

# Quality teaching and learning in the Master of Arts in Teacher Education (MATE – International) program at the Open University of Sri Lanka

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*This paper describes the use of scenario-based learning for improving the quality of teaching and learning in the Master of Arts in Teacher Education (MATE – International) Program by distance education at the Open University of Sri Lanka. This program comprises six subjects and a capstone portfolio project. Courses in the program are developed around authentic learning scenarios, which situate student-learning activities. These learning scenarios have been developed to reflect the kinds of situations that students in the program are likely to confront as teacher educators. They appear in the form of stories in which students assume key roles. Each story presents students with challenges of various sorts, where each challenge relates to and builds upon the one preceding it. The challenges in the scenario focus students' attention on critical reflection and problem solving in order to promote a learner-centred focus and meaningful learning.*

## Indicators of quality teaching and learning

There are several indicators of high quality teaching and learning. These include low teacher–student ratios, adequate teaching and learning resources, and, more importantly, appropriate pedagogical design of the educational transaction (Naidu, 2004). Pedagogical design refers to the orchestration of the learning and teaching activities including the type and level of student–teacher engagement with the subject matter and content. In the presence of suitable pedagogical design, learners find their assigned learning activities relevant, motivating and meaningful. Similarly teachers in such learning environments find their role and task inspiring, challenging and rewarding.

## Ensuring high quality in pedagogical design

There are several ways of ensuring a high quality of pedagogical design. A widely held belief is to engage the learner in the learning process (Schank, Fano, Jona & Bell, 1994). This is easier said than done, because it requires careful attention to the nature of the learning and teaching transaction and the learning activity, their relevance to the learning context as well as the intended learning outcomes, and the assessment weighting that is assigned to it.

We believe that scenario-based learning (SBL) is a technology that can help achieve these goals most efficiently and effectively. This comprises presenting learners with authentic situations (i.e., scenarios) which serve to situate and anchor learning and teaching activities (see Cognition and Technology Group at Vanderbilt, 1990).

Scenario-based learning comprises the following basic attributes:

- First, a scenario that will afford learning in the particular subject matter domain.
- Second, learning activities that will allow learners and tutors to work alongside each other in the scenario.

- Third, assessment tasks which allow learners to demonstrate competencies in the identified skills, and which enable teachers and tutors to adequately assess the achievement of the intended learning outcomes by students.

The approach to assessment of learning outcomes in SBL is closely tied to the scenario and the context within which learning and teaching is situated. It incorporates both the affordances of the learning scenario as well as the abilities brought to the situation by the student. In fact, it is the interaction of the two that constitutes 'knowledge' from a learning perspective. When learning and teaching take place in a complex, realistic and authentic context (as is the case in SBL), the measures of success must include transfer of learning and problem-solving ability (see Cognition and Technology Group at Vanderbilt, 1990).

Scenario-based learning takes the form of a storyline in which students are required to assume a key role such as being a manager, advisor or expert of some sort (see Schank & Cleary, 1995). These roles are carefully selected to reflect those that students might actually perform in real life, or might need to know about because they will very likely manage or collaborate with others who might be performing those roles. Students may work in small groups in these scenarios with the help of detailed information about the simulated context, together with project details. Supporting materials and resources are also available in the form of readings, and other forms of resource materials. Mentors are available to answer questions and point students in the right direction on a needs basis (Schank, 1990; 1997).

The scenario in this instance is the simulated context in which the student plays a major role. This scenario serves as the essential scaffold for learning and teaching, and it is the main point behind the concept of 'learning by doing' and the 'story-centred curriculum' which has been popularised by Roger Schank and his team (Schank, Fano, Jona & Bell, 1994). These researchers argue that stories have always been an integral part of human lives, that humans have always told stories and the most powerful of all stories shape the way in which we relate to our world. Furthermore, we do not forget these life-changing stories. There is good reason then to make powerful stories the centre of educational practices. These stories must involve students as well as their peers, because that is how their work situation is most likely to be.

