

Policy Analysis Integration of ICT in Higher Education in Vietnam

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Abstract

In Vietnam much is expected from ICT. In the school year 2008-2009, the Ministry of Education and Training (MOET) launched the “Year of ICT” to enhance a breakthrough in education. Integration of ICT in education is a staged process and visionary leadership is a prerequisite for success. A policy analysis is carried out to study the vision and mission on integration of ICT of the Government of Vietnam. Relevant governmental policy documents are investigated, starting from 2000 - the year that the MOET announced the Master plan for ICT in education for the period 2001-2005. A critical analysis puts rationales in perspective and questions the socio-economic rationale shaping the current policy guidelines. Exploratory analysis on the level of teacher education institutions sheds light on the discourse adopted in these institutions and assesses the translation and implementation of the developed policies in Higher Education in Vietnam. Based on the education institutions’ developed technology plans, an analysis is made of the vision and mission, planned activities and implementation approach of these institutions. A gap is observed between rhetoric in policy guidelines and practice of integration of ICT in education.

1. Introduction

ICT is high on the education reform agenda in Asian countries. New policies of education reform are build around premise and promise of effective ICT integration in teaching and learning (Richards, 2004). Yet in practice the use of ICT for teaching practice is limited at best. The baseline study of Peeraer (2009) in five teacher education institutions in Vietnam describes a high appreciation of ICT for education, but in practice, ICT is mainly used to replace existing teaching practice, in a very limited way. Research on the integration of ICT in education predominantly focuses on highlighting deficiencies in various aspects of educational practice underlying the apparent failure of ICT in schools (Selwyn, 1999). Analysis of integration of ICT in education cannot afford to decontextualize the computer from wider social and political variables that shape the larger context of schools though (Selwyn, 1999). Selwyn argues that the foundations of

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“educational IT’s” seeming ineffectiveness actually lie in the construction of educational computing in both educational policy and discourse (Selwyn, 1999). The political dimension is often missing from educational technology research, yet as revealed by Coupal (2004), the influence of politics produces shifts in educational policy.

In this study we first reflect on research on the impact of the political context of educational renovation on integration of ICT in education. The research analysis analyses in depth the governmental policies and guidelines concerning integration of ICT in Vietnam. A second part of the analysis scrutinizes the technology plans of 5 Teacher Education Institutions in Vietnam and sheds light on the implementation and translation of policies and guidelines in Higher Education.

2. ICT policy and implementation in practice

Considerable international attention has been given to the role that ICT can play in economic, social and educational change (Kozma, 2008). ICT is high on the education reform agenda. For many developing countries it becomes a question of national leadership in giving high priority to educational improvement programs and providing necessary resources and expertise to succeed (Pick & Azari, 2008). Strategic policies can provide a rationale, a set of goals, and a vision for how education systems might be with the introduction of ICT and how students, teachers, parents, and the general population might benefit from its use in schools (Kozma, 2008). Pick & Azari (2008) remark that the results for a single nation seeking improved ICT depends on political will and leadership that appreciates how multidimensional factors need to be combined for development. It is important not to think of providing the ICT equipment and infrastructure as alone the solution, but rather to emphasize a cluster of resource allocations working together synergistically to achieve economic and social development (Warschauer, 2003).

In the context of globalization as an economic process, researchers identify a deterministic conception of ICT though, and integration of ICT in education then brings this synergy to achieve economic and social development out of balance. Moreover researchers describe a gap between rhetoric in government policy and reality of education practice. Cause and solution might lie in the multidimensional but often flawed character of government policies and guidelines.

