

The 8<sup>th</sup> International Scientific Conference  
eLearning and software for Education  
Bucharest, April 26-27, 2012  
10.5682/2066-026X-12-012

**THE DYNAMICS OF THE TEACHER'S ROLES IN AN ICT LANGUAGE CLASS**

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**Abstract:** *The paper is meant as a radiograph of the roles a teacher should assume in response to the knowledge society demands from education. The issue that is investigated is whether teachers can contribute to better ensuring the instruction process efficiency by adopting an attitude of permanent professional reflection and open-mindedness, mainly focused on identifying the pedagogic rationale underlying their teaching options. As nowadays one of the teacher's major choices refers to the manner of using Information and Communications Technology – ICT in class, the research was meant to investigate, based on data from a case study and a teacher questionnaire, the main aspects to be considered by a foreign language teacher using modern technology, viz. adopting new roles dynamically, centering the activity upon the students' needs and their learning process, as well as maintaining/encouraging an essentially humanistic approach to the class environment - thus preventing the risk to mechanically implement ICT.*

**Keywords:** *ICT based teaching, reflective teacher, teacher's roles, pedagogic rationale, tertiary education*

**I. AIM OF THE STUDY AND LITERATURE VIEWPOINTS**

One important aspect in the teaching/learning of foreign languages, at all educational levels, is the appropriate use of ICT with a view to enhancing efficiency. However, as both our direct observation and the literature [1] point out, there does not seem to be a direct relationship between using ICT in the language class and an increase in the learners' success.

In an attempt to investigate this area in depth, the author of this study has initiated research focused on identifying the best practices in the use of modern technology in education from the perspective of the main actors of the educational process, viz. the students and the teachers. The findings from our student-centered research show that some teachers who use ICT in their activity tend to actually overdo, either in the amount of input they expect the students to take in from courses taught using PowerPoint slides, or as far as the manner in which they actually use ICT, considered a tool that can replace the teacher's explanations/additions on the board - to give just one example. Thus, they run the risk of diminishing the humanistic side in the communication pattern specific to the instructional process, playing mostly the traditional role of *informant*, and disregarding the role of *facilitator* of communication opportunities. For the students in the author's educational context – a technical university - such a model has generated the following critical opinions about the approach to teaching both technical subjects and foreign languages: '*too much material*', '*too fast delivery of lectures*', '*boring*' or '*unattractive*', obviously synthesizing the low level of the teachers' concern in *reflecting* on their teaching quality and in identifying the *pedagogic rationale* for each of their teaching options.

We maintain that such an attitude should constantly be part of the *professional development* process of any teacher in their progress throughout their career, which should include adopting an

open-minded investigative attitude to new and identifying new *roles* to play with a view to improving the learning taking place in class, while valuing feedback from the learners as the main beneficiaries of instruction.

Therefore, the twofold *aim* we envisage in this study is: (i) to investigate the range of *roles and attitudes* teachers using ICT in class should adopt, in their dynamic relationships with the students and with themselves - which can be conducive to sound professional development on the long run, and (ii) to propose and analyze possible *teacher evolution patterns* in this respect, by means of an individual case study, complemented by a larger scale survey among university teachers of technical subjects and foreign languages, respectively.

The literature in this field is relatively rich, as there has been concern on how impactful ICT use is on the *quality* of instruction ever since the beginning of the 1990s, with some investigations at quite large scale – Sherwood [3]. In most studies, an analysis is carried out on the *pros and cons* in using modern technology with real benefits for the quality of the learning taking place. For some authors, such as Dellit [1], it appears that if computer connected means are used in teaching, this does not *necessarily* yield a qualitative enhancement of the students' learning level or efficiency. Moreover, by abusing it, the risk can occur that the students' time is 'wasted' with information and communication technology.

On the other hand, as research on implementing ICT in education also shows [1], it may contribute positively to improving aspects such as: basic skills, problem solving, work and lifelong learning habits or concepts development. Two plans are of interest for us, viz. optimization in terms of *cognition* and the *pedagogies* implemented to attain this aim. Thus, using technology in teaching can help the *speed* at which understanding of teachers' explanations occur. Similarly, it encourages the engagement of learners in *interactive* patterns of communication in the learning process. As Sherwood [3] put it, that means a significant shift of focus in class from teacher-centeredness to *student- and learning-centeredness*. Dellit [1] justly remarks that by employing ICT, teachers would reach higher effectiveness, and that this involves promoting 'holistic learning, collaborative grouping and problem oriented activities'.

