The possibility of illusion in the production of knowledge

Luis Garcia
IT trainer and trainer of trainers since 1994. Currently collaborator as External Trainer of the Vocational Training Centre of Tomar, Portugal.

Keywords
Manipulation, training, education, learning, communication, computer

SUMMARY

Information and communication technologies – ICTs – have become a defining feature in the vocabulary of 21st century education and training. The major question now is not when and how they will be introduced into the education system, but what impact the manipulation inherent in their use will have on the resulting production of knowledge.

The added value of ICTs for learning lies in the revolution they bring about by speeding up and guiding access to syllabuses from the moment users realise how manipulative they can be.

Introduction

The Matrix trilogy is considered to be a masterpiece of modern cinema which, despite its commercial bent, raises troubling questions on such wide-ranging issues as the exercise of power and freedom, notions of illusion and reality, religious belief, or simply the status quo. All this is then complemented by the amazing plot: no sooner does it close some gaps than it immediately opens others, which are left to the interpretation of the message-receiver, in this case the fan or spectator.

The Wachowski brothers' Matrix series frequently stands out as a revolutionary example because of the technical and commercial values of the films, though they raise issues of the construction of reality and on how thin the line is that separates us from manipulation in the simplest areas of daily life. What appears to be and what is, at least in a way that we commonly refer to as reality, encapsulates or may encapsulate a mystery as great as any that could be imagined; in a way that we are reluctant to admit, what we take for granted may be no more than a reference framework that we have simply been taught not to question.

In the films the Matrix is an intelligent machine that enslaves and keeps humanity under control through virtual reality, while using it as a weapon in a parasitic relationship that gives machines the power to manipulate the imaginary everyday existence of millions of beings who thus live a life which is not theirs. In our reality, the enslavement and manipulation of the population is not very distant from this metaphor: just remember the Salazar regime to appreciate the role of football, for example, as an antidepressant prescribed systematically to the population.

Let us stop to reflect on this point: are we so distant now from those days? The most relevant question would then be: 'To what extent are we manipulated? To what extent do the media deliver a predefined message and construct our reality and our knowledge, without our conscious knowledge but possibly with our unconscious consent?'.

For another example, from much earlier than Portugal's April 1974 revolution, let us go back to Roman times. 'Occupy thyself with few things if thou wouldst be tranquil. For the greatest part of what we say and do being unnecessary, if a man takes this away, he will have more leisure and less uneasiness. Accordingly on every

occasion a man should ask himself: Is this one of the unnecessary things?' (Marcus Aurelius ([1]), Roman Emperor).

But would Marcus Aurelius himself, in imparting this advice, not to some extent be manipulating the receivers of his message? Consciously or unconsciously, all communication is liable to manipulate, but the difference lies in allowing the receiver to realise whether he or she is being manipulated or not.

A problem for the production of knowledge in connection with ICTs

The objective of this paper is a critical analysis on information and communication technologies – ICTs – and their integration into education, or to what extent schools benefit from the use of ICTs. Our collective imagery points to a rich set of viewpoints that may vary according to the target age-group, or, as we shall see (and not only from a time perspective), that may depend on what can be obtained from these technological tools. Criticism is easy. 'Do we like it?'. Let us formulate an answer and consider the object of our attention alone. A new question is soon raised, however: the pleasure will have to be justified (adapted from T.S. Eliot).

The advent of ICTs has generated much discussion on how they can make a major contribution to the renewal and/or sustained extension of the production of knowledge, starting from the assumption that they offer a considerable number of information-rich resources, in terms of both quantity and flexibility. Quite suddenly, having or not having access can influence – if not decisively then indisputably – a (any?) path it is intended to beat towards a source of knowledge.

In this context the personal computer (PC) becomes exceptionally important since it allows extrapolation from the traditional information theory-recommended model of sender-message-receiver. Contrary to traditional means of communication – radio, cinema, the press and television – the PC makes it possible to break away from the unidirectional way in which the sender 'posts' the message to the receiver.

([1]) The meditations of Marcus Aurelius, Book 4.

Because increasing use is being made of ICTs in the teaching/learning process, whether in the classroom or via distance learning, we need to think about the role both of the educator – whether trainer, teacher or tutor – and of the learner, whether trainee or pupil.

Returning to the Matrix metaphor, it is the educator's responsibility to play the role of architect but also of oracle in a responsible and ethical manner, so that learners can in some way feel that they are 'the one'. In this way they can also play their role, far from the special effect-laden images of a straight-to-video Hollywood movie, and much closer to the 0 and 1 that represent their (our?) reality in the teaching/learning process. This they can achieve by using the medium as a two-way channel, playing the role of liberator; and, together with the educator, they can thus put into effect the process of liberation begun with the educator.

