Heralding an ICT Environment in Initial EFL Teacher Training Programmes through a Curricular Innovation

Murat Hismanoglu Department of English Language Teaching, Akdeniz University, Antalya, Turkey Email: hismanoglu@gmail.com

Abstract—Information and communication technology (ICT) has become a prominent part of education and offers numerous means of improving teaching and learning in the classroom (Bransford et al., 2000, Yelland, 2001). However, the tendency to take the teacher education curriculum for granted and the assumption that it adequately prepares the teachers for the integration of ICT into their teaching practice need to be questioned. Correspondingly, providing pedagogical training for teachers rather than simply training them to use ICT tools is an important dimension. This paper, thus, investigates whether the new EFL teacher training curriculum provides an efficient ICT training or not through both a quantitative and a partially qualitative research methodology. One hundred twenty eight prospective EFL teachers attended this study and the results highlight that the prospective teachers having five ICT-related courses displayed reasonably better attitudes in comparison to those not completing this training period. The results also imply that the success of the integration of new technology into education varies from curriculum to curriculum, depending on the ways in which it is applied.

Index Terms—ICT, curriculum, English language teaching, attitudes

I. INTRODUCTION

In recent decades, technological change has brought innerconnectivity to all aspects of life and everyday living, and accordingly, ICT has constituted an integral part of learning and teaching process and has a considerable impact on the characteristic and function of education in most countries as the use of technology promotes thinking skills and strategies, from basic recall to higher level skills such as classification and inference (Henderson et al. 2000). In addition, technology is a significant factor in enhancing the quality of education and learning, by making it more accessible to people (Scott and Robinson 1996).

Thus, the nurture of teacher candidates' ICT awareness has become critical in that ICT is transforming how teachers teach and how students learn by making it possible for both to meet the demands of schooling of today. Therefore, teachers and administrators define ICT as a content to be learned and as a skill to be mastered. However, as Jurema et al. (1997) assert, little or no importance has been attributed to pedagogy of ICT, which requires considering learning and teaching processes, organisation of curriculum and reflection on people, machine relationships in learning community as well as developing students' ability to employ computers competently. Initial teacher training institutions at this point have a key role in equipping and preparing teachers for the classrooms of this digital era. The teachers need opportunities to develop suitable instructional strategies and encounter circumstances where they can practise and reflect on the pedagogy of using ICT in the classroom (Romeo 1998).

In this respect, no curriculum model is flawless and no curriculum theory is sufficient for all users. Hence, researchers continue to investigate a myriad of curriculum models and benefit from them. However, most of them only describe their positive and negative aspects instead of their impacts on student learning and teacher teaching (Wang, Haertel and Walberg 1998). Thus, this study does not propose a new curriculum model. Instead, this research not only investigates the effect of a curricular innovation involving more ICT-related courses on prospective EFL teachers' attitudes and beliefs toward ICT integration into language instruction but also explores how they view the training they have received during a four-year teacher training program.

II. LITERATURE REVIEW

A. ICT in Language Instruction

The use of modern technology in teaching languages has been dramatically increasing world-wide over the past decade (for example, Belkada and Okamoto 2004, O'Dowd 2003, Pennington 1999, Toyoda and Harrison 2002, Warner 2004). A great amount of research done to better comprehend the effect of ICT on students' language learning has revealed that ICT integration in language instruction increases the students' enthusiasm and achievement and also makes them stay longer on the task. (for instance, Davis et al. 1997, Moseley et al. 1999, Pacher 1999, Tunstall and

Gipps 1996). Furthermore, ICT integrated language instruction helps students with intellectual disabilities to promote their communication skills and self-confidence (Lankshear et al. 2000), and increases their cultural awareness, and develops their social identity in the target culture (Chapelle 2001). Since the advancement and pervasiveness of ICT have affected language instruction to a large extent, most teachers are increasingly aware of the direction to incorporate and infuse ICT into their instruction. Accordingly, educators are concerned about effective infusion to engage students in meaningful learning (Koehler et al. 2004). As teachers are the key figures who will promote any innovation in education, it is prominent to help them amalgamate technology effectively into their instruction (Peetenai 2001).

B. Attitudes and Beliefs

Concurrent studies have demonstrated that the effective utilization of ICT depends largely on the attitudes of teachers who ultimately decide the way in which it is implemented in the classroom (Becker and Riel 2000, Beggs 2000, Ertmer et al. 1999, Mumtaz 2000). According to Myers and Halpin (2002), a fundamental reason for studying teachers' attitudes is that it is a significant predictor of prospective ICT deployment in the educational context. In this respect, much of recent research has supported the viewpoint that acceptance and implementation of computer technologies have been strongly affected by the teachers' attitudes (Huang and Liaw 2005, Isleem 2003, Van Braak, Tondeur and Valcke 2004).

As Baylor and Ritchie (2002) state, 'regardless of the amount of technology and its sophistication, technology will not be used unless faculty members have the skills, knowledge and attitudes necessary to infuse it into the curriculum' (p.398). That is, teachers should become effective agents to be able to utilize ICT tools in the classroom, which is possible via positive teacher attitude thereby adopters feel more comfortable with using them and usually integrate them into their teaching (Bullock, 2004, Kersaint et al. 2003). Positive attitudes often stimulate teachers with less technology knowledge to learn the required skills for employing ICT-based tasks in the classroom setting. Otherwise, a lack of technology knowledge and skills may give rise to anxiety and lack of confidence; consequently, teachers may feel uncomfortable with technology (Finley and Hartman 2004, Groves and Zemel 2000). In brief, for teachers to take initiative in curricular change and to effectively apply technology for meaningful instruction, teachers' attitudes are one of the most significant internal factors described by researchers (Ertmer 1999, Fabry and Higgs 1997).