A story-centred curriculum is goal-based, and the goals are closely aligned to those that the student has for entering school and following a curriculum in the first place (Schank, 1997). A story-centred curriculum is also activity-based. Students work through these activities to learn the critical skills they require in order to complete their mission and successfully accomplish their goals (Naidu & Oliver, 1996; Naidu, Oliver & Koronios, 1999). This is what is at the heart of the concept of 'learning-by-doing' (Schank, 1990; 1997). Learning designs such as these focus attention on improving the quality of the student learning experience. They ensure that the student learning experience is situated in authentic learning activities that reflect real life situations, that it is meaningful and therefore inherently motivating for the student.

## **Rationale and implementation of SBL**

It is arguable that learning designs that mirror scenario-based learning are suitable for all types of skill development, and for all levels and modes of education and training. This is because they are based on fundamental principles of meaningful learning which include learning by doing, problem solving within authentic and realistic settings, cases and/or problems, scaffolding of learning activities, coaching and authentic assessment tasks. Scenario-based learning is, however, especially suited for practice-based discipline areas such as teaching, accounting and commerce, legal and medical practice and the like. This is because what comprises knowledge and skill in these areas is grounded in their practice domains. Learning and teaching in these areas have to be closely aligned to practice. Critical to this is practitioner experience and using it to make sense of theories, facts, procedures and principles.

## **The MATE (International) Program**

The Master of Arts in Teacher Education International (MATE – I) program of the Open University of Sri Lanka is based on these fundamental principles of meaningful learning, and it is offered entirely in the distance mode (see Gunawardena, Menon & Naidu, 2004; Karunanayaka, Lekamge,

Gunawardena, Naidu & Menon, 2005a; Karunanayaka, Lekamge, Gunawardena, Naidu & Menon, 2005b).

Students in the program possess Bachelor's degree level qualifications, and are working as teacher educators in teachers' colleges, national colleges of education, universities, or are engaged in similar teacher development-related capacities.

The goal of the MATE – I program is to develop among teacher educators competencies and practices in relation to the following areas:

- teaching and learning strategies, including assessment of learning outcomes;
- design, development and use of educational technologies in teaching and learning;
- design, development and evaluation of curricula and curriculum related activities;
- management and leadership in teaching, learning and related educational activities;
- research and evaluation of teaching, learning and related educational activities; and
- teaching as a profession and the professional roles and responsibilities of teachers.

A critical and unique feature of this degree program is its use of authentic learning scenarios to situate students' learning and assessment activities in each subject. These learning scenarios have been developed to reflect the kinds of situations that students are likely to confront as teacher educators. These situations are used to orchestrate the learning and assessment activities in each subject. Such an approach to learning and teaching seeks to focus students' attention on *critical reflection* and *problem-solving* activities. It aims to promote a more learner-centred focus, which represents a major shift away from content-based approaches to learning and teaching. Courses in the program are built around authentic learning scenarios. These scenarios appear in the form of stories in which students are required to assume key roles. Each story is designed to present students with challenges of various sorts. Each challenge relates to the one before and builds upon it. Students are required to work on each one of these challenges and/tasks in order to proceed to the next one.

This story-centred approach represents a dramatic departure from traditional Master's degree curricula, which tends to be content driven. The effect of the approach is that as students work through the storyline to achieve the missions the story puts forth, they will be able to develop the critical skills and acquire the knowledge that is covered in the subject (see Gunawardena, De Zoysa & Rajendram, 2004).

## **Program structure and learning environment**

MATE – I is a three-credit program consisting of six compulsory courses (each worth one third of a credit), and a portfolio project (worth one full credit). All students in the MATE – I program receive printed materials comprising a Study Guide and a Resource Pack for all courses. Students are able to communicate with the academic staff and their tutors via email. Each Study Guide provides students with a clear idea of how they will progress through each course. A detailed study schedule for each course specifies the week-to-week learning activities students are expected to complete in order to achieve the final goal. All assessment requirements are detailed in this Study Guide. Readings and other core study material compiled in the Resource Pack are designed to support students in carrying out the specific learning and assessment activities in the learning scenario. Contact sessions with lecturers and local tutors provide further opportunities for closer interaction.