Then what is the challenge in using ICT in education, we could ask; the points of view to be found in the literature are numerous, but the majority underlines the fact that teachers do need adequate training in order to use ICT against a *well justified pedagogical framework*. A deeper analysis of such views [1, 2, 4, 5] can help us pinpoint some general *critical* elements:

- the need for training in using ICT in education generally refers to the *mechanics* of it rather than the *pedagogic rationale* underlying it;
- although some teachers use ICT for *extraprofessional* purposes, many of them quite frequently, there does not seem to be a strong correlation between this feature and their approach and openness to using it in class;
- teachers of technical subjects do not strongly perceive the need to receive *specific* pedagogical training, assuming that their technical background would suffice;
- some teachers are adept at 'modern teaching' and they enthusiastically use ICT in class very frequently, not necessarily for attaining an educational objective based on a certain methodology that is well grounded in adequate teaching principles/approaches;
- there has been a certain amount of reluctance among humanities teachers to use ICT in their classes; they generally blame it on the lack of training opportunities. Few are aware of the need that ICT trainers should provide them with the kind of information that refers to their special pedagogic needs to an equal extent with the information focused on the technical aspects of using more complex ICT in class. Moreover, there were cases when teachers of humanities appeared anxious that the goal of using ICT in order to enhance speed and efficiency of instruction might go against the fundamental cultural values imbued in their subjects.

In recent literature on the issue of ICT in education, Somekh [4] rightfully warns against the danger of disregarding the 'human' component in computer-mediated communication. She emphasizes the need to anchor investigations in the field in sociological and psychological research, as what matters is the type of relationships between human beings and machines. It is advisable to avoid, then, the absolutization of the technical side in this so-called 'techno-human hybrid'. The author [4] reinforces the idea that real qualitative 'innovation involves teachers and teacher educators in the creative, collaborative process of *imagining, experimenting with, and evaluating new pedagogies*'. We

maintain that this requirement is a ‘must’, irrespective of the type of subject taught on the basis of ICT. As emphasized by Dellit [1], research shows that whatever subject/discipline/branch of knowledge may be taught, the role of technology can be of significance *only* if the teacher succeeds in creating an appropriate interactive study environment against ‘the broader context of [supportive] pedagogy, curriculum and school organization’. So it is not ICTs that ‘will improve pedagogies’, but, as shown by Watson [5], they can provide support to teachers using them on sound pedagogic views, (re)shaped to accommodate them in a creative innovative manner.

As reported in Sherwood [3], there are teachers who are trying to include technology in their class only in a manner that may increase their teaching quality and their learners’ success. This can be achieved only if teachers adopt a permanent *reflective* attitude as regards their professional development and, beside being creators of materials and tests, researchers or elicitors of their students’ knowledge, they add to these already established/accepted roles, those of *facilitator/creator* of opportunities for the learners and *innovators* in ICT use for the benefit of their trainees from a pedagogical perspective – this, in spite of the barriers that may occur in concrete educational contexts, sometimes devoid of incentives for them to do so, as Sherwood [3] remarks.

Watson [5] refers to the difficulties to be encountered by teachers in their exploit, as most teaching environments are ‘tightly constrained’. Such constraints, for instance resistance to change, should be anticipated by trainers of ICT use by: ensuring teachers’ practice in environments that are similar to those in real life teaching, blending demonstrations with discussions and getting teachers to reflect about the different ways ICT should be used as prompted by different educational contexts and course objectives.

To conclude at this point, we agree with Watson [5] that ICTs represent ‘powerful means of improving the quality of education’, but only on condition that they are used with ‘intelligence, diligence, research and commitment’.

## II. THE PROPOSED RESEARCH – METHODS AND FINDINGS

A small scale research was initiated in order to investigate the current approach to the teaching of technical and humanistic subjects in the Bucharest Polytechnic based on ICT. The instruments designed in order to investigate the issue and obtain data were: a case study, based on an individual teacher’s views and experience as far as the use of ICT in education is concerned and a six-item Teacher Questionnaire (see Figure 1). By combining feedback from these two sources, to which *informal discussions* and *classroom observations* were added, we expect that our investigative approach can be more objective. Therefore, the data obtained are both *quantitative* and *qualitative*; they were triangulated to enhance validity.

The *case study* described the author’s experience in using ICT in her teaching of foreign language (English and Russian) classes, in courses of LSP – *Language for Specific Purposes* and CLIL – *Content and Language Integrated Learning* type, viz. a *Scientific and Technical Communication in English – STCE* course. Her views (coded as YC in what follows) on the issue are presented below, firstly as they would have emerged from her own answers to the Teacher Questionnaire; then, additional information and comments will be added.

Thus, YC has been teaching ESP and CLIL courses using ICT for over five years, implementing modern technology in teaching the courses/applications/in communication with the students, as well as in participating as a researcher in scientific papers writing and in sharing views with fellow teachers within various professional networks.

