**0. GENERAL INTRODUCTION**

Teaching and learning in any curriculum require common goals, shared responsibility and accountability between teachers and learners, and supportive or enabling environments to maximize success in learning. Effective learning is learning which is lasting and capable of being put to use in new and differing situations. Learning has traditionally been conceptualized as theory based on academic frameworks where achievement is judged by the ability to recall key points, information imparted or details and sequences memorized. The leap from this to the ability to recall, act and perform to set standards of ability and expertise is the leap to a framework based on competence. We first define competency-based curriculum. How do adult learn. Then we review competency-based education and competency based teaching, attributes of competency based-teaching.

**1. COMPETENCY BASED CURRICULUM**

The effectiveness and efficiency of any educational programme is largely dependent on the philosophy of the curriculum design followed. According to Fincher (1986, cited by Choudaha, 2008) the most significant influence on college curriculum since the 1960s has been the demand for measured or assessed outcomes that would ensure the competency and proficiency of graduates. A way to conceptualise the relation between education and the world of work is through competence-based education. If specific competencies are not focused in the curriculum design philosophy, the products of the higher education may not be “work-ready” and therefore not readily accepted by the industry. Therefore, to reduce the unemployment and ‘under employment’ levels, it becomes necessary to consider ‘occupation-specific competencies’ in the curriculum designs (Sudsomboon, 2007). According to a report of U.S. Department of Education (2002) the importance of implementing competency-based initiatives in colleges and universities lies in two major reasons; ‘One main reason is that specific articulations of competencies inform and guide the basis of subsequent assessments at the course, program, and institutional levels. Secondly, specific competencies help faculty and students across campus, as well as other stakeholders such as employers and policymakers, to have a common understanding about the specific skills and knowledge those undergraduates should master as a result of their learning experiences’. Therefore demand from the stakeholders is also leading to the emphasis on competency based education (Choudaha, 2008). Competency based curriculum summarizes academic and professional profiles, defines new objectives in the learning process, enhances learning environments and shifts the concept of learning as accumulation of knowledge to learning as a permanent attitude towards knowledge acquisition (Edwards et. al, 2009).

**2. HOW DO ADULTS LEARN?**

**2.1. OVERVIEW OF LEARNING THEORIES**

Learning theories are [conceptual frameworks](https://en.wikipedia.org/wiki/Conceptual_framework) describing how information is absorbed, processed, and retained during [learning](https://en.wikipedia.org/wiki/Learning). Cognitive, emotional, and environmental influences, as well as prior experience, all play a part in how understanding, or a world view, is acquired or changed and knowledge and skills retained.

Behaviorists look at learning as an aspect of [conditioning](https://en.wikipedia.org/wiki/Operant_conditioning) and will advocate a system of rewards and targets in education. Educators who embrace [cognitive theory](https://en.wikipedia.org/wiki/Cognitivism_%28learning_theory%29) believe that the definition of learning as a change in behavior is too narrow and prefer to study the learner rather than their environment and in particular the complexities of human [memory](https://en.wikipedia.org/wiki/Memory). Those who advocate [constructivism](https://en.wikipedia.org/wiki/Constructivism_%28learning_theory%29) believe that a learner's ability to learn relies to a large extent on what he already knows and understands, and the acquisition of knowledge should be an individually tailored process of construction. [Transformative learning](https://en.wikipedia.org/wiki/Transformative_learning) theory focuses upon the often-necessary change that is required in a learner's preconceptions and world view.

**2.1.1 Educational philosophy**

**Classical theorists**

[*Plato*](https://en.wikipedia.org/wiki/Plato) *(428?-347 B.C.)* proposed the question: How does an individual learn something new when the topic is brand new to that person? This question may seem trivial; however, think of a human like a computer. The question would then become: How does a computer take in any factual information without previous programming? Plato answered his own question by stating that knowledge is present at birth and all information learned by a person is merely a recollection of something the soul has already learned previously, which is called the Theory of Recollection or [Platonic epistemology](https://en.wikipedia.org/wiki/Platonic_epistemology). This answer could be further justified by the paradox of if a person knows something, then they will not need to question it and if a person does not know something, then they will not know to question it at all Plato says that if one did not previously know something, then they cannot learn it. He describes learning as a passive process, where information and knowledge are ironed into the soul over time. However, Plato's theory elicits even more questions about knowledge: If we can only learn something when we already had the knowledge impressed onto our souls, then how did our souls gain that knowledge in the first place? Plato's theory can seem convoluted; however, his classical theory can help us understand knowledge today still.