2.1. Discourse of globalization and technological determinism

Globalization is a force reorganizing the world’s economy, and the main resources for that economy are increasingly knowledge and information. It is clear that if knowledge is fundamental to globalization, globalization should also have a profound impact on the transmission of knowledge (Carnoy & Rhoten, 2002). The combination of economic restructuring in the world economy and the powerful ideological conceptions of how educational delivery needs to be changed, is having a significant impact on educational systems worldwide (Carnoy & Rhoten, 2002). This neo-liberal conception of globalization is increasingly driving policy agendas in Higher Education, as national

governments compete on the basis of supply side investment in human capital (Clegg, Hudson, & Steel, 2003). In this discourse, ICTs are both presented as cause and a consequent driver for change within Higher Education and with this comes the need for new forms of labour power (Clegg et al., 2003). Higher education must change to meet the challenge and in so doing provide the skilled labour that gives the national economy a competitive edge in the global market (Coffield, Schuller & Burns, in Clegg et al., 2003).

Clegg et al. (2003) warn against the passive acceptance of globalization paradigms though, as they engender a deterministic view about the role and function of technology as a phenomenon with its own independent trajectory. The use of ICTs is over-determined by assumptions that link globalization and information to particular ICT competencies. The neo-liberal paradigm presents only one model of what is meant to learn; that is to become an individually more competitive item of human capital. Clegg et al. (2003) suggest that that is not what education is about. Much research is done on effects of technological determinism in government policy in the Great Britain context (Bjarnason, 2003; Dale, Robertson, & Shortis, 2004; Selwyn, 1999, 2007, 2008; Williams, 2005). One significant effect is that there is enormous pressure on education institutions not to be 'left behind', resulting in anxiety across all sectors both at a corporate and personal level (Clegg et al., 2003). As Clegg et al. observed policy discourse is mostly ignorant of the added value of ICT for education and of ICT as a technology of pedagogy. Vonschild (in Bryderup & Kowalski, 2002) points out a rhetorical paradox in national ICT policy: on the one hand ICT is conveyed as having beneficial effects on the educational system and contributing to successful competition in the global market; on the other hand the driving force behind the use of ICT in educational practice should take its point of departure in pedagogy. Vonsild argues that in practice this inherent paradox too often leads to pedagogical issues being subjugated to matters of technique (in Bryderup & Kowalski, 2002).

2.2. Ambiguous character of ICT policy and multiple rationales

Valentine & Holloway (1999) argue that, counter to a Government's vision, technology does not simply impinge on society from outside or follow a predetermined course. It is interesting to explore how effective governments have been in their role as change agents in education in general, and ICT policy in particular, where reality does not reflect the rhetoric (Watson, 2006). Policy processes are fantastically complex and they are very rarely linear and logical (Young, 2008). Often there is a dichotomy between reform rhetoric and translation into practice. Selwyn (1999) argues that the reason of the dichotomy between rhetoric and practice lies in the ambiguous and flawed character of the construction of computing in educational policy and discourse. Without a solid rationale, educational computing continues to lack a clear direction and purpose, which ultimately undermines its effectiveness. In Denmark Bryderup & Kowalski (2002) describe a very generalizing governmental mission of integration of ICT in education, unclear in relation to concrete practices. Erstad (2006) explored how policy makers in Norway have used the terms of information society or knowledge society to argue for implementing new technologies in education, and for improving learning.

In an overview Selwyn (1999) comments on cognitive, vocational and societal rationales, justifying the role of computers in education. All rationales are based on an

underlying technological determinist premise that the computer is inevitably ‘a good thing’ for schools, students and teachers (Selwyn, 1999). Selwyn concludes that so far, educational computing policy has remained fundamentally flawed. Kozma (2008) refers to strategic educational ICT policy rationales and describes an economic growth rationale, a social development rationale, an education reform rationale and an education management rationale. According to Kozma, these four policy rationales are not mutually exclusive though. Nation states can opt for two or more of these rationales together in mutually reinforcing ways (Kozma, 2008).

2.3. Research objectives

The central research objective of this research is to investigate the role of ICT in the education change process in Vietnam as stated in the policy guidelines; and the translation of this vision on integration of ICT in operational policy components. The investigation will focus on the character of the policy guidelines and the rationales behind vision and mission. At the same time the question is how and to what extent this vision and mission is interpreted and implemented in Higher Education. The analysis aims to also uncover the effect of different rationales on the integration practice of teacher education institutions in Vietnam.

