



10'CMT - An ICT Based Pedagogy Design for Learning and Teaching of Mother Tongue Languages

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Abstract

As it is becoming increasingly difficult to maintain Mother Tongue Language (MTL) competencies as more speak English at home, there is a necessity for the learning of MTL to keep up with the changing needs and characteristics of learners. With ICT, especially through one-to-one computing, we have the ability to put the learner at the centre of any learning activity; thus, helping learning 'fit' better with the current generation who are now used to lifestyles that are increasingly 'individualized' or 'personalized'. The 10'CMT, an ICT based pedagogical design, incorporates this aspect of personalized learning to enhance the learning and teaching of MTL

The 10'CMT pedagogical design, implemented in more than 30 schools, is based on proven classroom practices experimented and implemented abroad. 10'CMT offers an alternative pedagogical design that leverages the use of ICT to promote learners' interest in the target language, and to improve on their language competencies in a web-based environment. This pedagogical design adopts a learner-centred model which is well-balanced with teachers' guidance and facilitation. This design ensures effective use of curriculum time while facilitating self-paced differentiated learning as well as peer interaction. Learners regularly access extended reading materials online followed by writing, oral and reading activities in the respective MTL portals which are designed for immediate reinforcement of lesson objectives.

This paper explains the rationale and pedagogical design of 10'CMT as well as its implications and impact on 21st century MTL learners and teachers.

1 Introduction:

A good education system is "necessarily a future-oriented one, preparing students to meet the onslaught of changes that await them when they go into the workplace" [1]. Education must enable students "to respond positively to the opportunities and challenges of the rapidly changing world in which we live in and work" [2]. They need to be prepared to engage as individuals, parents, workers and citizens with economic, social and cultural change, including the continued globalisation of the economy and society, with new work and leisure patterns and with the rapid expansion of communication technologies.

Language teachers of today are cognizant to the fact that their educational practices may need to be modified to enhance students' experiences of learning while supporting traditional literacy. ICT use is indeed a means of making what goes on in schools more relevant and appropriate to the lives of 21st century learners [3]; who are surrounded by what some might call the 'digital bombardment' of many digital communication tools and ubiquitous networked applications [4].

Notwithstanding, the teaching of Mother Tongue Languages (MTL) also comes with its own set of challenges. It must therefore evolve in response to these trends and challenges by taking into consideration various underpinnings of education.

2 Context

Being a multiracial country, Singapore continues to implement a bilingual language policy which requires all students (including foreigners) in the Singapore education system to offer English, which is the main medium of instruction in schools, and a Mother Tongue language. The three main MTL are Chinese, Malay and Tamil. MTL as a subject takes up approximately 15% of the total curriculum time [5]. The intention behind the bilingual language policy is to equip students with "the language competencies to access both eastern and western cultures, and to give (them) a global outlook. These strengths will give students a distinct competitive edge, helping them to relate with people from different backgrounds, and to adapt and thrive in a globalised world" [6]. However, today, it is becoming increasingly difficult to maintain MTL competencies as more speak English as their main language at home.

In keeping with the changing needs and characteristics of learners, there is a call for greater use of ICT for MTL learning so as to leverage students' familiarity with and regular use of ICT in their daily lives [7]. ICT opens up new possibilities such as the use of interactive content, assignment of individual tasks and the provision of different resources and activities to suit the different needs of students. Furthermore, ICT can provide individualized feedback and help the teachers to reach out to all students. In other words, with ICT, we have the ability to put the learner at the centre of any learning activity; thus, helping learning 'fit' better with the current generation who are now used to lifestyles that are increasingly 'individualized' or 'personalized' [8].

It is perhaps pertinent to highlight these as the undercurrent for the conception of a forward-looking ICT integrative programme for MTL, known as 10'CMT. The 10'CMT programme is implemented in more than 30 schools based on proven classroom practices. 10'CMT offers an alternative pedagogical design that leverages the use of ICT to promote learners' interest in the target language, and to improve on their language competencies in a web-based environment. This pedagogical design adopts a learner-centred model which is well-balanced with teachers' guidance and facilitation. This design ensures effective use of curriculum time while facilitating self-paced differentiated learning as well as peer interaction.

