

Survey on ICT in Education in Vietnam

Extended report 2nd survey round

Introduction

Survey rounds on ICT in education in Vietnam

This report is in first instance for all key players and stakeholders that have been involved in the study on ICT in education in Vietnam that was initiated in March 2012. At that time, 32 key players in the field of ICT in education from more than 20 different organizations from the public and private sector as well as development partners, met in Hanoi for a meeting on ICT in education in Vietnam. The key players' meeting was organized by the Flemish Association for Development Cooperation and Technical Assistance (VVOB), in association with the Vietnam National Institute for Educational Sciences (VNIES), the British Council (BC) in Vietnam and UNESCO. The objective of the meeting was to enhance dialogue on ICT in education and to facilitate key players to explore potential areas for cooperation. The participation list of the meeting had been compiled by the organizers and represents the broad network of actors in the field. To facilitate dialogue and cooperation, VVOB introduced the holistic framework of ten dimensions of ICT in education that were identified by the Southeast Asian Ministers of Education Organization (SEAMEO, 2010).

In the meantime, a series of survey rounds is being organized to come to a list of priorities and targets on ICT in education in Vietnam. Up to now, all key players have been invited to participate in two survey rounds.

In the first survey round, the participants have been asked to share their opinion on the current status and targets for 2020 on each of the ten dimensions of ICT in education for Vietnam. A group of 20 key players from the public sector (55%), the private sector (20%) and development partners (25%) completed this survey. Their input led to a list of 97 targets and priorities for 2020 addressing ten dimensions of ICT in education. In addition their input resulted in a list of 34 technologies that are or can potentially have an impact on educational change in Vietnam.

For the second survey round, the same key players were invited again to participate, as well as other stakeholders that had been identified after the first key players' meeting. In total, 26 respondents have completed the second survey. These respondents were asked to assess each of the ten ICT in education dimensions, as well as each of the 97 targets and priorities and the 34 technologies that were identified in the first survey round on their importance in the context of education in Vietnam;

In this report we share the findings of this second survey round.

Study objectives

The objective of this panel study is twofold:

- On the one hand we want to achieve a consensus on the priorities for ICT in education in Vietnam;
- On the other hand we want to prioritize the targets to identify possible areas for collaboration and to focus the collaborative effort of the Key Players in Vietnam.

In addition we want to list technologies that are commonly perceived as having potential impact on educational change in Vietnam.

Defining consensus and priority

In the second survey round, the ten dimensions of ICT in education as well as all 97 identified targets and priorities for 2020 were presented to the respondents again. For each of these dimensions, priorities and targets, they were asked to give their opinion on the relative importance in the current context of Vietnam. *They were asked which dimensions and targets and priorities are important and should be prioritized, relative to the other dimensions and targets and priorities, and in light of the current status of ICT in education in Vietnam.*

The respondents were asked to assess the dimensions as well as the targets and priorities on a scale from 1 to 10.

To guide their ranking, the following descriptions were provided:

<p><i>1 - Unimportant:</i> no priority; no relevance; no measurable effect; should be dropped as an item to consider</p> <p><i>4 - Slightly Important:</i> insignificantly relevant; third-order priority; has little importance; not a determining factor to major issue</p> <p><i>7 - Important:</i> is relevant to the issue; second order priority; significant impact but only until other items are treated; does not have to be fully resolved</p> <p><i>10 - Very Important:</i> a most relevant point; first order priority; has direct bearing on major issues; must be resolved, dealt with, or treated</p>
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All key players gave a score to each of the ten ICT in education dimensions as well as to each of the identified targets and priorities for 2020.

For each of the 34 technologies that were identified in the first survey round, the respondents were asked to give their opinion on the relative importance in the current context of Vietnam as well. They were asked to assess these technologies on a scale from 1 (no or little impact) to 5 (big impact).

As one of the objectives is to come to a consensus on the importance of identified targets and priorities, it is crucial in this study to define when a group consensus has been achieved, as well as when a dimension or identified target or priority is perceived as most important.

Priority:

In this study we use the mean or average of the total response as a measurement for priority. The mean value is a measure of central tendency. The mean value is equal to the sum of the values divided by the number of values.

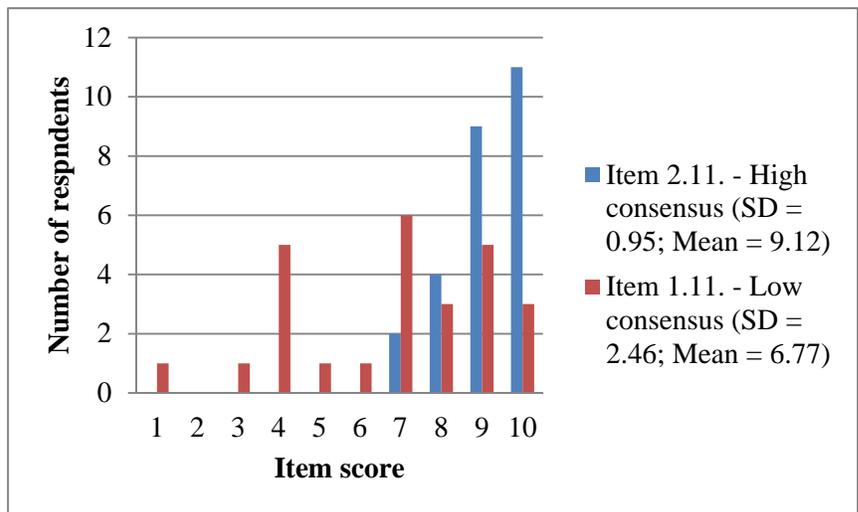
From: <http://en.wikipedia.org/wiki/Mean>

ICT in education dimensions as well as targets and priorities that have a mean value of 8.00 or higher, are considered as most important. Therefore we suggest listing these items as main priorities. Items with a value from 7.00 through 7.99 are still important, but not most important. Items with a mean value below 7.00 are considered less important and items with a mean value of 9.00 or higher are considered as crucial or very important.

Consensus:

In this study we use the standard deviation of the total response as a measurement for consensus. Standard deviation (SD) shows how much variation or “dispersion” exists from the average (mean value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data points are spread out over a large range of values.

See figure for illustration: *example of dispersion of how the respondents scored item 2.11 (high consensus) and item 1.11 (low consensus).*



From: http://en.wikipedia.org/wiki/Standard_deviation

For our study we suggest a standard deviation of 2.00 as the cutting point for a consensus. ICT in education dimensions as well as targets and priorities with a standard deviation lower than 2.00 are items on which there is a stronger consensus. For other items, with a standard deviation of 2.00 or higher, the opinion of different respondents is more dispersed.

In what follows we provide an overview of how respondents have assessed the relative importance of the ten ICT in education dimensions as well as of the 97 identified targets and priorities for ICT in education in Vietnam by 2020 and the 35 technologies.