3. Methodology

The policy analysis takes into account a decade of governmental policy guidelines on ICT and education, starting from 2000 - the year that the MOET announced the Master plan for ICT in education for the period 2001-2005. The policy analysis aims to highlight essential elements of policies and guidelines concerning integration of ICT in higher education in Vietnam by drawing a picture of the evolution in vision and mission and priorities put forward for education development.

To assess the impact of policy guidelines and to assess to what extent policies and guidelines are interpreted and implemented in practice, the technology plans of 5 teacher education institutions in Vietnam are analysed. In the framework of a development cooperation programme supporting the education change process through integration of ICT and professional development of teacher educators, 5 teacher education institutions were instructed to develop a technology plan, following the Guidebook for Developing an Effective Instructional Technology Plan (*Guidebook for Developing an Effective Instructional Technology Plan (v2.0)*, 1996). Based on the developed technology plans, an analysis is made of the vision and mission, planned activities and implementation approaches of these institutions and to what extent these approaches reflect the national policies and guidelines. For the analysis operational components of ICT policies as described by Kozma (2008) are used (see table 1). Operational policies are typically framed as action plans, programmes, or projects, and offer the hope that visions can be realized (Kozma, 2008).

Table 1
Operational Components of ICT Policies (Kozma, 2008)

Infrastructure development	Provision and budget allocation for technical resources
Teacher training	Teacher professional development
Pedagogical and curricular change	ICT-related changes in curriculum, pedagogical practices, and assessment
Content development	Development of digital content
Technical support	Operational technical assistance

4. Findings

4.1. ICT Policy analysis

A starting point for the ICT policy analysis is the reflection of Vu (1996) in the mid nineties on the integration of ICT in education and on the potential of ICT for education renovation. Redefining objectives, redesigning curricula and improving methods are recommended guidelines of the educational renovation (Vu, 1996). Vu (1996) claims that introduction of technology in education is an effective way to renovate education methodology. In first instance he perceives a lack of qualified professionals in the field of IT and points at the importance of promoting IT education in secondary schools, dissemination of general information on IT throughout society and at the same time strengthening the use of IT in the education and training sector itself. Starting with a national project on “IT in education and training” the government focused on training in IT and improving access to computers to ensure that by the year 2000, all pupils in secondary education and higher educational level would receive training in IT and have an opportunity to practice using computers. A key aspect Vu recommends is to conduct research for active application of IT in education and training. Vu lists some advantages and potentials of integration of ICT in education: computers as a working tool in the learning process, as a pedagogical tool in the instruction process and to assist school management. As a pedagogical tool, ICT has the potential to greatly increase the active role of students in accessing to knowledge, to differentiate pedagogies and increase interdisciplinarity of content.

In what follows we take a look at a rationales and vision behind a decade of policy guidelines starting from the year 2000. All guidelines are issued by governmental organs, mainly the Ministry of Education and Training (MOET). The analysis also includes decisions of Prime minister, approvals and guidelines from the MOET to the provincial District Offices of Education and Training (DOET). The government is the highest organ of state administration of the Socialist Republic of Vietnam. The MOET is the body responsible for education and training in the government and is responsible for all levels of education: for pre-school education, general education, vocational education, higher education, and life-long education (Tran, Vu, & Sloper, 1995). In table 2 an overview is given of relevant policy guidelines on integration of ICT in education that were analysed.