3 10'CMT Pedagogical Design

The objective of a typical 10'CMT lesson is on language usage and immediate internalization of the knowledge and skills learnt. To achieve this objective, a typical lesson in the 10'CMT programme is divided into two main parts, teacher-led activities and learner-centred activities. (Figure 1) Equal time is allocated for both these segments. The learner-centred portion is further subdivided into an extensive reading segment and written or aural segment in an online ICT environment. These three segments are tightly held together by the same lesson objectives.

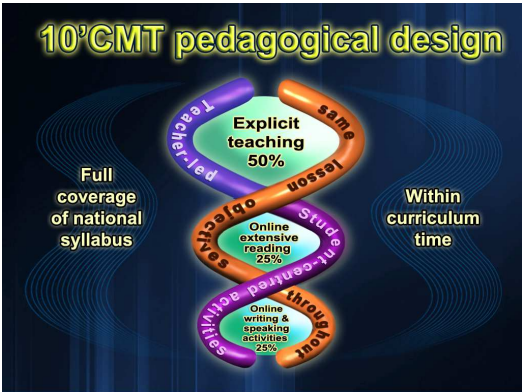


Figure 1: Representation of the 10'CMT pedagogical design

The teacher-led activities consist of tuning-in activities, explicit teaching or scaffolding activities. These set the direction for the learners in order to achieve the learning objectives or desired learning outcomes at the end of each lesson. These activities are planned by deliberately tapping on the prior knowledge and skills of the learners; thus ensuring effective teaching and efficient use of curriculum time. By completing explicit teaching activities within half of the curriculum time, the rest of the time is handed over to students to be engaged in online activities assigned by the teachers for optimum results.

Under the learner-centered activities, pupils are engaged in extensive reading and writing or aural activities that are directly related to the corresponding lesson objectives through a web-based learning portal with fruitful outcomes. The extensive reading resources in the portal are catered to the different ability group. As it is equally important to allow the learners to perform the task at their own individual pace, reading tasks for the each learner will differ either in terms of the graded reading materials or the number of reading materials expected to be completed. Learners are encouraged to track their own progression and to surpass their expected performance; thus, inculcating the values or spirit of self-directed learning.

The extensive reading portion provides more input as an extension of the newly taught knowledge while the aim of the last segment, which is the writing or aural activity, is to help learners improve on their language fluency either in written or verbal form. Learners produce written work or an oral presentation based on the lesson objectives as an immediate output of learning or reinforcement, which would help to improve learners' language abilities and build up their knowledge repertoire. These two learner- centred activities gives ample opportunities for the learners to explore and learn independently within curriculum time. The Figure 2 below shows a typical lesson flow.

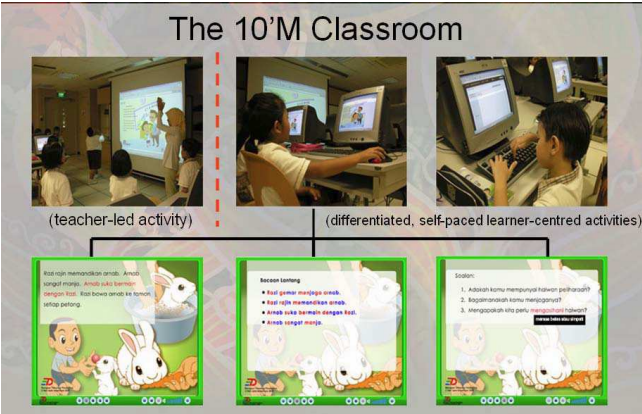


Figure 2: A typical lesson flow of a 10'CMT lesson

4 ICT Affordances

A specially designed web-based inter-school learning portal has been created for the respective MTL programmes. Learners and teachers of the participating schools have been given access to the learning portals where they each have an individual homepage and are assigned to a group or class page. The portal serves as an e-portfolio containing progressive evidence of their learning.

The 10'CMT programme has already put in place the structure and resources to enable the pedagogical approach to be fully utilized during lessons. It accommodates pupils' different starting points at the Primary One level and reflects greater differentiation in learning tasks. Reading passages that have been authored by the teachers in this programme has been developed as multimedia resources by ETD. These extended reading resources aim to heighten pupils' interest in reading. The karaoke-styled animation over text with voice-over model reading and the mouse-over unfamiliar words to access the pronunciation that comes with brief explanation guide learners in proper pronunciation as well as to fluency in reading.(figure 3) The use of ICT has motivated and helped tentative and diffident readers overcome their initial fear of reading any prescribed text. Control panel found in the multimedia resources enables learners to repeat model reading at their own pace.

