

## **The 'Talking Book' - an effective and instructional approach in the learning process for the pre-primary children in Mauritius: Opening the traditional classrooms to technological talk.**

A.Gungadeen, Mauritius Institute of Education (MIE), Reduit, Mauritius  
[anugungadeen@gmail.com](mailto:anugungadeen@gmail.com)

### **Aims**

The aim of this research is to:

- pave the way for the effective and efficient use of talking book as an innovative tool within the educational system for pre-primary level at the Mauritius Institute of Education (MIE)
- use asynchronous communication technologies to support collaborative learning and networking
- allow the democratised access to education to all
- promote use of open educational resources

### **Introduction**

The formal Mauritian educational system is divided into four main stages namely the pre-primary, primary, secondary and tertiary. Education is a right and not a privilege and therefore should be accessible to all (Youth Forum of 16th Conference of Commonwealth Education Ministers). In view of this the Government of Mauritius provides free education as from the primary level. The pre-primary education is not fully free because it is mainly offered by private bodies. Consequently, it has been observed that there had been a wide disparity both in quality and cost of pre-schooling. Side by side, this had created an unfair advantage for a few who could afford better schools and had widened the gap between the rich and the poor community. Hence, the registration of pre-primary schools started in 1993. In this way, the Pre-School Trust Fund (PSTF), the regulating body, under the aegis of the Ministry of Education and Human Resources (MoHER), was set up in with its main responsibilities being to ensure equal access for all young children to quality pre-school education, upload the principles of the Convention of the Rights of the Child and promote an integrated Early Childhood Development policy, strategies and programmes. There are both the governmental and private pre-primary schools. There has been a considerable increase in the number of pre-primary schools in Mauritius and the total number to date to 1, 115 of which 181 (16%) are still annexed to primary schools and 934 (84%) are private pre-primary schools. It is worth noting that all pre-primary schools operate independently but should be in line with the PSTF regulations.

With the phenomenal expansion of Information Technology (IT) in education, the integration of IT as an instructional tool across the curriculum is becoming a must to promote teaching and learning at all levels and to decrease the digital gap between the pre-primary and the primary sector. Such practice is nowadays becoming almost inescapable for the proper development of the school pre-primary curriculum and transmission and translation of text into meanings. It also lies within the policy of the Government as well as meeting the goals of the United Nations (UN) concerning Education for All (EFA). Moreover, it will allow the democratised access to education and at the same time facilitate the inclusion of technology in the educational framework in a way that will be cost effective. Besides, this study has also been prepared along the lines of the e-Government concept which identifies IT as a catalyst for the attainment of Mauritius as a booming cyber island and as an enabler in the educational field.

Since, the significance of integrating of IT in education is being increasingly realised it is somehow forcing educators to redefine their teaching strategies by adopting new innovative tools and practices. In this context talking book is viewed as a major part of it in revolutionising the curriculum framework.

This novel practice is challenging conventional ways of learning and as a matter of fact, leads to an increasing interest in the socio-constructive approach where:

- Learners are in focus

- Interaction and collaboration facilitated between learner-learner, learner-teacher, learner-content interaction and learners are engaged in promotion of construction of meaning

Simultaneously, it is also being felt that wiring pre-primary schools, the Ministries, the PSTF and other related institutions is becoming one of major challenge and highest priorities of the MoHER.

### **Key research questions**

The paper gives a thorough insight of the effective and instructional use of 'talking book' and the social networking among pre-primary teachers and researchers. It critically analyses the following questions in order to measure the accuracy and effectiveness of talking books at pre-primary level:

- What is the relevance of the use of 'talking book' in the Mauritian context?
- How can talking book promote emotional and cognitive dimensions in young children in a bid to promote early childhood care and education?
- How do young children begin to develop and acquire literacy skills through their day to day interactions within and outside the classroom?
- How do pre-primary teachers bring innovation and creativity in teaching and learning through effective use of appropriate technologies in bridging the digital gap to ensure a more equitable future?
- What are the potential challenges and barriers to opening traditional classroom to technological talks?
- To what extent can the integration of IT across the educational curriculum at the pre-primary level revolutionise teaching and learning in Mauritius?