Table 2
A decade of ICT policy guidelines in Vietnam

Master Plan For Information Technology In Education for the period 2001-2005	2000
Directive 58 on enhancing the application and development of information technology for the industrialization and modernization	2001
	2002
	2003
Decision of PM on approval of the developing IT human resources program to 2010	2004
	2005
	2006
Guidelines MOET to DOETs for enhancing the implementation of some activities on ICT	2007
Directive 40 on the movement “Friendly School, Active Students” at secondary schools in the period 2008-2013	2008
Directive 55 on Promoting Teaching, Training and Applying ICT in Education - Period 2008-2012	2009
Guidelines MOET to DOETs for IT tasks in school year 2008-2009	2010

4.1.1. Vision and mission on integration of ICT in education

A masterplan targeting infrastructure development and IT training

An ICT Masterplan for ICT in Education for the period 2001-2005 was launched by the MOET in 2000 and aimed to realize directions for information technology (IT) development and application in education (MOET, 2000). In the conclusions of the ICT Masterplan the logic behind the integration of IT in education is very clearly formulated:

“IT in education will make big changes in teaching and learning methods and in educational management. These, in turn, will strengthen quality of education, create better human resources, and develop the country in general ...”

The final, long term objectives that are stated are twofold: 1. To meet the demand on IT human resource development to serve building IT industry as a key industry in Vietnam and wide IT application to promote socio-economic development of the country; 2. To meet the demand of educational reform in terms of innovation in content, teaching and learning methods, as well as in educational management. Prior directions set out, focus on building IT infrastructure for education and training and developing human resources, but also stress IT as a learning object and application for teaching and learning in schools, vocational education, universities and colleges and as a tool for educational management. Even though ICT development is seen as technical development as well as educational development (UNESCO, 2003), most clear measures are targeting improved access and ICT literate educators. The Master plan starts with prioritizing to build IT infrastructure for education and training: all education institutions have to be connected to the Internet, universities and colleges have to build their own network and the MOET will set up and use EduNet as educational portal (MOET, 2000). IT training for all teachers is a key factor in using computers for teaching and learning (MOET, 2000). Up to 2005, the aim is to train more than 25000 IT specialists. Important measures emphasize to strengthen the quality of training, meeting the need of society. Setting up new IT faculties, encouraging second degree training in IT for graduates and joined training programmes are other measures to reach the aim (MOET, 2000). In 2003, UNESCO's country report of Vietnam states that the country has been eager to be one of the hubs for ICT development in South-East Asia. Nevertheless, efforts seem to be still tinkering with the establishment of infrastructure to secure greater access to the Vietnamese to ICTs (UNESCO, 2003).

An IT human resource programme

Directive 58 of the Government on Enhancing the application and development of Information Technology for the Industrialization and Modernization gives high priority to application and development of IT in the socio-economic development strategy. All sectors of economic, cultural, social, security and defense areas must apply IT for the development (Government, 2000). The directive guides the development of a national information network including telecommunications systems and the Internet in Vietnam (Government, 2000). The Government sees infrastructure development as a condition for integration of ICT in state offices (Phan, 2005). A key task is to promote the training and use of human resources for the application and development of IT. The rationale behind

ICT integration in the country is “to liberate the manual and brain power and the spirit of the nation, to promote the renovation movement (*doi moi*), to modernize the economy, [...] to upgrade the living standards, [...] to succeed in modernization and industrialization” (Government, 2000). Pursuant to Directive 58 the Prime Minister took several decisions on approving implementation programs, assigning most tasks to the MOET. The approved programmes focus on training IT human resources to meet the international standards and integration requirements (Government, 2004). In the first place education is the way to reach this goal of improved quality of IT human resources. IT training has to be implemented, knowledge on computer and internet has to be popularized and training content, qualifications and IT facilities for training have to be standardized (Government, 2004). In 2005, the Prime Minister of Vietnam identified ICT as “an utmost significant tool to reach the millennium objectives, to establish the information society, and to ameliorate the process of industrialization and modernization in the country” (Phan, 2005).