C. Curriculum Innovation and ICT Integration

Curriculum can be defined as the knowledge, skills and values that students learn in educational settings (Oliva 2001, Ross 2001) and it is a continuous process. Henson (2001) states that 'through the years, curricula have been tailored, modified, and shaped to fit the needs of a changing society'. Furthermore, there seems to be a significant degree of mismatch between the content of teacher education programs and the pedagogical skills required in schools (Aarons 2003).

Regarding the role of ICT in curriculum design, a more fundamental consideration is that students' learning processes involve more ICT tools such as the web, laptops, online encyclopedias, electronic dictionaries and so on. Although many researchers indicate that curriculum innovation is very complex and difficult in view of the requirements of teacher involvement, funds, plans, adequate time and other supports (Kirk and Macdonald 2001, Slaughter 1997), it is necessary to review the existing curriculum and its design models by adopting an ICT perspective (Koh 2002).

To upgrade the educational supervision, Turkey made some alterations in the education system. Curricular reform initiatives launched in 2005, in particular, have captured the attention of various stakeholders by incorporating ICT into instruction as one of its major objectives, while changing the whole national curriculum considerably (Talim ve Terbiye Kurulu, 2005 and 2004).

Faculties of education realized that this was a massive educational renewal process, requiring academic staff at the faculties of education and approximately 400,000 teachers to make fundamental to adopt and accommodate to new changes. They wished to incorporate the changes into their pre-service teacher education programme. To implement the new curriculum as intended and facilitate teacher adoption, they considered it essential to provide the pre-service teacher training institutions, as well as practising teachers with time to discuss, evaluate, interpret and comprehend the new content including ICT (HEC and MONE, 2006). In short, the curriculum of each ITE programme was reformed from theory-laden courses to more practice-based courses (Alev, 2003). The contents of these courses are as follows:

1. Computer I and II: The emphasis of these courses is on the application of computers. Topics to be covered include decision support systems, data management, desktop publishing electronic date interchange, artifical intelligence and expert systems, communications and negative effects, prevention of the negative effects of the computer and internet on the children/teenagers.

2. Instructional Technologies and Material Development: Special technical features on various education, teaching technology by means of using and developing assorted quality material (eg. work/study plates, transparent slides, video, computer based materials) with constructions and evaluation methods. (YOK, 1998)

Those courses would seem to be a national guide for education faculties in terms of integrating ICT into teacher education programmes. Although these courses provided a framework to teacher educators about what should be taught regarding ICT, they did not specify how it should be taught to prospective teachers to make them deploy ICT for pedagogical purposes in the classrooms. Despite all these changes, Turkish Teacher Education Institutions still suffer

from lack of appropriate integration of ICT into their programmes. Although courses related to computers were included in ITE programs by CHE, teachers' lack of experience and competence in pedagogical use of ICT is the biggest constraint at the moment. Altun (1996, 2002) states that computers are often locked in rooms and waiting for professional users and trainees.

As a common strategy, all countries are trying to develop compulsory courses for teachers and moving to a standardized curriculum, which specifies acquired skills and competences in ICT training in TE courses. Although integration strategies in different countries vary depending on the level of development, the main idea underneath those strategies is to keep educational systems up with the technological and global improvements for the future information society.

III. THE RESEARCH CONTEXT

This study was conducted in a higher education context in North Cyprus which is coordinated with both the Council of Higher Education (CHE) and the Council of Higher Education Planning, Evaluation, Accrediation, and Coordination in a centralised structure. Six universities offer higher education opportunities for the students who are, in particular, from Turkey. Thus, the aforementioned councils operate collaboratively to meet the needs and expectations of the students. As one of the six universities in North Cyprus, The European University of Lefke (EUL) was founded in 1990 by Cyprus Science Foundation and the university today offers 6 Associate, 28 Undergraduate and 10 Postgraduate programs.

The Department of English Language Teaching was the context in which the research was conducted. In the department, all courses are instructed in English in technologically-furnished classrooms. Upon investigating the curriculum of ELT department developed by the Council of Higher Education and adopted with additional changes, one can view that three courses are relevant to ICT, namely Computer I, Computer II, and Teaching Technology and Material Design. As stated previously, the programme is centrally designed and monitored by the Council of Higher Education which is the accreditation body for all teacher education programs offered at sub-degree level. In addition to these compulsory courses, the department offered elective ICT courses which are Video Technologies in Language Teaching and Learning, Computer Assisted Language Teaching, and Internet Skills in Language Teaching so as to develop better attitudes toward ICT- integration and encourage students to employ ICT in their subject teaching.

IV. METHODOLOGY

These questions were handled using both qualitative and quantitative strategies. To explore these issues, a questionnaire was administered to the first and forth year prospective EFL teachers in EUL in March 2010. Then, the sample was interviewed through the triangulation of structured and unstructured interviewing for the identification of significant issues of ICT training that they had during four years.

