INFORMATION TECHNOLOGIES AND EDUCATIONAL EMPOWERMENT
A Humanistic Perspective

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Abstract: In many industrialized societies, life has changed drastically due to the permeation of information technology (IT) in many aspects of society such as business, government, commerce, education as well as daily activities. How computer is viewed and valued in education depends greatly on the theoretical perspectives of the beholders. reveal different views and attitudes of the users. From a humanistic perspective, technology is a product of scientific knowledge in a human world which is culturally diversified. Our worldview, self-concept and identity belong to the human world. Technology should be used to change the way we think of ourselves in relation to other human beings and the land on which we live. It raises the issues of environmental awareness, international understanding, and human co-existent as world citizens. Technology permeates many aspects of society that it affects the quality of life both positively and negatively. The quality of life is not just about goods and services, but fundamentally it is about mindfulness. One of the big challenges in computer supported education is the response to the question: How should computer technology be used to enhance learners in terms of intellectual, social and emotional development? This challenge shifts our attention from the emphasis on a narrow context of academic learning to a humanistic learning discourse.

1 INTRODUCTION

First of all, I would like to express my great appreciation to the Conference Convener for inviting me to speak at this conference as a keynote speaker. I feel very privileged to have the opportunity to participate in this unique international educational conference which has attracted many delegates from various academic disciplines and international backgrounds. The two concepts, *technology* and *humanity*, are significant and powerful enough to capture the current context of education not only in a changing but also a challenging world. We are no longer confined to an isolated island metaphorically. An event in one part of the world could have a great impact on other regions of the earth. To some extent, technology has turned the world into a global village. However there are also challenges which require leadership to maintain harmony between technology and humanity. This conference gives me an opportunity to share my views on this important challenge.

2 THE MAGIC POWER OF COMPUTER TECHNOLOGY

In many industrialized societies, life has changed drastically due to the permeation of technology in many aspects of society such as business, government, commerce, education as well as daily activities. Whether we like it or not, we are at the mercy of computer technology. What would happen if computers and the Internet suddenly disappear? The potential Y2K computer disaster did not eventuate but the massive preparation for it confirms the view that we are still very much at the mercy of computer as computer technology permeates many aspects of society locally and globally. Occasional incidents of the Internet breakdown or temporary disconnection can easily hinder interaction, communication and services at work. We develop computer technology but we are so dependent on it that we can become its prisoners. As we have been deliberately or unintentionally acculturated into a computer-based society, we are still marveled at the

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magical power that computer technology has offered us. What we knew about computer technology two decades ago now becomes things of the past and there will be many magical wonders ahead in the next two decades. History is measured in terms of time and events, but for digital technology, history is short but full of magical events and inventions.

In education, firstly the proliferation of software items and computer-based projects showing their positive impacts on teaching and learning is like constant tidal waves. The numerous papers on various aspects of computer-supported learning and teaching strongly reinforce this optimistic view. An internet search will prove this unstoppable phenomenon! A quick glance at several proceedings of the conferences on computers in education in 2007-2008 period shows thousands of research papers on how to use computer technology effectively and creatively in teaching and learning. It would be a daunting task for a researcher to conduct a comprehensive literature review of all the publications on computers in education in recent years.

Secondly, computer technology is rapidly growing at such a fast speed that what we consider as 'current development' will soon become outdated, metaphorically like images of yesterday. Computer educational software depends heavily on hardware. A new development in hardware can trigger changes in software development and implementation and vice versa. This interactive wheel gets bigger and stronger. The real challenge for educators is to examine how computer software and hardware are used to enhance learners' development intellectually, emotionally and socially.

3 COMPUTER TECHNOLOGY: A CRITICAL DISCOURSE CONSIDERATION

> Modern technology is no more neutral than medieval cathedrals or The Great Wall of China; it embodies the values of a particular industrial civilization and especially of its elites, which rest their claims to hegemony on technical mastery. We must articulate and judge these values in a cultural critique of technology. By so doing, we can begin to grasp the outlines of another possible industrial civilization based on other values (Feenberg 1991, p.3).

