Policy Analysis Integration of ICT in Education in Vietnam Translation and Implementation in Teacher Education

Jef Peeraer[*], Tran Nu Mai Thy, Tran Thi Thai Ha

VVOB – Flemish Association for Development Cooperation and Technical Assistance Vietnam, Thao Vien guesthouse A3 rm 307, 1B Bac Son - Ngoc Ha, Hanoi, Vietnam

VNIES – Vietnam Institute for Education Sciences – Tran Hung Dao Str. 101, Hanoi, Vietnam

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 (Tearle, 2003) 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 Teacher 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. A 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). The political dimension is often missing from educational technology research, yet as revealed by Coupal (2004), the influence of politics produces

---

[*] Corresponding author. Tel.: +84 909 824 889; fax: + 84 734 72 90.
  E-mail address: jef.peeraer@gmail.com (J. Peeraer).

shifts in educational policy. 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 (Selwyn, 1999).

2. ICT policy and implementation in practice

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).

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). The pressure to acquire ICT and the vast array of choices for decision-makers can lead to confusion and ad hoc decisions (UNESCO, 2007). 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. The potential of ICT may not be optimized if there is no shift in the learning paradigm (UNESCO, 2004). 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 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. Unless a specific policy exists and decision-makers have a clear strategy in place, it is difficult to integrate ICT effectively and bring about desired improvements in the reach and quality of education (UNESCO, 2007).

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 importance placed on developing ICT policy in education varies from country to country (UNESCO, 2004). 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, especially in teacher practice. The analysis aims to uncover the effect of different rationales on the learning paradigm and 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. 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).

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. Five 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 is assessed 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

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 IT for the industrialization and modernization	
Decision of PM on approval of Implementation of Directive 58	2001
Directive 29 on Enhancing Teaching, Training and Integrating ICT in Education for the period 2001-2005	
	2002
	2003
	2004
Decision of PM on approval of the developing IT human resources program to 2010	
	2005
Decision of PM on Approval of the Strategies of Developing ICT in Vietnam until 2010, Benchmarks for 2020	
	2006
Decree on Information Technology Application in State Agencies' Operations	2007
Guidelines MOET to DOETs for enhancing the implementation of some activities on ICT	
Directive 40 on the movement "Friendly School, Active Students" at secondary schools in the period 2008-2013	
Directive 55 on Promoting Teaching, Training and Applying ICT in Education - Period 2008-2012	2008
Guidelines MOET to DOETs for IT tasks in school year 2008-2009	
	2009
	2010

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 aims 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 as follows:

> *"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 prioritizes 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 sets up and uses 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 that 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 Program

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. Directive 29 states that "the core mission of education is to train IT human resources and to promote the use of ICT in education and training at all levels and in all programs (MOET, 2001, p.1)." The approved programs 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

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. Access is still a priority. 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 in 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).

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).

4.2. Raising Awareness of the role of ICT in education

Policy makers in Vietnam see awareness of the potential of ICT as a condition of which the importance cannot be stressed enough. 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).

4.3. Translation and implementation in higher education

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 realised.

The developed technology plans vary in comprehensiveness and quality. Similar operational components came back in the vision statements and mission statements of all teacher education institutions.

4.3.1. Vision on added value of ICT

In all teacher education 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."

4.3.2. Critical issues and operational action plans for integration of ICT in the Teacher Education Institutions

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. Currently they use standard office applications and they are aware about the possibility of open source applications.

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 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 Active Teaching and Learning. 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.

Even though the urge to develop e-lessons is high, there is no clear understanding of what an e-lesson exactly is.

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. Conclusions

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. The focus is on ICT skills training and development of ICT infrastructure to enhance industrialization and modernization. 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. Directive 58 implies a strong focus on ICT skills training and ICT is seen as an object of education. With directive 55, an educational rationale puts noses in a different direction. In the context of the movement for friendly schools and active students (Directive 40) 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. Raising awareness on the potential of ICT is utmost important. E-learning and the development and use of e-lessons is put forward as the ultimate goal of integration of ICT in education. 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 go to investment in infrastructure and there are high expectations 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, for some institutions these multiple rationales are mutually reinforcing each other. All institutions touch on important operational components of the ICT

integration process and reflect on issues, approaches and solutions. As acknowledged by the MOET, awareness of the role of ICT in education is utmost important to effectively integrate ICT in education. 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. 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 infrastructure development and teacher training and 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.