The teaching sequence covers a blend of using PowerPoint slides in delivering the course, for which the students also have the paper printed course support for class annotations, written notes on the board, explanations and further printed materials or electronic documents created in class to clarify some points. Attention is given to using each of them in such a manner as to ensure the best receptivity of the learners, in an appropriate relationship between the tool and/or method chosen for each point of the lesson and the envisaged purpose for that particular stage. As to the applications, in most cases they are sent via e-mail and checked in class based on work with the projector and computer equipment. Permanently, electronic dictionaries, search on the net for information that is required by the students’ needs at each particular phase of the lesson are also used, alongside with the unjustly discredited but classical and certainly useful ‘chalk and talk’ combination.

YC has not received actual training in using ICT in her teaching, nor has she been exposed to demonstrations or classroom observation of other language teachers doing that, with the exception of her participation in The Council of Europe - European Centre for Modern Languages, Graz – Austria 2003 workshop ‘*Information and Communication Technologies in Vocationally Oriented Language Learning*’, whose materials she disseminated in her educational context. Her current level as an ICT user for professional purposes could be considered an upper intermediate one, although she has not used her knowledge of corpora yet. She has not received training in using Moodle platforms for teaching either, and she would have welcomed any further training opportunities. So YC has based her use of ICT in teaching mostly on self study, within her permanent concern for professional development, by means such as empirical research, learning by doing and reflecting on results in order to optimize her approach. The fact that she has been teaching mostly Computer Science students added one more reason for interest in developing her ICT connected skills, both technically and pedagogically.

Outside the class, in terms of extraprofessional areas of use and frequency for each, she can be ranked among frequent users for listening to music/watching films/e-mail. YC infrequently uses ICT for socializing/communication/phone/payments or gaming, for instance.

1. What subjects do you teach using modern technology (IT)? List them all, please.  
 ...

2. How long have you used IT in you teaching activity?

a. under 1 year	b. 1 – 3 yrs	c. 3 – 5 yrs	d. 5 yrs +

3. What do you use IT for in your professional activity? Tick all that are applicable, please.

a. teaching courses	b. teaching applications/seminars	c. communication with students	d. other, pls specify

4. Please describe in detail the teaching sequence for cases 3.a and 3.b above, if applicable.  
 ...

5. Have you received any training in using IT in teaching? YES: NO:

a. If YES, please provide the **main details** (when, what, where, duration), please.  
 ...

b. If NO, give the **reason(s)**, please.

I. Lack of opportunities: II. Not necessary: III. Other, pls specify

6. Tick the domain(s) outside your profession you use ICT in and the frequency of use.

No	Domain	1. infrequently	2. low frequency	3. frequently	4. very frequently
1	<i>Listening to music</i>				
2	<i>Watching films</i>				
3	<i>Social networks</i>				
4	<i>e-mail</i>				
5	<i>Communication (chat, Skype)</i>				
6	<i>Speaking on the phone</i>				
7	<i>Online payments</i>				
8	<i>Other, pls specify:</i>				

**Figure 1.** Teacher Questionnaire

When sketching the profile of YC, we should refer to *drawbacks* in her approach to using ICT in her teaching; their causes should be analyzed in order to extract useful experience for fellow teachers in similar contexts. Thus, YC has always had an open acceptance-oriented attitude towards the use of technology in general, and in class, in particular. Once such equipment became available to her in class (and she had actually contributed in having the language classrooms endowed with it), she unavoidably passed through what could be called the ‘irrepressible enthusiasm’ of immediately using it – sometimes for no obvious reason. Fortunately, her UK Master of Education background (2000) helped her analyze that attitude and reorient towards identifying the best ways of using ICT against a principled pedagogic framework. She has gradually learned the value of questioning the teaching method and/or approach against the rationale for it. Two important questions are consistently taken

into account by YC in implementing ICT: (i) *What are the reasons for doing it?* and (ii) *Is this the most efficient approach for the learners?*

These lessons were learned in time, and there were some cases when the enthusiasm was 'cooled down' by the classroom reality. For instance, she simply lost control over the students in a class where they were asked, for the first time, to work on individual computers on an *Internet search for information* task, but they started chatting, checking e-mail a.s.o. During the post-lesson effort to 'clean' the traces of the students' vigorous lack of discipline off their computers, she was reflecting on the importance of anticipating learners' behavior in designing ICT supported language classes!

An interesting aspect that is worth mentioning here is the fact that it is the teacher (YC) that sometimes encourages her students to use ICT themselves in less 'traditional' ways, if that can contribute to attaining her teaching objectives and if it can help the students to adopt learning strategies that may prove useful on the long term. An example can be the fact that she assigns homework by having the requirements edited on an electronic document that can be e-mailed to the students; still, as sometimes homework assignment comes at the end of the time slot available, in order to simplify the procedure, a student is encouraged to take a photo of that electronic document and disseminate it to the group. At the beginning, the students were somehow surprised that they are permitted to do that, obviously due to the fact that such procedures are not easily accepted by other teachers in the university.