A. Sample

The study was conducted with the participation of 124 prospective English teachers at different grades of the ELT department at EUL. The participants were randomly selected among the first (n=38) and the forth-year (n=86) students. Each participant was assigned a number during the data analysis procedure because of ethical considerations. Demographic properties of the participants are presented in table 1.

	D	TABLE 1.	
	IPANTS Percentage (%)		
Year	Freshmen Senior	38 86	31 69
Gender	Male	29	23
	Female	95	77
Age	18-20	30 34	24 27
	23+	60	49

B. Instruments

A questionnaire was developed by the researchers to gather data needed for the study rather than using an existing instrument after an extensive literature review of literature utilized in different educational backgrounds (Dudeney and Hockly 2007, Isleem 2003, Jones and Clarke 1994, Robertson et al. 1995, Sooknanan 2002). The review of the instrument was broached by a number of experts working at two higher education settings. This board of experts including two professors of educational technology, two native experts and two non-native EFL teachers evaluated the instrument for content and face validity and contended that the questionaire is appropriate and comprehensive for the

context of the study. To check the realibility, the instrument was analyzed through the Cronbach's Alpha Coefficient $\alpha = 0.90$, which shows high level reliability.

The questionnaire contained nine items based on 5-point likert scale (from 1=strongly disagree to 5= strongly agree) and one open-ended question asking their views on the ICT training they had received. Preceeding the instrument, prospective EFL teachers' personal characteristics (gender, age, type of higher education) were also included into the design of the study to ensure maximum control of variables (Gay and Airasian 2000). The instrument was designed in English as all participants were known to have a high level of language proficiency, which is a requisite for attending to the ELT departments in Turkish Higher Education System.

The questionnaires were administered to the prospective teachers at EUL (n=124) in the classrooms since they attended various courses in the main campus of the university during March, 2010. The return rate from prospective teachers at the first year was 92.6% (n=38), whilst the response percentage from prospective teachers at the last year was 95.5% (n=90).

C. Data Collection and Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS. 16). The demographic variables for this study were discrete data (nominal and ordinal), therefore, descriptive statistics was utilized to run for frequencies, percentages, mean and standard deviation (Beins 2004, Heiman 2001, Sekaran 2003). Parametric analysis was used such as Independent samples t-Test to determine whether there was a significant difference between two sets of scores or to compare means and correlation (Coakes 2005).

V. RESULTS

Participants were requested to respond to nine Likert-type statements dealing with prospective English teachers' attitudes toward ICT integration into education (Appendix A) and the ICT attitudes of prospective EFL teachers were presented by a mean score on a five point scale where five (Strongly Agree) shows the maximum score and one (Strongly Disagree) represents the minimum score. Additionally, one open-ended question was asked to the 4th year prospective EFL teachers to unearth their perceptions of the ICT training that they received. The findings were structured along with the following list of research questions comprising the central basis of the concurrent study.

A. To what extent has the teacher training curriculum promoted prospective students' positive attitudes toward teaching via ICT tools?

B. Is there any significance between their attitudes before and after ICT-interwoven training?

C. What do the prospective EFL teachers themselves think of the ICT training they have received?

A. To What Extent has the Teacher Training Curriculum Promoted Prospective Students' Positive Attitudes toward Teaching via ICT Tools?

As shown in table 2, a great number of prospective EFL teachers at freshman year of their higher education represented partially positive attitudes toward ICT integration in education with a mean score of 2.50 (SD= 0.22). The majority of the participants exhibited negative attitudes toward using ICT in subject teaching, while none of the respondents expressed positive or highly positive intentions in terms of employing ICT in their prospective teaching career. The most striking result in this section is that the respondents showed very little positive attitudes toward items two, seven, eight and nine. This implied that ICT use does not save time and improve their teaching, and they considered changing the curriculum to integrate more technology as a difficult attempt. Also, almost all of them were of the opinion that utilizing ICT too often to be of very much use would break down.

TADLE 2

Items	Mean	Standard Deviation	Standard Error Mean	
Item 1	2,86	1,18	0,19	
Item 2	2,94	1,03	0,16	
Item 3	2,52	0,95	0,15	
Item 4	2,36	0,88	0,14	
Item 5	2,55	0,50	0,08	
Item 6	2,02	0,82	0,13	
Item 7	2,81	0,83	0,13	
Item 8	2,13	0,74	0,12	
Item 9	2,34	0,48	0,07	
Overal attitude	2,50	0,22	0,03	

As table 3 illustrates, the general ICT attitudes of prospective EFL teachers at the senior year of the higher education context were positive with an overall mean score of 3.89 (SD= 0.33). Almost eighty-nine (89%) of the respondents had positive or highly positive beliefs of ICT integration into education. These respondents reported that they enjoyed using ICT, had no apprehension of it, felt very comfortable while working with ICT, learned more about in-class ICT implementation. In addition, most of the respondents agreed and strongly agreed that ICT saved time and effort,

Items	Mean	Standard Deviation	Standard Error Mean	
Item 1	4,13	0,85	0,09	
Item 2	3,53	1,12	0,12	
Item 3	3,80	1,33	0,14	
Item 4	4,02	0,93	0,10	
Item 5	4,08	0,89	0,09	
Item 6	3,94	0,88	0,09	
Item 7	4,29	0,66	0,07	
Item 8	3,38	1,05	0,11	
Item 9	3,81	1,24	0,13	
Overal attitude	3,89	0,33	0,33	

enhanced learning many new things, did not intimidate or threaten the learners and should be integrated into the curriculum more.