6. Discussion

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. Most teacher education institutions refer to, mostly vague standards set and indicators of integration of ICT. But due to the multiple 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 for improved quality of education is high, but a gap between this rhetoric and educational practice remains. 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. As acknowledged by UNESCO (2004) educators need to know exactly how ICT can be used as a teaching tool. Most approaches of the teacher education institutions are rather abstract and do not trigger action. To promote the uptake of ICT in teaching practice, guidelines should be set for education institutions on integration of ICT in the curriculum, without necessarily imposing these as rules or regulations to be strictly adhered to (UNESCO, 2004).

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. The instructional technology plan is work in progress. The institutions were advised 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. The teacher education institutions are still coping with limited ICT resources. As observed elsewhere, this could result in creative solutions and optimal use of existing resources (Bryderup & Kowalski, 2002). A clear, unambiguous vision and a concrete mission addressing integration of ICT as a synergy of components can make the rhetoric on ICT as a tool for teaching and learning become every day practice.

References

Bjarnason, S. (2003). Evolution or revolution? Information and communication technologies in higher education. *Perspectives: Policy & Practice in Higher Education, 7*(4), 110-113.

Bryderup, I. M., & Kowalski, K. (2002). The role of local authorities in the integration of ICT in learning. *Journal of Computer Assisted Learning, 18*(4), 469-479.

Carnoy, M., & Rhoten, D. (2002). What Does Globalization Mean for Educational Change? A Comparative Approach. *Comparative Education Review, 46*(1), 1.

Clegg, S., Hudson, A., & Steel, J. (2003). The Emperor's New Clothes: globalisation and e-learning in Higher Education. *British Journal of Sociology of Education, 24*(1), 39-53.

Coupal, L. V. (2004). Constructivist learning theory and human capital theory: shifting political and educational frameworks for teachers' ICT professional development. *British Journal of Educational Technology, 35*(5), 587-596.

Dale, R., Robertson, S., & Shortis, T. (2004). 'You can't not go with the technological flow, can you?' Constructing 'ICT' and 'teaching and learning'. *Journal of Computer Assisted Learning, 20*(6), 456-470.

Erstad, O. (2006). *Where do we go from here? Digital literacy, knowledge building and curriculum reform in Norway*. Paper presented at the Conference "Imagining the future for ICT and Education"

Government. (2000). Directive on Promoting and Developing ICT for Industrialization and Modernization (58-CT/TW).

Government. (2004). *Decision of PM on approval of the developing IT human resources program to 2010*. Retrieved. from.

Government. (2007). Decree on Information Technology Application in State Agencies' Operations (64/2007/NĐ-CP).

Guidebook for Developing an Effective Instructional Technology Plan (v2.0). (1996). Graduate Students at Mississippi State University.

Kozma, R. B. (2008). Comparative Analysis of Policies for ICT in Education. In *International Handbook of Information Technology in Primary and Secondary Education* (pp. 1083-1096).

MOET. (2000). *Master Plan For Information Technology In Education For The Period 2001-2005*. Retrieved. from.

MOET. (2001). *Directive 29 on Enhancing Teaching, Training and Integration of ICT in Education for the Period 2001-2005*. Retrieved. from.

MOET. (2007). Guidelines on Implementation of the Missions of the school year 2007-2008 about ICT (9584/BGDĐT-CNTT).

MOET. (2008a). Directive on Promoting Teaching, Training and Applying ICT in Education - Period 2008-2012 (55/2008/CT-BGDĐT).

MOET. (2008b). Guidelines for IT Tasks in school year 2008-2009.

Peeraer, J. (2009). Integration of ICT in Teacher Education in Vietnam. Unpublished Scientific paper. University of Antwerp.

Phan, K. V. (2005). Decision on Approval of the Stategies of Developing ICT in Vietnam until 2010, Benchmarks for 2020 (246/2005/QĐ-TTg).

Pick, J. B., & Azari, R. (2008). Global digital divide: Influence of socioeconomic, governmental, and accessibility factors on information technology. *Information Technology for Development, 14*(2), 91-115.