An example of a typical learning scenario from the MATE – I program is presented in the following section of this paper. It is drawn from the course ESP2243: The Teacher Educator as a Professional. The complete learning scenario consists of five parts. However, due to the word limit of this paper, an abbreviated version is reproduced here. In order to enable the reader to gain an understanding of the omitted parts, the learning activities and the assignments for these parts are retained. The complete version of this learning scenario is available in the Study Guide of the course ESP2243 – The Teacher Educator as a Professional (see Gunawardena, De Zoysa & Rajendram, 2004).

This learning scenario is called 'Amunugama Vidyalaya' which is the name of a fictitious provincial school in Sri Lanka. The learning scenario captures the story of the trials and tribulations of teachers in such a school situation by focusing attention on typical incidents in the school. These contrived incidents are carefully crafted to provide an authentic context for the development of competencies related to the professional development of teacher educators.

## An example of a learning scenario: 'Amunugama Vidyalaya'

(Source: ESP2243 Study Guide, The Teacher Educator as a Professional, Gunawardena, De Zoysa & Rajendram, 2004, pp.4–14).

### Part 1: Learning scenario

Amunugama Vidyalaya is a Maha Vidyalaya situated in a provincial capital. The students of the school are drawn mainly from middle and lower socio-economic backgrounds.

All three classes of Grade 8 are in a long hall, where classes are not partitioned. A tall wooden cupboard separates Grade 8A from Grade 8B, but there is no such partition between Grade 8B and Grade 8C.

Grade 8C is considered a particularly 'difficult' class. Only a few 'scholars' are put into this class. As there is no public examination until the end of Grade 11 (after the Grade 5 Scholarship Examination), students tend to relax a little, being relieved of 'examination stress'. The majority of pupils in Grade 8C are 13-year-olds who are at the onset of their adolescence.

Pupils' desks are arranged in rows facing the teacher's table. There is a narrow corridor in the middle separating the girls' and boys' areas. Between the rows on each side, there is very little space and pupils have to squeeze in and out when getting in and out of the rows.

The time is 10.30 am on Thursday June 5. The tea recess has just finished. The pupils of Grade 8C who were at the canteen or playing in the school compound start to troop in at the sound of the bell. Within five minutes, the majority of students are seated at their desks but the few remaining also return slowly, in camaraderie, especially the boys, their arms on each other's shoulders.

In the two classes on either side of Class 8C, the teachers have already entered the classrooms. One is a tall male, about 40 years old. The other is a middle-aged female wearing spectacles and looking stern. The male teacher from Class 8B – before he starts to teach his own class – walks towards Class 8C, twirling the cane in his hand, and warns the pupils not to disturb his class. His admonishment has some effect on the pupils of Class 8C and for a very short time they become quiet.

The subject in the timetable is Social Studies. The young woman teacher came at 10.35 am, five minutes after the bell had rung. She seemed unaware that the pupils in her class were noisy and could have disturbed the adjoining classes. Ms Silva brought only her handbag to the classroom and said, 'Good Morning' to the pupils. She borrowed a textbook from a child in the first row and asked the children to turn to the page at which the lesson started. The only teaching aid in the class was the blackboard. She had not brought in a lesson plan.

Before Ms Silva could start teaching, three boys at the back of the class became boisterous: 'Miss, Sameera is eating some wadai in class and he is throwing pieces at me.' 'Miss, he (Shantha) was the person who grabbed what I was eating.' The teacher says, 'Can't you be quiet, children? Why didn't you eat during the interval? Let us start the lesson.'

