

## LEVEL 6 ASSESSMENT SPECIFICATION

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                 |                                           |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------|
| <b>Student name:</b>                 | ASHRAF SHEHATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Student ID number:</b>                                       | D 138575                                  |
| <b>Programme:</b>                    | Professional Graduate Certificate in Education (PGCE) (PCET)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                 |                                           |
| <b>Module:</b>                       | Principles of Teaching, Learning and Emergent Technologies (PTLET)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                 |                                           |
| <b>Module code:</b>                  | M6X02268 / PCET6001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Contribution to Overall Module Assessment (%):</b>           | 100%                                      |
| <b>Lecturer:</b>                     | Caroline Usei                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Internal Verifier:</b>                                       | Mark Flagg                                |
| <b>Assignment Title:</b>             | Micro-Teach 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Word count (or equivalent):</b>                              | 5,000 words                               |
| <b>Submission deadline:</b>          | INSERT DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Return date of provisional marks &amp; written feedback:</b> | INSERT DATE<br>(within 20 term-time days) |
| <b>Submission method:</b>            | <p>All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. <b>(Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.)</b></p> <p><b>Late submission of the assessment will result in a late penalty mark.</b></p> <p>Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.</p> |                                                                 |                                           |
| <b>Academic honesty referencing:</b> | <p>Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.</p>                                                                                                                                                                                                                                               |                                                                 |                                           |

### Module Learning Outcomes (from module syllabus)

1. Design and plan sessions which include relevant learning objectives, a variety of teaching and learning strategies, suitable assessment methods and appropriate new technologies;
2. Deliver and assess a blended learning micro-teaching session, using effective digital materials;
3. Reflect on and critically evaluate the micro-teaching session, including analysis as to how new technologies can aid in the planning and delivery of teaching and assessment and improve the learning experience;
4. Critically review current literature related to the traditional and digital teaching and learning strategies used.

## TASK DESCRIPTION

PGCE/PCE in Post Compulsory Education and Training (PCET)

Modules: Principles of Teaching, Learning and Emergent Technologies

Micro-teaching Presentation by Ashraf Shehata

## Ancient Egypt

- Pyramids of Giza (*How do you think the pyramids were built?*)
- Ancient Egyptian multiplication
- Egyptian hieroglyphs

### **Pyramids of Giza (*How do you think the pyramids were built?*)**

In this article, John McCauley uses his experience as an Architect and Construction Manager to critically analyse the construction scheme for building the Khufu pyramid and the popular theory of the use of an internal ramp. There has been an innumerable quantity of books written about the construction of the pyramids at Giza, Egypt. So too have there been any number of different theories on how the construction of these pyramids was accomplished, with each new or expanded theory accompanied by a description stating that it was the “definitive” solution, or “the puzzle finally solved”, etc. Of late, a few authors have focused on the “internal ramp solution” as being the most plausible explanation on how the ancient Egyptians built the Great Pyramid. Indeed, some Archaeologists have also acclaimed this “internal ramp solution” as a creative explanation for this ages-old construction mystery. Most Archaeologists, however, lack the technical training or understanding of the nature of structural forces to make a qualified endorsement of this proposed solution. Let me first state that this “internal ramp solution” represents a complete lack of understanding on how gravity affects structures and why this theory bears no serious thought in the academic world. Before I get into an analysis of why “internal ramps” do not work, let me state very clearly that I honestly do not know exactly how the Great Pyramid was built, but I think there are clues that may lead to a reasonable explanation in the future.

This pyramid appears to be the final evolution of pyramid building that evolved from the mud brick masalas which were supposedly the resting place of important dignitaries. The Great Pyramid has only one cartouche above the King’s chamber that purports to indicate that it is the burial chamber of Khufu (Cheops). This pyramid was covered with smooth white casing stones that partially collapsed after a severe earthquake and were later used as a “quarry” to

construct some buildings in Cairo, notably the Mosque and Madrassa of Sultan Hassan (completed in 1359). Some of these stones contained hieroglyphics. The Greek historian Herodotus claims to have seen the Great Pyramid before the casing stones were removed.