A shift to IT as a tool for enhancement of teaching and learning

Even though access is still a priority, the focus on integration of ICT in education shifts to enhancement of teaching, training and applying IT in education with Directive 55 of the MOET. Provincial DOETs are requested to actively collaborate with Viettel Branches to locally implement the education network. An e-mail education management system has to be developed and all staff, teachers and students in each school have to be provided with an e-mail account in order to improve the exchange of information. IT facility investment will be boosted. Directive 55 is much line with Directive 40 of the MOET on the movement “Friendly School, Active Students” at secondary schools in the period 2008-2013 with as goals to build a safe, friendly and efficient education environment. IT can play a role in building a friendly schools and active students by supporting a rich, lively and attractive learning environment (MOET, 2008b). IT is conceptualized as a tool that can effectively support the innovation of teaching, learning and education management, contribute to improve efficiency and quality of education (MOET, 2008a).

Educators are encouraged to *reasonably* implement ICT applications in new and innovative methods of teaching and learning at each grade. Educators are warned not to abuse IT and to reflect on added value of applying ICT in their daily teaching practice. Teachers and trainers are encouraged to design slideshow lessons, e-lectures and lesson plans on a computer (MOET, 2008a). A database and e-learning material library has to be developed on EduNet including electronic curriculum and textbooks, tests, virtual experiment software, multimedia materials, lectures, slideshows and teachers’ lesson plans (MOET, 2008a). The MOET launches a competition for “Creative Teachers” with the slogan “Each teacher to build an electronic lecture”. DOETs are requested to organize the competition (MOET, 2008b). Each DOET is moreover requested to establish a specialized unit on IT in education and each education institution must have staff or teachers in charge of IT application with at least a professional qualification of a professional college. Schools that do not have staff with this profile should have a plan for training or recruiting staff.

Raising Awareness of ICT in education

Raising awareness is not an operational component of ICT policy guidelines as such. Policy makers in Vietnam see it as a starting point though of which the importance cannot be overestimated. In the ICT Masterplan an utmost important condition for successful implementation of the identified issues is perception and understanding of the role of ICT in education by government authorities (MOET, 2000). In the Masterplan (MOET, 2000) is stated that

“Experience shows that where authorities clearly understand the role of IT in education, have fairly knowledge of IT, and after all, really care about the use of IT in education, there will be efficient use of IT in education”.

In the Year of ICT (2008-2009), the MOET implements many operational policies to optimize the integration of ICT in education. A starting point is “to improve the awareness of the role and position of ICT in education” (MOET, 2008a). Improving awareness should be the first priority of every education institution and organization (MOET, 2007, 2008a). The strategy asserts that it is crucial to improve the awareness of every officer, manager and educator on the role and necessity of ICT in education. Legal documents related to integration of ICT should be transferred from governmental level to all levels in education and ICT should be integrated in activity plans of different organizations in society (MOET, 2007, 2008a). The government policy acknowledges that for creating favorable conditions for integration and development of ICT, it is necessary to raise awareness.

E-Vietnam

An overall and prior ambition of the Vietnamese Government is to develop an information society. In 2005 the Prime Minister introduced concepts like “e-Vietnam”, “e-Government” and “e-Citizenship” (Phan, 2005). State offices are requested to gradually digitalize documents and exchange information via email. Communication should transform from sending post to sending e-mail between institutions and organizations (Government, 2007). In education, curriculum and content should become electronic. Video-conferencing should become common practice for meetings and online teaching and learning. Teachers and learners should communicate via e-mail. Lessons should become e-lessons (MOET, 2007).

In what follows an analysis is made of the translation of ICT policy guidelines in the higher education practice of 5 teacher education institutions in Vietnam. The awareness of the institutions on the role of ICT in education as well as their action approaches can be read from their respective ICT technology plans.

4.2. Translation and implementation in higher education

Each teacher education institution is introduced in setting up a technology plan for their institution, following the Guidebook for Developing an Effective Instructional Technology Plan (v2.0). Technology planning is an activity that provides direction and helps users understand clearly where they are now and *imagine* where they want to be (*Guidebook for Developing an Effective Instructional Technology Plan (v2.0)*, 1996). The Instructional Technology Plan starts from a vision statement. Educational managers and teacher educators were asked to express what educational goals their institution strives for with the implementation and integration of ICT. A mission statement should answer the question how this vision can be made true.