The most important features of YC's approach to using ICT in teaching as it has been structured in time are: (i) the need for adequate *training*, both in terms of the 'technical' aspect, and especially as regards the correlation between the choice of ICT and the aim of the teaching sequence, (ii) the identification of the *educational reason(s)* underlying each particular choice, (iii) the concern for ensuring/maintaining a *humanistic class atmosphere*, allowing place for humor and experimenting, and conducive to creating opportunities for the learners to develop durable strategies based on using computer technology, and (iv) the significance of adopting a consistent attitude of *reflection and readjustments* in one's professional development.

The *Teacher Questionnaire* (TQ) was administered by e-mail to 22 technical teachers in the university, mostly Computer Science and Electrical Engineering ones (hence a good response rate of 80%) and on paper to 17 language teachers (rate of response of approx. 65%). The samples were relatively small, but sufficient to show main trends.

The TQ findings are presented per questions, followed by a brief interpretation of results. Thus, a range of subjects are mentioned in Q1, with more experienced professors listing up to four courses taught on the base of ICT, for over 5 years (Q2.d). The average number is 1 – 2 courses/applications, but language teachers consistently scored lower.

For Q2, the distribution is as follows: b = 45%; c = 30 %; a = 15%; d = 10%. There is traceable correlation between number of courses taught (Q1), experience (Q2) and the amount and specificity of details on the teaching sequence (Q4).

Under Q3, point b scores higher, with over 70% of answers (generally coming from teaching assistants and/or lecturers), while courses (point a) are taught mainly by senior professors. The open-ended answers to Q3.d returned: *supplementing existing teaching materials (language teachers), informing myself about new solutions in my field of scientific interest/programming development/team, class & project management/scientific tools – for the technical teachers.*

The most important question is that about the way ICT is actually used in teaching – Q4. It was an open-ended question, as many insights were expected to occur from the actual way of formulating the answers, mainly as regards whether there is concern for using technology based on a certain rationale. Synthetically presented, the answers of technical teachers cover three main categories: (i) PowerPoint used to teach courses, but not many respondents (under 20%) reflect on the connection between pedagogic rationale and their approach; (ii) other types of ICT support, e.g. wikis, slides and skeleton archives, mostly for applications, again with few references to reasons for using them; (iii) for follow up/homework assignment/checking and evaluation, as a general approach (90%+).

*Informal discussions* with three of the technical teachers confirm that rather few professors are concerned with identifying the most appropriate ways of using ICT in their teaching. As regards the language teachers, all working in the same department as the author, over 80% mention under Q4 that they use the computer & projector to organize the students' PowerPoint presentations, as part of

teaching a *Making Oral Presentations* unit included in the syllabus. One teacher uses ICT to add visual information to the language materials, one teaches oral presentation skills based on a CD, one lists objectives and exercises under Q4 – a variety and lack of precision that are self-explanatory for the fact that language teachers are still at the infancy of appropriately incorporating ICT in their professional activity.

This correlates quite clearly with the respondents' opportunities/perceived need for training – Q5. There are two aspects in this respect: firstly, by *training* most respondents mean the technical aspect, only one teacher stating that he had *learned a lot* about how to use ICT from the pedagogical point of view from attending his professors Computer Science classes. Secondly, all of the language teachers tick 5.b.I – *lack of training opportunities*, but none actually mentions that they replaced it by *self study*.

As expected, all technical teachers use ICT extra professionally to a higher extent than the language teachers (Q6). However, the domains listed for higher frequencies of use are less oriented towards 'light entertainment' in the case of technical teachers than for the language teachers.

### III. OPEN CONCLUSIONS AS A SOURCE OF FURTHER DEBATE

The interpretation of the research results definitely reveals the fact that not many teachers of either subject are really much aware of/concerned about the connection between the use of ICT in teaching and the quality of their activity. This may be due to lack of training, but also to the absence of concern at university level for ensuring appropriate pedagogically and technically oriented teacher training forms.

One limitation of the research was the absence from the TQ of questions on: (i) the frequency of using ICT in teaching and (ii) an estimation of the usefulness of ICT used for them, as well as for their students.

By analyzing in correlation the case study – for its details, together with the TQ – for its trends, a broad statement can be made at this concluding stage, viz. that it is hard to provide ready made rigid blueprints for teachers interested in using ICT – in that we agree with Somekh [4].

However, what can be done - and this is one objective of this study – is to open up an arena of thinking and debate, likely to be conducive to an increase in the teachers' awareness of:

- the need of using ICT on the basis of *sound pedagogic principles*,
- the values attached to promoting a *reflective approach* in their professional – and personal – development,
- the permanent *flexibility* in (re)adjusting their views by taking into consideration the features of each educational context in its complexity, as well as
- the demand that teachers should foster a *humanistic* working environment, focused on their students' learning quality, while adopting and playing new *roles* for this endeavor.

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