Findings

ICT in education dimensions

In the first survey round, most key players did not observe that plans and policies on ICT in education or infrastructure and resources are at the transforming stage (see report: <http://www.vvob.be/vietnam/?q=en/report-ict-education-vietnam-current-status-and-targets-2020>). Moreover the respondents perceived a gap between different education levels: while - as observed by the key players - higher education institutions are mostly at the infusing stage for different dimensions, in secondary and especially primary education some dimensions are still in the applying and even emerging stage.

Data from the second survey round shows that for all of these ICT in education dimensions, there is a consensus on the importance of these dimensions amongst the respondents, except for dimension 8 related to a “National ICT in education vision” (SD \geq 2.00).

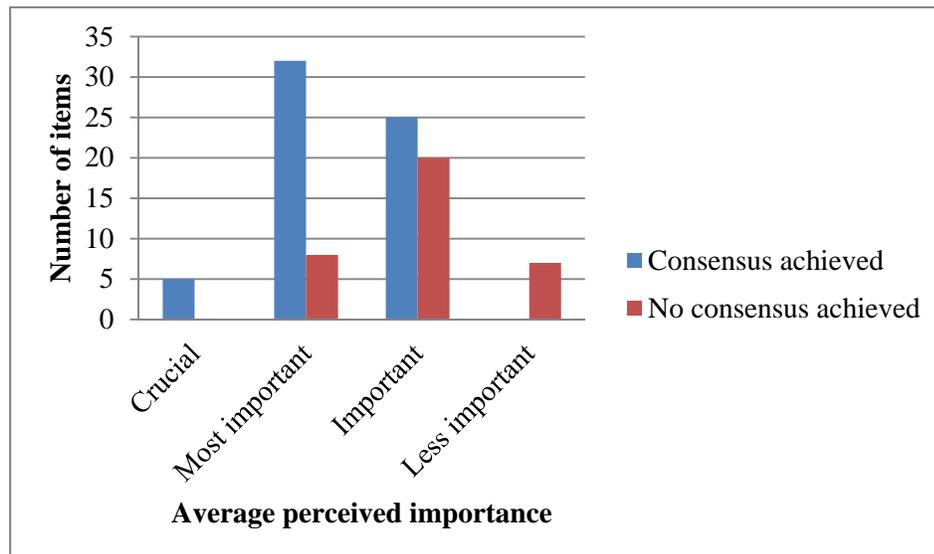
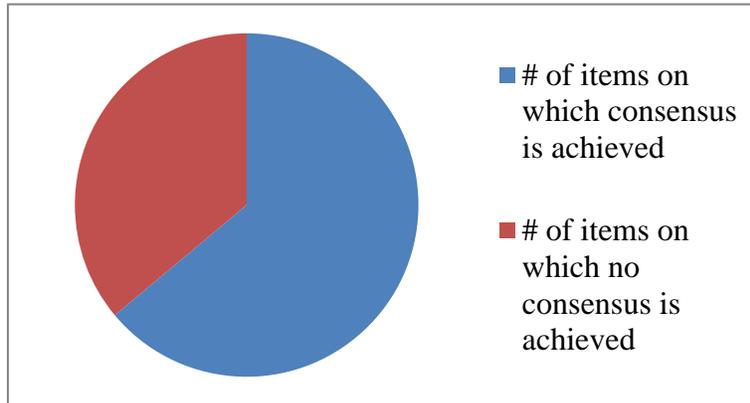
ICT in education dimension	Mean	SD
ICT infrastructure and resources in schools (1)	8.15	1.85
Teaching and learning pedagogies (2)	8.81	1.33
Professional development for teachers/school leaders (3)	8.85	1.38
ICT in the national curriculum (4)	7.77	1.48
Community/partnerships (5)	7.50	1.53
Assessment (6)	7.88	1.84
Evaluation & research (7)	7.58	1.94
National ICT in education vision (8)	8.31	2.07
National ICT in education policies & plans (9)	8.46	1.70
Complementary policies & plans (10)	7.92	1.88

All dimensions are evaluated as important (Mean \geq 7.00), and five dimensions (1, 2, 3, 8 and 9) are identified as most important (Mean \geq 8.00).

Targets and priorities on ICT in education for 2020

Of the 97 targets and priorities for 2020 that were identified in the first survey round, in the second survey round consensus has been achieved on the importance of 62 (63.9%) of these items (see table in annex).

Of these 62 items, 37 are on average perceived as most important ($9.00 > \text{Mean} \geq 8.00$), 5 even have a mean score of 9.00 or higher (crucial or very important). The rest of these items (25) are still considered important ($7.00 \leq \text{Mean} < 8.00$).



Of the 35 items on which there is no consensus achieved related to the importance, 7 have a mean score of less than 7.00 (but still more than or equal to 4.00). 20 of these items are on average perceived as important ($7.00 \leq \text{Mean}$) and 8 as most important ($8.00 \leq \text{Mean} < 9.00$).

In what follows we provide an overview of the mean and standard deviation of all 97 identified priorities and targets. For each of the sub-dimensions we give an overview of the qualitative comments that have been collected from the respondents as well as a short descriptive analysis of the findings.

Dimension 1: Infrastructure and resources in schools

4 sub-dimensions:

1.a. Connectivity and access to ICT in schools		Mean	SD
1.1.	A computer lab in all schools	7.62	2.42

1.2.	Classroom computers in all schools	7.04	1.51
1.3.	Access to a computer/laptop and projector for classroom teaching in all schools	7.77	1.66
1.4.	Internet access in classrooms in all schools	7.46	2.04
1.5.	Open resource centers in all schools with access to i.e. digital camera, scanner, printer, video camera, recorder, video conference system, subject specific software, ...	7.73	2.07
<p><u>Comments:</u></p> <p>“The key to infrastructure is maintenance... no matter how much is installed if it is not maintained it becomes unusable.”</p> <p>“Rather than put all computers in one room as in a computer lab, it is better to distribute resources around the classrooms.”</p> <p>“Computer labs are often a first step, but are not always fully used and functional. It seems more important to have access to ICT in the classroom, in a way teacher and students can use it immediately in the classrooms. A well maintained resource centre can be an alternative for a computer lab.”</p> <p>“Depends on financial conditions of the school and professional skills and competences of teachers and managers.”</p> <p>“All schools have access to IT and then learning resource centers should be open at all schools.”</p> <p>“It is not really necessary to have Internet in the classroom at this time (depending on schools' conditions), because class size is big in Vietnamese so it is difficult to manage the class. But in order to change the quality and learning and teaching activities, it is necessary to have a learning resource center which students can easily access, get information for learning activities.”</p> <p>“Schools labs are vital to ensure environmental for students to practice using ICT. In the classrooms, there should be computers connected to projectors for teaching and learning activities.”</p> <p>“In every school, it's very important to have a computer lab at school. However, at this stage, many schools are equipped with computer lab. So I don't think it should be a priority at this moment.”</p>			

- All items are perceived as important, but not most important ($7.00 \leq \text{Mean} < 8.00$).
- Nevertheless, there is no consensus on the importance of a computer lab or open resource centre in all schools, or on the importance of internet access in all classrooms in all schools ($\text{SD} > 2.00$).