The developed technology plans vary in comprehensiveness and quality. Here we analyse the vision statements and mission statements of each teacher training institution and observed some elements which came back in most vision and statements, following the operational components of ICT policy guidelines.

4.2.1. Vision on added value of ICT

In all teacher training institutions ICT is seen as vital to all activities that take place. ICT reduces the workload and improves school administration like personnel management and accounting. It is valued as a tool to improve communication, between teachers and learners, but also with parents and the broader community. ICT is moreover valued for its contribution to monitoring and evaluation and educational research, e.g. through possibilities to store data on student enrolment and graduation results. In most vision and mission statements educational managers also refer to the added value of ICT for teaching and learning. Statements remain rather ambiguous though:

“Through ICT, teachers and learners keep pace with the most modern education, to meet the increasing demand on modernization and industrialization.”

“Our Teacher Training Institution considers ICT as one of the priorities for the breakthrough in improving educational quality.”

One teacher education institution explicitly addresses the added value of ICT for teaching and learning in their mission statement:

“It is our mission to use ICT to support innovation in teaching and learning. ICT should be integrated in all subjects in an effective and creative way to improve student activity, self-study and exploration.”

Educational managers see a future where the school is no longer a knowledge centre “*in the traditional way*” and where different roles for teachers and learners apply.

“It (the school) becomes a learning center: the learner goes to school to learn how to learn. The teacher is the person behind the students, instructing the

students how to learn. The teacher is the person who manages the student's study.”

The future classroom is envisioned as an open and friendly environment, where ICT is a tool to support creativity and exploration.

“The future classroom will be an ideal environment for the students to explore, experience and reflect on world knowledge. It will be sufficiently equipped with appropriate ICT, creating opportunities for students to collect knowledge in a fast and exhaustive way. It is also an experimental environment for students to be creative. The classroom is an environment which provides access to unlimited knowledge. The classroom, teacher and learner are part of an environment which is friendly and offers equal opportunities for study and research. A school with the friendly ICT-supported classroom should be the place where updated technology offers a link to the society.”

4.2.2. Critical issues and operational action plans for integration of ICT

Infrastructure development

Most educational managers stress the importance of access to ICT, but also the necessity to maximize the potentials of available equipment. To meet standards for integration of ICT in teaching and learning there needs to be sufficient equipment, installed in computer multimedia rooms. But also the classrooms have to be sufficiently equipped. Teachers and learners should all get access to ICT for their work and study. Managers and administrators need ICT for improved education management. Faculties and departments need to effectively manage and optimize the potential of available equipment by categorizing and allocating equipment appropriately. Favorable conditions have to be created for learners to be able *“to study in any place, at any time and to be able to access appropriate content”*.

Equipping the institutions is mostly planned in phases. Often the institutions plan to start with a basic package of equipment for each department consisting of some computers, a projector and a screen, a printer, a fax and a LAN. After that classrooms will be equipped with fixed screens and eventually projectors. In the future they also plan to have access to the internet in more classrooms. Some institutions experiment with wireless internet access. In first instance all institutions focus on improving access for managers, lecturers and administrative staff. Often the computer rooms are not yet open for students or only for instruction on ICT in the context of the subject of technology and/or ICT. One institution set up the plan to equip all lecturers with a personal laptop. Concerning software most institutions can't provide hands-on solutions and software seems to be a blind spot in the technology plans. Currently they use standard office applications and they are aware about the possibility of open source applications as promoted by the MOET.

