Lifelong Learning and Ethiopian Satellite Television Instruction: Missing Links

Tewodros Gizachew*

Abstract: The major purpose of this paper was to investigate the relationship between lifelong learning and Ethiopian satellite television instruction from the theoretical and practical points of view so as to indicate the way to forward. To achieve the stated objectives, secondary data were collected from empirical and theoretical literatures. Inductive method of reasoning was employed to review the different literatures. The find revealed that Satellite TV instruction is applicable antithetically to lifelong learning. Satellite TV instruction is theoretically useful and practically the cause of students' learning difficulties in Ethiopian Secondary Schools since it is developed and use with the old educational philosophy and practices. The paper identified that satellite TV cannot sustain as a direct instructional system. But, it can be a useful instructional material that can facilitate learning. Thus, the best option is to intervene the learning orientation from the design of instructional systems (controlling learning) to a learning field vis-à-vis lifelong learning that seeks to create learning environment in which learner can explore (facilitate learning).

Introduction

The paradox between lifelong learning and Satellite Television Instruction is the central focus of this article. Of course, they are not equivalent in scope. But, it is not the scope that matter most rather the theoretical underpinning that lay behind the two themes are very important.

The justification of the argument used inductive reasoning by reviewing different literature which entails learning theories versus satellite TV instruction Vis-à-vis the concepts of lifelong learning, the source of the strengths and weaknesses of TV teaching and learning methods, different

* Lecturer, Ethiopian Civil Service College

perspectives of lifelong learning from literature; research findings in order to unfold the missing links from practical and theoretical points of view.

Lifelong Learning: An Overview

Over the past decade, lifelong learning has enjoyed a remarkable rise up in the policy agenda. The EU vision expressed in 'A memorandum on lifelong learning' culminates in a major policy statement. It stated:

> The conclusion of the Lisbon European council confirms that the move towards lifelong learning must accompany a successful transition to knowledge based economy and society: Therefore, European's education and training systems are at the heart of the coming changes(EU,2003, p. 3; cited in Nijhof,2005, p. 402).

However, the development of concrete measures, and their actual implementation has lagged behind the language and ambition of policy community (Field, 2000). Of course, a gap between policy rhetoric and policy achievement are inevitable. Lifelong learning has been no exception to this general rule (Ibid).What makes things very complex here is that most scholars are not clear with the theory and implementation of lifelong learning policy. As far as my reading and understanding are concerned, the following perspectives may have relevance to the main concern of the article, eventhough the perspective themselves are overlapping.

Lifelong is perceived as an employment strategy. According to (Nijhof,2005),lifelong learning is defined within the European employment strategy, as all purposeful learning activity, undertaken ongoing basis with the aim of improving knowledge, skills and competence.

On the other hand, Field (2000) posits that learning across the life span is portrayed as an idea and a practice that is not longer a choice but a way of survival. Lifelong learning promotes the development of knowledge and competence that will enable each citizens to adapt to knowledge-based

society and actively participate in all shapes of social and economic life, taking more control of his/her future(Candy,2000). Probably, equivalent to the old maxim which portrays “If you give somebody a fish, you feed him for one day, if you teach him how to fish; you feed him for a life time”.

Other scholars predispose to self directed learning (Cropley, 1979 in Candy: 2000). Lifelong learning is continuum of the learning process that utilizing various modes of delivery (distance, conventional) that targets continuous personal development through student centered learning. These scholars give priorities to the method of teaching and its flexibility.

However, the central role of lifelong learning had already been flagged in the European commission’s 1994 white article on competitiveness:

> Preparation for life in tomorrow’s world can be satisfied by a one and for all acquisition of knowledge and know how… all measures must therefore necessarily be based on the concept of developing, generalizing and systematizing lifelong learning(European Commission,1994, p. 16 cited in Field, 2000, p. 251).

In so far the development has enveloped in to deliverable measures; these have almost universally focused one of the two areas: interventions designed to improve the skills and flexibility of the work force; and the extension and partial reform of initial education (Ibid). I tried to look lifelong learning from the perspective of partial reform of initial education (formal education). Lifelong learning entails all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal civic, social and/or employment related perspectives (Nijhof, 2005).