1.b. Connectivity and access to ICT in HE institutions		Mean	SD
1.6.	Wi-Fi internet access in all HE institutions	9.00	1.17
1.7.	Learning management system in all HE institutions	8.96	1.46
1.8.	In HE institutions students bring their own device (laptop, smartphone, tablet, ...)	6.92	2.43
<p><u>Comments:</u></p> <p>“p.1.8 is very hard to answer ... Does this mean there is a policy to allow to Bring Your Own Device” in place of institutionally provided devices?”</p> <p>“Some students do not have their own device due to financial restrictions, i.e. they cannot afford such luxuries. Having students bring in their own device would be divisive.”</p> <p>“<i>HEIs must have access (institutional license) to the scientific reference databases.</i>”</p> <p>“<i>It is necessary for universities and colleges to have access to internet and computers for each student.</i>”</p> <p>“It is up to students to decide to bring their equipment to schools or not. However schools should create</p>			

the environment and conditions for all students to have access to IT.”

“Access to ICT is very crucial to students. However, students do not need to bring the own laptops (to some remote college, it seems impossible). Although mobile learning is growing fast now, I still don't think Vietnam is ready for this.”

- Two items are perceived as most important (Mean ≥ 8.00) or even crucial (Mean > 9.00) and there is also a consensus regarding the perceived importance of these items (SD < 2.00).
- The target that in HE institutions students bring their own device is perceived as less than important (Mean < 7.00). Nevertheless, there is no consensus on that item.

1.c. Content and Open Educational Resources		Mean	SD
1.9.	Digital resources for teachers and students accessible via an online portal (Open Educational Resources – OER)	8.42	1.70
1.10.	Availability of a wide range of specific software for specific subjects	7.27	1.97
1.11.	All public school books (the curriculum) are offered as e-books	6.77	2.46
1.12.	More educational applications in Vietnamese (created by Vietnamese)	7.96	2.01
<u>Comments:</u>			
“OER is the key to the future ... the main issue here is availability in a language in which the consumer can understand.”			
“Many public school books are outdated so not relevant to today's education system. More applications available in Vietnamese is important for retaining the language, culture and values of the country.”			
“The content and open educational resources will help people to learn actively all the time when the Internet is available. Besides, it is good for storing documents.”			
“Vietnam lacks the software designed by Vietnamese people. Therefore, the software development should be paid attention to.”			
“It would be more convenient for teachers if they do not face obstacles of language problems. Knowledge will be updated faster and more efficiently.”			

- Digital resources on an online portal for teachers and students is perceived as most important (with consensus amongst respondents). Also availability of a wide range of subject specific software is seen as important, but not most important.
- There is no consensus on the importance of offering all public schools books as e-books. On average, respondents see it as less important.
- There is also no consensus on the importance of access to more educational resources in Vietnamese.

1.d. Digital divides		Mean	SD
1.13.	Reduced digital divide of ICT opportunities between poor rural schools and better-off urban schools	8.54	1.99
<u>Comments:</u>			
“Totally necessary as there is also a lot of talent in the rural areas we need to offer opportunities to. ICT can lead to improved living conditions and increase earnings through access to information on best			

farming practice, for example.”

“It is better to reduce as quickly as possible the gap of access to ICT between rural schools and rich urban schools.”

“This is not an issue of much concern and interest.”

“This is of necessity in order to ensure equity in education.”

“It is necessary to strengthen the application of ICT for rural schools, creating favorable conditions for the schools to have access to IT quickly and easily.”

“Priority should be given to rural difficult schools to support students to have timely access to new technologies.”

- There is a consensus that a reduced digital divide of ICT opportunities is most important.

Dimension 2: Teaching and learning pedagogies

Three sub-dimensions:

2.a. Teaching and learning pedagogies		Mean	SD
2.1.	Promotion of a learner centered approach with active participation of students	8.73	1.49
2.2.	Promotion of multi-sense learning styles	7.85	2.05
2.3.	Promotion of experimental learning	8.08	1.98
2.4.	Promotion of holistic student development	7.92	1.96
2.5.	Promotion of cooperative learning	9.04	1.15
2.6.	Promotion of extra-curricular activities for holistic development	8.04	1.43
2.7.	Review curriculum to allow more autonomy for teachers and students	8.58	1.30

Comments:

“We need to get the right balance between curricula and extra-curricular activities. Children have the right to play and should be allowed to do so but better supervision of and use of computers (e.g. computer games in internet cafes) needs to be provided.”

“To be realistic, it would be still valuable if schools attempt to incorporate student-centered active learning within their national curriculum, not too much drastic. However, it is an important starting point to allow teachers to have autonomy in teaching.”

“These recommendations are all in the same line.”

“It is necessary to study the curriculum and textbooks to be more appropriate, to enhance the autonomy of teachers and students.”

“The approach of learner-centered with the active participation of learners is an important factor in educational reform. However it is not quite effective in Vietnamese education. So it is really important and necessary to do it more substantively and more properly.”

“Encourage the application of IT in teaching and learning. Increase the use of modern teaching equipment, IT equipment and software for online teaching and learning. Besides, teachers are also encouraged to contribute presentations, E-Learning lessons, electronic lesson library ...”

“To me, multi-sense learning, experimental learning, cooperative learning are parts of student-centered approach. And extra curriculum activity is a part of developing the holistic learners. Could it be possible

to revise:

- Encourage student-centered learning;
- Encourage an holistic approach in educating learners;
- Enhance autonomy in learners and teachers in learning and teaching.”

“Engage students to be active in learning and developing creative thinking to reduce their "routine" learning.”

- There is a consensus for all but one of the items on the importance of promotion of the stated teaching and learning pedagogies. They are perceived as important (item 2.4.) or most important (items 2.1., 2.3., 2.5., 2.6., and 2.7.);
- There is no consensus on the importance of the promotion of multi-sense learning styles.

2.b. 21st century knowledge and skills		Mean	SD
2.8.	Promotion of critical thinking, research, problem solving and decision making skills	9.19	0.98
2.9.	Promotion of creativity and initiative	8.96	1.15
2.10.	Promotion of language skills	8.62	1.24
2.11.	Promotion of collaborative learning and teamwork skills	9.12	0.95
2.12.	Promotion of self-study and self-improvement skills	9.23	1.07
2.13.	Promotion of basic ICT skills and knowledge at lower grades	8.19	1.44
Comments:			
“Yes ... all are greatly needed.”			
“The earlier the technology can be introduced the better.”			
“Basic ICT skills and knowledge are important, but I believe they can be taught in a more implicit way, by using ICT for teaching and learning.”			
“Encourage multi-dimensional thinking, research skills, problem solving and decision making skills.”			
“Knowledge and skills in the 21st century requires that we must be active and creative. Creating favorable conditions for students to explore all of their skills and competencies.”			
“Develop creative thinking of individuals, uncover strengths.”			

