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DESIGNING A PEDAGOGICAL META-FRAMEWORK FOR TECHNOLOGY (COMPUTER) ASSISTED LANGUAGE LEARNING (CALL)

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ABSTRACT

Computer assisted language learning (CALL) is becoming popular among language teachers and learners. It is being accepted due to its interactive and constructive language learning features. Constructivism and CALL are integral to each other and can bring positive results in language learning. Constructivism takes the learning process as a dynamic process, advocates student-centred learning, and regards learners as creative and initiative subjects. Integration of computers in the language learning and teaching process can be done in multiple ways and a pedagogical framework is required to make it effective. The present paper attempts at developing a pedagogical framework for CALL.

Keywords: CALL, Pedagogy, Framework, Constructivism.

INTRODUCTION

Traditional methods of teaching are more teacher-centred. The trend has now shifted from teacher–centred to learner–centred approaches. Learning is a function of both instructional content as well as how to interact with the content. Interaction can be enhanced with the use of technologies especially computer enhanced learning. Learning can be improved in various ways through computer in order to increase effectiveness, efficiency, impact and appeal of the learning process. Integration of Computers into language learning programs can be looked beyond simply purchasing equipments and softwares and making them available to instructors and students. Like other fields, the use of technology in language learning classroom setting can be taken as a natural development in the field and the advantages that CALL brings to the students, especially in bringing real interaction, and learning for communicative purposes needs to be looked at. Using CALL allows for a combination of sound, graphics, text, and video, which facilitates efforts to teach all four language skills by computer. Integration of

computers in the language learning and teaching process can be done in multiple ways and a pedagogical framework is required to make it effective. The present paper attempts at developing a pedagogical framework for CALL.

A Brief History of CALL

CALL embraces a wide range of ICT applications and approaches to teaching and learning languages, from the traditional drill-and-practice programs that characterised CALL in the 1960s and 1970s to more recent manifestations of CALL, e.g. as used in a virtual learning environment and web based learning. Warschauer & Healey (1996) identified three historical phases of CALL, classified according to their underlying pedagogical and methodological approaches.

Behavioristic/structural CALL: It was conceived in the 1950s and implemented in the 1960s -1980s. Drill-and-practice materials in which the computer presented a stimulus and the learner provided a response. It was based on the behaviourist theory of learning dominant at that time. The computer was used as a tutor and was ideal for carrying out repeated drills, since the machine does not get bored with presenting the same material and since it can provide immediate feedback. Thus, a number of CALL tutoring systems were developed for the mainframe computers which were used at that time. The famous example of this is the PLATO system which included vocabulary drills, brief grammar explanations and drills, and translations tests. (Ahmad, Corbett, Rogers & Sussex, 1985). In the late 1970s and early 1980s, behaviouristic CALL was rejected at both the theoretical and the pedagogical level and the introduction of the microcomputer ushered a new phase of CALL.

Communicative CALL (1980s to 1990s): This phase of CALL was based on the communicative approach to teaching. In contrast to the drill and practice programs this phase involves a fair amount of student choice, control, and interaction. A variety of programs were provided as skill practice, but in a non-drill format (computer as a tutor); to stimulate students' discussion, writing, or critical thinking (as a stimulus); as a tool through word processors, spelling and grammar checkers, desktop publishing programmes and concordances. Examples of tutor programs include courseware for paced reading, text reconstruction, and language games (Healey & Johnson, 1995b). Programs such as *SimCity*, *Sleuth*, or *Where in the World is San Diego* (Healey & Johnson, 1995b) were designed to stimulate. But by the end of the 1980s, educators sought ways to teach language in a more integrative manner, for example using task- or project-based approaches. There was a need to develop models which integrated the various aspects of the language learning process through CALL. Innovations in computer technology opened new prospects.

Integrative CALL (2000 onwards): This phase characterizes embracing multimedia and the internet. There is a shift of the use of the computer for drill and tutorial purposes to a medium for extending education beyond the classroom. Multimedia technology allows a variety of media (text, graphics, sound, animation, and video) to be accessed on a single machine. What makes multimedia even more powerful is that it also entails *hypermedia*. That means that the multimedia resources are all linked together and that learners can navigate their own path simply by pointing and clicking a mouse. With the advent of the Internet, it can also be viewed as a medium of global communication and a source of limitless authentic materials.