From the above discussion, one can infer that lifelong learning valuing all forms of learning, such as degree course followed at university; non- formal learning, such as vocational skills acquired at the workplace; and informal learning such as intergenerational learning.

Whatever the case, formal learning should be a good foundation for non-formal learning. It is also used us a tool to upgrade our practical life experience (in formal learning) with theoretical know how.

Lifelong Learning and ICT

The most important characteristic of our present society may be the incredible speed with which things change. Yesterday's revolutionary new product has become common-place today, and would be outdated tomorrow. People constantly need to revise their skills in order to adapt to the changing circumstances.

Lifelong learning is a continuous engagement in acquiring and applying knowledge and skills in the context of valid and self-directed problems. Several critical issues arise from this apparently simple statement. First of all learning-on-demand needs to be supported because change is inevitable, complete coverage is impossible, and obsolescence is unavoidable and also skills and processes that support learning as a lifetime habit must be developed (European Commission, 2001).

ICT in Education is a generic term referring to educational technologies, which are being used for collecting, storing, editing and transferring information in various forms (Jager and Lookman, 1999). The use of ICT in education described in the literature can be summarized as ICT as 'object' (it refers to learning about ICT); ICT as 'assisting tool' (ICT is used as a tool for making assignments); ICT as a tool for 'organization and management' in schools; ICT as 'a medium for teaching and learning'. The last refers to ICT as a tool for teaching and learning by itself, the medium through which teachers can teach and learners can learn. It appears in many different forms, such as drill and practice, exercises, simulation and educational network (Pilot, 1998 cited in Jager and Lookman, 1999). Experience shows that Ethiopian satellite TV instruction is an educational network that presented the lesson in the form of exercises, simulations and practices.

The Ethiopian ICT policy document statement declares that the rapid deployment and exploitation of ICT with in education should be primarily targeted to bring about broader socio-economic impact since knowledge and socio-economic development are inseparably inter-wined in our globalize world. To ensure this optimization of the role that ICT plays in education sectors, encouraging development initiatives is very crucial (FDRE, 2002, p. 6-7).

ICT in education has revolutionized the way we work and is now set to 'transform' education (Tearle, 2003). "ICT can make lifelong learning a reality" is in a nutshell presented the North American point of view. With electronic tools, people can (theoretically) learn virtually anytime and anyplace they choose without obstacles in place, time and social status (Dinevski and Kokol, 2000).

Application of ICT in Lifelong learning is a new learning process brings up the following shifts: from instruction to construction and discovery; from teacher-centered to learner-centered education; from absorbing material to learning how to navigate and how to learn; from school to lifelong learning and from the teacher as transmitter to the teacher as facilitator (Dinevski and Kokol, 2000).

The role of ICT in education is not free from criticism (Sylwest, 1997, p. 4) in the 21st century learning initiatives argue that "the brain is a biological system currently we are putting students with biological shaped brains into machine oriented schools. The two just do not mix we bog the school down in a curriculum that is not biologically feasible."

More specifically, televised method of learning ranges from total advocacy to elimination. (Blacker, 1996) related this critics to de-skilling of teacher; antithesis of learning with hard work (Amare, 1998) and also Mander strongly oppose it on the basis of psychological evidence and concluded by saying that "television is a communication medium that effortlessly transmit huge quantities of information not thought about the time of exposure" (Mander, 1978:51, in Amare, 1998, p. 5). Television information is not

available for conscious analysis, understanding or learning. It is sleep teaching and very dangerous to society and, therefore, must be eliminated (Ibid).

In the reversed direction, McLuhan (1964) in his argument *of media hot and cold* advocated that television is "cool medium" contrary to "print" which is a "hot medium". Cool is a relative term that means having the characteristics of more students-involvement and participation in learning or information flowing in multiple senses leading to creating a more intelligent person who has the ability to deal with high level- abstractions, such as configuration and patterns.

ICT is producing a major change in both the content and the processes of learning, so that we do not have the option of ignoring it. Even in different concepts the modern information technology support is becoming the foundation of the efficient and cost-effective lifelong learning (Dinevski and Kokol, 2000).