Richards, C. (2004). From old to new learning: global imperatives, exemplary Asian dilemmas and ICT as a key to cultural change in education. *Globalisation, Societies & Education, 2*(3), 337-353.

Selwyn, N. (1999). Why the Computer is not Dominating Schools: a failure of policy or a failure of practice? *Cambridge Journal of Education, 29*(1), 77.

Selwyn, N. (2007). The use of computer technology in university teaching and learning: a critical perspective. *Journal of Computer Assisted Learning,* pp. 83-94,

Selwyn, N. (2008). Realising the potential of new technology? Assessing the legacy of New Labourâ€™s ICT agenda 1997â€“2007. *Oxford Review of Education, 34*(6), 701 - 712.

Tearle, P. (2003). ICT implementation: what makes the difference? *British Journal of Educational Technology, 34*(5), 567-583.

Tran, Q. H., Vu, T. V., & Sloper, D. (1995). The policy-making context and policies of education and training in Vietnam In D. Sloper (Ed.), *Higher Education in Vietnam: Change and Response.* (pp. 62-73).

UNESCO. (2003). *UNESCO Meta-survey on the Use of Technologies in Education in Asia and the Pacific - Country report Vietnam*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.

UNESCO. (2004). *Integrating ICTs into Education: Lessons Learned*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.

UNESCO. (2007). *ICT in Education in the Asia-Pacific Region: Progress and Plans*. Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.

Valentine, G., & Holloway, S. (1999). 'The Vision Thing': Schools and Information and Communication Technology. *Convergence, 5*(4), 63-79.

Warschauer, M. (2003). Dissecting the "Digital Divide": A Case Study in Egypt. *Information Society, 19*(4), 297.

Watson, D. (2006). Understanding the relationship between ICT and education means exploring innovation and change. *Education and Information Technologies, 11*(3), 199-216.

Williams, P. (2005). Lessons from the future: ICT scenarios and the education of teachers. *Journal of Education for Teaching, 31*(4), 319-339.

Young, J. (2008). Strategies for impact and policy relevance. *Journal, Glocal Times*(10). Retrieved from http://www.glocaltimes.k3.mah.se/viewarticle.aspx?articleID=144&issueID=16

Bio Data

Jef Peeraer is a Social Scientist mastered in Sociology of Education and Culture. For several years he has been working as a researcher on the topic of ICT and Education and as a programme coordinator in Development Cooperation Programmes on integration of ICT in teaching and learning. He built up in depth knowledge about different aspects of integration of ICT in education. At the same time he has hands-on experience with ICT as a tool for Active Teaching and Learning. At the moment he is working in Vietnam for the Flemish Association for Technical Assistance and Development Cooperation where he engages Vietnamese teachers and teacher educators in a step by step journey on integration of ICT in teaching practice.

Tran Nu Mai Thy is a Master in International Educational Development, majored in Technology, Literacy and Languages at Columbia University, New York, USA. She has 9 years of experience teaching English as a Foreign Language in upper secondary education in Vietnam

and was rewarded as excellent teacher using ICT in her teaching practice. At the moment she is working in Vietnam as a Local Programme Coordinator for the Flemish Association for Technical Assistance and Development Cooperation where she is responsible for the organization and implementation of teacher professional development on integration of ICT towards Active Teaching and Learning. With her knowledge and experience on ICT and Education she wrote several research papers for newspapers and national and international conferences.

Tran T. Thai Ha received her master degree of education on the *"Application of ICT in Teaching Mathematics"* and has a long experience as a teacher and senior-researcher on educational development at the Hanoi University of Pedagogy and the National Institute for Education Development. She continued her studies on pedagogy and E-learning in Germany, and received her PhD degree at the Potsdam University. She has delivered a number of articles and presentations on ICT in education in international conferences and she is the author of *E-learning in Schools - Development, Implementation, Evaluation and Perspective* (2008). Since 2008, she is the head of the Policy Research Section, in the Manpower Training Needs Analysis and Forecast Centre of the Vietnam Institute of Educational Sciences, under the MOET. She consults the Flemish Association for Technical Assistance and Development Cooperation on integration of ICT in Higher Education in Vietnam.