If some of the casing stones did contain hieroglyphics and if these stones were scattered around Lower Egypt, finding them and deciphering them could lead to some further understanding as to the construction of the pyramid. As a retired Architect and Construction Manager with a strong background and interest in Archaeology, I am focused on how ancient cultures built their megalithic monuments. Since many of the very old cultures left no “construction manual” on how they built their monuments, we are forced to reverse engineer the remains of what we observe of their work. We can apply our knowledge of the ancient’s religion, tools and tool marks, hieroglyphics, myth, etc. and weigh these attributes against what we observe but ultimately it is only our best educated guess on how and why certain construction techniques were used. We can also discount certain theories, such as the application of “anti-gravity”, and the like, as being without validity or in the realm of unproven wishful thinking. In the end, we have to make a judgment that makes the most common sense given what we know about the culture and their construction expertise

## Ancient Egyptian multiplication

The ancient Egyptians used a curious way to multiply two numbers. The algorithm draws on the binary system: multiplication by 2, or just adding a number two itself, the Egyptian algorithm has an extra step where those powers have to be found explicitly.

The applet below allows for experimentation with the algorithm I'll present shortly. The two blue numbers at the top - the multiplicands - can be modified by clicking on their digits. (The digits can be treated individually or as part of a number depending on the state of the "Autonomous digits" checkbox.) The number of digits in the multiplicands changes from 1 through 4.

Write two multiplicands with some room in-between as the captions for two columns of numbers. The first column starts with 1 and the second with the second multiplicand. Below, in each column, write successively the doubles of the preceding numbers. The first column will generate the sequence of the powers of 2: 1, 2, 4, 8, ... Stop when the next power becomes greater than the first multiplicand.

|    |   |      |
|----|---|------|
| 85 | × | 18   |
| 1  |   | 18   |
| 2  |   | 36   |
| 4  |   | 72   |
| 8  |   | 144  |
| 16 |   | 288  |
| 32 |   | 576  |
| 64 |   | 1152 |

The right column is exactly the same, the left column consists of the powers of two. The red ones are important: the corresponding entries in the right column add up to the product  $85 \times 18 = 1530$ :

$$\begin{array}{r}
 85 \times 18 = 1530 \\
 \hline
 \begin{array}{r}
 1 \quad 18 \quad 18 \\
 2 \quad 36 \\
 4 \quad 72 \quad + 72 \\
 8 \quad 144 \\
 16 \quad 288 \quad + 288 \\
 32 \quad 576 \\
 64 \quad 1152 \quad + 1152 \\
 \hline
 1530
 \end{array}
 \end{array}$$

Why some powers of two come in red, while others in green? Those in red add up to the first multiplicand:

$$85 = 1 + 4 + 16 + 64,$$

which corresponds to the binary representation of 85:

$$85 = 1010101_2,$$

64 is included simply because it's the largest power below 85. Compute  $85 - 64 = 21$  and find the largest power of 2 below 21: 16. Compute  $21 - 16 = 5$  and find the largest power of 2 below 5: 4. Compute  $5 - 4 = 1$  and observe that the result, 1, is a power of 2:  $1 = 2^0$ . This is a reason to stop. The powers of two that go into 85 are 64, 16, 4, 1.

## Champlion & Egyptian Hieroglyphic Writing

Ancient Egyptian history covers a continuous period of over three thousand years. To put this in perspective – most modern countries count their histories in hundreds of years. Only modern China can come anywhere near this in terms of historical continuity. Egyptian culture declined and disappeared nearly two thousand years ago. The last vestiges of the living culture ceased to exist in AD 391 when the Byzantine Emperor Theodosius I closed all pagan temples throughout the Roman Empire.

Hieroglyphs were called, by the Egyptians, “the words of God” and unlike the simple elegance of modern writing systems, this early attempt at recording words, used several techniques to convey meaning. The picture symbols represent a combination of alphabet and syllabic sounds together with images that determine or clarify meaning and depictions of actual objects which *are the spoken word of the thing they represent*.

All writing systems probably evolved in this way, but their original forms were lost as pictures were refined to a simple abstraction making writing an efficient tool for day to day business. Indeed, the ancient Egyptian Hieratic script served this function but the Egyptians deliberately preserved Hieroglyphs, in their original forms, because they believed them a gift from the gods which possessed magical powers. So, they inscribed them on temple walls, tombs, objects, jewellery and magical papyri to impart supernatural power not for mundane day to day communication.