There is practically no doubt that the foundation of lifelong learning provision is going to be the information communication technology (ibid). Advances in Information and Communication Technologies have altered and expanded the possibilities for facilitating learning in the classroom. The proper development and use of ICT provide students with skills and competencies that need to extend their learning throughout their lives in the information society of the next century (lifelong learners); breakdown of the walls of classrooms–for example, by extending the school day, changing to organization of the class, or involving other people (such as parents, scientists professionals) in the education process; improve social cohesiveness and understanding by having students interact with groups and cultures that they would not interact with otherwise (Kozma and Anderson, 2002).

Technology alone is not the solution for the ills of education. It is dangerous to assume that technology is a panacea for today's educational challenges. However, careful ICT planning must be curriculum driven. Technologies

should not be adopted for the sake of technological adoption, but to improve or enhance current methods of teaching and learning. Therefore, this article focuses on the use of ICT in the context of lifelong learning. It addresses the use of ICT for learning and not learning to use ICT. It includes only formal learning even though lifelong learning entails formal learning, non-formal and informal education and training, whether in the workplace or elsewhere in everyday life.

A review of studies carried out for the European Commission confirms broad positive benefits of ICT for learning modes such as cognitive processing, independent learning, critical thinking and teamwork and that ICT enhances a student-centered learning approach. However, while these benefits would lend themselves to new pedagogical approaches, the majority of teachers and instruction designers have not used ICT in such a way (SEC, 2008).

ICT plays a significant role in most countries in improving educational systems and reforming curricula (Kozma and Anderson, 2002:387).The implementation of ICT in the educational sector is one of Ethiopian government initiatives, which has given priority to the improvement of instruction in secondary education in its first phase. The second phase will include the primary education level and, gradually it is supposed to cover all learners in different levels of education in the country (Demissew, 2006:3).

Highlights on Ethiopian Satellite TV Instruction

According to Demessew (2006, p. 3), ICT in education has been introduced gradually in Ethiopia: starting with instructional TV (Via satellite), followed by computer based instruction and ultimately by multi-modal or all ICTs that contribute to the achievement of educational goals and targets in schools. Now the project is in the first phase of Schools-Net and Woreda-Net. The national digital network underpins two specific “Pro poor” projects, to connect schools and local government offices (Cross, 2005).

Satellite TV instruction is the first sub-phase of the School-Net project: Satellite TV, Computer based instruction, Internet virtual education network

in our country. The satellite TV screens in classrooms are of 42 diagonal inches with a rectangle of approximately 70 cm by 82cm. They are housed in metal lockable sleeves and their screen extends about half way across the black board.

The satellite TV instruction has gone operational since 2004/05 academic year throughout the country in governmental high schools. It has been so expensive to develop and deliver. Memar TV, a joint venture company in South Africa, is geared towards a higher volume educational content production for secondary schools. The company won the tender to produce 2,978 programs in the form of recorded tape for the Ethiopian Ministry of Education based on our National Secondary School Syllabus (grades 9-12). These programs will reach 6,000 Ethiopian classrooms via a digital satellite system (Evans, 2005) from Educational Mass media Agency (EMA) TV studio.

The goals of satellite TV instruction are " to promote the quality of education in all secondary schools, to provide equal opportunities to quality education regardless of a school's facilities remoteness of schools, lack of teacher and teacher qualification; it (Satellite TV) greatly alleviates our educational equity problems" (EMA, 2004, p. 3). Satellite TV covers six subjects throughout grade 9-12 in its first phase. English has 582 programs lesson; Mathematics 632; Civics and Ethical educations 392; Biology, Chemistry, and Physics have 458 programs lesson each. In every day there are 48 hour's programs broadcast with 8 channels starting from in the 2004-05 academic year (Ibid).

I feel our goals are equalitarian (the good side of it, of course) but also full of high ambition. It seems that satellite TV instruction brought everything (quality, equity, relevance, efficiency) to our secondary education (very broad).