It was a mild warning, both in tone and volume. Ms Silva showed that she would have preferred not to face such tension. However, before she could do so, a piece of paper shaped into a 'rocket' flew up and fell in front of her. On the other side of the class, two or three girls were whispering among themselves while following the boys' actions smilingly. Ms Silva wrote the topic of the lesson on the blackboard and started reading the book.

Occasionally, she took her eyes off the book to explain in her own words the meaning of the sentences. Very rarely, however, did she focus attention on the class. Almost half the pupils kept looking at their books. All this time in one corner of the class, in the back row, a thin pale looking girl had her head down on the desk. Even the Social Studies textbook given free to all pupils was not to be seen on her desk. The teacher failed to notice her.

The children seated in the first row seemed attentive and following the lesson. The teacher stopped reading to ask a question. The question was posed to the whole class without focusing on any particular pupil. Pupils in the first row, mainly girls, put

their hands up, shouting, 'Miss, Miss.' The teacher pointed at one pupil, Leela, and gave her the chance to answer. Student–teacher interaction was restricted to the children in the first row and the teacher only. Tania, a studious girl, interfered and asked Ms Silva, 'Miss, the lesson says countries near the North Pole have some months which have continuous daylight and other months which have continuous darkness. Why does that happen?'

'Tania, read and learn what is in the book. If you can remember how the length of days change during different seasons in these countries that is enough. You don't need to know why.'

Tania looked disappointed but asked no further questions. Ten minutes before the period ended, the teacher decided to set a written test so that the school-based assessment could be done. She wrote three questions on the blackboard. One or two pupils finished answering and the books were passed to students in the back row. Ms Silva's expression did not show whether she was aware of the copying that went on in the class or not.

After five minutes, the pupils were asked to exchange their exercise books and mark the answers. The teacher read out the answers. No attempt was made to find out whether all pupils had answered the questions or to indicate how the pupils had performed in the test or to diagnose the errors made in answering the questions. The fact that the pupil in the corner still had her head on the desk and that Sameera was making faces and teasing the girls was undetected by the teacher. All this time the teacher in the adjoining class was casting angry glances at the pupils in the back row of Class 8C annoyed by his own class being disturbed. Finally, in exasperation he started to walk towards Class 8C.

As a teacher educator who visits Amunugama Vidyalaya for the supervision of his student teachers, you are requested by the School Development Society to develop a school-based action project designed to solve the emerging problems in the school by enhancing the quality of the teachers and empowering them to work as change agents.

Work through the following tasks and systematically develop components that can be incorporated in the action project.

### **Learning activities**

- Analyse the given learning scenario – Part 1 and identify the specific teacher-related causes leading to the problem in the classroom.
- Identify the attributes and competencies that the teachers should possess.
- Observe three of your student teachers and identify the gaps in their attributes and competencies and also desirable competencies as suggested in your Essential Readings 1 and 2, and Additional Readings 1–4. You can use the Classroom Observation Schedule (Resource Document 1) used by our Faculty of Education (OUSL) with modifications if necessary. Justify why you did or did not modify the schedule.
- Identify the strategies you would recommend to be used to overcome the gaps in teacher attributes and competencies.

### **Assignment 1**

Propose strategies (giving a brief rationale) that can be used to develop desirable attributes and competencies in teachers of Amunugama Vidyalaya.

### **Part 2: Learning scenario continued ...**

Since the new principal assumed duties, no seminars or guest lectures had been organized in the school. The majority of the teachers are members of teacher unions but have not participated in any professional meetings or seminars organized by these unions. Teachers complain that although they pay an annual membership fee, they do not get any benefits in return. They are not members of the Sri Lanka Association for the Advancement of Education nor had they even heard about it. Younger teachers like Ms Silva, who joined teaching recently, feel a lack of confidence in going before a class even though they have undergone a short period of internship at the College of Education. Others would like to get promotions as

sectional heads or deputy principals but bemoan the fact that they are not aware of any training programs to improve their knowledge and skills. A few are depressed that they are powerless to change the status quo in the school or where decision-making is concerned. In the staffroom there is a lot of concern about the lack of opportunities for their professional development.