Constructivism and CALL: Yan Zhang Mingcai Qian (2011) has observed that Warschauer's has only mentioned behaviourism in the classification of phases of CALL. Constructivism also has its presence. Behaviorism and constructivism theories are two different theories. Behaviorism thinks the learner has a mind of blank slate, while constructivism thinks the learner himself is a combination of rich ideas and experiences (Yan Zhang Mingcai Qian, 2011). In Communicative CALL or Integrative CALL, learners are taken as creative creatures. Constructivism takes the learning process as a dynamic process, advocates student-centered way, and regards learners as creative and initiative subjects. Within the guideline of constructivism, teachers need to stimulate learner's motivation to scaffold knowledge. Students construct their own understanding and knowledge of the world through experiencing things and reflecting on those

experiences. In the classroom, the constructivist view of learning can point towards a number of different teaching practices. For example encouraging students to use active techniques like experiment, real-world problem solving. Teacher's role is to encourage this learning and reflection process. The constructivist classroom can be better explained by observing following integral elements of constructivism: active participation, reflection, collaboration, inquiry based and evolving learning. Constructivism and CALL are integral to each other and can bring positive results for learning. Learner-centeredness is one of the most important principles of constructivist ELT. Constructivism in education informs the promoting of learner autonomy in the language teaching and learning today. The focus of the present paper will be drawing a general pedagogical framework for technology (computer) enabled language learning with the use of various instructional methods incorporating constructivism and CALL in English language learning process.

A pedagogical framework for CALL

Theories and approaches are axiomatic in nature. They describe the nature and underlying principles of the subject to be taught. An approach or method of teaching gets visible through the instructional design and plan. An attempt has been made in Figure 1 to prepare a framework for English language teaching and learning with the help of computer technology.

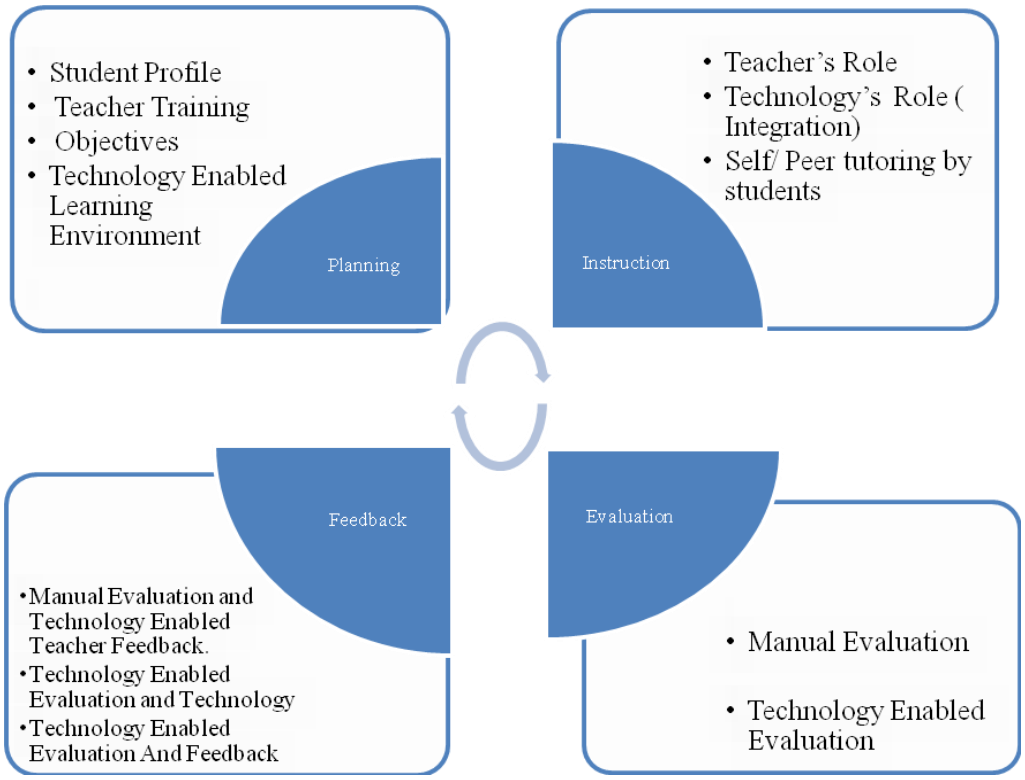

Fig. 1 A pedagogical framework for CALL

Instructional planning

Lesson planning is a very important step . A teacher who knows his subject (content) very well and is good at creating lesson plan can get students work with one another and that makes learning a very interesting activity. With instructional technology, exciting things can be done in the language classroom to motivate the students. In the planning of a lesson for CALL classrooms, four components are very essential to be considered beforehand:

