

From Computer Assisted Language Learning to Computer Mediated Language Learning

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Abstract: Since the introduction of the first computer based language teaching programs in the 1960s' computer assisted language learning (CALL) have gone through deep and radical development. The advent of Internet, the possibility of on-line courses and e-learning, and the Information society altered the relationship of language learning styles and behaviours, the roles of teachers and learners and CALL. This paper gives a short outline of the development of CALL including multimedia. It will discuss the interdependency of CALL and language teaching-learning styles from the aspects of Hofstede's well-known concepts of collectivism vs individualism, and uncertainty avoidance. I presume that the challenges of the information society and the existence and importance of life long learning has resulted in such a relationship of computer mediated language learning and language learning styles which enhances autonomous and individualist type of learning and encourages learning attitudes with weak uncertainty avoidance.

Keywords: CALL, multimedia, language learning styles

1 Introduction

The rapid development and change in technology in the last fifty years and especially the digital boom in the mid/late 90s have tremendously changed the attitudes of teachers and students towards language teaching and learning. The proliferation of Internet, the urge of e-learning in the society brought certain methods and approaches into light while others seem to disappear in the shadow. The 21st century would certainly be referred to as the learning society. Learning in general moved towards the concept of life long learning implying that language learning is a process-based learning and not a product based learning. Bearing these concepts in mind individual learning goals and solutions will provide the base of CALL and multimedia applications. In the Information and Communication Society (ICT) as the 21st century is referred to, the nature of knowledge turns into a 'multimedia-ish', trans-disciplinary and practical oriented knowledge [1]. ICT is playing a determining role at all levels of language learning. Multimedia applications and network based solutions brought about

other aspects of learner's behaviours and encourage the introduction of individual based classroom or distance language learning.

The second chapter aims to throw new light upon the changes in language learning styles by examining certain features from the aspects of social changes. Hofstede's theory of collectivism vs individualism and uncertainty avoidance will be presented thus providing the framework for our examination. The third chapter goes on with reviewing the development of CALL based on the investigations by Warschauer, highlighting the language learning styles fostered by the applications at that time. The examination will focus on the interdependency of CALL and language teaching-learning styles in the view of the Information Society. Finally, I will draw conclusions, how the changes and the challenges of the society and the boom in information technology have supported and encouraged individualism and weak uncertainty avoidance and how language learning in a more complex learning environment with apparently contradictory features can be brought into harmony with the help of a "counsellor" and/or "moderator".

2 Language Learning Environments Determined by Features of a Society

According to Geert Hofstede [2], a Dutch social anthropologist, culture is defined as a set of values and attributes of a given group, the relation of the individual to the culture, and the individual's acquisition of those values and attributes. Fisher defines culture as "it is shared behaviour, which is important because it systematizes the way people do things, thus avoiding confusion and allowing co-operation so that groups of people can accomplish what no single individual could do alone. And it is behaviour imposed by sanctions, rewards and punishments for those who are part of the group"¹ [3]. In the perspective of our examination Dahl's definition gives the best description of culture. It is "a collectively held set of attributes, which is dynamic and changing over time"². [4] In the light of the above I presume that from the aspect of language learning and CALL the information society meets the above criteria thus it forms a culture or subculture.

Referring to Hofstede, he aimed at setting up a unified framework that is beyond cultures but makes the comparison of different cultures possible. He strived to elaborate a framework of which criteria were based on unconscious cultural values and attributes i.e. the mental processes, while this approach proves to be scientific and enables statistics. Upon generalisation and application of his classification in other fields of investigation, it is noticeable that certain features play important

¹ Fisher: 1988

² Dahl: 2001, p. 9

roles from the aspect of teaching and learning as well. The information society's challenges are of a similar kind throughout the world while ICT tends to influence language teaching and learning. This paper aims to restrict its focus on individualism vs collectivism and uncertainty avoidance these being essential features in the mutual relation of CALL and language learning styles and behaviours.

2.1 Collectivism vs Individualism

“Individualism pertains to societies in which the ties between individuals are loose, everyone is expected to look after himself or herself and his or her immediate family. [...] Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into cohesive ingroups, which throughout people's lifetime continue to protect them in exchange for unquestioned loyalty.”³

The following table based on Hofstede's research shows how learning is considered in collectivist and individualist societies.

