Revue de Traduction et Langues Volume14 Numéro 01/2015, pp. 61-67
Journal of Translation and Languages **مجلة الترجمة واللغات**
ISSN (Print): 1112-3974 **EISSN (Online): 2600-6235**

Enhancing critical thinking through ICTS in the LMD System: The case of Abdelhamid Ibn Badis University

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To cite this paper :
El Ouachdi-Mirali Ilhem, Z. (2015). Enhancing critical thinking through ICTS in the LMD System: The case of Abdelhamid Ibn Badis University. *Revue Traduction et Langues 14(1),* 61-67.

Abstract: *Starting from the assumption that learning is a mental process shaped by cognitive and metacognitive capacities and that the LMD promotes developing competency, this work unfolds the role of this newly introduced system in enhancing critical thinking. This paper highlights the way Information Communication Technologies are used in our university and exhibits their contribution in developing critical thinking. For this, we will primarily study different elements that enhance critical thinking and its social function, and then move to the role Information Communication Technologies play in its development. The final step analyses fourth semester's students' outcomes and drawbacks when dealing with this module in the department of English.*
Keywords: *critical thinking; learning; ICTs; LMD; EFL contexts, learning outcomes.*
Résumé : *Le système LMD a pour but de promouvoir un esprit critique afin de développer des compétences et des capacités de s'intégrer sur le plan social et professionnel. Dans une ère d'informatique, l'utilisation de la technologie de l'information et de la communication est inévitable. Le module technologie de l'information et de la communication est intégré dans le system LMD en Algérie. Afin de définir le rôle de la technologie de l'information et de la communication dans le développement de l'esprit critique, ce travail est divisé en trois parties. La première étape analyse les différents paramètres de l'évolution d'un esprit critique alors que le rôle de la technologie de l'information et de la communication dans son développement fait l'objet de l'étude en deuxième partie. Enfin, la troisième étape focalise sur l'introduction et le rôle de la technologie de l'information et de la communication dans le système LMD en Algérie, particulièrement dans notre département d'Anglais ou une étude des résultats de l'enseignement en question est entreprise.*
Mots clés : *pensée critique, apprentissage, TICs, contexte ALF, outcomes d'apprentissage*

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1. Introduction

Introducing the LMD system in Algeria aims at developing competency and enhancing critical thinking among learners which is the challenge of modern education. Reaching a high level of thinking entails a successful learning process. Such thinking, when being achieved, is not useful only at university but lasts forever and will influence the socialization process of learners as well as their capacities in raising issues and defining the perspectives of their future life. In an era of communication where computers are used in all the domains and are found everywhere, the 'Y' generation is very 'connected' to the web. Teachers and students communicate through 'facebook' and all research goes through internet. It becomes obvious that introducing Information Communication Technologies (ICTs) in university studies is necessary. However, what should we teach in foreign language classrooms? It seems that this module goes beyond teaching computing to our students and focuses more on how using ICTs to support learning and developing thinking.

2. Enhancing Critical Thinking

Many conceptions of critical thinking find their definitional origins in Dewey's (1910) writings. He distinguishes between all that goes through the head and mind named as 'thinking' and how we think referred to as 'reflective thinking'. It is as (DEWEY. J, 1910:1) states *"the ground or basis for a belief is deliberately sought and its adequacy to support the belief examined"*. For further clarifications, let's raise the following issue: what does the word 'whale' mean to the reader?

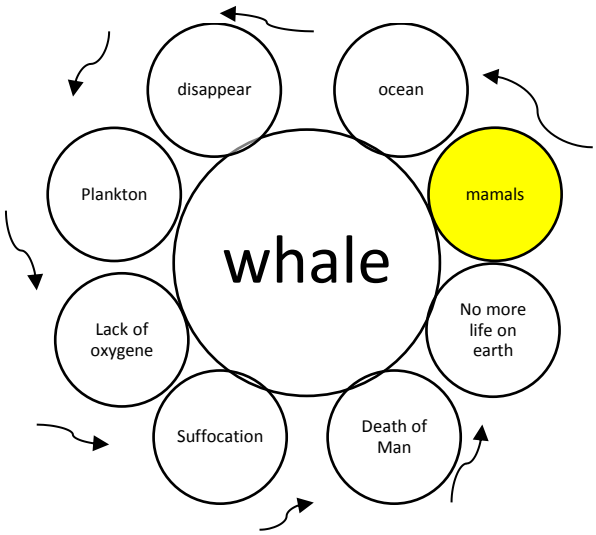


Figure1. Critical Thinking Process

The diagram above highlights the level of thinking of different individuals. Some define whales as big beautiful animals and others believe that they are determinant elements for the survival of life on earth. On the other hand, Paul (1995) views critical thinking, from a philosophical point of view and primarily approached, as the norm of thinking, the rational aspect of human thought and as the intellectual virtues needed to approach to the world in a reasonable way. The same concept is defined from a cognitive psychological approach in (STEMBERG. R, 1986: 3) as *"the mental processes, strategies,*

and representations people use to solve problems, make decisions, and learn new concepts" while (HALPEM. D, 1998:450) adds that it is "the use of those cognitive skills or strategies that increase the probability of a desirable outcome". Besides, critical thinking is identified as a purely cognitive and involves various mental capacities to process knowledge and *"seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth*". (WILLINGHAM. D, 2007: 8)