B. Is there Any Significance between their Attitudes before and after ICT-interwoven Training?

From the output of table 4, it is found that there is a difference between the ICT attitudes of two groups of prospective EFL teachers. Prospective EFL teachers at the freshman year had positive attitudes toward ICT integration in education with a mean score of 3,89 (SD=0,33), while their counterparts at the senior year exhibited considerable less positive attitudes (mean=2,50; SD=0.22). For more detailed analysis of the data, the table showing the complete results were added at the end of the paper (Appendix. B).

TABLE 4. GROUP STATISTICS						
		N	Mean	Standard Deviation	Standard Error Mean	
General	Group 1 Group 2	86 38	3,89 2,50	0,33 0,22	0,03 0,03	

To determine the proportion of the difference in the attitudes of prospective EFL teachers toward ICT, a t-test was conducted to compare the means of the attitude variables of two groups as shown in Table 5. The results indicated that there were significant differences between the two means, that is, the significant value (p-value) is lower than 0 (p < 0). In other words, Ho - null hypothesis claiming that there is no significance between the attitudes of two different groups was rejected because sig. (singificance 2-tailed) value is not greater than 0.05.

				TABLE	3.5.				
		INDEPENDENT SAMPLES T- TEST							
		Levene's Test for Equality of Variances		T-test for Equality of Means					
		F	Sig.	t _{hesp}	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	
General	Equal variances assumed	6,77	0,01	23,37	122	0,00	1,38	0,05	
	Equal variances assumed			26,81	99,56	0,00	1,38	0,05	

C. What do the Prospective EFL Teachers themselves Think of the ICT Training they have Received?

In response to the open-ended question asking the fourth year prospective EFL teachers about their perceptions of the ICT training they received, they stated that ICT integration into the curriculum at their university was more sufficient than planned and expected and that they had more ICT-related courses thereby they could improve their competency and pedagogical skills in ICT realm. They also stressed that it was possible to herald better ICT environment by increasing the number of ICT courses and the degree of ICT training. On the other hand, they delineated that the ELT curriculum somewhat failed to sensitize them to the challenges of teaching through ICT and flawed in a certain number of ways. To illustrate, comments illustrating these views were as follows:

'There should be more time allocated to the practical aspects of teaching through ICT and the dissemination of related teaching skills.'

'The infrastructure should be in sufficient numbers so that each student can use one computer on his/her own. Also, all computers are to be connected to the Internet.'

'Teachers should focus more on how we can use ICT tools to teach EFL to our students by making us prepare internet-based lesson plans.'

'We need to witness some technologically- conducted lessons in actual computer laboratories to improve our classroom management skills in virtual settings.'

'I know how to use a computer and the Internet. Actually, what I need is how to use ICT in teaching English to my students, so the pedagogical training should be emphasized.'

These comments are the summary of all comments made by prospective EFL teachers and imply that ICT training provided at EUL has optimised substantial effect on prospective EFL teachers' attitudes toward ICT as an overarching concept in language teaching; however, it could not exert sustainable improvement in terms of teaching via ICT tools. These comments make diagnosis of prospective EFL teachers' future expections about ICT training which would augment credentials for ICT-assisted language teaching.

VI. DISCUSSION

In recent years, the focus on information technology has shifted towards curriculum integration (Albion 1999) since students instructed with a technology enhanced curriculum exhibited a better performance than their peers who were exposed to the same curriculum without a technology strand and, the same results were reiterated in many similar studies (Jang 2006, Smeets 2005). Efforts are made towards betterment of current design on an integrative level for existing curriculum, rather than on a creative level for new teaching materials. Laudable as these efforts are, they are yet to address the issue of teacher preparation, especially pre-service training programmes, which initially prepare teachers for teaching EFL/ESL. In spite of the prominence of initial teacher preparation in shaping the teachers' attitudes towards teaching and providing the requisite 'tools for the job' in the form of knowledge of subject matter and pedagogical skills, it is amazing that the curriculum of teacher education has not attracted policy makers' and development partners' attention (Umar 2006). At this juncture, G ülbahar (2007) stresses that an ICT policy is not only about hardware and internet connections, but also about how ICT is infused into the instructional program.

However, the curriculum of pre-service teacher education is now viewed as a significant area of intervention by the government in the research context for quality improvement of teaching and learning of English as a foreign language. Nevertheless, whether curricular or structural, or whether initiated internally or externally, there is no certainty that practice succeeds policy (Hopkins and Lewin 2000). The rate of adaptation of any change will not only rely on what the changes are and how they are displayed, but also how they are perceived by the main stakeholders. Therefore, it is crucial to investigate perceptions of the end-users; otherwise, personal goals, values, concerns and beliefs would go unaddresse, a mistake which would have essential bearings on the achievement of the whole endeavour (Aksit 2007). Accordingly, in a recent study, Hew and Brush (2000) modelled the barriers and strategies that affect the amalgamation of ICT for instructional purposes into curriculum and the attitudes and beliefs were found as a direct impediment influencing ICT integration, which is the reason why we investigated this issue in this research study. If the aim is to encourage language teachers to employ ICT in their subject teaching, it is very crucial to stimulate positive attitudes towards ICT integration during initial teacher training programme as teachers play a pivotal role in implementing eductional innovations. Therefore, they are prominent figures in the concrete implementation of ICT in classroom settings. (Albirini 2006).