[*John Locke*](https://en.wikipedia.org/wiki/John_Locke) *(1632-1704)* offered an answer to Plato's question as well. John Locke offered the "blank slate" theory where humans are born into the world with no innate knowledge. He recognized that something had to be present, however. This something, to John Locke, seemed to be "mental powers". Locke viewed these powers as a biological ability the baby is born with, similar to how a baby knows how to biologically function when born. So as soon as the baby enters the world, it immediately has experiences with its surroundings and all of those experiences are being transcribed to the baby's "slate". All of the experiences then eventually culminate into complex and abstract ideas. This theory can still help teachers understand their students' learning today.

**2.1.2. Transfer of learning**

Transfer of learning is the idea that what one learns in school somehow carries over to situations different from that particular time and that particular setting. Transfer was amongst the first phenomenons tested in educational psychology. Edward Lee Thorndike was a pioneer in transfer research. He found that though transfer is extremely important for learning, it is a rarely occurring phenomenon. In fact, he held an experiment where he had the subjects estimate the size of a specific shape and then he would switch the shape. He found that the prior information did not help the subjects; instead it impeded their learning.

One explanation of why transfer does not occur often can be explained in terms of surface structure and deep structure. The surface structure is the way a problem is framed. The deep structure is the steps for the solution. For example, when a math story problem changes contexts from asking how much it costs to reseed a lawn to how much it costs to varnish a table, they have different surface structures, but the steps for getting the answers are the same. However, many people are more influenced by the surface structure. In reality, the surface structure is unimportant. Nonetheless, people are concerned with it because they believe that it will give them background knowledge on how to do the problem. Consequently, this interferes with people's understanding of the deep structure of the problem. Even if somebody is trying to concentrate on the deep structure, transfer still may be unsuccessful because the deep structure is not usually very obvious. Therefore, surface structure gets in the way of people's ability to see the deep structure of the problem and transfer the knowledge they have learned to come up with a solution to a new problem.

**2.2. Adult Learning Theory**

In [***Andragogy***](http://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles) or adult learning theory, it is presumed that adults have specific learning requirements. The [***adult learning theory***](http://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles) also suggests that the best learning environments are the ones that are collaborative and utilize a problem-based approach. It is important to note that not every student is in the adult learner stage. With this in mind, it is encouraged that students be made aware of the traits of adult learners, and aspire to gain a few of these characteristics.

**2.2.1. Six Main Characteristics of Adult Learners**

There are 6 main characteristics of adult learners according to [*Malcolm Knowles*](http://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles) (1980, 1984) who was one of the pioneers in this field.

1. **Adult learning is self-directed/autonomous**

Adult learners are actively involved in the learning process such that they make choices relevant to their learning objectives. As such, adult learners also direct their learning goals with the guidance of their mentors. As an educator, it is important to facilitate the process of goal-setting. Students need to be given the freedom to assume responsibility for their own choices. When it comes to workload, they also need to be proactive in making decisions and in contributing to the process.

1. **Adult learning utilizes knowledge & life experiences**

Under this approach educators encourage learners to connect their past experiences with their current knowledge-base and activities. Learners are taught ways to bring to their current placement past knowledge, opinions, and experiences. Educators need to be well-versed in how to help students in drawing out relevant past knowledge and experiences. In addition, educators must know how to relate the sum of learners’ experiences to the current learning experiences.

1. **Adult learning is goal-oriented**

The motivation to learn is increased when the relevance of the “lesson” through real-life situations is clear, particularly in relation to the specific concerns of the learner. The need to acquire relevant and adequate knowledge is of high importance. With this in mind, adult learning is characterized as goal-oriented and intended learning outcomes should be clearly identified. Once the learning goals have been identified, it is now imminent to align the learning activities such that these objectives are fulfilled within a certain period of time. This approach is a great way to maximize a students’ learning experience.

1. **Adult learning is relevancy-oriented**

One of the best ways for adults to learn is by relating the assigned tasks to their own learning goals. If it is clear that the activities they are engaged into, directly contribute to achieving their personal learning objectives, then they will be inspired and motivated to engage in projects and successfully complete them.