The satellite TV instruction is delivered through three mechanisms television broadcast, classroom teacher and texts. Each lesson consists of a 30 minute televised lesson and 15 minute classroom teacher's stabilization (5 minutes before the lesson and 10 minutes after the lesson). Lessons are broadcast

twice each day, in the morning and afternoon shifts. During the televised lesson students are passive listeners in most cases (one way communication). In satellite TV instruction the televised program includes CD, one for each school. The CD contains a teacher-guide, a student's-Guide and the entire script for every program lesson in every subject in every grade. Teachers' guide of the satellite textbook contains only lesson number, objectives of the lesson and difficult concept and problem, not all concepts and contents of the lesson.

Most research findings conducted so far in Ethiopia do not favor satellite TV Instruction. The following section summarizes some of them.

Research and Experience in Ethiopia

My article was originally inspired by Gary's idea of 'helping students to get most out of satellite TV instruction', a seminar article presented by a British scholar who came to Addis for higher diploma in Kotebe Teachers' College. The study took place mainly in Wondierad general secondary and preparatory school at Kotebe, Addis Ababa. It focused on science programs (Biology, Chemistry, Physics) in grades 9 and 10.

He found that the fast pace and the English demand of the program are the main problems after observing students and teachers in selected classes and by examining students' exercise books to see if they were keeping up with the rigorous, demanding pace of the satellite TV lesson. In addition, English vocabulary comprehension test is used to try to get some feeling for the language difficulties that students encounter in satellite TV science lesson, government high schools in Bonga, Dessie, Mekele and Robe and a private secondary school (Daendii Boru) in Addis Ababa are also contributing to this vocabulary.

He tried to explore strategies for helping students to get the most out of this new educational media, such as, find ways to freeze images that appear in the broadcast lessons and developing semi- bilingual textbooks for grade 7 and 8. The article ended with a remainder remark: "It is probably early days

to make any definite statement about the effect of satellite TV on students learning; and this article provides only a tentative indication that many students are struggling" (Gary, 2005, p. 2).

Technologically, satellite TV is a major and impressive intervention in secondary education in Ethiopia. The content and approach to learning in the educational satellite television program is not a voice for innovations in Educational thinking in Ethiopia, at least not in science education ideas of child development, epistemology and relevance to society remain antiquated (Gary, 2005). In order to make satellite a new educational innovation, we should first closely examine the content/source attributions, audience attributions, and technology attributions to identify the weaknesses and strengths of satellite TV instruction. Gary is unable to consider the internal nature (technology) of satellite TV instruction when he formulated strategies to tackle its limitation.

Another recent research was conducted by EMA in Amharic language on 11 regions, 54 schools, 1865 sections, 2721 teachers, and 145, 588 students by survey method (EMA, 2005). The selection of the research participants' was based on the number of high schools and the number of students in the given region. The purpose of the research was to evaluate the merit and demerit of the satellite television instruction, and to use the result for the improvement of the program in the near future. Questionnaires, interviews and observations were used as data gathering instruments, and the data sources were students, teachers, directors, and high-ranking officials.

The study acknowledges the failure of the satellite TV instruction in Ethiopia intrinsically and rationales given had been more of technical: power failure, pacing of the program, attitude of teachers, background of students etc. I found that the research is less critical, could not mirror out the real situation but it encourages the satellite instruction irrespective of the pungent criticism the researchers should have come up with suffice to examine the statement (in the study) that reads 'The satellite program is the best one please keep it up' -the students, (EMA, 2006, p. 16).

Master's thesis research entitled 'Teaching from and Learning with electronic media: A case study on satellite TV instruction' (Ali, 2005) mainly targeted the teaching learning process and the role of teachers and students during the satellite TV instruction.

After collecting data by using purposeful sampling techniques, participant observation, in depth interview and documentary evidence were employed as data gathering instrument. Ali used a single case analysis strategy focusing on narratives, sentences, phrases and vignettes to create categories and employed reflective analysis by his own personal judgment to evaluate the case in the interpretational analysis. Probably the conclusion of his analysis that calls for further research could be summarized in the following four points:

- Satellite TV dominant Classroom interactions- Students and classroom teacher remain passive in most cases.
- Teaching as Transmission- In the scenario, teaching was considered the transmission of information falls' while learning was regarded as to receive it. The information 'falls' is not properly managed.
- Disaggregating of learning – Bits and pieces of information was simply from the source to the audience (Student). Cooperative and collaborative learning experiences were not reflected in the research site.
- The commercialization of learning – If there is no immediate intervention then technological objectives will override educational objective.