### **Pedagogical philosophy**

The underlying pedagogical philosophy is to make learning meaningful, interesting and fun, increase interactivity in the classroom, develop and promote literacy skills, encourage reusability of learning objects and facilitate networking.

### **Talking Books, Early Childhood and Technology**

Talking book is described as the conversion of text content into sounds. Research has shown that it was frequently used by the blinds.

This definition expresses in a clear manner that it was simply the translation of text of books or magazines with no instructional design or adaption of content to the context. In addition, the use of it was restricted to special needs category.

There is no research evidence to show the instructional use of talking books in the pre-primary levels in Mauritius.

The pre-primary stage of education is regarded as one of the major and most critical of all stages in the proper development of a child whether is in the emotional, behavioural or cognitive domain. Research has shown that that the years between three and ten are crucial as it is of the greatest importance in the child's physical, emotional and intellectual development (Pugh & Rohl, 2000).

According to Henniger (1994), play is the primary means for learning in the early childhood classroom. Moreover, it stimulates imagination, creativity and the willingness to participate. He further stresses that

teachers and parents should work collaboratively to advocate for quality education. It is also debated that the one of the important activity for the development of early literacy in young children is to read to them. Learning at this tender age takes place primarily through sensory experiences with real-world materials.

The importance of technology offers various benefits to the educational community which generates interaction and collaboration among learners (JCALT, 2001).

Talking book offers several benefits related to the development young children and educational objectives as it:

- Develops affective and cognitive domains
- Caters for young pupils with different learning styles
- Brings innovation in curriculum
- Develop literacy skills
- Improves communication skills
- Promotes phonological awareness

### Methodology

The key motivation of this research was essentially the enthusiasm shown by the young children in playing computers games and the level of maturity and understanding displayed by them while playing. Hence, IT could be used as an effective educational tool for exploring as well as learning. Side by side, this tool would certainly be a powerful ingredient in triggering and thereby enhancing the cognitive development in young children.

The nucleus of the research was to carry out to gather relevant and accurate information to validate the above-mentioned hypothesis.

Prior to the creation of the talking books, pre-primary schools with IT facilities were identified from the four different zones. The investigation was conducted in 22 pre-primary private schools.

The research was divided in two parts, (1) the creation and testing of the talking books in the pre-primary primary schools and (2) the social networking among the main actors involved in the teaching and learning process using the Moodle e-learning platform.

The **first part** (Figure 1) of the study was focused on three key aspects which are considered as being the main pillars for effective design and creation of talking books.

Teachers manual on the basics of Microsoft PowerPoint and instructional design principles were provided to the pre-primary teachers prior to creating talking books. Appropriate training and hands-on activities were also given to them.

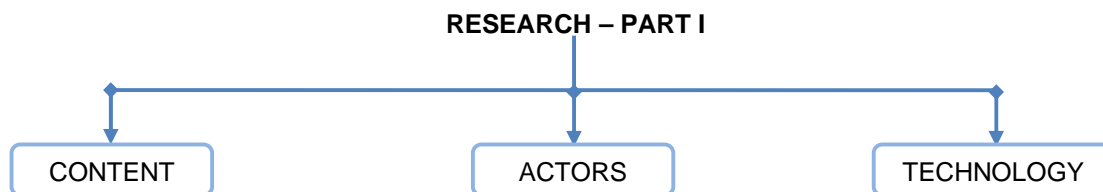


Figure 1: The Three main segments of the Research Part I

In the first instance, teachers' worksheets (Table 1) were designed.

*Table 1: Teachers worksheet in the creation of Talking Books*

Category of Talking Book	Suggested Activities	Curriculum Application
1. About You	Students read, spell and write their name using technological tools (computer, microphone)	Identification of letters Develop listening skills Develop literacy skills

The worksheets were used as a guideline in the design of talking books. The five phases of instructional design, some of the important issues and the pedagogical approaches in the creation of talking books are illustrated in the table below.