### **Learning activities**

- Administer Resource Document 2 to identify the professional needs of teachers in a selected school and the problems faced by them in order to fulfil these needs.
- Read Essential Reading 3 and describe the role professional bodies can play in fulfilling the above needs.
- Read Additional Reading 5 and develop an action plan to provide opportunities to fulfil the professional needs of teachers of the school you selected.

### **Assignment 2**

Develop an action plan (with an accompanying rationale) to fulfil the professional needs of teachers of the selected school including interventions from professional bodies.

## **Part 3: Learning scenario continued ...**

### **Learning activities**

- Examine the extent to which the socio-economic and political factors have led to problems in the setting of the school you selected.
- List the factors and state the challenges against each factor.
- Read Essential Reading 4 and Additional Readings 6 & 7.
- Develop a strategy stating a rationale to manage challenges arising from the societal context detailing:
  - Role of the principal and teachers.
  - Role of the School Development Society (SDS).
  - Role of the community.

### **Assignment 3**

Propose an action plan giving a rationale to enable the authorities of the school you selected to manage the challenges arising from its societal context.

## **Part 4: Learning scenario continued ...**

### **Learning activities**

- Study the learning scenario – Part 4 and read the Essential Readings 5 & 6 and Additional Reading 8.
- Identify the causes of early dropout referred to in the scenario.
- What additional causes have been identified in the Additional Reading 8 for early dropout?
- What are the actions recommended in Essential Reading 5 to avert early dropout?
- Critically evaluate the above recommendations and propose actions that are feasible to be taken to facilitate the implementation of compulsory education regulations in the school you selected.

### **Assignment 4**

Critically evaluate the recommendations in the Compulsory Education Regulations (Sri Lanka) and propose actions that are feasible to be taken to facilitate the implementation of compulsory education regulations in the school you selected.

## **Part 5: Learning Scenario continued ...**

At a staff meeting held last week, one of the senior teachers raised the issues emerging from a cycle of illiteracy, unemployment and impoverishment in certain pockets of the community. He explained that these conditions were affecting the

quality of learning received by the students and the support that the school gets from the community. He referred in particular, to the issue of early dropout, which Mrs. Lokuge had discussed with him a few days ago. He inquired whether the school has any responsibility to work with the community to improve the quality of life of the people. He felt that the role of the school was not restricted to imparting education, but that the school should be looked upon as a nucleus of change for improvement of the conditions in the total school community.

### **Learning activities**

- Read the entire learning scenario, focus especially on Part 5, and identify the different roles that teachers are expected to perform today and discuss their implications for the professional development of teachers.
- Interview five community leaders (e.g., village priests, village headman, youth leaders, head of the local government institution and leaders of selected welfare organisations) and identify the major problems faced by the community.
- Read Essential Reading 7 and Additional Readings 9, 10 and 11.

### **Assignment 5**

Develop an action plan giving a brief accompanying rationale, indicating mechanisms for preparing teachers for multiple roles and especially as a change agent in the immediate community of the school you selected and in light of the challenges faced by the community.

## **Summary comments**

This paper set out to demonstrate how the quality of learning and teaching in distance education settings (and in teaching and learning more generally), can be improved with a focus on pedagogical design. It set out to discuss and promote the use of scenario-based learning and teaching as a way of ensuring high quality in pedagogical design. It suggests that scenario-based learning can be used for teaching in any kind of subject matter, at any level of education and training and via any delivery mode. It also suggests that scenario-based learning has particular advantages for practice-based discipline areas where the experience of practitioners is especially relevant to what constitutes knowledge and understanding in the field. The paper illustrates in some detail how scenario-based learning has been applied to teacher education in the MATE – I program at the Open University of Sri Lanka.