In this respect, the study suggests that the new curriculum offering ICT-related courses be achieved to create positive attitudes to a certain extent but the prospective teachers were not strongly satisfied with their teacher education curriculum in terms of ICT integration due to some problems, which is, in fact, very consistent with several findings in the related literature (Brush et al. 2003, Tinmaz 2004, Toker 2004).

We see that ICT curriculum in the research context tend to be competency based in that teachers' ICT competence is a significant condition for effective deployment by teachers (Hew and Brush 2007, Pelgrum 2001) but lack of teaching experience with ICT has been described as a prominent factor that prevents teachers from making use of ICT in an educational setting (Mumtaz 2000). Thus, prospective EFL teachers are now aware of the necessity that they are required to develop a range of general knowledge and skills in ICT as well as competency in using ICT in the classroom. This is partly because of the increasing focus for the consideration of effective uses of ICT, which is upon pedagogy rather than technology itself (Passey 1998).

In doing so, ICT support is highlighted as a prominent school condition for the successful implementation of ICT, and teachers need adequate technical support so as to facilitate their use of ICT (Becta 2004, Hew and Brush 2007, Tondeur et al. 2009). Beyond technical support, ICT support further needs to be comprehended as a form of pedagogical support that teachers require when amalgamating ICT into their classroom (Mumtaz 2000, Tondeur et al. 2008). Based on literature review, Strudler and Hearrington (2008) stress that ICT support is important since it has been empirically exhibited that the availability of quality ICT support affects the frequency, variety and increased use of ICT in the classroom. Anderson and Ronnksvist (2002), who have operationalized 'the quality of ICT support', emphasised the multifaceted composition of this concept. In their viewpoint, 'the quality of ICT support' is about establishing a

suitable classroom context with access to resources, providing teachers with one-to-one support, teaching them how to integrate ICT into practice, and stimulating professional collaboration.

Another problem indicated by prospective EFL teachers was the delivery methods of training, which is expected to be more practical. Prospective teachers emphasized that conceptual or theoretical elements of the courses were unnecessary and the course as a whole together with the exams should be conducted hands on in computer laboratories, and computer facilities should be provided for each student in the laboratory. These findings support the guidelines of Thomson, Bull and Willis (2002) as follows:

- ICT should be infused into the entire teacher education programs.
- ICT should be introduced in context.
- Students should experience innovative ICT supported learning environments in their teacher education programs.

It was also argued by Hayes and Jin (1999) from a similar perspective that there are many challenges in teacher education programmes to prepare an effective teacher for tomorrow's classroom. For instance, although the impact of computers on education grows rapidly, teacher educators in HE continue to depend on more traditional methods for delivering instruction, so lecturers should have the ability to integrate modern technology into instruction. Hence, it is necessary to professionally combine the use of ICT with other innovative instructional and learning strategies to generate and impart knowledge, attitudes and skills. At this point, Valcke, Rots and van Braak (2007) further suggest that ICT teacher training be organised during school hours and that the school be used as the training location. This implies that ICT training has to be linked with context-specific questions, needs and problems. Becta (2004) argues that training facilities need to concentrate on both pedagogical aspects and teacher ICT skills.

VII. CONCLUSION

It is clear from the above discussion of responses that the prospective EFL teachers sampled for this study believe that the updated curriculum is successful in generating positive attitutes but still the curriculum has certain flaws and needs urgent reform if it is to address the needs and the realities of teachers in mainstream schools in general. In this regard, Mhyre (1998, p.102) concludes: "we must address the use of computers together with the teachers' understanding of pedagogy and subject matter in order for technology to play a significant role in improving schools". If not, attempts to reform or renew the curricula to deploy the ICT tools in the classrooms will end up as another example of failure.

We are to emphasise the increasing satisfaction with the level of ICT achievement and competence among newly trained teachers and to stress the need to reconceptualise initial teacher education curricula to integrate more opportunities for ICT training when considering few number of continuous professional development opportunities in many developing countries where teachers have to rely on the knowledge base that they developed during pre-service training (Umar 2005), the issues related to ICT integration into the initial teacher education curriculum becomes a major determinant of teacher quality and even the subsequent performance of teachers.

Consequently, in this study, we explored the relationship between the intended curriculum and how it is enacted in comprehending the factors which may bring about disparity and discovered that the advantages of periodically evaluating and revising existing curricula are widely acknowledged (Jackson 2005) to ensure that the needs and expectations of learners are adequately met. Hence, ELT curriculum should be subject to on-going renewal if it were to remain dynamic and be more responsive to the current and future needs of the students. Or else, teachers are inclined to restricting their thinking about ICT to 'boxes and wires' or isolated computer skills (Fishman and Pinkard 2001).

