once a week	Between 1 and 3 times p. m.	Less than once p. m.	Not yet	N.A.	Total
Searching information on the internet	84,4	9,7	1,7	0,3	3,9	100%
Consulting information on the Internet to increase your own knowledge	73,4	20,4	4,3	0,1	1,8	100%
Looking for lessons on a sharing website	64,8	20,7	6,8	3,5	5,1	100%
Consulting information and lessons on the Internet to create your lessons with a computer	63,9	24,4	7,7	1,5	2,4	100%

As we can see, our population seems to be quite familiar with internet use for their activity. First of all for general purposes and personal reasons, secondly for their teaching. Concerning disciplines, we have some very significant results: (1) computer science teachers are more users than other teachers, may be because they are ICT experts and they have lessons in computer rooms where they can use overhead projectors (with digital resources); (2) science teachers are more users of resource sharing websites than social and human sciences teachers. It can be linked with scientific requirements, but also with the fact that there is no international competition for students in social and human sciences; no need to find constantly very specific resources. By the way, the number of school hours per week of scientific disciplines (<http://www.moet.gov.vn/?page=1.29&view=1556>) is larger than that of other disciplines. (3) Unexpectedly, geography teachers perform less information and lessons research by internet and less sharing of resources. We can notice that geography teachers often use the Atlas considered as an indispensable book. They encourage their students to process information based on maps, graphs, and statistics from the Atlas, renewed regularly.

The most popular website is Violet, far above official websites. Currently, it contains most resources and has most participants: 2 409 527 accounts, 259 730 course plans, 330 909 digital lessons (to be used with an overhead projector) and 212 286 examination subjects (consulted in April 2010). The two ministry websites are known but not very often used.

Table 5: resource sharing websites, knowledge and use rates

Name of website	Knowledge (%)			Use (%)			
	Yes	No	N.A.	Usually	Sometimes	Never	N.A.
www.Violet.vn	86	4	10	46	28	3	22
www.edu.net.vn/media	75	9	15	17	44	10	30
www.Giaovien.net	72	11	17	27	36	9	28
www.Thuvienkhoahoc.com	62	18	20	17	34	14	35
www.Tailieu.vn	62	16	22	21	31	13	34
www.ebook.moet.gov.vn	56	22	22	12	34	18	36

Table 6: resource websites and teachers' practices (rates)

	At least once a week	Between 1 and 3 times per month	Less than once per month	Not yet	N.A.
Downloading documents	49	29	12	2	8
Uploading your own documents	10	14	33	23	20
Discussing in forums	9	11	21	33	26
Adding a comment on a document	8	9	20	40	23
Creating a new topic in the forum	6	7	15	43	30

If 78 % of teachers say they have downloaded documents at least once a month (49% at least once a week and 29% between 1 and 3 times per month), very few have uploaded their own documents, very few had forum discussions, very few have added comments and have initiated a thread in a forum.

**Table 7: differences male / female: searching resource sharing websites
Khi2=30,2 ddl=4 p=0,001 (Very significant)**

	More than once a week	Between 1 and 3 times p.m	Less than once p.m	Not yet	N.A
Male	72	18	4	2	4
Female	56	24	9	5	7

One interesting result concerns differences between males and females. Men are more ICT users; they know more sharing websites, download more often documents and so on. One statistical explanation may rely on the fact that computer science teachers do these things more than other teachers and 70% of them are men. Using Modalisa without computer science teachers gives similar results and confirms very significant differences with all items. So, it seems that a social and cultural explanation, the role of females in the Vietnamese society, is relevant: women have to take a lot of time for their family.

Crossing all items, we have not found significant differences between rural and urban teachers. The location of teaching seems to have very little impact on ICT use and participation in resource sharing websites. On the contrary, we found some differences between teachers in excellence secondary schools and other teachers. Teachers in excellence secondary schools use ICT on a more regular basis. As they have *better* students (students have to pass a competitive examination to attend these schools), who are supposed to take part in national competition, teachers have to update their knowledge and they search more often information on the Internet. However, these teachers share their resources less often than the others. This is a confirmation of a result of our first survey: these teachers prefer to keep their good documents and own tricks, due to national competition for their students, there is rivalry between teachers which acts as a brake on educational resource sharing.