2.1 Bloom Taxonomy and Critical Thinking

Among the educationalists who introduced critical thinking in learning are Bloom et al; (1956). When elaborating Bloom's taxonomy, the focus went on three main domains: Cognitive Domain, Affective Domain and Psychomotor Domain. The taxonomy in question, classifies 'knowledge' at the bottom and 'evaluation' at the top whereas 'comprehension, application, analysis and synthesis' are the cognitive and metacognitive elements that process data as shown in the figure bellow:

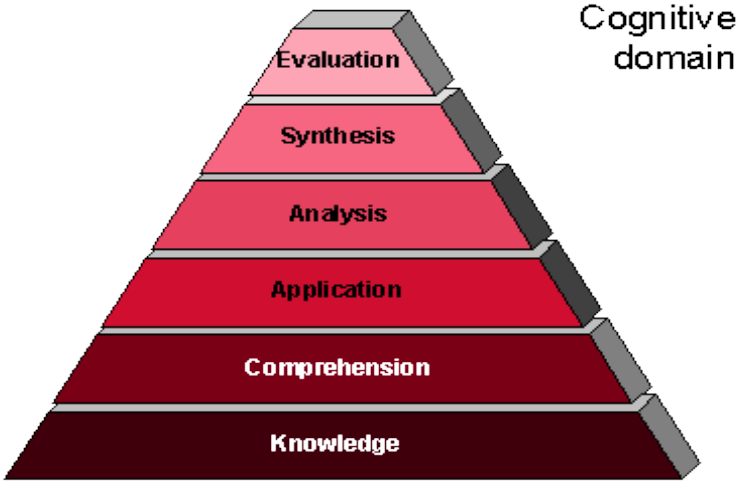


Figure 2. Anderson and Krathwohl (2001)

In the light of this classification, it is clearly noticed that data goes through various steps before the learner reaches evaluation and determines whether he has really grasped it in order to able to use it when being in another learning situation. Acquiring knowledge is a natural process that starts at a very young age. It involves many parameters like language, family and peers, socio- cultural elements… It also needs a whole mental process that allows its internalization and use in solving other experiments. All these cognitive and metacognitive processes are achieved through 'Language of Thought', as named by (Pinker. S, 1996: 70-81), for "*People do not think in English or Chinese or Apache; they think in language of thought.... probably looks a bit like all these languages; presumably it has symbols for concepts, and arrangements of symbols that correspond to who did what to whom".*

2.2 Social Function of Critical Thinking

Promoting thinking is essential for development of the whole society. According to Facion (2011: 11), Critical thinkers include:

- trust in the processes of reasoned inquiry,
- self-confidence in one's own abilities to reason,
- open-mindedness regarding divergent world views,
- flexibility in considering alternatives and opinions
- understanding of the opinions of other people,
- fair-mindedness in appraising reasoning,
- honesty in facing one's own biases, prejudices, stereotypes, or egocentric tendencies,
- prudence in suspending, making or altering judgments,
- willingness to reconsider and revise views where honest reflection suggests that change is warranted.

In fact, reaching this high level in thinking can be achieved through a successful learning process shaped by an adequate methodology, a coherent syllabus and an evaluation system that focuses on comprehension and structuring data. Among the elements that may contribute in developing such thinking is the use of Information Communication Technology at all levels of the educational system including university.

3. Information Communication Technology at University

In an era of technology, computing is part of our everyday life. It is involved in all the domains including learning. In all the developed countries using Information Communication Technology (henceforth ICT) starts at the primary school. In the light of the works of Rathore (2011), the use of ICTs in the learning teaching process is very beneficial and useful. It makes the learner more involved in the process he is undertaking rather than being an external element who only memorizes data. Rathore (2011) has summarized the phenomenon in the following points:

- It enhances learners' levels of understanding.
- It develops effective collaborative independent learners.
- It motivates learners.
- It enables students to gather data easily.
- The learner processes data easily (when using the audiovisual).
- It develops communication among learners.
- The pupil is in control of the lesson.