*Table 2: Pedagogical approaches in the creation of Talking Books*

Phases	Issues to consider	Pedagogical Approaches
<b>Analysis</b>	<ul style="list-style-type: none"> <li>- Aim and Objectives</li> <li>- Appropriate content</li> <li>- Educational settings</li> </ul>	<ul style="list-style-type: none"> <li>- Pedagogy level based on pupils' profile</li> <li>- Selection of themes for stories/poems</li> <li>- Selection of multimedia elements</li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>- Availability of resources</li> <li>- Pupil's profile/learning styles</li> <li>- Theme of poems/stories (based on Mauritian context)</li> </ul>	<ul style="list-style-type: none"> <li>- Story board</li> <li>- Write up</li> <li>- Pedagogical Strategies</li> <li>- User friendly interface</li> </ul>
<b>Development</b>	<ul style="list-style-type: none"> <li>- Conversational stories</li> <li>- Involve children and teachers</li> <li>- Pronunciations</li> <li>- Length of stories</li> <li>- Language level</li> <li>- Design of Interface</li> </ul>	<ul style="list-style-type: none"> <li>- Conversion of text into sounds</li> <li>- Relevance of graphics and animations</li> </ul>
<b>Implementation</b>		<ul style="list-style-type: none"> <li>- Semi-structured interviews</li> </ul>
<b>Evaluation</b>	<ul style="list-style-type: none"> <li>- Identify weaknesses</li> </ul>	<ul style="list-style-type: none"> <li>- Brainstorming</li> <li>- Activities</li> <li>- Feedback questionnaires</li> </ul>

The main actors in this investigation were the researcher, pre-primary supervisors, teachers, pupils and the parents. The tool used is the Microsoft PowerPoint.

Then, the talking books were pilot tested in two pre-primary schools.

The **second part** of the research was emphasised on the social networking feature. The Moodle electronic forum was used as a tool for collaboration and sharing of experiences among the pre-primary teachers and the researcher.

### Limitations of the research

The major limitations were:

- time constraints
- large number of pre-primary schools
- disparity in terms of resources in the pre-primary schools
- limited research on the effective use of talking books in education

### Findings and Discussion

By keeping in mind that education and IT are inextricably linked in this highly infused technological world, this approach is an innovative and inspiring one. It explored multiple entry point to new technological tools in the educational system which is consistent, interoperable and enables information sharing and dissemination. In this way, we are gradually shifting from the traditional classroom with chalk to technological talks.