	Collectivist	Individualist
Aim of learning	To learn to become an acceptable group member	Learning how to learn
Student's role	To learn to belong to some ingroups, to keep group norms and follow rules 'Group' conscious	To cope with new, unknown, unforeseen situations 'I' conscious
Teacher's role	Give rules and instructions	Give guidelines
Key words	Acceptance, no deviation Conformity	Freedom, challenge Process based

Figure 1
Collectivist vs individualist language learning environment

2.2 Uncertainty Avoidance

“..the extent to which the members of a culture feel threatened by uncertain or unknown situations. This feeling is among other things, expressed through nervous stress, and a need for predictability: a need for written and unwritten rules”⁴.

³ Hofstede: 1991, pp. 51

⁴ Hofstede: 1991, pp. 113

Following the rules of the above, the table below shows some language teaching-learning features of strong and weak uncertainty avoiding societies:

Uncertainty avoidance	Strong	Weak
Aim of learning	To implement	To discover, to invent
Student's role	To act upon the roles given To follow teacher's instructions	To seek new solutions To be open to new ideas
Teacher's role	To give clear instructions To give rules, "right ways"	To guide through learning
Key words	Prescription, acceptance	Self esteem

Figure 2
Uncertainty avoidance features in language learning environment

The above classification clearly defines the roles of students and teachers and also characterises two different teaching-learning environments. Investigating the differences of the teaching-learning environment in the industrial and information societies (as the late 20th and the 21st centuries are referred to) the main characteristics of the two stand out clearly. According to the above classification the teaching-learning environment in industrial society tends to be more a collective one with strong uncertainty avoidance while it carries more the features of a highly individual culture with weak uncertainty avoidance in the information society. This categorisation coincides with Viktória Forgách's description of the learning environment in the Industrial and Information society. [5]

3 CALL Development in the Light of Collectivism vs Individualism and Uncertainty

3.1 The Three Stages of CALL

Extensive investigations have been carried out to give a grouping of CALL software and show its development since its appearance in the early 60s'. According to Warschauer [6], one of the most eminent CALL researcher, there were three main phases in the history of CALL. The following table based on Warschauer and Kern's [7] classification shows the different stages in the development of CALL and also gives some hints about the relationship of these stages to the view of language, the teaching methods and to the role of software.

I presume that in certain phases CALL applications carried certain features of the society at that time, namely whether it was of collectivist or individualist feature, and whether it allowed language learners to “navigate” freely or prescribed the way learning should happen.

Stage	Technology	Pedagogical Approach	View of Language	Use of Computers	Teacher's role
1960s-1980s: Behaviouristic or Structural CALL	Mainframe	Grammar-Translation and Audio-Lingual	Structural (formal-structural system)	Habit formation: Repetitive drills Drill-and-practice Translations tests	Sole source of lg information To give instructions
1980s-1990s: Communicative CALL	PCs	Communicative Lg. Teaching	Cognitive (mentally-constructed system)	Communicative exercises: Using forms Implicit grammar teaching forms Text reconstruction Simulations	Activator facilitator
1990s to 21 st c. Integrative CALL	Multimedia Internet - based appl.	Content-Based, Task-based, project-based, ESP, EAP	Social, Socio-cognitive (developed in social interaction)	Authentic social, context, discourses Integrate various skills (R, W, S, L) of language learning and use	Counsellor mentor

Figure 3
The three stages of CALL [7]

3.1.1 The Structural CALL

The initial phase in CALL followed language teaching approaches that were determined by well known American structural linguists of the 1920s like Bloomfield. According to the structural or behaviouristic phase in the 1960s the language itself was considered as a set of prescribed structures and forms and language acquisition was nothing else but learning set forms and phrases. The audio-lingual method, which emerged in the 40s and 50s shared some views with the structural approach since according to that, sentence was the primary and most essential unit of analysis and practice. Grammar-translation method also agreed with the behaviouristic view of language, according to which habit formation and imitation are the key elements of language learning. These language teaching approaches were mixed in the first CALL software. These software products provided mechanical repetitive drills, memory exercises and translation texts. Computers were mere drilling machines giving instructions and offering further and further structures and sentences to practice. The application was supported by such a rationale that computers do not get bored, they give immediate feedback, while repeated exposure to language is beneficial and language learners could work at their individual space outside the classroom time. This stage was also called the stage of programmed instructions, giving clear rules and directions to

students how to learn the language. In this phase no alternatives and no initiatives were appreciated when learning with the computer. The student's and the teacher's roles fell in the category described in the collectivist society with strong uncertainty avoidance.