- The promotion of 21st century knowledge and skills is perceived as most important and there is a high consensus on the importance of all items.

2.c. ICT in teaching and learning		Mean	SD
2.14.	Application of ICT in teaching for holistic development of students	7.92	1.62
2.15.	Application of ICT for research and collaborative learning (innovation in developing social networks, school wikis, and other platforms)	8.23	1.18
2.16.	Application of ICT within and outside the school environment	7.69	1.52
2.17.	ICT to partly replace teaching staff where there is a shortage	5.96	2.82
Comments:			
“We need to introduce blended learning ... for instance high school certificates for school leavers via online.”			
“You cannot replace teachers with computers.”			

“I don’t think ICT can ever replace teaching staff. And it doesn’t sound like a good reason to use ICT. It can be used to promote distance education, where there might be less teaching staff, or where the teaching profession takes other forms.”

“It is necessary to develop IT applications in teaching to develop students in a holistic way.”

“Priority should be given to developing ICT to partially replace teachers and textbooks.”

“IT development leads to the development of other sectors. Future studies will not require school regular attendance. Pupils, students or teachers do not have to go to school. They can teach and learn through the Internet.”

“It is necessary to help teachers and students to have direct access to ICT to help them familiar with future work environment.”

- Application of ICT in teaching and learning is perceived as important, especially for research and collaborative learning (Mean ≥ 8.00).
- There is no consensus that ICT should partly replace teaching staff where there is a shortage.

Dimension 3: Professional development for teachers and school leaders

Three sub-dimensions:

3.a. ICT knowledge and skills		Mean	SD
3.1.	Basic ICT knowledge and skills training for teachers and managers	8.38	1.79
3.2.	Subject-specific ICT training for teachers	7.88	1.24
3.3.	ICT training for material developers (digital content)	7.96	1.71
3.4.	Training on ICT for active teaching and learning for teachers	8.58	1.45
3.5.	English language training on ICT in education	7.54	2.10
Comments:			
“Leave the material development to the software experts and let teachers focus on what they do best - teaching.”			
“I am not quite sure what you mean by "English language training on ICT in education".”			
“Again, I believe basic skills have to be taught in a more implicit way. Teachers will gain basic skills when applying ICT in their subject or when using it for ATL. English is important, but it is important for the globalizing society in general.”			
“It is necessary to enhance basic ICT knowledge and skills for teachers and school leaders.”			
“What teachers need most are basic ICT knowledge and skills, and then they will enhance their capacities themselves.”			
“One of the barriers to access to ICT professional training program, or to access to ICT is language.”			
“It is necessary to enhance teachers' knowledge to improve teaching quality.”			

- Basic ICT knowledge and skills training as well as training on ICT for active teaching and learning is perceived as most important (Mean ≥ 8.00).
- Also subject-specific ICT training and ICT training for material developers is perceived as important ($7.00 \leq \text{Mean} < 8.00$).

- There is no consensus on the importance of English language training on ICT in education.

3.b. Education innovation management skills (for educational managers)		Mean	SD
3.6.	Management skills training on promotion of active teaching and learning methodologies	7.96	2.13
3.7.	Management skills training on promotion of 21 st century skills	8.23	2.05
<u>Comments:</u>			
“Currently, schools are in need of management skill trainings to support and promote the application of active teaching and learning.”			
“Managers can solve all problems.”			
“It is necessary to have trainings for educational managers. However there must be mechanisms to evaluate the effect and the change after trainings.”			

- Even though management skills training is on average seen as important (item 3.6.) or most important (item 3.7.), there is no consensus on the importance of these priorities.

3.c. Modalities of professional development		Mean	SD
3.8.	Self-managed and needs-based study for teachers with support of the school	7.69	2.06
3.9.	Thematic training package for self-study for teachers defined by MOET (in-service)	7.35	1.90
3.10.	Hands-on practice as part of professional development programs	8.38	1.55
3.11.	ICT in education guidelines and standards for teachers	8.04	2.18
3.12.	ICT in education in the curriculum for pre-service	7.62	2.06
3.13.	National ICT in education teacher exam with certification	6.85	2.33
3.14.	Learning communities (or communities of practice) for teachers (for example on EDU-net)	8.00	2.14
<u>Comments:</u>			
“An ICT in education exam with certificate might be a good incentive for teachers but would need to be reviewed annually to reflect new and emerging technologies.”			
“CoP is the best modality for any type of learning but hard to achieve without good facilitation and motivation.”			
“I think it is difficult to create concrete guidelines and standards when ICT in education is very much evolving. It is important though to reserve some time in the pre-service curriculum. For in-service I believe in the power of communities of practice where teachers can teach and inspire each other.”			
“Teaching practice is a part of professional development program.”			
“It is necessary to develop materials for common use, rather than organize national ICT tests.”			
“The core issue for teachers is their self-awareness to enhance their ICT applications through research and teaching. MOET trainings are not effective. The guidelines and standards on ICT in education for teachers are too simple.”			
“When teachers already have the basic skills on ICT, they need to have a community of practice (simply an active forum) or a learning environment right in their school so that they could share and exchange their opinions. The ICT standards are also very important.”			
“It is necessary to let people know about communities of practice for better idea exchanges.”			

- Hands-on practice as part of professional development programs is seems as most important.
- Also for a thematic training package for self-study there is a consensus as important target for 2020.
- There is no consensus on the importance of the other modalities of professional development.
- On average the respondents give lower importance to a national ICT in education teacher exam with certification.

Dimension 4: ICT in the national curriculum

Two sub-dimensions:

4.a. ICT knowledge and skills in the national curriculum		Mean	SD
4.1.	Basic ICT knowledge and skills in national curriculum at all levels	7.58	2.30
4.2.	Application of ICT integrated in other subjects	7.81	1.72
4.3.	Standardized testing and certification of basic ICT knowledge and skills (for example the International Computer Driving License – ICDL)	7.38	2.14
4.4.	Classes for talented ICT students	7.62	1.88
<p><u>Comments:</u></p> <p>“Basic ICT skills should be done as self study not in the national curriculum.”</p> <p>“Do not separate the technology from the real learning. ICT is not a subject but a tool for enhancing the teaching and learning of subjects and skills. Specialist classes for talented young scientists using ICT, yes.”</p> <p>“Again, I don’t think basic ICT skills should be a priority as well as testing these skills. These tests have less and less value as ICT becomes ubiquitous.”</p> <p>“ICT basic knowledge and skills in national programs at all levels is of necessity.”</p> <p>“There should not be focus on ICT student talents. The matter is creating conditions for them to have better access.”</p> <p>“Application of international certification in basic IT skills can bring a lot of sense because this is the standard researched, applied and recognized by many nations in the world.”</p>			

- On average all priorities related to ICT knowledge and skills in the national curriculum are assessed as important, but not most important (7.00 =< Mean < 8.00).
- There is only consensus though on the importance of the application of ICT integrated in other subjects and classes for talented ICT students.