Assessment, a range of technological resources and the instruction manual in Chinese

It would be correct to say that the PC has reached the classroom and is here to stay. I believe very few people will deny that, not because theirs is a world of certainties, but because nowadays we agree that no-one would have the nerve to laugh again at a kid with glasses and dandruff whose company's goal over 20 years ago was 'a computer in every home' (and Microsoft software on every computer?).

We have very conveniently (and probably simplistically) made use of the term PC. We would put forward another word that could include the mobile phone (why not?), the PDA, the MP3 reader and goodness knows what else. We could very consistently venture to use 'device', but while it may seem very undemocratic (may the reader forgive us), we will, without any Marxist connotations, continue to use the term PC ([2]).

Having resolved the problem of the name and focusing now on the content, even if we too were somewhere within the Matrix, we would have to agree on one point: the resources offered to the educator are truly abundant. Faced with the huge potential choice, will a little be left for manipulation? Or, on the contrary, facing a world bursting with ways out, who will take the first step: the educator,

([2]) PC is the acronym for Communist Party in Portuguese.

the learner or the machine? And if they do take it, will this not from the outset be a manipulative act?

Our aim is to question whether educators can continue to ignore ICTs in delivering their classes, though not forgetting that they should not be seen as a centre of interest. It seems that having accepted ICTs, educators can adapt the way they use them to their teaching aims. Or could it be that the technological aspect of ICTs, which can raise doubts in potential users, militates in favour of great leaps forward? We would not say that all the manuals are in Chinese. What we would say, however, is that sometimes a great deal of their content in Portuguese might look like Chinese to teachers who are new users. We agree that the best resource will continue to be the educator. In the final analysis, it seems logical that when teacher and technology are placed on the scales, the former will carry the greater weight. In the battle of the Ps, we suggest, the P of pedagogue will prevail over the P of PC.

Related work, the teacher, the blue pill and the red pill

At the beginning of the Matrix trilogy, the Wachowski brothers introduce Neo, 'the one', who is placed in a position in which he has to choose between two different coloured pills, one blue and the other red. This is no less than the decision between staying in the Matrix or waking up to reality. For better or for worse, 'the one' finally makes his choice. The strange thing lies in the cycle this choice seems to close, bringing to mind a computer programming control structure which, through carelessness or deliberately, closes an 'infinite' loop, or a tendency towards exhaustive repetition.

The power of ICTs lies in the (manipulative?) choice they can offer 'the one' of concern to us, the learner, a situation similar to that experienced by Neo at the beginning of the story. With the educator's help, learners can then progress freely, though they can be manipulated, which suggests to us that the educator must be seen as a liberator of the learner's knowledge. The educator must exercise this liberating power democratically so that learners can progress from question to question, accumulating their answers and, who knows, raising new questions that set them off on a learning cycle. Contrary to tradition, this is nowadays known unequivocally as lifelong learning, which is so receptive to cycles.

The arrival of hypertext dramatically freed us from the shackles of the sequential knowledge imposed by the academic model and left us closer to an effectively free knowledge in a learner-chosen path. Each learner would start from the same point but would be free to move in whatever direction they wanted. And, when necessary, it would be the educator's responsibility to take learners from the same point by fostering the production of knowledge through a sensation of déjà vu (as in the Matrix) or, who knows, by joining a new path more appropriate to the educational needs perceived by the educator and felt by the learner.

ICTs have increased the speed of knowledge, as it were. Educators or learners can access information in greater quantities and/or at greater speeds, and can also be bombarded with additional information that adds nothing to the intended area of study. One thing seems clear, however: the speed the learner can be subjected to increases seductively, in equal proportion to the development of the technology. The way this speed will be administered is yet another challenge to educators, who must remain sure of their choice, even if, by virtue of their position, it influences the learner's progress. For better or for worse, educators will also have to make their choice here.

Conclusion

Main contributions or 1 classroom = 1 learner x 1 PC

The title of this section suddenly almost resembles an adaptation of Bill Gates' famous phrase: 'A computer in every home…'. In the same way we would also venture to say that it seems like a rather utopian title, even if we are experiencing a 'technology shock' – whatever that may be. Not that it is not tempting to dare to challenge the technological currents flowing through the country, but very simply we do not wish to and will not give them primacy over what it really makes sense to look at, which in the final analysis would be the individual: learner, educator or (why not?), the fully entitled citizen.

Seymour Papert wrote a not very Matrix-like article in this respect that nevertheless introduces an idea which I think is outstanding (Papert, 1996). The article begins with a metaphor involving a small country, Foobar, in which a sophisticated society of poets, philosophers and scientists has developed with a very special

particular feature: writing does not exist, and the entire society is based on the use of oral expression. As in any good story, one day it occurs to more imaginative educators to introduce pencils and paper as the dawn of a new era in Foobar's schools. The debate begins, sceptics shake their heads and the radicals suggest that all educators and learners should be provided with pencils and paper, and that the education system should close down for six months while everyone adapts to the new technology. In the end, Foobar's wise politicians come up with a more cautious strategy. A pad of paper and a pencil will gradually be placed in every classroom so that learners and educators, irrespective of how much money they have, can come into contact with the new technology, and meanwhile Foobar's educational psychologists will measure its impact on the teaching and learning processes.