3.1.2 The Communicative CALL

The development in computer technology and a change in the approach to language teaching in the 1960s resulted in the introduction of more communicative software. The appearance and proliferation of personal computers in the early 1980s made CALL more personalised. However, it can be noted that technological development was far behind scientific development. The emergence of communicative language teaching approach suggested that a language is not only a set of rules but human interactions and human cognitive processes are to be involved as well. The cognitive or constructivist view of language arguing that a language is mentally structured and a speaker of language can produce an infinite number of well-formed utterances [8] inspired the development of communicative software. These software products fostered the learner's mental processing. The new types of exercises encouraged the teaching of the usage of structures, forms and not just the structure or form itself. Grammar teaching was involved implicitly and students were encouraged to generate original sentences. Errors were considered as natural by-products and no constant evaluation distracted language learners from the actual tasks. Tasks like text reconstruction or simulations like role-plays or group work were provided in this active process of language learning. In my view this period falls into the category of a transition era since although software products gave a certain independence to students thus enhancing individualism, graphics, images, sound effects and some video artefacts were offered to the language learner, these CALL software products satisfied the criteria of a software as a set of programmed instructions as well. In this period not the actual task given by the computer mattered but *what* the students did together in front of a computer. A crucial change in the society, however, brought about a change in the focus of language learning styles to a more individual and autonomous learning.

3.1.3 The Integrative CALL

The next big step was again brought about by a further development in sciences, namely that some sociolinguists claimed that language is not a privately but a socially constructed phenomenon. Thus language learning was examined from a wider social or socio-cognitive aspect. According to this view, learners should be put into authentic learning environment and various skills of language learning and use should be included in second or foreign language learning. Task-based, content-based and project-based approaches were put into service to provide authentic learning environments. According to Warschauer, "in integrative

approaches, students learn to use a variety of technological tools as an ongoing process of language learning and use”⁵. With the digital boom in the mid 90s the Integrative CALL developed into two slightly different directions both supporting individual life long language learning.

Multimedia CALL with multimedia CD ROMs and DVDs provides authentic learning environment in which skills are easily integrated. A shift from teacher-centred to learner-centred approach emphasised learner’s autonomy mainly backed by multimedia applications focusing on forms, content and authenticity at the same time. The other direction, the internet-based applications broadened the spectrum of CALL since as Dahl claims internet “makes the communication activity active [...] where the learner chooses what s/he is prepared to see and with whom to interact”. “The internet”, she proposes, “offers the possibility of a far more interactive experience, with a feedback directly provided”⁶. The internet and ICT challenges in the society expose us to new values and attitudes, whether or not actively perceived by us. Both teachers and learners took on roles which are characteristic of a society and they did so even if this process was an unconscious one. The information society and the development in information technology (IT) somehow obliged both language teachers and students to change their attitudes and teaching-learning behaviours in the process of language learning. The internet encourages individual learners belonging to a society with weak uncertainty avoidance but might frustrate the ones who seek to avoid uncertainties. These features of internet are of particular interest in interactive language learning. The linking of multimedia CALL and internet applications creates the multimedia networked computer. Warschauer argues that “the multimedia networked computer – with a range of international, communicative, and publishing tools now potentially at the fingertips of every student – provides not only the possibilities for much more integrated uses of technology, but also the imperative for such use, as learning to read, write and communicate via computer has become an essential feature of modern life in the developed world.”⁷.

3.1.4 The Intelligent CALL

Warschauer examines a fourth stage of CALL claiming that a new so called electronic literacy skill should be developed in the students in the era of Intelligent CALL. Electronic literacy skill means online reading and writing skills enabling the student to create their own online “texts”. Teaching electronic literacy skill is in parallel becoming part of a language teacher’s and the computer’s “role”, with the help of which, as Oxford [9] claims, the language learner can become an

⁵ Warschauer, M., & Healy, D.: 1998, pp. 58

⁶ Dahl: 2001, pp. 41

⁷ Warschauer, M., & Healy, D.: 1998, pp. 58

independent, autonomous and lifelong learner who is able to plan their “active, conscious, and purposeful self regulation of learning”⁸.