REFERENCES

- [1] Aarons, A. (2003). Achieving universal basic education: Issues in primary education and some implications for teacher policies. Abuja, Nigeria: Universal Basic Education Commission.
- [2] Aksit, N. (2007). Educational reform in Turkey. International Journal of Educational Development 27, 129–137.
- [3] Albion, P. (1999). Self-efficacy beliefs as an indicator of teachers' preparedness for teaching with technology. Paper presented at the society for information technology and teacher education international conference, Chesapeake, VA.
- [4] Albion, P. R. (1999). Self-efficacy beliefs as an indicator of teachers' preparedness for teaching with technology. In J. D. Price, J. Willis, D. A. Willis, M. Jost & S. Boger-Mehall (eds.), *Technology and teacher education annual*. Charlottesville, VA: Association for the Advancement of Computing in Education, 1602-1608.
- [5] Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education 47*, 373-398.
- [6] Alev, N., (2003). Integrating Information and Communications Technology (ICT) into Pre-service Science Teacher Education: The Challenges of Change in a Turkish Faculty of Education. Unpublished EdD Thesis, University of Leicester, School of Education, UK.
- [7] Altun, E.H. (1996). Information technology in developing nations: A study of lecturers' attitudes and expertise with reference to Turkish teacher education. *Journal of Information Technology for Teacher Education* 5.3, 185-207
- [8] Altun, T., (2002). Factors Influencing Teachers' Change in Classroom Practice Due To Introduction of Information and Communications Technology (ICT) in Turkey. Unpublished EdD Thesis. University of Nottingham, UK.
- [9] Anderson, R. & Kozma, R. (2002). Qualitative case studies of innovative pedagogical practices using ICT. *Journal of Computer Assisted Learning* 18.4, 387-394.

- [10] Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms? *Computers and Education* 39.4, 395–414.
- [11] Becker, H., and Riel, M. (2000). Teacher professional engagement and constructivist-compatible computer use. Irvine: University of California, Centre for Research on Information Technologies and Organizations.
- [12] BECTA. (2004). A review of the research literature on barriers to the uptake of ICT by teachers. http://partners.becta.org.uk/uploaddir/ downloads/page_documents/research/barriers.pdf (accessed 10/02/2010).
- [13] BECTA. (2007). Evaluation of the Test Bed project. http://www.google.be/firefox?client=firefox-a&rls=org.mozilla:nl:official (accessed 15/3/2010).
- [14] Beggs, T.A. (2000). Influences and barriers to the adaptation of instructional technology. Paper presented at the Proceedings of the Mid-South Instructional Technology Conference, Murfreesboro, TN.
- [15] Beins, B.C. (2004). Research Methods: A Tool for Life. Boston, MA: Pearson.
- [16] Bullock, D. (2004). Moving from theory to practice: An examination of the factors that preservice teachers encounter as they attempt to gain experience teaching with technology during field placement experiences. *Journal of Technology and Teacher Education* 12, 211–237.
- [17] Bransford, J. D., Brown, A. & Cocking, R. (eds.). (2000). How People Learn: Mind, Brain, Experience, and School (Expanded ed.). Washington, D.C.: National Academies Press.
- [18] Brush, T., Glazewski, K., Rutowski, K., Berg, K., Stromfors, C., Van-Nest, M.H., Stock, L., & Sutton, C. (2003). Integrating technology in a field-based teacher training program: The PT3@ASU project. *Educational Technology and Research Development 51*,1, 57-72.
- [19] Chapelle, C. A. (2001). Computer applications in second language acquisition: Foundations for teaching, testing, and research. Cambridge: Cambridge University Press.
- [20] Chen, J., Belkada, S., & Okamoto, T. (2004). How a web-based course facilitates acquisition of English for academic purposes, Language Learning & Technology, 8.2, 33–49
- [21] Coakes, S.J. (2005). SPSS: Analysis Without Anguish: Version 12.0 for Windows. Queensland, Australia: Wiley.
- [22] Dudeney, G.& Hockly, N. (2007). How to teach English with technology. Essex: Pearson Longman.
- [23] Ertmer, P.E.A. (1999). Examining teachers' beliefs about the role of technology in the elementary classroom. *Journal of Research on Computing in Education* 32, 54–72.
- [24] Ertmer, P. A. (2003). Transforming teacher education: visions and strategies. *Educational Technology Research and Development 51*.1, 124-128.
- [25] Fabry, D. & Higgs, J. (1997). Barriers to the effective use of technology in education. *Journal of Educational Computing* 17.4, 385–395.
- [26] Finley, L & Hartman, D. (2004). Institutional change and resistance: Teacher preparatory faculty and technology integration. *Journal of Technology and Teacher Education* 12.3, 319–337.
- [27] Fishman, B.J., & Pinkard, N. (2001). Bringing urban schools into the information age: Planning for technology vs. technology planning. *Journal of Educational Computing Research* 25, 63-80.
- [28] Groves, M. & Zemel, P. (2000). Instructional technology adoption in higher education: An action research case study, International Journal of Instructional Media 27.1, 57–65.
- [29] Gülbahar, Y. (2007). Technology planning: A roadmap to successful technology integration in schools. *Computers & Education, 49,* 943-956.
- [30] Hayes, L.D. & Jin, S.H. (1999). Faculty uses of technology in teacher education. Paper Presented at Annual Conference of SITE'99 (Society for Information Technology & Teacher Education), USA.
- [31] HEC, MONE. (2006). The new curriculum. A Joint 3-day Workshop held by the Higher Education Council and the Ministry of National Education for the Faculties of Education, 25–27 January, Ankara.
- [32] Heiman, G.W. (2001). Understanding Research Methods and Statistics: An Integrated Introduction for Psychology. 2nd edition. Boston, MA: Houghton Mifflin.
- [33] Henderson, L., Klemes, J., & Eshet, Y. (2000). Just playing a game? Educational simulation software and cognitive outcomes. *Journal of Educational Computing Research* 22.1, 105–129.
- [34] Henson, K. T. (2001). Curriculum planning: integrating multiculturalism, constructivism, and education reform. New York, NY: McGraw-Hill.
- [35] Hew, K. F., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: current knowledge gaps and recommendations for future research. *Educational Technology Research and Development* 55, 223-252.
- [36] Hopkins, D., & Levin, B. (2000). Educational reform and school improvement. http://www.nira.go.jp/publ/review/ 2000summer/hopkins.pdfS (accessed 05/04/2010).
- [37] Huang, H.M. & S.S. Liaw. (2005). Exploring users' attitudes and intentions toward the Web as a survey tool. *Computers in Human Behavior* 21.5, 729–743.
- [38] Isleem, M. (2003). Relationships of selected factors and the level of computer use for instructional purposes by technology education teachers in Ohio public schools: a statewide survey. Doctoral dissertation, the Ohio State University.
- [39] Jackson, J. (2005). An Inter-university, cross-disciplinary analysis of business education: perceptions of Business Faculty in Hong Kong. *English for Specific Purposes* 24.3, 293-306.
- [40] Jang, S. J. (2006). The effects of incorporating web-assisted learning with team teaching in seventh-grade science classes. International Journal of Science Education 28.6, 615–632.
- [41] Jones, T. and Clarke, V.A. (1994). A computer attitude scale for secondary students. *Computers Education* 22.4, 315–318.
- [42] Jurema, A.C.L.A., Lima, M.E.C, Dalmau, M.C., and Filho, M.J. (1997, March). Towards a pedagogy of informatics: preparing educators to face the challenge, Paper Presented at the Annual Meeting of the American Association of Colleges for Teacher Education, Phoenix, AZ.
- [43] Kersaint, G., B. Horton, H. Stohl & J. Garofalo. (2003). Technology beliefs and practices of mathematics education faculty. *Journal of Technology and Teacher Education* 11.4, 549–577.