We believe it is accurate but also debatable to claim that ICTs are advantageous for anyone involved in education. Nevertheless, we simultaneously have to agree that they represent a threat which is just as great as their potential. As in Papert's strange story, ICTs should be seen as integrating rather than differentiating elements, when seen for example in monetary terms. We know that 'poor learners' must be given the same opportunities as 'rich learners', and it will suffice to look at the figures in reports published by UMIC, the Portuguese knowledge society agency (to mention Portugal alone), to see that while this is not impossible at the moment, it is extremely difficult (OSIC, 2005).

So are ICTs the wrong resource to introduce into the education system? We think not. We trust the technology. We trust the teachers and we trust the learners, in the same way that we trust the ICT statistics that place us on a par with countries like Greece, at the tail-end of a classification that is still led by the United States. Meanwhile, access to knowledge remains highly undemocratic. We would probably vote for Foobar's politicians, and we would give schools the necessary technological tools for them to be gradually introduced and analysed unobtrusively to gauge the advantages of their applicability.

Future contributions: if the future of ICTs were optimistic

How about giving those involved the power to choose between a return to the Matrix (slavery?), or immersion in the reality of Zion (a free city, even though subsumed in a world of shadows, hidden from the attacks of Matrix machines)? In all probability, any educator

will say that it will be heavily dependent on what access is provided to the network of networks, to their space on Hi5 (web-based social network), to their list of contacts on MSN (messenger service in Windows) or – at the speed at which social networks seem to develop – to any space at all. That is the problem of speed, which is something we have not yet understood.

Let us reflect on the dichotomy of trends we are led to consider: some that recommend unabashed development of the link between schools and ICTs, and others, more conservative, that view the process with suspicion, cautiously demanding time, analyses and many impact studies.

For better or for worse, learners and perhaps even some (if not many) educators are already somewhere deep inside the Matrix. This is because the Internet has inexorably given fresh impetus to a concept of communication that was never found in more traditional media such as the 'box that changed the world'. The message no longer flows in a single direction, but alternates between sender and receiver, generating feedback which is capable in itself of producing a new form of knowledge.

While discussing the here and now of ICTs, we discuss whether they should or should not help educators and learners, who are already connected through this technology in a way that school television never connected teachers and pupils in the past. The language used in this 'world' has begun to vary from forms of jargon to a would-be pseudo-language; I know, for example, that I found it difficult to understand that 'peculiar' can also be spelt 'pekuliah'.

The Matrix is still connected. 'the one' does not exist, because in essence we are all 'the one'. We can all do amazing things with ICTs, but nevertheless, as in the epilogue to the trilogy when the oracle asks the architect about the people who want out of the Matrix, the architect's answer seems to be appropriate here for those who will or will not adopt ICTs in schools: those who want out will be freed.

Bibliography

Ainley, J.; Searle, D. *Students in a digital age: some implications of ICT for teaching and learning*. Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) ICT in Schools Taskforce, Australia, 2005. Available from Internet: http://icttaskforce.edna.edu.au/icttaskforce/webdav/site/icttaskforcesite/users/root/public/Students_digital_age.pdf [cited 11.1.2008].

Alexander, B. Web 2.0: A new wave of innovation for teaching and learning? *EDUCAUSE Review,* March/April 2006, Vol. 41, No 2, p. 32-44. Available from Internet: http://connect.educause.edu/Library/EDUCAUSE+Review/Web20ANewWaveofInnovation/40615 [cited 11.1.2008].

Kenski, R. Matrix. A realidade é uma ilusão? *Revista Super Interessante*, April 2003, No 188, p. 38-46.

Moraes, R.A.; Dias, A.C.; Fiorentini, L.M.R. As Tecnologias da Informação e Comunicação na Educação: as perspectivas de Freire e Bakhtin. *Unirevista*, July 2006, Vol. 1, No 3.

OSIC (Observatório da Sociedade da informação e do conhecimento). *Tecnologias da Informação e da Comunicação nos estabelecimentos de educação e ensino não superior*, Ano escolar 2004/2005. UMIC – Agência para a Sociedade do Conhecimento, 2005.

Oliveira, G.P. Novas Tecnologias da Informação e da Comunicação e a construção do conhecimento em cursos universitários: reflexões sobre o acesso, conexões e virtualidade. *Revista Iberoamericana de Educación*, 2002. Available from Internet: http://www.rieoei.org/deloslectores/344Pastre.pdf [cited 11.1.2008].

Papert, S. Computers in the classroom: agents of change. *The Washington Post, Education Review*, Sunday 27 October 1996. Available from Internet: http://www.papert.org/articles/ComputersInClassroom.html [cited 11.1.2008].