Intelligent CALL comprises a so called multiple media and implies intelligent software products which would be able to provide context and data simultaneously. In this case software would have a user friendly interface, information would be offered by multiple media that would meet the demand of life long learning and fit individual learning styles and purposes. This type of software would offer help at every step and would explain the *whys* and not just giving the *whats*. Intelligent CALL enables local networks and could offer online possibilities. This type of language learning could rather be called computer mediated language learning (CMLL) which can be organised in classroom frameworks and should be accessible through virtual private network (VPN) enabling synchronous and asynchronous learning environments.

The possibility of asynchronous language courses makes fully independent, autonomous language learning possible strengthening the individualist type of learning environment with weak uncertainty avoidance. The penetration of and the possible access to internet in the households in the mid 90s, made unlimited encounters to authentic language fragments possible while computer mediated communication created the possibility of online communication. The expansion of digital technology in IT with new technical solutions enables new applications in training speaking and listening skills. The quality of voice transmission and software applications, furthermore, the fact that desktops and even traditional PCs are equipped with built-in microphone and loudspeakers make synchronous computer mediated language teaching-learning possible.

Examining the “cultural” aspects of CMLL it can be argued that CMLL strongly fosters individualism both from the teacher and the student’s side. The question arises whether a learner with weak or strong uncertainty avoidance can better exploit the benefits of CMLL. Language learners with weak uncertainty avoidance potentially have the skills and independence to best utilise the immense amount of authentic material and information available via multimedia and network based applications. On the other hand, the language teacher cannot be left out from the language learning process. His/her roles as a navigator, mentor and/or a “feedback” are of crucial importance even in more individualist societies. The right proportion of teacher-learner and computer-learner interactions serves to bring the language learning process back into balance and not let the learner go sideways.

Conclusions

Restricting our investigation to Hungary and its language learning environment before and after the transition in the 90s’ we can say that the transition from

⁸ Oxford, R. L.: 2003, p. 2

planned economy into a market economy definitely changed the values and attitudes of learners to language learning. The society's earlier collectivist feature, even if it was forced onto the individuals of the society, turned into a more individualist one, determining the roles of teachers and learners in and outside the classroom as well.

Hofstede's estimated scores for Hungary today are as follows: individualism (IDV) 80 and uncertainty avoidance (UAI) 82⁹, which indicates a highly individualist society with strong uncertainty avoidance. A shift from strong uncertainty avoidance to weak uncertainty avoidance apparently takes longer time – it definitely roots much more deeply in a society's traditions and behaviours – than a transition from a rather collectivist society to a less collectivist and more individualist society – presumably more influenced by the economic state of the society and also by the quality level of information technology. The high percentage of uncertainty avoidance in Hungary might give an explanation why many language teachers and learners still remain sceptical of the value of network based computer mediated language learning and why the teachers' role is even now of primary importance in the process of language learning.

However, due to the facts stated above I claim that nowadays online courses and e-learning are slowly taking over the traditionally organised language classes. Teachers will not be left out from the language learning process, – as it is backed by the high percentages given by Hofstede, – language learners in Hungary still need a teacher to guide them through the pitfalls of the learning process. The teacher's role has definitely changed and his/her role as the only source of language and the instructor is turning into being a mentor and counsellor. The teacher will have to be able to teach the fifth skill namely the electronic literacy skill in parallel with the four basic skills in language learning. With the help of the teacher the mixed nature of the language learning environment in a highly individualist society with strong uncertainty avoidance can be brought into harmony while CMLL in this sense would mean “the natural integration of computers into the language teaching/learning process”¹⁰. In this case it can satisfactorily fulfil its purpose and can help the language learner to achieve their goal and purposes.

All in all, the challenges of the Information Society, the growing boom of the digital technology, the transition in Hungary's economy have all influenced the process of language teaching and learning in Hungary. In summary, it can be argued that due to a change in the society and the big boom in Information and Communication Technology the emphasis shifted from learning in a class towards learning individually or via network-based labs encouraging autonomous, independent and life long learning.

⁹ http://www.geert-hofstede.com/hofstede_hungary.shtml, 29.12.2005

¹⁰ Warschauer, M., & Healy, D.: 1998, p. 63

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