**Table 8: differences between excellence and general secondary schools, downloading documents
Khi2=13,9 ddl=4 p=0,008 (Very significant)**

	More than once a week	Between 1 and 3 times p.m	Less than once p.m	Not yet	N.A
Excellence	55	28	11	2	5
General	44	31	13	2	10

Table 9: differences between excellence and general secondary schools, uploading documents
Khi²=10,5 ddl=4 p=0,032 (Significant)

	More than once a week	Between 1 and 3 times p.m	Less than once p.m	Not yet	N.A
Excellence	9	13	35	26	17
General	11	16	31	20	22

Table 10: differences between sciences and human and social sciences, downloading documents
Khi²=19,7 ddl=4 p=0,001 (Very significant)

	More than once a week	Between 1 and 3 times p.m	Less than once p.m	Not yet	N.A
Natural sciences	52	25	11	2	9
Human and social sciences	40	38	15	2	5

For open questions, we used a thematic analysis method to categorize the answers. The main advantages for the use of ICT and the Internet:

- (1) In-depth and enlarged knowledge of the discipline, participation in discussion forums of specific topics, scientific papers consulting, updated information, courses, controls, good documents.
- (2) New teaching methods and modern methods (assisted by the computer and projector): exchange with colleagues.
- (3) Time saving in preparing lessons, use of all or part of a course, examinations, exercises on the internet.
- (4) Collection of many resources on development, with rich documents, images, videos, software, controls, exercises...
- (5) Communication with other teachers everywhere, at any time, regardless of the distance through internet.
- (6) Quick searches of educational resources through a search engine.

The main difficulties in ICT use are related to sometimes insufficient computer skills (novice teachers in ICT) and lack of computer equipment in schools.

About what can motivate teachers to often use sharing sites, we found that the quality of resources primarily matters, rich resources, interesting documents in the discipline, pedagogical information and exchange and sharing knowledge, experiences, teaching methods. On the issue of sharing itself, 342 teachers do not answer, they seem afraid to answer. For those who are willing to do is (1) to benefit from the experiences of other teachers, (2) to enrich their own resources, (3) to receive feedback from other teachers, (4) to contribute by individual documents to common resources, (5) to develop the sharing community, attract other teachers to share, (6) to study the knowledge of other teachers to improve theirs.

Barriers to sharing are first (1) lack of computer skills, some cannot use the functionality of a sharing site, and (2) lack of confidence in their own documents. Then (3) lack of time (especially for women), (4) lack of interest and (5) the desire to keep rare materials, especially in a competitive environment in excellence high schools.

By collecting all the ideas on what can attract the participation of teachers in a sharing site, one finds what is related to the quality of resources: accurate resources, that is to say consistent with official textbooks, rich and in-depth resources.

Interviews with 25 teachers have given some more information about the way they are using documents they find in resource sharing websites. They do not use entirely downloaded files with their students for several reasons: they can have other objectives; it is not fully adapted to their students; they want to add more exercises; sometimes it is not new for their students. They consult resources and copy and paste some elements to modify their own resources in order to spare some time.

Some say they are ready to upload their own resources to share with other teachers and receive comments. However, others are not ready to upload documents they have modified, only the documents they have themselves created. Most teachers take into account comments from other colleagues. If they judge these comments interesting, they will modify their document and test with their students, but will not upload again the modified document.

After each lesson, teachers write comments on their lesson plans to reuse them next school year. Documents from preceding years are enriched by comments and updated if necessary. As students are different each year, it is necessary to modify lessons from preceding year in order to adapt them to student needs.

When explaining to teachers we have interviewed what can be the life cycle of an educational resource, they declare to be interested to consult several versions of the same document and feel ready to be part of an experiment using such a sharing website.

In interviews, the question "Why do you actively share?" allowed us to supplement the reasons mentioned in favor of sharing. A teacher gave us his conception: "share a document, get 5 documents". He wants to save time and consult lessons of other teachers over to gather different ideas to improve his course. Another teacher said he had downloaded several resources and it must therefore upload his own documents in order to increase its credit (points) on the site Violet. Another teacher said he had received good feedback on its documentation, which enabled him to improve. He believes that sharing does not create competition in the profession because the use of shared documents depends on the experience and "natural" competence of each teacher. Another teacher said the principal of his school focuses on ICT use in teaching and in management. So, with colleagues during meetings, they discussed and exchanged software, digital lessons, specialized sites. A movement toward sharing has been committed.

Discussion and perspectives

Comparing our two successive surveys, we observe that participants of Ministry workshops (second survey) tend to do more internet research, more downloading, more uploading, more discussion, more comment... as they teach in excellence schools or are pivotal teachers. But if all teachers seem to have a great need to search information and to download educational resources, they share very rarely such resources among themselves. Concerning ICT use for teaching, our two surveys confirm classical obstacles: limited knowledge level, insufficient ICT equipment, a lot of spare time required. As we know, these are very classical reasons, sometimes qualified as folding screen: increasing competency level of teachers, providing more ICT equipment do not imply more uses and more deep reasons against ICT use for teaching appear.