Computer, like many other products of different technologies, is an instrumental entity which is subjected to good use or abuse by social agents. It is a product and an instrument which cannot be divorced from its historical background and functioning. It can be exploited by some social institutions to serve their growing needs and to reinforce their power control on others. IT, particularly the Internet, does not exist in a harmonious global village. There are different social groups, locally and internationally, politically and religiously, in competing discourses and they can exert power on the use of IT to their advantages. According to Rolf (2008), the Internet is also a subject of discourse in its own right. Just as controlling the mass media of newspapers, television and radio gives the controllers the power to influence the masses, the control of the Internet also has this powerful influences. However, the distributed nature and scale of the Internet make such control very difficult as communication is no longer unidirectional. The Internet is a medium where those privileged to have a connection can 'speak their minds' on a global stage and therefore be viewed as a threat by, and to, those who fear the freedoms of speech and expression. It is important to understand how some would manipulate the meaning and position of the Internet within their society and, also, how discourse across the Internet can be influenced by those same groups. The recent events on control battles of the Internet between the government, Internet providers and users in a number of countries show that the Internet cannot be immune from discoursal influences. Its impacts are manipulated by different interest groups and those with great social power tend to exert stronger influences on the discourses across which the Internet travels.

Learning is not just about obtaining information and absorbing knowledge. Learning is fundamentally making sense of information and knowledge, to free the mind from hegemonic imposition of knowledge, and most importantly to empty our prejudices and presuppositions. At the International Conference on Education and Globalisation: Technology Innovation and New Learning Environment in 2008, Dr. Ayudhya, a prominent Thai scientist, gave a keynote speech, not on technology innovation, but surprisingly and admiringly on education and inner peace. His message was embedded in the following retold story about human vulnerability.

> A wife and her husband were having breakfast at their home. She looked at the clothes line in the garden of their neighbor and commented:

"Look at the clothes hanging there. They are so dirty! The woman in that house does not know how to wash her clothes cleanly. How dirty they are! She needs a washing machine."

Her husband kept quiet. The following morning, at breakfast the wife looked through the window and said the same thing:

"Again, her washing is still very dirty. She did not know how to wash clothes properly. She needs a modern washing machine, absolutely."

The husband did not say a thing. He kept eating peacefully. On the third morning, while eating breakfast, the wife could not believe her eyes. She said:

"What! I could not believe it! That woman knows how to wash her clothes.

They all are very clean now! ".

The husband calmly told his wife:

"Actually, I could not bear your unkind criticism of the neighbour any more. This morning I woke up early and cleaned our dirty window, and now you can see through clearly!"

This inspiring story gives us some thoughts on the nature of our technological discourse. One of the biggest challenges to IT managers, educators and IT users is not about the technological knowledge that IT has brought to society. The real challenges are about how to deal with controlling forces with their influence on the Internet, how to use it wisely to enhance the global village in which there are still so much social injustice, hegemonic globalization of technology, and lack of resource sharing.

4 TECHNOLOGY AND LEARNING ENVIRONMENTS

In the context of education, as Le and Le (2007) point out, instead of using traditional features for evaluating software such as screen design, navigation, text type, cost and user-friendliness, it is useful to employ the concept 'metaphor' as a basis on which we examine the role of computer in teaching and learning. How computer is viewed and valued in education depends greatly on the theoretical perspectives of the beholders. Educational software used by constructivists who strongly believe in meaning making is expected to be different from that used by those whose pedagogical principles are teacher-centred. We can use different computer metaphors to reveal different views and attitudes of educational software users and evaluators (Lê & Lê 2007).

- *Software as a Tool*. There are many types of software and they are produced and used for a purpose. In education, the most versatile function of software is instrumental. It is used for performing a certain function such as calculating, drawing, editing, proofreading, communicating, etc.
- *Software as an Instructor*. When software is used as an instructor, its primary role is to teach learners to develop knowledge and skills. Within the behaviorist paradigm, it is hierarchically structured in terms of content and skill complexity. Each lesson focuses on a specific content or skill and all the lessons are arranged from introductory to advanced levels. Instruction is sequential in the sense that learners are expected to move sequentially from the early lessons to the final ones.
- *Software as a Facilitator of Learning*. While the instructionist model of educational software focuses on the significance of instruction in teaching and learning, the constructivist model of educational software plays less attention to instruction and more on the active role of learners in the learning process. Learning is viewed as a meaning making process as learners bring their knowledge, experiences and worldview to learning.
- *Software as a Virtual Class*. Generally education software includes small items of software such as programs teaching phonics, multiplication, and typing. They are designed to teach a specific skill. There are also educational software packages which are designed for a targeted group of learners such as a web-based academic course and a multimedia-based training program. In this environment, courseware plays an essential role in providing the syllabus, teaching and learning experiences and communicative interaction.