Professional development

ICT skills training is seen as compulsory for teacher educators and future teachers. All teacher educators should be required to actively study ICT and exchange knowledge and experience with colleagues. Training should be organised on the use of ICT for teaching practice, but also on skills like the use of equipment or searching information on the internet. Students have to be stimulated to use ICT. According to educational managers ICT skills training has to be organised to meet the demands of human resources in a “*modern and industrialized society*”. ICT is even perceived as a duty. According to the educational managers, teaching staff should also be supported in using ICT for teaching and learning. Teachers and teacher educators should be encouraged to design presentations and lesson plans on a computer. Practical and up to date training programs have to be designed on ICT applications for teaching practice.

In all institutions skills training for lecturers is planned. Often is started from basic skills training and training on how to use and maintain equipment. Apart from that, lecturers will be trained, at the same time, on integration of ICT in their teaching practice. One school plans to organize training for two separate groups: older lecturers (graduated before 1975) and younger lecturers (graduated after 1975). The importance of creating favorable conditions for participants and offering incentives for trainers is formulated, but mostly concrete ideas are lacking. Active self-study and sharing of knowledge and experience is a valued approach complementing the input from external experts and the training by school trainers. Model e-lessons will be developed, collected and shared. Some institutions plan to develop or redesign training materials. For students the solution seems to be more to create an environment where they can self-study and do research on the internet. There seems to be the assumption that once students have access, they will find their way themselves. If training is provided for students, it is directly linked with their field of study (major subjects).

Pedagogical and curricular change

Apart from incorporating ICT as a subject in the curriculum, possibilities for integration in other subjects have to be explored. Teaching and learning methodologies have to be innovated and ICT should be promoted as a tool for ATL. One of the important factors educational managers and ICT coordinators perceive is reflection on added value of ICT. Research is put forward as an essential tool for monitoring and evaluation. Indicators on the use of ICT for teaching practice have to be set and regular evaluation of outcomes has to take place. Appropriate adjustments have to be carried out.

No concrete plans are formulated and practical ideas are missing. Pedagogical and curricular change seems to be in an explorative phase and no models, best practices or guidelines are available yet.

Content development

Applications to develop lessons are used for lesson design. Subject specific educational software is seen as the responsibility of subject teachers and criteria of appropriateness, user-friendliness, reliability and price are the only guidelines. There is a strong interest in software applications for administration and educational management as

well as for student assessment. Most institutions have a school website or plan to set up one. Some institutions are thinking to set up an e-library and/or an online collection of e-lessons.

Technical support

ICT coordinators are often appointed to manage access and availability of equipment. Some institutions assign specific persons of specific departments, councils or boards, e.g. to develop an e-library (IT department) or to organize workshops on integration of ICT in teaching and learning (Training department). In all institutions a core group of teachers is formed for participation in training and workshops and as key members for sharing knowledge and experience with colleagues from their respective subject departments. One school assigns one student per class as the student ICT manager.

5. Conclusion and discussion

ICT is a priority in Vietnam's education renovation process. Policy makers highly embark on renovating education, in the first place as a strategy to respond to the demand of the global knowledge society for qualified human resources. Choices are made and the focus is on ICT skills training and development of ICT infrastructure to enhance industrialization and modernization. Already before entering the 21st century, a lack of education budgets to afford technologies and lack of training for teachers was perceived, and apart from that a lack of training for teachers to use these technologies (Vu, 1996). The ICT Masterplan for the period 2001-2005 not only acknowledges the importance of ICT for industrialization and modernization, but also puts ICT as a tool for teaching and learning on the agenda. Efforts are mostly aimed at improving infrastructure development though. A strong focus on ICT skills training remains and in education ICT is seen as an object of education. With directive 55, a strong educational rationale puts noses in a different direction. In the context of the movement for friendly schools and active students the role of ICT is to support education renovation towards a creative learning society. Guidelines from the MOET make the vision more concrete and encourage educators to apply ICT in education practice. E-learning and the development and use of e-lessons is put forward as the ultimate goal of integration of ICT in education and the demand for outcomes in the shape of e-lessons is high. Nowhere a clear definition is given of what an e-lesson is though.