4.b. ICT to deliver the national curriculum		Mean	SD
4.5.	Promotion of e-learning	8.04	1.93
4.6.	Promotion of blended learning (online and face to face)	8.38	1.88
4.7.	Digitalization of all textbooks	6.77	2.05
4.8.	Development of Open Educational Resources (OER) linked to the curriculum in all subjects	7.92	1.65

Comments:

“Digitalizing textbooks is a waste of time and resources. Many are out-dated. I favor more of a peer-to-peer learning system such as Wikipedia, where information is updated and added to collaboratively.”

“At this point in time I don’t think digitalization of all textbooks is feasible and needed. At this stage I believe it makes sense to promote a blend and to look into linking OER to the curriculum. In the longer term, textbooks could be digitized. But the question is: will it be possible to have textbooks that can be used over generations?”

“Encourage mixed learning (online, face to face).”

“Very important, it is expensive for investment but will be effective in the long term.”

“The e-learning should be encouraged at higher level: university, post graduate. However for lower levels, it is necessary to encourage face to face learning to ensure the development of communication skills, social skills of students.”

“I think all the mentioned things (e-learning, blended learning, digital textbooks, etc) are already there, in Vietnam. However, we lack a professional procedure/strategy to enhance them; even we lack a sound rational beyond (Why do we need to digitalize the textbooks? Is this the very thing we should do now?)”

“Reduce volume for teachers and students, students will have better thinking.”

- There is a consensus on the importance to promote e-learning and blended learning. Both items are assessed as most important. The development of Open Education Resources linked to the curriculum in all subjects is also assessed as important.
- There is no consensus on the importance of the digitalization of all textbooks. On average this is perceived as less important (Mean < 7.00).

Dimension 5: Community/partnerships

Four sub-dimensions:

5.a. Public-Private partnerships and development assistance		Mean	SD
5.1.	Promotion of cooperation (local and international) on ICT in education with the participation of the public and private sector and (overseas) development assistance	8.31	1.44
5.2.	Targets for annual private investment for ICT equipment in schools	7.42	1.47
5.3.	Departments in educational institutions in charge of cooperation and funding	6.65	2.12
5.4.	More focus on expanding international markets, diversification of services in ICT to enhance the competitiveness of Vietnamese enterprises	7.81	1.79

Comments:

“The private sector can play an important part in equipping young people with 21st century skills for the workplace.”

“The private sector has to be involved in ICT in education from the start. The free and open source movement is inspiring, but does not seem to provide a stable and easy to use solution for a normal teacher. It does not seem a very good idea to fix targets for annual private investment. There should be a healthy relation between public and private partners.”

“Concentrate more on expanding international markets, diversifying forms of IT services to enhance the

competitiveness of Vietnam enterprises.”

“It is necessary to make full use of all resources to have proper investment, and avoid waste.”

“Let schools self-manage their school's equipment annually.”

- Promotion of cooperation on ICT in education is seen as most important and there is a consensus that targets for annual private investment for ICT equipment in schools is important, as well as more focus on expanding international markets and diversification of services in ICT to enhance the competitiveness of Vietnamese enterprises.
- There is no consensus on the importance of making departments of educational institutions in charge of cooperation and funding.

5.b. Learning communities		Mean	SD
5.5.	Schools have learning communities for students to exchange on learning and related issues	8.04	2.16
5.6.	Schools have learning communities for teachers per subjects for peer coaching and support	8.00	2.19
5.7.	Inter-school cooperation communities	7.42	2.25
5.8.	Online platforms (for example EDU-net) to facilitate a national community of educators	8.19	2.17
5.9.	Regional and international online learning communities for teachers and students	7.23	2.16
5.10.	Local to global learning communities on environment and sustainable development issues	6.85	2.40

Comments:

“As long as these many online communities are joined up so one can go from community to community seamlessly.”

“I believe very much in the power of learning communities and think ICT can make a change here. In first instance schools should promote the use of ICT to enhance learning communities in their school environment between teachers and their colleagues, but also with students. Later on, these communities can expand nationally and regionally. The topic of environment and sustainable development is very relevant, but learning communities should not be restricted to that topic.”

“Local and global learning communities on environmental issues and sustainable development should be developed.”

- Even though on average most priorities related to learning communities are perceived as important or most important, there is no consensus amongst the respondents on the relative importance.

5.c. Community participation in education		Mean	SD
5.11.	School as an academic resource for the community - either directly or online	7.65	2.12
5.12.	Promotion of participation of parents and communities in education (in secondary and primary education)	7.69	1.96
5.13.	Increased accountability of schools towards parents and the community	7.73	1.95
5.14.	Involvement of the community in evaluation of educational quality and	7.88	2.01

	change		
<u>Comments:</u>			
“This is very dangerous ... once you open the school to transparency and accountability by the community it comes under criticism both due and sometimes not rightfully due ... it needs to happen ...but done correctly.”			
“School buildings go to waste in the evenings - communities could benefit from using the facilities for further education.”			
“Increase the prestige of the school for parents and communities are key objectives of the school.”			

- There is consensus that promotion of participation of parents and communities in education is important as well as on the importance of increased accountability of schools towards parents and the community.
- There is no consensus however on involvement of this community in evaluation of educational quality and change and on the importance of the school as an academic resource for the community.

5.d. ICT supporting community participation in education		Mean	SD
5.15.	ICT to monitor educational quality and change in schools	8.62	1.44
5.16.	Wide application of ICT in the community to bring communities together	8.42	1.33
No comments.			

- ICT is perceived as most important to monitor educational quality and change in schools and also the application of ICT in the community is perceived as most important to bring communities together.

Dimension 6: Assessment

Two sub-dimensions:

6.a. Student portfolio assessment of competences		Mean	SD
6.1.	Integrated portfolio assessment across subject areas	7.12	1.99
6.2.	Assessment of holistic development of students	7.77	2.03
6.3.	Competence based, formative student assessment	8.31	2.02
6.4.	Assessment in line with a competence based curriculum and activating teaching and learning pedagogies	8.31	2.02
6.5.	Different types of assessment (formative and summative assessment) for different levels of competence	7.92	1.99
<u>Comments:</u>			
“As well as assessment, tests and examinations need an overhaul so that it reflects the way we teach.”			
“These recommendations related to assessment are in line with each other and very important. Without a change in assessment, all other priorities only target on integration in and not a transformation of education.”			