In a dynamic educational environment, whether it is virtual, face-to-face or mixed modes, different teaching and learning strategies and experiences should be used. They include collaborative learning, task-based learning, individualized learning, and experiential learning. They are not mutually exclusive as far as they are user-friendly and learner-friendly.

5 THE RELATIONSHIP BETWEEN LEARNING AND COMPUTER TECHNOLOGY

In language and literacy education, the relationship between learning and language is perceived in terms of three dimensions: learning language, learning about language and learning through language. This three-dimension relationship can be used effectively to describe the link between learning and computer technology, particularly for school children.

5.1 Learning Technology

A child is as an untrained IT 'expert'. In applied linguistics, the concept 'critical stage of language acquisition' postulates that children learn a language quickly and effortlessly when they are young; whereas for adults, it can be an uphill battle. Similarly, children feel very comfortable with the computer. They can self-teach how to use software and hardware without going through training courses. Though one may not want to go so far as to postulate that there is a critical stage of technology acquisition in children, one would admit that children know what computer is when they discover what computer can do for them. Interestingly, their learning tends to orientate towards game-based activities, music and movie-type entertainment and social interaction. The challenge for teachers is that they should motivate children to divert their use of computer from entertainment-based activities to the academic learning discourse.

5.2 Learning about Technology

One of the main concerns of many parents about their children's safety and well-being in a technologically driven society is the way in which children are dangerously exposed to the Internet. The Internet can be so powerful that children can be acculturated into a virtual social discourse that the traditional family tie is lost. Parents cannot properly protect their children if they do not know whom the children interact with on the Internet. The children's world is no longer confined to the familiar contexts of the family and the close community. Thus children need to be educated to know well about dangers of the virtual world that computer technology has created. It is impossible for parents and teachers to protect children completely from the dangers inherent in the virtual world. The best solution is for them to learn about the positive and negative aspects of using the Internet, which is metaphorically a superhighway full of excitements, risks and dangers.

Learning about computer technology needs to go beyond the examination of the positive and negative aspects of the Internet in children's learning discourse. It is important to critically examine the impacts of computer technology on humanity in general, and on different cultures in particular. The Internet as a superhighway travels and carries passengers across various countries and cultures in the world and it cannot be value-free and ideologically neutral. While its impacts can be productive for some and they can be threatening for others. This is important when we examine the interrelated concepts of globalization and cultural diversity and IT.

5.3 Learning through Technology

Traditionally, particularly in a teacher-centred learning environment, the main resource in learning is the teacher. It is also known as the transmission model of learning model in which teachers transmit knowledge to learners. Teachers are knowledge transmitters and learners are knowledge receivers. This model of learning has been vigorously challenged by the constructivists who argue that learning is not about receiving knowledge but it involves making sense of knowledge and challenging knowledge. Thus knowledge should not be just derived from the teacher as the primary source but it can also come from a diversity of sources such as the learners themselves, the community and the Internet. Nowadays, the Internet can provide forums for discussion, virtual libraries, and a huge source of information covering different topics and issues. Teachers' role is to facilitate and guide learners how to use the Internet critically, creatively and constructively.

The introduction of Critical Literacy to education has shifted the focus of learning as knowledge attainment to making sense of knowledge through critical examination of texts. Knowledge is basically embodied in texts and texts are embedded with ideologies. Thus it is important to teach learners to critically examine knowledge and ideologies through critical text analysis. 'Multiliteracies' is a concept introduced by the New London Group (1996) with a critical literacy background which takes into account not only print texts but also e-texts from numerous multimedia sources, which children are now abundantly exposed to. Also the emphasis includes the variability of

meaning making in different cultural, social or domain-specific contexts.