It was not until Napoleon's invasion of Egypt in 1798 that the wonderful artefacts of the Egyptians were seen in Europe and their ancient culture began to awaken from its long slumber. In 1799 a French captain named Pierre Bouchard discovered the Rosetta Stone which was carved with the same text in two languages, Egyptian and Greek, and three writing systems, hieroglyphic, demotic, and the Greek alphabet.



This was a tremendous piece of luck because it enabled scholars to unlock the hieroglyphic code and without the stone, we would know nothing of the ancient Egyptians, and the details of their three thousand years of history would remain a mystery.

The man who did more than any other to recover the words of the ancient Egyptians was Jean-François Champollion. He was an historian and brilliant linguist and by the age of sixteen had mastered not only Latin and Greek but six ancient Oriental languages, including Coptic, which was the late form of ancient Egyptian.

Champollion had a unique advantage over others in the task of cracking the hieroglyphic code. Because he understood Coptic he was able to translate the meanings of the ancient Egyptian words.

In the 1820s, Champollion established an entire list of Egyptian symbols with their Greek equivalents and was the first Egyptologist to realize that the symbols were not only alphabetic but syllabic, and in some cases determinative, meaning that they depicted the meaning of the word itself.

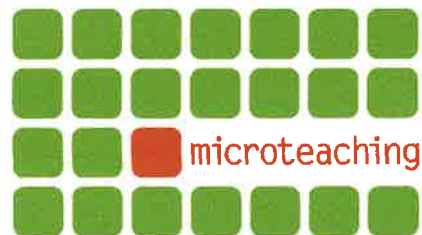


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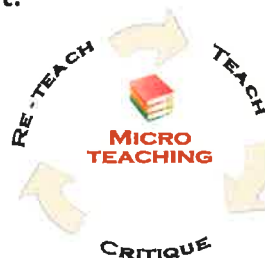
Modules : Principles of Teaching, Learning and Emergent Technologies

Lecturer : Caoline Usei

Presentation by Ashraf Shehata



- Micro-teaching is about delivering a short session, usually to your peer group if you are working towards a teaching qualification. It's the opportunity to demonstrate skills, knowledge and understanding in a non-threatening environment.



- A point to remember is that the session is not about you – it's about the learning taking place. Time will go quickly so it's best to rehearse the session in advance.

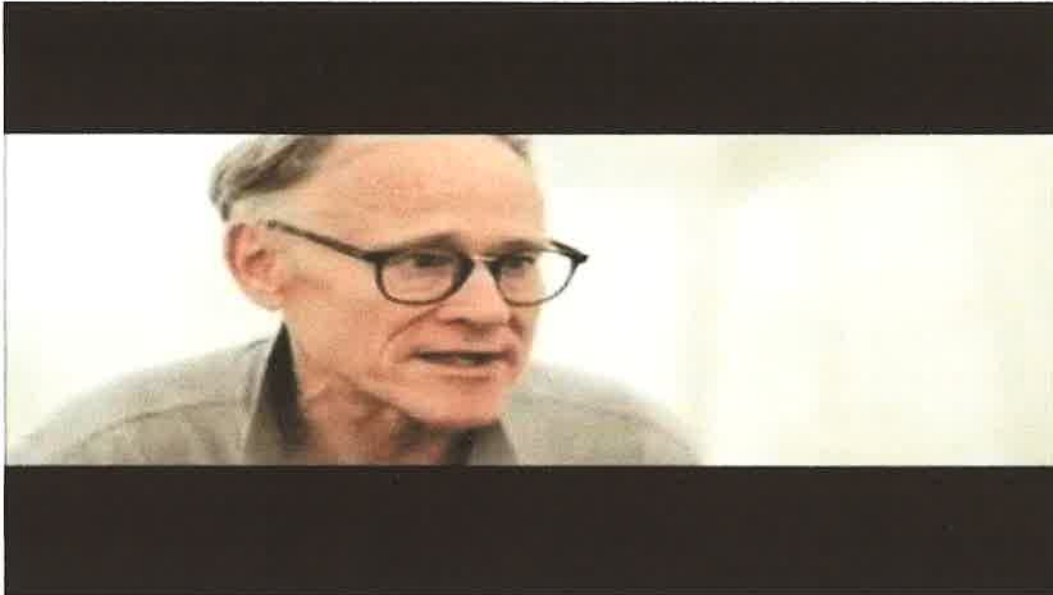
# Ancient Egypt

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Pyramids of Giza



➤ Pyramids of Giza (How do you think the pyramids were built?)