“It is necessary to apply different forms of evaluation (formative and summative assessment) for different levels of capacity.”

- There is only consensus on the importance of integrated portfolio assessment across subject areas and different types of assessment for different levels of competence.
- Even though other priorities are on average also evaluated as important or most important, there is no consensus on these items.

6.b. ICT for student assessment		Mean	SD
6.6.	Students use multiple media to demonstrate attainment	8.27	1.19
6.7.	ICT applications for students for self regulated achievement assessment	7.92	1.47
6.8.	ICT applications for teachers for continuous assessment or final testing	7.96	1.43
6.9.	Student peer assessment (facilitated by ICT)	7.69	1.78
<u>Comments:</u> “Students should be able to use ICT, also to demonstrate attainment. I don’t believe that ICT applications for assessment (nor for students for self assessment, nor for teachers) will replace a more human interaction. ICT can be very useful though for peer assessment.”			

- There is a consensus on the importance of ICT for student assessment.
- That students use multiple media to demonstrate attainment is seen as most important priority.

Dimension 7: Evaluation & Research

7.a. Evaluation and research on ICT in education		Mean	SD
7.1.	Promotion of research as a basis for proper policy formulation on ICT in education	8.08	1.60
7.2.	Monitoring and evaluation of system performance parallel with an ICT in education plan (Planning, Monitoring & Evaluation)	7.46	1.73
7.3.	Formative and summative evaluation of ICT in education	7.58	1.86
7.4.	Enhanced research and development capacity of ICT in education research institutions	7.81	1.63
7.5.	Involvement of educators in action research, lesson study and/or design based research on ICT in education	7.58	1.84
<u>Comments:</u> “As long as research doesn't slow down change and implementation of innovation in education through ICT.” “Behind policy recommendations should always be research based evidence. But with research anything can be said as well. It seems important to involve educator in action research as part of their learning community or community of practice.” “We must have proper research to clarify the nature/operation principles of education in the IT environment, learning theories (based on students' physiology) in the IT environment and teaching methods and learning in the IT environment. Without this research, there is no basis for application or leading to incorrect application, be counter-productive or not develop in the direction of modern			

education (not break out of traditional education environment).”

- There is an overall consensus on the perceived importance of the different items related to evaluation and research on ICT in education.
- Promotion of research as a basis for proper policy formulation on ICT in education is seen as most important.

Dimension 8: National ICT in Education Vision

8.a. National ICT in education vision		Mean	SD
8.1.	Vision focuses on education and learning	8.46	1.45
8.2.	Vision focuses on driving changes in culture, policies and practices mediated by ICT	7.46	2.23
8.3.	Vision is in line with the current status of the economy, culture and practices	7.31	2.24
8.4.	Vision is result and output oriented rather than input oriented	7.38	2.39
8.5.	Vision is holistic, taking in consideration different factors of quality of education	8.15	1.95
8.6.	Vision on infrastructure and resources focuses on the most needy schools	7.42	2.28
<u>Comments:</u>			
“Vision should be based on what the status of the economy, culture and practices is in the future; else it is not a vision. Needy schools do need support but we must support all schools.”			
“It is necessary to pay attention to feasibility.”			

- There is only a consensus on the importance of a national vision that focuses on education and learning and on the importance of a vision that is holistic.
- There is no consensus on the importance of a vision focusing on driving changes in culture, policies and practices, nor on the importance of a vision that is in line with the current status of economy, culture and practices.
- There is no consensus on the importance of a vision on infrastructure and resources that focuses on the most needy schools.

Dimension 9: National ICT in Education Policies & Plans

Two sub-dimensions:

9.a. National ICT in education policies and plans		Mean	SD
9.1.	Increased participation of all stakeholders in the development of polices and plans	8.12	1.58
9.2.	National policy and plan on ICT in education accompanied by a specific financial plan	8.19	1.42
9.3.	Inclusion of teacher professional development in national ICT in education policies and plans	8.54	1.45

9.4.	Comprehensive and cohesive policies and plans that assist all stakeholders in implementation	8.58	1.33
<p><u>Comments:</u></p> <p>“My worry about such plans is that they are cumbersome... taking ages to produce and are often not followed ... they look great ... but mean so little in the end. The real changes start with providing an open and free environment for everyone to seamlessly participate in a knowledge-based society.”</p> <p>“Currently, teachers' professional quality varies from teacher to teacher. So it is necessary to include teachers' professional development in national planning and policy on ICT in education.”</p> <p>“I think involving different stakeholders in making the ICT policies is very important. The current ICT policy plans still lack such collaboration. It results in lack of clarification on responsibilities as well as lack of clear interpretation of the policy in implementation phase.”</p>			

- All priorities related to national ICT in education policies and plans are perceived as most important.

9.b. ICT in education plans and policies in schools		Mean	SD
9.5.	ICT is integral to overall school development plan	8.92	1.23
9.6.	Policies and plans developed with involvement of teachers and students	8.62	1.23
<p><u>Comments:</u></p> <p>“ICT plans are better done at the school level than national level.”</p> <p>“The school development plan can only include ICT if there is provision for it, i.e. the school has computers or other ICT tools.”</p>			

- All priorities related to ICT in education plans and policies in schools are perceived as most important.

Dimension 10: Complementary Policies & Plans

10.a. Complementary National ICT and Education Policies		Mean	SD
10.1.	National ICT in education policies start from a clear national vision on ICT in education	8.46	1.21
10.2.	The ICT in education policies complement the national ICT and education policies	8.31	1.16
10.3	Building IT skills integrated in national development strategies (e-government program, e-citizens, etc)	8.04	1.74
No comments.			

- All priorities related to complementary national ICT in education policies are perceived as most important. Most important is that national ICT in education policies start from a clear national vision on ICT in education (Mean = 8.46).

Technologies that have or will have an impact on educational change in Vietnam

In the first survey round, respondents identified 34 technologies that they perceive to have an impact or potential impact on educational change in Vietnam. In the second survey round, respondents were asked to assess each of these technologies on a scale from 1 (No or little impact) to 5 (Big impact).

In table 2 we list all of these technologies in order of perceived potential impact (from highest to lowest). If we agree that on items with a standard deviation below 1.00 a consensus is achieved, this is only the case for 11 of the 34 identified technologies. Nevertheless, all standard deviations are around the value of 1.00 (with a minimum of 0.81 and a maximum of 1.29).