- [44] Kirk, D. & Macdonald, D. (2001). Teacher voice and ownership of curriculum change. *Journal of curriculum studies* 33.5, 551-567.
- [45] Koehler, M.J., Mishra, P., Hershey, K. & Peruski, L. (2004). With a little help from your students: A new model for faculty development and online course design. *Journal of Technology and Teacher Education* 12.1, 25–55.
- [46] Koh, A. (2002). Towards a critical pedagogy: creating 'thinkingschools' in Singapore. *Journal of curriculum studies* 34.3, 255-264.
- [47] Lankshear, C and Bigum, C. (2000). Literacies and technologies in school settings. Curriculum Studies 7.3, 445-465.
- [48] Mhyre, O.R. (1998). I Think This Will Keep Them Busy: Computers in a Teacher's Thought and Practice. Journal of Technology and Teacher Education 6.2/3, 93-103.
- [49] Moseley, D. & Higgins, S. (1999). Ways Forward with ICT: Effective Pedagogy Using Information and Communications Technology for Literacy and Numeracy in Primary Schools. London: Teacher Training Agency.
- [50] Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: A review of the literature. *Journal of Information Technology for Teacher Education* 9, 319–341.
- [51] Myers, J.M. & Halpin, R. (2002). Teachers' attitudes and use of multimedia technology in the classroom: Constructivist-based professional development training for school districts. *Journal of Computing in Teacher Education* 18.4, 133–140.
- [52] O'Dowd, R. (2003). Understanding the "other side": Intercultural learning in a Spanish–English e-mail exchange, *Language Learning & Technology* 7.2, 118–144.
- [53] Olivia, P. (2001). Developing the curriculum (5th ed.). New York: Longman.
- [54] Passey, D. (1998, 12 November). ICT and Effective Learning, Proceedings of ICT Resource Conference and Exhibition, Doncaster.
- [55] Pachler, N. (1999). Theories of Learning and ICT. In Leask, M and Pachler, N (eds.), *Learning to teach using ICT in the Secondary School*. London and New York: Routledge, 3-18.
- [56] Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: results from a worldwide educational assessment. *Computers & Education 37*, 163-178.
- [57] Pennington, M.C. (1999). Computer-aided pronunciation pedagogy: Promise, limitations, directions, Computer Assisted Language Learning 12.5, 427–440.
- [58] Pettenai, M.C., Giuli, D. & Khaled, A.O. (2001). Information technology and staff development: Issues and problems related to new skills and competence acquisition. *Journal of Technology and Teacher Education* 9, 153–169.
- [59] Robertson, M., Grady, N., Fluck A., Webb, I. (2006). Conversation toward effective implementation of information communication technologies in Australian schools. *Journal of Educational administration* 44.1, 71-85.
- [60] Robertson, S., J. Calder, P. Fung, A. Jones & T. O'Shea. (1995). Computer attitudes in an English secondary school. Computers & Education 24, 73–81.
- [61] Romeo, G., (1998). The Impact of Computer Technology on Primary Education. In Townsend, T (ed.), *The Primary School in Changing Times: The Australian Experience*. London, Routledge, 177-194.
- [62] Ross, A. (2000). Curriculum: Construction and Critique. London :Falmer Press.
- [63] Ross, A. (2001). What is curriculum? In J. Collins, K. Insley, & J. Soler (eds.). Developing pedagogy Researching practice. London: Paul Chapman Publishing Ltd, 122-132.
- [64] Scott, R., & Robinson, B. (1996). Managing technological change in education What lessons can we all learn?. Computers and Education 26.1–3, 131–134.
- [65] Sekaran, U. (2003). Research Methods for Business: A Skill-Building Approach. 4th Edition. Singapore. John Wiley & Sons, Inc.
- [66] Slaughter, S. (1997). Class, race and gender and the construction of postsecondary curricula in the United States: social movement, professionalization and political economic theories of curricular change. *Journal of curriculum studies* 29.1, 1-30.
- [67] Smeets, E. (2005). Does ICT contribute to powerful learning environments in primary education?, *Computers & Education 44*, 343-355.
- [68] Somekh, B. and Davis N. (1997). Using Information Technology Effectively in Teaching and Learning. Routledge. JIUC U8.
- [69] Sooknanan, P. (2002). Attitudes and perceptions of teachers toward computers: the implication of an educational innovation in Trinidad and Tobago. Doctoral dissertation, Bowling Green University.
- [70] Strudler, N., & Hearrington, D. (2008). Quality support for ICT in schools. In J. Voogt and G.Knezek (eds.). *International Handbook of Information Technology*. New York: Springer, 579-596.
- [71] Training and Education Board. (2004). Curriculum development efforts. http://programlar.meb.gov.tr/index/giris_ index.htms (accessed 15/03/2010).
- [72] Training and Education Board. (2005). Publicity manual of primary school 1st -5th grades. Ankara: Ministry of Education.
- [73] Thompson, A., Bull, G., & Willis, J. (2002). SITE Position Paper: Statement of basic principles and suggested actions ('Ames white paper'). http://www.aace.org/SITE/SITEstatement.htm (accessed 25/01/2010).
- [74] Tınmaz, H. (2004). An assessment of preservice teachers' technology perception in relation to their subject area. Unpublished master's thesis. Ankara, Turkey: METU.
- [75] Toker, S. (2004). An assessment of preservice teacher education program in relation to technology training for future practice: A case of primary school teacher education program, Burdur. Unpublished master's thesis. Ankara, Turkey: METU.
- [76] Tondeur, J., H. van Keer, J. van Braak & M. Valcke. (2008). ICT integration in the classroom: Challenging the potential of a school policy, *Computers & Education* 51, 212–223.
- [77] Tondeur, J., Coenders, A., van Braak, J., ten Brummelhuis, A., & Vanderlinde, R. (2009). Using online tools to support technology integration in education. In R. Subramaniam (ed.). *Handbook of Research on New Media Literacy at the K-12 Level: Issues and Challenges*. Hershey: IGI Global.
- [78] Toyoda, E. & Harrison, R. (2002). Categorization of text chat communication between learners and native speakers of Japanese, Language Learning & Technology 6.1, 82–99.