- Students' profile
- Teacher training
- Learning Objectives
- Learning environment

Students' profile: Development of an instructional plan is not an easy job because it is build on the well done study of students' profile. Before developing

an instructional plan, it is essential to consider the characteristics and background of the students to be taught, it includes: their gender, socio-economic status, culture and ethnicity, existing knowledge of the language, motivation level and technology (CALL) literacy. One of the most important of the above mentioned components of the student's profile in the present times is the technology literacy. It generally refers to the computer skills and the ability to use computers and other technologies to enhance the learning and performance of the students.

Teacher training: The mediating role of L2 teachers in the technology-enhanced classroom demands CALL technology education for L2 teachers as essential. They select the tools to support their teaching and determine what CALL applications language learners are exposed to and how learners use them (Kwang Hee Hong, 2010). Moreover, dynamic CALL technologies and the widening scope of technology-enhanced environment place more expectations on the significance of L2 teachers in order to successfully implement computer technology in the L2 classroom. Unlike L2 teachers working in the traditional classroom, those in the technology-enhanced environment are even expected to be able to understand what they do, and why they do. Teachers' confidence in using CALL technology is the necessary first step toward expanding their knowledge of how to harness the pedagogical potential of CALL technology (Kwang Hee Hong, 2010). For this, proper training in CALL can increase the language teachers' confidence and make them work with a positive and inapprehensive approach.

Learning objectives: Objectives of a plan include the knowledge and skills that the students should have at the end of the lesson. The objectives remind a teacher what the expected outcomes are and accordingly helps in selecting and developing the lesson content, technology use and the activities. The objective should specify an observable performance i.e. something that indicates that students have learnt. In language classes observable performances is in the form of the four language skills- listening, speaking, reading and writing.

Learning environment : Learning environment is the setting or the physical surroundings in which learning takes place. Learning requires a combination of environments besides the classroom, like language labs, theatre, home etc. Number of available computers with or without internet connection at all these places is very important. Instructions should match the environment in which it will occur. If it doesn't, the instruction may be theoretically valid but practically impossible. Planning to incorporate technology is becoming easier because computers are becoming more prevalent in educational institutes. But other factors like space, no. of seats or the no of systems provided, or can the setting be easily modified according to the instructional plan etc. are some of the important considerations. Instruction plan can be coherently build by matching all the components i.e. what is to be learned (the objectives), who will learn (students' profile), who will teach (teacher's familiarity with the technology) and in what settings environment).

The next step which comes after the instructional plan is the implementation of that plan with the help of instruction.

Instruction process includes what are the actual demands on the part of teachers, students and the technology. What role each of the three component play in the classroom. Each component of the instruction is discussed separately to explain the whole process of teaching and learning through technology.

Teacher's Role: As CALL promotes learner autonomy and constructivism too encourages learner centeredness, still the integral part of the whole process is the teacher who is the 'instructional expert' (Woolfolk,2003). It is the role of the teacher who decides the why, when, how to use computer technology in the classroom after analysing the requirements of the text. The teacher identifies the need of the instruction and finds out the material and tools which make the learning effective. An expository lesson or a demonstration can be given to the students about the use of computer technology tools. The teachers role is to facilitate,

guide, moderate and evaluate the whole learning process.

Integration of technology: Technology offers solutions to the problems and enhances the processes. Studying technology is just not identifying different pieces of hardware but it is understanding what is available, when and why it should be used, how it is effectively adapted, integrated, evaluated and adjusted. (Timothy J. Newby, 2006). For instance, language teachers may find their learning goals better served by having students reflect and write about examining the paintings and sculptures from the world's past masters after they have visited (virtually) several of the world's most prestigious art galleries. Integration of computer technology in the language learning process requires the use of tools that have been strategically selected and implemented to directly impact the achievement of specific learning goals. Integration of computers is a three step process: (a) planning the integration, (b) implementing the integration, (c)evaluating the integration. Planning for the technology integration for its optimal use, as already discussed, requires the knowledge about the students' profile, environment and the objectives of learning.