Table: Mean and standard deviation of perceived impact of identified technologies

Technology	Mean	SD
Computer and projector for teaching and learning	4.19	1.02
E-learning	4.12	0.93
Online learning communities	4.12	0.91
Internet access	4.08	1.02
Electronic/digital teaching and learning resources	4.04	0.92
Internet access in classrooms	4.04	0.92
Student management software	4.00	1.17
Open Educational Resources (OER)	3.96	1.02
Low cost affordable computing devices low energy consuming ICTs	3.92	0.91
Connected schools	3.88	1.01
School management systems	3.81	1.17
One laptop per teacher	3.77	1.21
Wireless technology	3.77	1.21
Content Management Systems	3.73	1.04
Multimedia labs in schools	3.73	0.92
Web 2.0	3.73	1.00
Content for mobile devices	3.69	0.93
Presentation applications	3.65	1.29
Social networking	3.65	1.02
Ubiquitous wireless internet connectivity	3.65	0.94
Electronic/digital learning logbooks/portfolios	3.63	1.13
Free and open source software	3.60	1.04
Electronic/digital books	3.58	1.03
Virtual simulation software for practice and experiments	3.58	1.24
Cloud based services	3.54	1.03
Cloud computing	3.50	0.81
Smart phones	3.50	0.86
Software replacing teaching and learning aids in specific subjects	3.50	1.03

Digital interactive whiteboards	3.38	1.13
Web 3.0	3.38	1.02
Tablet computers	3.36	0.86
One laptop per student	3.33	1.17
Educational digital games	3.24	1.05
Teleconference	3.16	1.07

It can be concluded that all identified technologies from the first survey round are perceived to be somehow important for educational change in Vietnam (Mean > 2.50), although it seems that more recent and less established technologies like smart phones or tablet computers are perceived as less important for educational change than technologies that are already in place in schools and HE institutions like computers and projectors for teaching and learning or internet access.

Preliminary conclusions and follow-up

Consensus on 62 priority items and call for collaboration and action

In this second survey round, consensus has been achieved on the importance of 62 items (out of 97) and these items are on average perceived as important (25), most important (32) or even crucial (5) targets or priorities for 2020. In annex 1 we list these items from highest to lowest level of perceived importance.

These items will be shared during an upcoming ICT in education meeting with the stakeholders in an effort to facilitate and enhance further cooperation between these players. The idea is to discuss how these targets and priorities can be addressed in a shared effort to improve education in Vietnam.

Consensus making and debate on controversial issues

For 35 items, no consensus has been achieved amongst the key players in the second survey round. In annex 2 we list these items from lowest to highest level of consensus. As seen in the related qualitative comments, most of these items address more controversial issues on which the key players have different opinions.

We would like to invite the key players that participated in the second survey round to take part in a third survey round to review each of these items, consider the average group response (Mean) and then re-rate the items, taking the information of this report into account; or to specify the reasons for remaining outside the consensus. In addition, by the end of 2012, the VNIES, together with VVOB plans to organize a conference on ICT in education in Vietnam with as objective to debate on these controversial issues.

Integration of ICT in education or transformation of education?

Underlying the findings of this survey round is the question about the current mindset of the key players in the field of ICT in education in Vietnam. Are the key players adhering to an

integration mindset which privileges existing ways of doing things, promoting to apply or integrate new technologies into existing practices? Or do they envision and go for a drastic and comprehensive overhaul of crucial aspects of education and dimensions of ICT in education in an attempt to *transform* education in Vietnam?

In the third survey round, all respondents will be asked in an open question to share their vision on the role of ICT in education in Vietnam for the future and to imagine how the education landscape should look like by 2020.

References

- SEAMEO. (2010). *Status of ICT Integration in Education in Southeast Asian Countries*. Bangkok: The Southeast Asian Ministers of Education Organization (SEAMEO).
- UNESCO. (2005). *Regional Guidelines on Teacher Development for Pedagogy-Technology Integration*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.

Annex 1: “Priority * Consensus” cross tabulation

			Consensus		Total
			No (SD >= 2.00)	Yes (SD < 2.00)	
Priority	Unimportant (4.00 <= Mean < 7.00)	Count	7	0	7
		% within Priority	100.0%	.0%	100.0%
		% within Consensus	20.0%	.0%	7.2%
		% of Total	7.2%	.0%	7.2%
	Important (7.00 <= Mean < 8.00)	Count	20	25	45
		% within Priority	44.4%	55.6%	100.0%
		% within Consensus	57.1%	40.3%	46.4%
		% of Total	20.6%	25.8%	46.4%
	Most important (8.00 <= Mean < 9.00)	Count	8	32	40
		% within Priority	20.0%	80.0%	100.0%
		% within Consensus	22.9%	51.6%	41.2%
		% of Total	8.2%	33.0%	41.2%
	Crucial (9.00 <= Mean)	Count	0	5	5
		% within Priority	.0%	100.0%	100.0%
		% within Consensus	.0%	8.1%	5.2%
		% of Total	.0%	5.2%	5.2%
Total	Count	35	62	97	
	% within Priority	36.1%	63.9%	100.0%	
	% within Consensus	100.0%	100.0%	100.0%	
	% of Total	36.1%	63.9%	100.0%	

Annex 2: 62 items on which consensus on the importance has been achieved – ranked from highest to lowest level of perceived importance (Mean values)

Crucial – very important targets and priorities			
Item	Description	Mean	SD
2.12.	Promotion of self-study and self-improvement skills	9.23	1.07
2.8.	Promotion of critical thinking, research, problem solving and decision making skills	9.19	0.98
2.11.	Promotion of collaborative learning and teamwork skills	9.12	0.95
2.5.	Promotion of cooperative learning	9.04	1.15
1.6.	Wi-Fi internet access in all HE institutions	9.00	1.17
Most important targets and priorities			
Item	Description	Mean	SD
1.7.	Learning management system in all HE institutions	8.96	1.46
2.9.	Promotion of creativity and initiative	8.96	1.15
9.5.	ICT is integral to overall school development plan	8.92	1.23
2.1.	Promotion of a learner centered approach with active participation of students	8.73	1.49
2.10.	Promotion of language skills	8.62	1.24
5.15.	ICT to monitor educational quality and change in schools	8.62	1.44
9.6.	Policies and plans developed with involvement of teachers and students	8.62	1.23
2.7.	Review curriculum to allow more autonomy for teachers and students	8.58	1.30
3.4.	Training on ICT for active teaching and learning for teachers	8.58	1.45
9.4.	Comprehensive and cohesive policies and plans that assist all stakeholders in implementation	8.58	1.33
1.13.	Reduced digital divide of ICT opportunities between poor rural schools and better-off urban schools	8.54	1.99
9.3.	Inclusion of teacher professional development in national ICT in education policies and plans	8.54	1.45
8.1.	Vision focuses on education and learning	8.46	1.45
10.1.	National ICT in education policies start from a clear national vision on ICT in education	8.46	1.21
1.9.	Digital resources for teachers and students accessible via an online portal (Open Educational Resources – OER)	8.42	1.70
5.16.	Wide application of ICT in the community to bring communities together	8.42	1.33
3.1.	Basic ICT knowledge and skills training for teachers and managers	8.38	1.79
3.10.	Hands-on practice as part of professional development programs	8.38	1.55
4.6.	Promotion of blended learning (online and face to face)	8.38	1.88
5.1.	Promotion of cooperation (local and international) on ICT in education with the participation of the public and private sector and (overseas) development assistance	8.31	1.44
10.2.	The ICT in education policies complement the national ICT and education policies	8.31	1.16
6.6.	Students use multiple media to demonstrate attainment	8.27	1.19
2.15.	Application of ICT for research and collaborative learning (innovation in	8.23	1.18