- [79] Tunstall, P. and Gipps, C. (1996). Teacher feedback to young children in formative assessment. *British Educational Research Journa*, 22.4, 389-404.
- [80] Umar, A. (2005). Teacher development in Nigeria: A concept note. Discussion paper presented to the Committee on the Review of Teacher Education, Universal Basic Education Commission, Abuja, Nigeria.
- [81] Umar, A. (2006). The teacher education curriculum and the world of work: A study of teachers of disadvantaged children in Nigeria. *Teaching and Teacher Education* 22, 777–787.
- [82] Valcke, M., Rots, I. & van Braak, J. (2007). ICT teacher training: Evaluation of the curriculum and training approaches. *Teaching and Teacher Education* 23, 795-808.
- [83] Van Braak, J., Tondeur, J., and Valcke, M. (2004). Explaining different types of computer use among primary school teachers. European Journal of Psychology of Education 19.4, 407–422.
- [84] YOK, (1998). Rearrangement of Teacher Training Programs in Education Faculties. Ankara, Turkey.
- [85] Wang, M. C., Haertel, G. D., & Walberg, H. J. (1998). Models of reform: A comprehensive guide. *Educational Leadership* 55.7, 66-67.
- [86] Warner, C.N. (2004). It's just a game, right?: Types of play in foreign language CMC, *Language Learning and Technology* 8.2, 69–87.

Murat Hismanoglu was born in Ankara (TURKEY) in 1971. In 2004, he earned his Ph.D. in English Language Teaching from Hacettepe University, located in Ankara. His primary concern in his doctoral dissertation was English phonetics and phonology, especially at the segmental level. He also earned a designated emphasis in second language acquisition.

After working as an assistant professor at Ufuk University for three years, he moved to European University of Lefke, where he worked as both the Vice Dean of Faculty of Arts and Sciences and Head of English Language Teaching Department for three and a half years. He is currently working as an assistant professor at the English Language Teaching Department of Akdeniz University Faculty of Education. He has published papers in journals such as the *International Journal of Applied Semiotics*, California TESOL Journal, Turkish Online Journal of Distance Education, European Journal of Social Sciences. He is interested in English phonetics and phonology, ICT integration in language teaching, especially pronunciation teaching and Internet-based pronunciation teaching.

Dr. Hismanoglu is a member of IATEFL. He is an associate editor of *Journal of English as an International Language* (2009-Present), *Scientific Journals International* (2010- present), member of Editorial Team at *Asian TESOL Journal* (2009- present) and reviewer of *Educational Technology and Society*.