Teaching through ICTs involves learners in their learning process since it contextualizes lectures. Using the audiovisual concretizes learning since it provides learners with supports that facilitate comprehension and newly introduced notions are clearer.

3.1 ICTs in the LMD System

In the Algerian university, with the LMD system, in the ancient canvas, teaching ICTs was introduced in the 'Transversal' unit. What was noticed is that computing engineers were in charge of this module. The syllabus taught was more devoted for students of computing than foreign language learners. Thus, students start to complain. In the year 2013-2014 a new canvas, proposed by the ministry of higher education concerned only the first two years S1, S2, S3, S4. In the year 2015-2016, a new canvas was given by the Ministry of Higher Education to teachers who were required to determine contents of modules where no ICTs were introduced except in the fourth semester. However, in all the canvas of master in the transversal unit ICTs are introduced.

In the master we have opened, named 'Psycholinguistic Issues in English Learning' the time devoted for ICTs is two hours each week that makes 28 hours in the semester. It is taught by a teacher whose field of interest is didactics and masters the use of computers. It aims at:

- Showing how to search for the adequate bibliography in the web.
- Enabling learners to use ICTs in making research.
- Enabling learners to use computing when elaborating their memoires.
- Enabling learners to use ICTs when teaching/working.
- Using the Word and Excel programs.
- Enabling learners to prepare and use the PowerPoint

In the same master, all the other modules are taught through the power point, videos, pictures…In fact 70% of teacher of the department of English in Mostaganem use ICTs when teaching which contribute in enhancing critical thinking among learners. However, it would be better if teaching ICTs will be reintegrated in the licence and taught in an adequate way. Teachers should more focus on how to use ICTs than what is computing in short not teaching:

- The Msdos
- The binar code
- Computing

3.2 Learning ICTs' Outcomes

In Algeria, teaching ICTs in the LMD system is evaluated through an exam and a TP mark. Yet, no computers are available in our department to support learning. The second year promotion of the year 2014- 2015, is made of 231 students divided among of 14 groups. Lectures are given through TDs in small classes. What is noticed is that the syllabus focuses on teaching theory and not practice. For exams, they are given exercises of computing and the TP marks include the participation in the classroom, assiduity and presence. The outcomes of students are shown below:

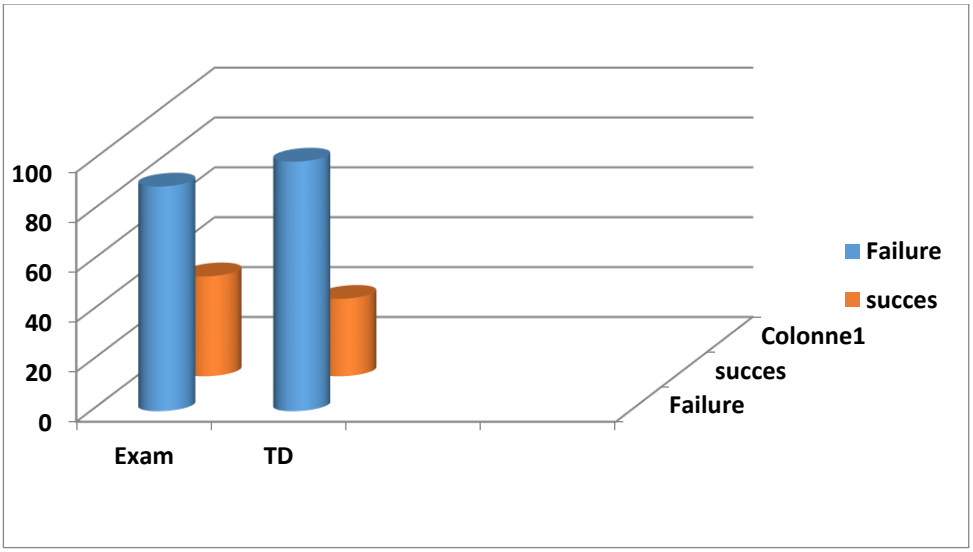


Figure 4. S4 Final ICTs Outcomes

In the light of the results above, it is clearly noticed that the rate of failure is two times higher than that of success. We wonder why such phenomenon takes place with the 'y' generation whose main means of communication is social networks and smartphones. Moreover, if we fail in teaching ICTs how can we expect them to enhance critical thinking?

4. Conclusion

The heart of any successful learning is to construct a knowledge useful not only in the classroom but in the everyday life of learners. Motivation is higher and students are more involved when using ICTs. However, the content of the module of ICTs should correspond to the needs of EFL classrooms. It should more focus on learning through ICTs and how to use ICTs in making research and not computing. Using modern technology when teaching English makes learners more active since they are learning in concrete situations and all the topics are contextualized. Moreover, it also raises debates and develops critical thinking.

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