6 COMPUTER TECHNOLOGY AND THE THREE WORLDS

Technology has undoubtedly made a great contribution to humanity. However, one needs not hastily accept its contribution without seriously considering its possible negative impacts. Technology provides modern conveniences to improve our quality of life. However, it can also create some conflicting discourses in our world socially and individually. As mentioned previously, it is important to look at education beyond the traditional subject-orientated discourse to include understanding and connection with what we consider here as the three worlds of humanity: the physical, human and spiritual words (Lê, 1995).

6.1 The Physical World

Scientists have constantly asked questions about the physical world as, in their inquisitive minds, it is full of mysteries and they are not satisfied with what they have discovered. Newton wanted to find out why things fall down, but not up. Archimedes' 'curiosity with the gold crown getting lighter in water' led to the establishment of the Archimedes Principle. Galileo was curious about the universe and he was among the first to use a refracting telescope to observe stars, planets and moons. Science will cease developing if scientists stop inquiring about the physical world which ordinary people tend to take for granted.

Children, like scientists, are also curious about the physical world. Their constant questioning about the world indicates that they want to learn about the world in which they live. They ask questions such as "why are there low and high tides?"; "why does the Sun rise in the East and sets in the West?". My 5-year old son asked why there are North Pole and South Pole, but not East Pole and West Pole.

Computer technology has made a great contribution to knowledge enhancement. A quick search on Google can open many windows for us to gain further knowledge about the physical world. We do not need to go to other parts of the world to know them well. Written and graphic texts on the Internet can provide us a great deal of information.

The challenge for educators is not to expand children's knowledge of the physical world but to help them to make connection to it. The physical world should not be treated as an external entity but as an important part of our existence. The changing of the physical environment can greatly impact on us. With the help of computer technology, children should be taught to understand the physical world and most importantly to protect it from human destruction. Issues such as global warming and climate change are not just physical issues. Fundamentally they are about humanity and its existence.

6.2 The Human World

When babies are born, they are born into a human world. In a village, they are surrounded by caring faces of their parents, grandparents, aunts, uncles, and other people in the family and the community. In a modern city, they are welcomed to the world by nurses, doctors, and other health workers as well as their family members. Whether it is in a remote village or a modern city, babies are introduced to the human world, which can be a mysterious place for them to discover gradually in their enculturation.

The arrival of computer technology, particularly the Internet, can expand children's human world. The traditional concept of family may not apply to some children. Their fathers and mothers may live in different places. Their relationship is no longer mediated through daily face-to-face family interaction. Text message and email add a different dimension to interpersonal communication. Thus computer technology provides a new discourse of human interaction and relationship. In other words, thanks to the Internet, parents, colleagues, neighbors are no longer the only people in our world. There are significant others in our existence. However, the expansion of our networking also creates issues and problems which may enhance our interpersonal relationship or destroy our happy co-existence with others. As mentioned earlier in this paper, it is dangerous for children to interact with strangers through the Internet as there are always 'big bad wolves' waiting there for them. Vulnerable children can easily become targets of abuse in a virtual world.

6.3 The Inner World or Spiritual World

We may develop a good understanding of the physical world and human world in which we live. However, it is difficult to stand aside as an observer to try to understand who we are. Questions about the

meaning of life are always with us, consciously or unconsciously. How do we value our life? How do we see ourselves in relation to our family, friends and the community?

It first appears that computer technology has nothing to do with the inner world as technology is a product of scientific knowledge whereas the inner world is personal and subjective. However, though our worldview, self-concept and identity belong to the inner world, they are a reflection of the outside world. A long harsh winter in a remote area without communication with others can bring loneliness and depression. Technology may change the way we think of ourselves in relation to other human beings and the land on which we live. It raises the issues of land care, international understanding, and human co-existent as world citizens. Technology permeates many aspects of society and it affects the quality of life both positively and negatively. The quality of life is not just about goods and services, but fundamentally it is about mindfulness.