All participants of the first survey agree that sharing educational resources is essential. 83.5% of teachers of the second survey declare being ready to share and among them 58% wanted to share and exchange with other teachers to get new ideas. However, why do they share so little though they all declare to be ready to share? Our analysis reveals some barriers for teachers in excellence school (mainly competition between schools and between teachers, possibility to earn more money). But what about a very efficient sharing website as 60% of teachers want a website with rich, good, in-depth resources?

During interviews, all teachers have confirmed they do not use directly resources they download. They modified them to adapt for their objective and their audience (their students). Some teachers are not ready to upload these documents, thinking they are violating author rights. But sharing successive versions of an educational document and visualizing life cycle seem to have the agreement of many teachers, ready to participate in an experiment offering such possibilities.

What to do next? It seems that launching another survey is not useful, we have enough results for designing functionalities for facilitating resources sharing and reusing and collecting more opinion seems useless.

Following these surveys, we want to deepen the analysis of sharing websites and offer a specialized platform for Vietnamese teachers. Afterwards, we wish also to analyze behavior of active participants in order to understand their approach in participating in sharing websites, the eventual sharing cycles and the reasons underlying the fact they became active participants.

We discussed with one of the administrators of the free resources sharing forum for teachers in the Lamdong province (www.Lamdong.dayhoc.vn). This site has about 3000 users and, according to the administrator, there are 45 active members who often contribute. Administrators want teachers of their province to share resources and experiences in education. All uploaded documents are checked before publication.

We are currently designing some features for a sharing website for Vietnamese teachers and Lamdong administrators agree to integrate them. We will then send the site address to all participants of our survey and other

colleagues via email to encourage them to share. This design is inspired by what has been done in edulibre.org, which allows the observation of the history of a document (in its various versions). Thus, the features of this site should include: a deposit function of a resource (title, educational level, type, description and adding files attached), a function to modify the resources and resubmit a new version, a forum to discuss issues of teachers, a credit system to encourage the participation of teachers (For example, a new account get 10 points, submit a new resource: + 5 download a resource: - 2 points...). We want to offer filtered search capabilities (directory, language, media type, classification of resources, skills associated) valued as a strength of the MACE system (Martin, W. et al, 2009) and take inspiration from the Australian network ALTC Exchange which promotes peer review as a means to give and receive feedback structured to improve educational resources (Geraldine et al., 2009), also displaying the list of most active participants of the site. Finally, we want to observe the contribution of teachers to the life cycle of resources and activities and collect opinions of users.

References

- Downes, S. (2007). Models for Sustainable Open Educational Resources. *Interdisciplinary Journal of Knowledge and Learning Objects*. Volume 3, 2007. <http://ijello.org/Volume3/IJKLOv3p029-044Downes.pdf>
- Geraldine, L., Robyn, P., Meg, O., Dominique, P. (2009). Sharing quality resources for teaching and learning: A peer review model for the ALTC Exchange in Australia. *Australasian Journal of Educational Technology*, 2009, 25(1), 45-59. <http://www.ascilite.org.au/ajet/ajet25/lefoe.html>
- Huynh Kim Bang, B. (2009). *Indexation de documents pédagogiques : Fusionner les approches du web sémantique et du web participatif*. PhD Dissertation, University of Nancy 1. http://tel.archives-ouvertes.fr/tel-00452259_v1/
- Johnstone, S. M. (2005). Open educational resources serve the world. in *EDUCAUSE Quarterly*, Vol. 28, No. 3, pp. 15 -18. <http://www.educause.edu/apps/eq/eqm05/eqm0533.asp>
- Larsen, K. & Vincent-Lancrin, S. (2005). *The impact of ICT on tertiary education: Advances and promises*. Washington: OECD/NSF/U. <http://advancingknowledge.com/drafts/Larsen-The%20impact%20of%20ICT%20on%20tertiary%20education%20-%20AKKE.doc>
- Nguyen, TH & Quach, TK & Bruillard, E. (2010). Informatique et partage de ressources au Vietnam, *EPInet* <http://www.epi.asso.fr/revue/articles/a1005g.htm>
- Martin, W., Martin, M., Alberto, G. Metadata in Architecture Education – First Evaluation Results of the MACE System. *In Proc. 4th ECTEL*, Nice, 2009. http://www.mace-project.eu/index.php?option=com_docman&task=doc...

Websites

- MIT open courseware. <http://ocw.mit.edu/index.htm>
- TESConnect, <http://www.tes.co.uk/resourcesHome.aspx?navcode=70>, consulted Oct 2010.
- The Digital Staffroom: How social networking and resource sharing are transforming teaching, http://www.tsleducation.com/newsrelease_220808.asp, consulted Oct 2010.
- MACE, Métadonnées pour des Contenus Architecturaux en Europe, <http://portal.mace-project.eu/>
- ALTC, <http://www.altcexchange.edu.au/>