Analysis of the vision statements of the teacher education institutions shows that multiple rationales are behind their approaches to integrate ICT in education practice. On the one hand this leads to a lack of clear direction and purpose: ICT skills training is put as a priority, budgets goes to investment in infrastructure and there is a high awareness on the role of ICT for activation of teachers and students. For some institutions this results in less comprehensible technology plans. On the other hand it can be argued that this multiple rationales are mutually reinforcing each other. All institutions touch on important elements of the ICT integration process and reflect on issues, approaches and solutions. Previous research showed that in order to effectively integrate ICT in teaching practice, several barriers or steps need to be taken, starting from improving access, to improving basic and advanced ICT skills of teacher and trainers, to reflection on the

possibilities of ICT for teaching and learning. Research of Peeraer in the same teacher education institutions showed that ICT skills is now a lesser barrier to the uptake of ICT in teaching practice. Basic ICT skills of teacher educators are sufficient. Awareness on the role ICT can play in education is high. But integration of ICT in teaching practice remains very limited (Peeraer, 2009). In the action plans of most teacher education institutions, concrete ideas concerning effective integration of ICT in teaching practice and expert training on applying ICT for active teaching and learning are missing. Efforts aim at producing e-lessons, but no reflection on added value of ICT for teaching and learning and pedagogical and curricular change is planned for. Educational managers and ICT coordinators do realize that more research on possibilities is necessary. Also the idea that teachers can learn from each other is acknowledged. The stress and anxiety caused by the focus on output, leaves little space for experimentation though.

A strong vocational rationale is visible in the statements. Pushing the development of computer skills comes to the forefront as an answer to the rapid increase in the use of ICT in the workplace, in maintaining international competitiveness, both on macro level easing the transition of the workforce into new IT-related employment, and at the micro level of supplying a well-qualified and adaptable workforce to businesses and companies (Finegold & Soskice in Selwyn, 1999). This pressure, it can be argued, often has been translated into a very functional, technocentric, skills-based approach toward ICT in schools (Selwyn, 1999). Most governmental operational policies have a strong instrumental character which is mirrored in action plans of the teacher education institutions. Awareness of the potential of ICT is high though. As observed elsewhere, operational planning becomes a balancing act between technical and pedagogical issues and support (Bryderup & Kowalski, 2002). Establishing change in pedagogic practices is difficult to accomplish though and it is equally difficult to be clear about what change is going on (Erstad, 2006). To stay on track and to avoid losing enthusiasm and momentum, it can be argued a more clear and one dimensional rationale is needed in most teacher education institutions. Most approaches are rather abstract and do not trigger action. The instructional technology plan is work in progress. We advised the teacher training institutions to revise the technology plans and define clear rationales for the integration of ICT in their institutions as well as to plan concrete activities to implement the vision and mission statements.

Even though most schools don't explicitly mention support of MOET, support is visible and guidelines are followed at best. The mission and vision statements of the teacher education institutions mirror policy guidelines of the MOET and follow up of the Provincial Peoples Committees, referring to support in equipment, teacher training programs and the child friendly school approach. Most institutions refer to, mostly vague standards set and indicators of integration of ICT. But due to the ambiguous character of the policy guidelines and a delay in guidelines and implementation, concrete actions still aim at more technical issues and ICT skills training. Awareness on potentials is high, but a gap between this rhetoric and educational practice remains. Vietnam is at the beginning of integration of ICT in education. This has as advantage that lessons can be learnt from countries which have a longer tradition. Just in one decade ICT is put on the education reform agenda in Vietnam as object of education as well as important pedagogical tool

for innovating teaching methodology. Many education institutions in Vietnam are coping with limited ICT resources. As observed elsewhere, this could result in creative solutions and optimal use of existing resources (Bryderup & Kowalski, 2002). It is to be seen whether Vietnamese education institutions can make the rhetoric become every day practice.

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