1. **Adult learning highlights practicality**

Placement is a means of helping students to apply the theoretical concepts learned inside the classroom into real-life situations. It is very important for educators to identify appropriate ways and convert theoretical learning to practical activities! Learning is facilitated when appropriate ways of implementing theoretical knowledge in real life situations are made clear.

1. **Adult learning encourages collaboration**

Adult learners thrive in collaborative relationships with their educators. When learners are considered by their instructors as colleagues, they become more productive. When their contributions are acknowledged, then they are willing to put out their best work.

**3. WHAT IS COMPETENCY-BASED EDUCATION?**

Competences as defined by European bodies, as well as by educational experts, to consist of three interrelated ingredients:

1. A knowledge component (the understanding part),

2. A behavioural components (the overt behavioural repertoire) and

3. A value component (including values, beliefs and attitudes).

So a competent person performing a task will possess a combination of skills, knowledge, attitudes, and behaviours required for effective performance of the task or activity. A competence is defined as the holistic synthesis of these components. At another level, a competence again may be divided in three components or aspects. It is the ability of a person to show: A particular behavior in, a particular context and with, a particular quality.

**3.1. COMPETENCY-BASED TEACHING**

The attributes of competency-based teaching are listed below. These teacher characteristics and expectations contribute to learner success. They also demonstrate the shared responsibility of teachers and learners to reach the goal of competence. The most important characteristic of competency-based education is that it measures learning rather than time. Students progress by demonstrating their competence, which means they prove that they have mastered the knowledge and skills (called competencies) required for a particular course, regardless of how long it takes. While more traditional models can and often do measure competency, they are time based courses last about four months, and students may advance only after they have put in the study or application time. This is true even if they could have completed the coursework and passed the final exam in half the time. So, while most colleges and universities hold time requirements constant and let learning vary, competency-based learning allows us to hold learning constant and let time vary**.**

**3.2. Attributes of Competency-based Teaching**

• Understand how learners learn

• Match principles of learning and teaching

• Facilitate, rather than control learning

• Model humility, critical thinking, respect, competency & caring at all times

• Support acquisition of knowledge, skills & professional behaviours in all learning domains (cognitive, psychomotor, affective)

• Promote & expect learner accountability for learning

• Provide timely, specific feedback on learner progress beginning with learner self assessment

• Individualize learning experiences according to needs

**CONCLUSION**

Competency consists of three interrelated ingredients: a knowledge component (the understanding part), behavioural components (the overt behavioural repertoire) and a value component (including values, beliefs and attitudes). Teaching and learning strategies need to match to the appropriate domains of learning. Competence based learning places an emphasis on powerful or rich learning environments that enable teachers and students to engage in meaningful learning processes.

An important aspect to competency-based education is that practice-based learning requires direct supervision and multiple opportunities for the learners to demonstrate their competency in practice over a period of time. Competency objectives must include outcomes, criteria, performance standards, conditions that are tangible, measurable and relevant.

Implemented effectively, competency-based education can improve quality and consistency, reduce costs, shorten the time required to graduate, and provide true measures of student learning. It is required to: 1. Measure student learning rather than time.

2. Harness the power of technology for teaching and learning. Computer-mediated instruction gives the ability to individualize learning for each student. Because each student learns at a different pace and comes to college knowing different things, this is a fundamental requirement of competency-based education.

3. Fundamentally change the faculty role. When faculty serve as lecturers, holding scheduled classes for a prescribed number of weeks, teaching takes place at the lecturers' pace. For most students, this will be the wrong pace. Some will need to go more slowly; others are able to move faster. Competency-based learning shifts the role of the faculty from that of "a sage on the stage" to a "guide on the side." Faculty members work with students, guiding learning, answering questions, leading discussions, and helping students synthesize and apply knowledge.

4. Define competencies and develop valid, reliable assessments. The fundamental premise of competency-based education is that we define what students should know and be able to do, and they graduate when they have demonstrated their competency. This means defining competencies very clearly.

People learn at different rates and in different ways, so a handful of demonstrations or activities may be sufficient for one learner to demonstrate competence while the same level of performance of this skill with another will require much more to meet the same learning outcome. This understanding of the learner and learner needs is the primary reason why competency-based education may include direct observation of competency demonstration over time and the clear definitions and classifications of learning outcomes and objectives.

Another point to consider for example a learner with a lack of motivation to learn most often results in learners dropping out of the programme.