➤ Ancient Egyptian multiplication

**Ancient Egyptian Form Of Multiplication**

|                |     |                                                                    |
|----------------|-----|--------------------------------------------------------------------|
| $25 \times 32$ |     |                                                                    |
| 1              | 32  | Find a combination of numbers in the 1st column that add up to 25. |
| 2              | 64  |                                                                    |
| 4              | 128 |                                                                    |
| 8              | 256 |                                                                    |
| 16             | 512 |                                                                    |

➤ Egyptian hieroglyphs



A37  
Brewing in Vat

**THANK YOU**



## PGCE/PCE in Post Compulsory Education and Training (PCET)

### Principles of Teaching, Learning and Emergent Technologies

#### Introduction:

In my first experience of Micro-teaching in the Business School , without having any idea of how to maintain the attention of my class, I tried to maintain their interest with the only course. It was my first mistake. I talked too much, creating a power struggle. I tried to keep their attention, asking them at least twice to remain silent. What they wanted was to do their group work. It was frustrating for me to ask them to shut up, but it also made me realise that I did not have the tools to keep their attention. During my second micro-teaching, I limited my class time and I took deliberate measures to create a more attractive lesson. However, I was still talking too much. I taught quadratic word problems. I decided to tell a little story about my daughter. This has mobilised the class more than my first micro-teaching. However, the conversation I had about the logistics of the lesson pushed my time too far. At this point, I had more tools to maintain attention and create a good relationship. When I recognised that the pace was adrift, I attended to that promptly. It was only from these experiences that I really realised the need to create an experience in class where the voices of the students are heard more than mine. Although I read something about it, I did not really see the practice. Having the opportunity to experience it in the field allowed me to begin to understand how independent students can be. From these two experiences of micro-teaching, I believe that I have taken steps to become a more effective interrogator, monitor and facilitator. Although this was my goal during my first micro-teaching, at that time I was focusing more on being a teacher than on being a peer tutor. My study plans had been vague. I had planned what to say at the beginning, but he had not prepared any questions that would help the students move forward. I was always the tutor, even when working with groups. For my second micro-teaching, I gave myself a list of explicit questions I could ask the students if they became stuck. I kept a tracking sheet to select and order the groups to come forward during the discussion following group work. Keeping these matters in my pocket allowed me to make students more responsible for their own learning, but I always fell into the role of tutor. This is something that I hope to improve in my ongoing field experience. When I teach the students, I hope to work on my presence in the classroom and to reflect on how I use student work to inform my next steps. During my initial micro-teaching experience, I had no real

ability to predict how I would proceed if I could see that students had problems using the material. I just presented to them. Recognising that even the most diligent students were struggling, I accepted the students' request not to ask them to take an exam. Instead, I created a formative evaluation that would allow me to see progress, while causing as little damage as possible. I recognised that there was a rhythm problem and I was trying to get too much material into three days. I addressed this issue explicitly in my second experience in micro-teaching. For that, I planned a sequence of word building problems for two weeks. This was meant to give students a solid foundation on the material before it was tested. Although I considered my lesson plans to be healthy, at the end of this experiment, the students begged me not to have to take an exam. At this point, not having time to take an alternative strategy, I administered the test. Eight students were successful in my three classes. When evaluating the tests, I noticed that although they had been told many times, the students did not try to solve all the problems. If they had tried to answer the questions, they would have gained merit. In analysing my first experience in micro-teaching, I examined my teaching with a focus to develop what I already knew and to build on that. I realised that this was my first experience and that I would have a lot to learn.