Self/ Peer tutoring by students: As already mentioned CALL has its roots in constructivism which emphasises on learner's autonomy, self-construction of knowledge through collaborative and active learning. As given by Yan Zhang Mingcai Qian (2011) the language learning process can be unilateral, bilateral or mixed among students. In unilateral form a single student behaves like his own instructor as well as, sometimes, for other students as well. For example**,** the most representative unidirectional CALL nowadays is powerpoint presentations, and it is becoming very common in the classroom. With the help of PowerPoint, learners could get more information in one class. Unidirectional courseware could accelerate the efficiency of the whole class and the confidence level of the students to present their views effectively in public. Most of the communication via internet takes place in English. This makes it a perfect tool for English language teaching and learning**.** There are many kinds of interactive communications in CALL, including asynchronous and synchronous communications - Emails, Skype, mailing lists, newsgroups, chat, videoconferencing, blogging etc. are used in on-line communication. Mixed form is one form combining unilateral one and bilateral one. All the forms of self/peer tutoring by integrating CALL can produce high efficiency, develop learner's autonomy and materialize learner-oriented idea. Most importantly it makes language learning process interesting rather than the tedious drill based, teacher centred monotonous activity.

Evaluation

Manual evaluation: The evaluation in the technology enhanced language classroom depends on the task given to the students. For example, if the task is some written assignment like essay writing, paragraph writing, home assignments to students then the evaluation can be done manually by the teacher. Here, manually does not mean that the teacher should have a hard copy in his hands and use a red ink for marking. Instead the students can be asked to post their assignments to the teacher and the teacher can access those at his/her system and give them grading through proper comments written. A very good example of this use of technology in the classroom is the use of blogs for language learning and teaching. Students can be asked from time to time to work on certain assignments and the teacher can evaluate them online either within the institutional boundaries having LAN or outside. The role which technology performs in manual evaluation is of: a repository, managing the data and differentiating the data.

Technology enabled evaluation: The other type of evaluation which can be done is technology enabled evaluation. Grammatical competencies of the students can be very well judged with the use of computers in the language classroom. The tasks or activities in this type of evaluation can be in the form of multiple choice questions, fill-ins, dichotomous questions etc. Certain parameters (like accuracy, time taken to complete the quizzes, authenticity) can be set beforehand. This type of evaluation not only gives the grading but also comes up with the exact solutions and proper explanations about the right response.

Feedback

Evaluation remains incomplete without feedback. After the evaluation is done either by the teacher or by the computer, feedback provides proper insight to the students to look into their less stronger proficiencies in the language. Feedback can also be categorised into:

- Manual evaluation and Technology enabled teacher feedback.
- Technology enabled evaluation and technology enabled teacher feedback.
- Technology enabled evaluation and feedback.

All these types of feedbacks are technology enabled but the major difference is whether the teacher is also involved with the technology or not.

Technology enabled Teacher feedback: After the evaluation is done by the teacher on the system, then it is becomes his responsibility to give a proper feedback to the students. An enlightened feedback helps the students to think over again and improve. The teacher can evaluate the written performance, as well as the oral performance, of the students and can give them suggestions to improve upon various aspects like use of appropriate words for the exact expression, grammatical errors, tips to maintain coherence and consistency etc. A teacher can also use other means like e-mails, chatting, and discussion forums to provide feedback to the students**.**

Technology enabled evaluation but technology enabled teacher feedback: This type of feedback is done by the teacher after the evaluation is done by the computer. On the basis of the evaluation, a teacher can send the feedback to the students. This process doesn't differ from the above in the ways in which a teacher can give the feedback, the only difference is that in the former evaluation is also done by the teacher but not in the latter evaluation is done by the computer but feedback is given by the teacher.

Technology enabled Feedback: This type of feedback is given by the computer to the students after the completion of certain tests or quizzes. The feedback is given by the system with the help of certain softwares installed. The already given example of the Study skills in the language lab is a very good example of it. The computer comes up with all the details like what answers were correct and why and which one were wrong and why.

CONCLUSION

An attempt has been made to outline a meta-framework for CALL-enabled pedagogy for language and communication disciplines. Planning, Instruction, Evaluation and Feedback are important components of this meta-framework. The paper is broad based and the concept requires more empirical evidence to be applicable in all contexts.

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