The colourful illustrations not only help to reinforce vocabulary items and the overall theme of the reading passages but also captivate the interest of the learners and engage them the reading activity. Questions are also provided to help generate meaningful conversations among learners through peer discussion or relate the content of the reading passages back to their personal experiences.

One of the benefits of utilizing ICT is it provides opportunities for lower primary pupils to have a headstart to prose writing even though at times the ideas and thoughts times beyond their store of Chinese characters.. For example, in Chinese, pupils use the hanyupinyin text input system, to type out words which have not been mastered in the written form and this is made possible due to

the exposure during the extensive reading. Similarly, the use of the virtual keyboard for TL has helped the Primary 1 learners to type simple sentences in Tamil even though they are only exposed to basic words in this level. The recording function found in the multimedia resources has helped learners to understand and rectify their own mistakes by replaying their recordings. Some of the features of the reading resources mentioned earlier are shown in Figure 3.

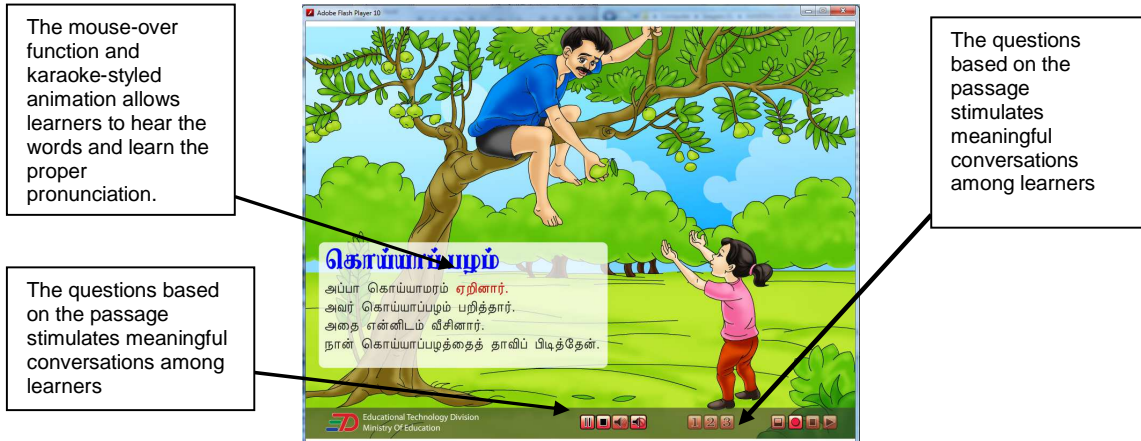


Figure 3: Features of a sample TL Reading Resource

The Web 2.0 features incorporated into the portal facilitates peer interaction among students of the same class and as well as students from different schools in this programmes. The rating, editing and comments functions in the portal have enabled the learners to become critical thinkers as well. (Figure 4)



Figure 4: Commenting, rating and editing functions

5 Impact

The lack of motivation and interest to study Mother Tongue Languages which was cited by teachers as one of the major reasons for poor performance in these subjects has been changed after the implementation of 10'CMT programmes in these schools. The Action Research findings for the Chinese language show a clear indication that a positive impact has been made. A Chinese pupil in this programme performed better by 28% compared to a pupil who is not in this programme. The differentiated resources found in the portal have enabled a finer differentiation of learning to take place within a class of different ability students. Thus allowing the teachers to

cater to the individual learner's needs and the level of their language competency. The self-paced approach in this programme has boosted the confidence of the learners.

The regular use of ICT and the 1 : 1 computing has allowed the amount of reading resources utilized during lessons to increase compared to a non ICT based lesson. The teacher-directed and student-centred approach has facilitated independent and collaborative learning among students.

6 Conclusion

The 10'CMT pedagogical approach in tandem with MOE's "Teach Less, Learn More" initiative. It delivers the vision espoused by the Third Masterplan for ICT in Education (MP3) where learners develop competencies through the effective use of an array of ICT tools that serves to integrate essential learning outcomes, such as self-directed and collaborative learning. More importantly, it also resonates with the desired student outcomes of the 21st century skills.

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