During my second micro-teaching, I presented an honest analysis of how I responded and did not meet the needs of the students who confronted me. In examining the I realised that if I wanted to become a better teacher, I would have to be a lot more reflective in my analysis from the first microteaching to the second. Consequently, in my second analysis I cited evidence not only of what I could do better, but also what I could build on. I not only took the extensive learning we have done around metacognition and applied it to my teaching process, but I also looked back into the research and books explored throughout the first term of this program and I backed up my analysis to the real theory that would attend to the needs of students in general. I took that theory and tried to fit it to how my students learn best. When I plan lessons with a new set of students, I look forward to attending to research at the start of my planning process and identifying the key aspects of theory that apply to my classroom, I have learned that to adapt the theory to my students, rather than trying to adapt my students to the theory, will further improve on my second microteaching experience of group work. In the end, I believe that through my field experience I have learned extensively what it means to be a teacher and how teaching looks. As I continue this experience of student teaching, I hope to learn more from my students than they can comprehend. I will continue to use reality checking to ensure that my growth in these areas continues.

The complex issue of integrating technology into education assumes many forms with different purposes. These include using technology as a tool to replicate existing educational practices through digital media and providing new learning objectives to transform education.

There is an evolution of technological and political forces that will shape the structure of educational systems around the world in the coming decades that has education at its centre. Various countries are preparing students for societies based on technology and are in the process of making the necessary changes. pointed to the fact that the traditional vision of teaching and learning is challenged by new technologies, which in turn reconfigures the ways that students and teachers gain access to knowledge, potentially transforming the process of teaching and learning. ICT's (Information and Communication Technology) can help to transform isolated classes with teaching and text into interaction knowledge environments that are enriched, and student centred. In a digital age we have interactive tools that can be used in the classroom alongside the most common sets of ideas and activities. Schools today both serve and form a world where those who can learn to work creatively and collaboratively can access a great opportunity to grow. However, more and more school systems have been concerned with maintaining cohesive traditional curricula and teaching practices, linking teachers to test scores and achievement goals. Technology has expanded the area of the teaching-learning process beyond the walls of the classroom and through use of the Internet students are able to engage with a vast information bank which initiates more questions. Consequently, it is necessary that pedagogical practices are modified and sufficiently and apt to enable the students to discover answers. Teaching has always adapted to its methodological and physical situation, for example from reading to working in pairs and from translation to communication. Additionally, teachers have historically endeavoured to make the best use of whatever materials were available. Thus, the transition was made from slate to whiteboards, handwritten postcards, genuine magazine articles, radio and recordings.

The education of our children requires changes in education from simple knowledge to a continuous cycle of learning to keep pace with the absolute degree of human knowledge, globalisation and the accelerated rate of change brought about by technology. This means a total change in the teaching-learning process which is currently based on memory and mechanical learning. New dimensions to learning, opened by the digital age, are not visible in the existing conventional educational system. Learning in the 21st century is more complex

than ever and requires the acquisition of certain skills. The days of blackboards and books in the teaching-learning process are finished. Classrooms have video and audio-visual equipment. The challenge for teachers using the same skills used over centuries of analysis, synthesis and evaluation, is to consider digital literacy as an additional area in which to apply critical thinking elements.

The educational sector has, in recent years, recognised that the teacher is the key to educational change and effectiveness. In addition to providing the curriculum, they also define and interpret. It is the teacher's responsibility to cope with technology to expand the students' acquisition of "21st century skills." In the current climate of this country the voice of the innovative teacher is barely audible. It is they who can help in the understanding of the best educational practices for students. Micro-teaching as a unique source of knowledge and information, the existing authoritarian role of teachers is challenged. Teachers themselves must acquire a new way to learn and then adapt new ways to help others. It also challenges all the structural aspects of the school system as the significant change in the role of the teacher emerges. Teacher can experience the realisation that they have learned something for themselves that is of value beyond its implementation for tomorrow's lesson. Low expectations are established in University teacher training courses and in traditional professional development situations. Teachers are rarely asked what they know and what they can do, what experiences they bring, what problems they would like to face. Good teachers do so in a natural way, in a flow that can be likened to soft rain. It is their true vocation. Micro-teaching is an additional tool in the toolbox of the good teacher with which teachers provide students in the classroom with an intermediate level. Acting as guides, facilitators and consultants, they can create connections between the interests and individual understanding of their students, which will in turn enrich society with the necessary skills and knowledge. Teachers reflect by nature and use their belief systems to find solutions to problems determined by their context. Their personal theories, cognitive constructions and guiding principles determine their pedagogical decisions and technological integration. The use of micro-teaching, utilizing the extraordinary power of computers, has enabled the teacher to become more expert in their subjects whilst maintaining the solid base of the teacher's love and passion for the subject, whether it be art, poetry, geography etc. This in turn enriches the learning experience of the child. However, breaking the existing boundaries to persuade teachers to assume their new role will be difficult. Students in a traditional