### The relationship between the pedagogical and technological framework

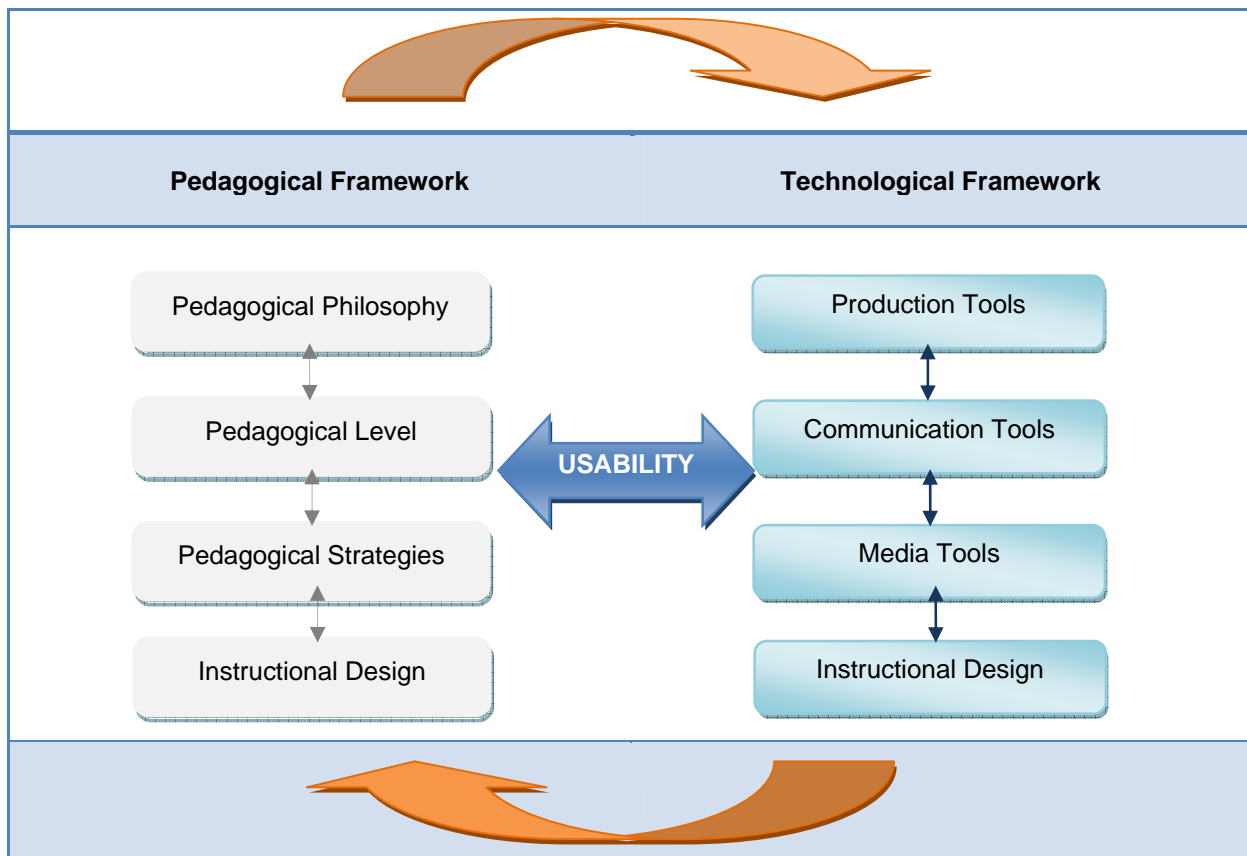


Figure 2: The relationship between the Pedagogical Framework and the Technological Framework

Figure 2 is divided into two main parts, the pedagogical and the technological framework. This illustration sketches its relevance in the design of talking books with a focus on the relationship between those two dimensions.

### The Pedagogical Framework

This is subdivided into four sub-parts namely the pedagogical philosophy, level, strategies and the instructional design. It is worth noting that each component is interrelated and is equally important and also influences the balance between the pedagogical and the technological settings.

The pedagogical philosophy justifies the application in terms of knowledge, skills and competence, the purposes of talking books and the constructivism approach to the design of educational interventions. As a matter of fact, attention should be drawn to the enacted philosophy of such an innovative educational tool as unexplored pedagogical philosophical divergences can lead to ineffective and inefficient results. Therefore, sound educational rationale should be made at this level.

The pedagogical level is another crucial element concerned with the instantiation of the pedagogical philosophy in relation to the creation and design of talking books. It was based on the pupils' profile and learning styles.

The pedagogical strategies are directly concerned with actions. Hence, it can be defined as a way of translating the pedagogical level into pedagogical strategies. It concerns the pre-primary teachers having a wide array of mental scenarios of the strategies they are going to use in order to actively engage and motivate their pupils. The focus is on the children's everyday activities as this is critical to the proper development of both the emotional and cognitive domains. Hence, the major reason for writing contextualised short stories was that the contexts in which literacy takes place are central to the socio-cultural perspective.

The instructional design is primarily centered towards the pedagogical content and the multimedia components used in the creation of talking books.

### **The Technological Framework**

This is subdivided into four elements namely, the production tools, communication, media tools, the usability and the instructional design.