While scenario-based learning promises to offer students and teachers a highly interactive and engaging learning and teaching environment, this high level of interactivity and engagement that is imperative in such educational settings could potentially put unsustainable strains on both the teaching staff and students, especially in less resourced contexts. Teachers, for instance, could find the level of engagement that is required very time-consuming, especially when they are carrying a heavy teaching workload. Distance education students who are able to find time to study usually on weekends and at night could find the high level of interactivity and the continuous assessment activities too demanding and inconvenient. For further discussion of the implications of scenario-based learning for learning and teaching see Karunanayaka, Gunawardena, Naidu, Lekamge & Menon (2005).

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## **References**

Cognition and Technology Group at Vanderbilt (1990, August-September). Anchored instruction and its relationship to situated cognition. *Educational Researcher*, 19 (6), 2-10.

- Gunawardena, C., De Zoysa, S., & Rajendram, T. (2004). *ESP 2243 study guide – The teacher educator as a professional*, Department of Education, The Faculty of Education, The Open University of Sri Lanka, Nawala, Nugegoda, Sri Lanka.
- Gunawardena, C., Menon, M. & Naidu, S. (2004). *The making of a teacher educator*. Paper presented at the 3rd Pan-Commonwealth Forum, 4-9 June, Dunedin, New Zealand.
- Karunanayaka, S., Gunawardena, C., Naidu, S., Lekamge, D. & Menon, M. (2005). *Questioning best practices with an innovative pedagogical design for professional development of teacher educators*. Paper submitted for presentation at the 33rd annual conference of the Australian and New Zealand Comparative and International Education Society, 2-4 December 2005, NSW, Australia.
- Karunanayaka, S., Lekamge, D., Gunawardena, C., Naidu, S., & Menon, M. (2005a). MATE (international) program: A novel approach to developing global partnerships in teacher education. Paper presented at the Asian Roundtable on Open and Distance Learning for attainment of Millennium Development Goals. Sponsored by the Commonwealth of Learning and the Open University of Sri Lanka, 20-22 May, Colombo, Sri Lanka.
- Karunanayaka, S., Lekamge, D., Gunawardena, C., Naidu, S., & Menon, M. (2005b). Professional development of teacher educators with collaborative learning designs and networking in the OUSL – MATE (International) program. Paper accepted for presentation at the International Council of Distance Education Conference, 19-23 November, IGNOU, New Delhi, India.
- Naidu, S. (2004). *Learning design as an indicator of quality in teacher education*. Paper presented at the NAAC-COL Roundtable on Innovations in Teacher Education, Bangalore, India, 2004. In K. Rama & M. Menon (Eds.), *Innovations in teacher education : International practices for quality assurance*, (65-76) Bangalore: NAAC.
- Naidu, S. & Oliver, M. (1996). Computer-supported collaborative problem-based learning (CSC-PBL): An instructional design architecture for virtual learning in nursing education. *Journal of Distance Education*, XI (2), 1-22.
- Naidu, S., Oliver, M. & Koronios (1999). Approaching clinical decision-making in nursing practice with interactive multimedia and case-based reasoning. *The Interactive Multimedia Electronic Journal of Computer Enhanced Learning [Online]*. Retrieved from <http://imej.wfu.edu/>
- Schank, R. (1997). *Virtual learning: A revolutionary approach to building a highly skilled workforce*. New York: McGraw-Hill.
- Schank, R.C. (1990). *Tell me a story*. Evanston, Illinois: Northwestern University Press.
- Schank, R.C., & Cleary, C. (1995). *Engines for education*. Hillsdale, New Jersey: Lawrence Erlbaum Associates. <[http://www.ils.nwu.edu/~e\\_for\\_e/](http://www.ils.nwu.edu/~e_for_e/)> Engines for Education ('hyper-book').
- Schank, R.C., Fano, A., Jona, M. & Bell, B. (1994). The design of goal-based scenarios. *The Journal of the Learning Sciences*, 3 (4), 305-345.

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