## PRINCIPLES OF TEACHING, LEARNING AND EMERGENT TECHNOLOGIES

classroom are passive, listening and reacting to the direct instructions of the teacher. The UNESCO also states that children's voices and experiences do not find expression in the classroom - children will only learn in an atmosphere in which they feel valued. Schools do not always transmit this to all children. Micro-teaching has changed students learn and learning styles. The student now has several resources at his disposal. In technology and access to information in various fields, children are often ahead of their teachers. Less dependent on teachers and prescribed textbooks they build on their existing knowledge and derive their meanings. Information and Communication Technology has provided them with the freedom and flexibility that was not available before. Students have an active and thoughtful role in this digital age.

Children today have a world view that is very different to adults because the children are "digitally growing". Thanks to exceptional access to information, people and ideas through highly interactive media today's children are at a different place. The does not look at our past: he is looking for the future. They are our evolutionary future. However, the current digital age also offers the biggest problem in the teaching-learning process in. A common scenario today is a classroom full of students alphabetically educated by linear and technologically obstructed teachers of thought. The exposure of students to these technologies occurred during their formative years, whilst the teacher's exposure is much more recent. As a result, students are sometimes more capable with technology. Closing the gap is challenging. "teachers are given the tools, but not the knowledge" Teachers are learning more and more about technology in their free time. Students on the other side are confident enough to use these technological advances effectively and prefer this method traditional teaching and learning methods. Students now have the freedom to explore and discover what they want. Contemporary beliefs about learning have shifted away from models of transmission of knowledge that simply convey information towards constructive models of knowledge in which that knowledge is built. Technology supports communication and the construction of knowledge that results in new learning. In the future teachers want their students to make their own decisions allowing them to learn for themselves. The role of communication and technology in learning is to free students from the limits of their physical environment, especially where there is inadequate infrastructure and lack of resources.

Information and Communication Technology today is as essential a "vital skill" as literacy and mathematics. It provides opportunities for economic development and it is a condition of

employability. As a pedagogical management tool, it can contribute to improvements in teaching and learning, used during lessons according to context, pedagogy and activities. Teachers are required to be flexible and proficient in the use micro- teaching, thereby capturing the interests of students and enabling them to learn at a faster pace and make use of the many opportunities to explore the answers to their questions. This is not possible without changes to traditional roles and practices of teachers and students.

#### Conclusion:

The digital age is an undeniable truth in modern life and necessary if we want to live, learn and advance in the world of the 21st century. It is a potentially a liberating process that frees teachers and students from acquiring and storing information. It allows them to focus more on the creative process, creating connections and new paths that make sense for now, digital age resources now offer great opportunities in the field of education and to our schools, contributing to the provision of information, learning and research. It clearly states that teachers must be alphabet literate to use these micro- teaching resources and tools. Existing traditional practices are necessarily altered when technology is used in the classroom.

Teachers, as facilitators, lead students in the right direction. Students are free to explore, discover and investigate. Schools need resources to achieve this goal. The curriculum for teacher training will eventually be transformed into Information and Communication Technology -based programmes and exploratory didactic practices. Also, can provide new dimensions to the kind of learning that leads to self-learning and thereby improve the teaching-learning process. As constructivism emerges as the new theory, followed in practice with technology that focuses on collaboration, real-world projects and authentic evaluations, students will accept responsibility for their learning. This requires internal inspiration and support of our educational system together with the willingness of all concerned to change and learn. Teachers need to learn digital formats to be able to use these micro-teaching tools. This would require a revamping of the teacher training curriculum.