	developing social networks, school wikis, and other platforms)		
2.13.	Promotion of basic ICT skills and knowledge at lower grades	8.19	1.44
9.2.	National policy and plan on ICT in education accompanied by a specific financial plan	8.19	1.42
8.5.	Vision is holistic, taking in consideration different factors of quality of education	8.15	1.95
9.1.	Increased participation of all stakeholders in the development of policies and plans	8.12	1.58
2.3.	Promotion of experimental learning	8.08	1.98
7.1.	Promotion of research as a basis for proper policy formulation on ICT in education	8.08	1.60
2.6.	Promotion of extra-curricular activities for holistic development	8.04	1.43
4.5.	Promotion of e-learning	8.04	1.93
10.3	Building IT skills integrated in national development strategies (e-government program, e-citizens, etc)	8.04	1.76
Important targets and priorities			
Item	Description	Mean	SD
3.3.	ICT training for material developers (digital content)	7.96	1.71
6.8.	ICT applications for teachers for continuous assessment or final testing	7.96	1.43
2.4.	Promotion of holistic student development	7.92	1.96
2.14.	Application of ICT in teaching for holistic development of students	7.92	1.62
4.8.	Development of Open Educational Resources (OER) linked to the curriculum in all subjects	7.92	1.65
6.5.	Different types of assessment (formative and summative assessment) for different levels of competence	7.92	1.99
6.7.	ICT applications for students for self regulated achievement assessment	7.92	1.47
3.2.	Subject-specific ICT training for teachers	7.88	1.24
4.2.	Application of ICT integrated in other subjects	7.81	1.72
5.4.	More focus on expanding international markets, diversification of services in ICT to enhance the competitiveness of Vietnamese enterprises	7.81	1.79
7.4.	Enhanced research and development capacity of ICT in education research institutions	7.81	1.63
1.3.	Access to a computer/laptop and projector for classroom teaching in all schools	7.77	1.66
5.13.	Increased accountability of schools towards parents and the community	7.73	1.95
2.16.	Application of ICT within and outside the school environment	7.69	1.52
5.12.	Promotion of participation of parents and communities in education (in secondary and primary education)	7.69	1.96
6.9.	Student peer assessment (facilitated by ICT)	7.69	1.78
4.4.	Classes for talented ICT students	7.62	1.88
7.3.	Formative and summative evaluation of ICT in education	7.58	1.86
7.5.	Involvement of educators in action research, lesson study and/or design based research on ICT in education	7.58	1.84
7.2.	Monitoring and evaluation of system performance parallel with an ICT in education plan (Planning, Monitoring & Evaluation)	7.46	1.73
5.2.	Targets for annual private investment for ICT equipment in schools	7.42	1.47
3.9.	Thematic training package for self-study for teachers defined by MOET (in-service)	7.35	1.90

1.10.	Availability of a wide range of specific software for specific subjects	7.27	1.97
6.1.	Integrated portfolio assessment across subject areas	7.12	1.99
1.2.	Classroom computers in all schools	7.04	1.51

Annex 3: 35 items on which no consensus on the importance has been achieved – ranked from lowest to highest level of consensus (SD values)

Item	Descr.	Mean	SD
2.17.	ICT to partly replace teaching staff where there is a shortage	5.96	2.82
1.11.	All public school books (the curriculum) are offered as e-books	6.77	2.46
1.8.	In HE institutions students bring their own device (laptop, smartphone, tablet, ...)	6.92	2.43
1.1.	A computer lab in all schools	7.62	2.42
5.10.	Local to global learning communities on environment and sustainable development issues	6.85	2.40
8.4.	Vision is result and output oriented rather than input oriented	7.38	2.39
3.13.	National ICT in education teacher exam with certification	6.85	2.33
4.1.	Basic ICT knowledge and skills in national curriculum at all levels	7.58	2.30
8.6.	Vision on infrastructure and resources focuses on the most needy schools	7.42	2.28
5.7.	Inter-school cooperation communities	7.42	2.25
8.3.	Vision is in line with the current status of the economy, culture and practices	7.31	2.24
8.2.	Vision focuses on driving changes in culture, policies and practices mediated by ICT	7.46	2.23
5.6.	Schools have learning communities for teachers per subjects for peer coaching and support	8.00	2.19
3.11.	ICT in education guidelines and standards for teachers	8.04	2.18
5.8.	Online platforms (for example EDU-net) to facilitate a national community of educators	8.19	2.17
5.5.	Schools have learning communities for students to exchange on learning and related issues	8.04	2.16
5.9.	Regional and international online learning communities for teachers and students	7.23	2.16
4.3.	Standardized testing and certification of basic ICT knowledge and skills (for example the International Computer Driving License – ICDL)	7.38	2.14
3.14.	Learning communities (or communities of practice) for teachers (for example on EDU-net)	8.00	2.14
3.6.	Management skills training on promotion of active teaching and learning methodologies	7.96	2.13
5.3.	Departments in educational institutions in charge of cooperation and funding	6.65	2.12
5.11.	School as an academic resource for the community - either directly or online	7.65	2.12
3.5.	English language training on ICT in education	7.54	2.10
1.5.	Open resource centers in all schools with access to i.e. digital camera, scanner, printer, video camera, recorder, video conference system, subject specific software, ...	7.73	2.07

3.12.	ICT in education in the curriculum for pre-service	7.62	2.06
3.8.	Self-managed and needs-based study for teachers with support of the school	7.69	2.06
2.2.	Promotion of multi-sense learning styles	7.85	2.05
3.7.	Management skills training on promotion of 21 st century skills	8.23	2.05
4.7.	Digitalization of all textbooks	6.77	2.05
1.4.	Internet access in classrooms in all schools	7.46	2.04
6.2.	Assessment of holistic development of students	7.77	2.03
6.3.	Competence based, formative student assessment	8.31	2.02
6.4.	Assessment in line with a competence based curriculum and activating teaching and learning pedagogies	8.31	2.02
1.12.	More educational applications in Vietnamese (created by Vietnamese)	7.96	2.01
5.14.	Involvement of the community in evaluation of educational quality and change	7.88	2.01