#### ***Technological Tools – Production, Communication, Media***

The tools for this research refer to the appropriate technologies used in teaching and learning for production, communication and delivery of the talking books. Microsoft PowerPoint was used for the production of the talking books. The Moodle e-learning platform was used because it is open source software and it is guided by the social-constructivism pedagogy. In the first instance, an exclusive focus was placed on the social component by creating a discussion forum which was used to build community of practice among the pre-primary teachers of Mauritius. In this way, pre-primary teachers were aware of the potential and scope of the pedagogical usages of IT. Different media were used as they are powerful means of communication. Talking books activated awareness of words through sounds which is essential for the development of the phonological awareness since being phonological aware means being able to reflect on the sound structure of words. The graphics used contributed in construction of meanings.

#### ***Instructional Design***

The instructional design in the technological settings referred to the planning, organisation, slide layout and design of template used for mounting pedagogical content. This resulted in creating a user friendly environment and an intuitive interface to facilitate learning by the young children.

#### ***Usability***

The usability aspects were applied mainly to (1) nature of the content (2) structure of the content (3) navigation and (4) the interface and presentation. The usability aspects take into account both the pedagogical and the technological components.

#### **Children involvement**

The best people in engaging in role play reading was surely the pupils since involving them were an intrinsic motivating factor which triggers the curiosity of children and engaged them in learning by exploring. This in turn built on what the children already knew and also developed a sense of ownership.

Involving children was a means to reinforce and extend their experience as well as encouraging reading and writing.

Talking books actively engaged the children in the listening process allowing them to prepare and analyse the syllables both unconsciously and consciously. Besides, through rhyming activities and questioning conscious knowledge of phonemic awareness was fostered. The rhymes and songs allowed the children to develop their psychomotor skills as they were engaged in physical activities.

### **Interdisciplinary approach**

It was observed that there was a high level of participation and willingness to learn from the teachers and pupils. Talking books created interdisciplinary teaching and learning opportunities.

### **Social networking and research into practice**

Added to this, the networking among the teachers fostered a culture of sharing such that the knowledge and skills were effectively transferred among them. Besides, it reduced duplication of work, for instance, the talking book prepared by a teacher were reused by other teachers. This autonomy in community of practice empowered the pre-primary teachers in peer-learning resulting in critical reflection on their own practice.

### **Recommendations**

Continuing studies relating post-testing should be envisaged on a larger scale to introduce talking books in all the pre-primary in Mauritius. All pre-primary teachers should be encouraged to follow the Internet and Computing Core Certification course (IC3). Alongside, inter-regional exchange programmes should be organised to link the emerging network of pre-primary school based 'talking book' with other networks of teachers and schools in the African region. Norms and regulations should be revised so that all children enjoy the same privilege at schools. Appropriate funding should be allocated to pre-primary public schools for them to invest in the necessary infrastructure. School management and good pedagogical leadership should be reinforced.

### **Conclusion**

No doubt, this small-scale study reflects the significance of talking books in the development of emotional, cognitive and along with different domains. Similarly, it has promoted phonological awareness and literacy skills in young children. Talking books based on real-life situations have stimulated the beginnings of intellectual curiosity concerning the environment and helped the children understand the world in which they live. Social networking can be expanded to national and even regional level in order to contribute to the betterment of humanity thus providing those at the bottom of the social ladder with the opportunities to break free from the pervasive and troubling effects of poverty.

The MIE, being the sole educational institutional in Mauritius offering courses and providing appropriate training for pre-primary teachers, will certainly become a new regional driver in terms of providing education and appropriate practices in a new and innovative way.

However, one emerging reality is that the major challenge is to change the mindset and motivate some of the pre-primary teachers to make them understand that technology tools is an extension of and not a substitute for traditional literacy instruction in the classroom.

### **Future work**

The next step would be the translation of the talking books into French and Hindi and expanding the research to pre-primary public schools so that equal and quality education is provided to all. Since this research has motivated some teachers to acknowledge the relevance of IT as an educational tool and the essence of social interactions, introducing them to WikiEducator is also considered. They can further network and share their enriching experiences. Besides, they can publish their short stories which can be accessed by millions of users to be re-contextualise accordingly. Similarly, MIE and the neighbouring countries can engage their efforts towards re-orient existing pedagogical methods.

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