Thus the big challenge for us as educators is our response to the question: How should computer technology be used to enhance learners in terms of these three worlds? This challenge has shifted our attention from the emphasis on academic learning to humanistic learning. This question seems to reflect well the Vietnamese concept of 'cultivated beings' in the Vietnamese educational tradition.

7 TECHNOLOGY, CULTURAL DIVERSITY AND GLOBALIZATION

Computer technology, cultural diversity and globalization are the three social forces which can co-exist peacefully to enhance humanity. However, they can also act as opposing forces and create conflicting discourses which lead to social disharmony, injustice and cultural domination.

Globalization has taken place for a long time when different nations have opened their doors to interact with one another. However, the concept 'globalization' and its impacts in an international discourse are perceived and interpreted differently. Basically there are two opposing perspectives on globalization. On one hand, globalization enhances the scope and magnitude of human contact, interaction, and collaboration. On the other hand, globalization reinforces cultural homogenization and cultural domination. It is a threat to cultural diversity and cultural preservation. According to Marsella (2005), we should not take globalization for granted and we should ask if the fruits of 'hegemonic' globalization constitute local and global improvements. Does globalization help to build a better world for all, or only for a small select group? We also need to ask: "Are the values and actions of the powerful, who support 'hegemonic' globalization, the values and actions we would choose given the opportunity to control our choices?"

> I am not against change, nor am I against globalization. I am, however, against 'hegemonic' globalization because of its consequences for homogenizing cultural diversity. I am against the asymmetrical concentration of power and wealth of 'hegemonic' globalization because it is driven by concentrated values and motives capable of homogenizing the world's diverse cultural traditions for commercial and political gain. 'Profit' is not in itself evil, but when 'profit' is driven by greed and avarice, it is simply violence. We need a globalization that is driven by equity and ethics (Marsella 2005, p.16).

Computer technology undoubtedly plays a key role in reinforcing globalization. With the Internet as a superhighway and English as a global lingua franca, globalization has become a powerful phenomenon. The challenge we need to face is: How should we handle computer technology as a part of scientific domain and technology as a product of science which can be subjected to use and abuse in a global context? How could developing countries make use of computer technology to enhance their society and at the same time maintain their cultural identity? There are no easy answers to these questions. For computer-support education, firstly we should try to maintain and value our own culture while at the same time being exposed to the world of computer technology. Secondly we handle computer technology so effectively that it not only has practical values but also helps in the development of the learner, making them more aware and secure in their cultural identity, more open to new form of experiences and more skilled in meeting their challenges.

8 CONCLUSIONS

Computer technology should be used to change the way we think of ourselves in relation to other human beings and the land on which we live. It raises the

issues of environmental awareness, international understanding, and human co-existence as world citizens. Computer technology permeates so many aspects of society that it affects the quality of life both positively and negatively. The quality of life is not just about goods and services, but fundamentally it is about mindfulness. One of the big challenges in computer-supported education is the response to the question: How should computer technology be used to enhance learners in terms of intellectual, social and emotional development? This challenge shifts our attention from the emphasis on a narrow context of academic learning to a humanistic learning discourse.

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BRIEF BIOGRAPHY

Dr. Thao Le completed the Bachelors Degree in English linguistics at Saigon University in 1969. With a special interest in ethnography and an enthusiasm of a young graduate, he moved on to undertake a research Masters in Jarai, a highland minority language in Central Highlands of Vietnam. However his dream of living with culturally isolated mountain people as a part of his research fieldwork was dashed due to the fierce war taking place throughout Vietnam at that time.
In 1971 Dr. Thao Le was awarded a research scholarship by Monash University, Australia, to undertake PhD in linguistics. His PhD thesis was on semantically based theories.

Dr. Thao Le was offered a lectureship at the University of Tasmania in 1974 and has been teaching in the Faculty of Education till now. He has held various positions and played important roles in the development of the Faculty such as: Senior Lecturer, Assistant Dean, Director of the Masters Program, Graduate Research Coordinator and Associate Dean (Research). Currently he is lecturing in postgraduate courses and supervising eighteen research students. He was awarded the *Faculty of Education Mentor Award* and the *University Teaching Excellence Award.*
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