Finally, he summed up his study as:

> As new technologies are implemented to be accurately aware of the social impact of learning as well as the impact of the vested interest in order to ensure the issue of quality in terms of content and its accessibility and methodology. Although the influence of ICT on education is inevitable, it is necessary to ensure that the need and interests of learners, curricula and society at large are met though careful context analysis instead of running to homogenize what is actually heterogeneous.(Ali, 2005:102).

I assumed that the research is critical and the turning point from technical application of ICT in Education to the relationship between technology and education in Ethiopia. The administrative system and the satellite TV technology developer (my word) did not allow a room for flexibility to meet the needs and interests of teachers and students. This increases their level of dissatisfaction. This in turn can wash away their commitment and motivation to strive towards the very goal of educational technology itself, i.e. quality education (Ali, 2005). How can they give a room for flexibility vis-à-vis lifelong learning? It is not within the scope of this article, of course. But there is still a gap to carry out a research in this perspective.

Amare (1998a) in his article, a habit of learning with least effort: Television method of learning, assumed two things during a teaching-learning process: (1) the content of the subject; and (2) the method of learning. The study aims at examining television method of learning. Scattered research results have been reviewed and compiled using the inductive method of reasoning to examine the historical relationship between television method of learning and the least effort principle. The evidence indicates that the technology of television is a reflection of the application of the least-effort principle in education (i.e. due to transfer of learning, students would consequently avoid to learn materials that require high amount of invested mental effort, and seeks information that fits the requirements of television method).

By taking this fact as it is, why students cannot construct meaningful learning and experience to become lifelong learners (missing links) by using this educational technology is the essence of this article. This initiated me to investigate the sources of television weaknesses and strengths. They have been examined from three different perspectives. These are source or content attributions, audience attributions and technology or media attributions (Amare, 1998b).

Those who ascribe television's characteristics to how it is used and who uses it argued that the source, the nature and the content of the program determine the effect of television in student learning. This group of researchers could possibly be called *content or source* determinist to the effects of television. The second group of researchers deals with how the audiences (students) themselves affect their own perception of the requirement of the media that in turn affects their own method of learning (*audience determinism*). The third argument could be named as *media* or *technology determinism* that assumed technology used has more impact than the content or audience in learning (ibid).

In his article, Amare (1998a) concludes:

> I am not writing against the use of television in our schools. The process cannot hinder. Television method of learning is developed outside the schools, in video clubs, at home, in cinema halls, etc. But it remains to the Ethiopian society to note that television will continue to serve as a tool of promoting the least- effort principle in Education (p. 11).

The above extracts calls up on further research: how to design 'appropriate' type of TV instruction, in this context appropriate type of TV instruction is a type of instruction that engages students to meaningful learning and experience by analyzing the three source of the weaknesses and strengths of the television medium. At this juncture, I wish to indicate that all three perspectives are equally important in this article.

Missing Links

The creation of effective TV instruction must emerge from the distillation of theoretical “principle” with practical “know how”. This means a theoretical principle first is transformed before it can be applied (Luchins, 1971).

The satellite TV instruction in Ethiopia is a huge project that costs over 600 million birr, but it is not piloted (Cross, 2005). According to this researcher, the input of teachers, students and the public at large is ignored in the development of satellite TV instruction at the inception phase. In the contrary, lifelong learning is a typical new policy objective which requires a participation of civil societies (Field, 2000).

Instructional design is generally considered to be a systematic process that uses tenants of learning theories to plan and present instruction or instructional sequences (Burone et al, in Jonassen, 1996). Theories of learning involve diverse approaches to controlling the teaching-learning situation, and some focus on the structure of the subject matter (e.g. gestalt); others focus on the classroom organization (social–psychologists). The two learning theories that focus on learners have been the point of discussion since they are highly related to the central issue of the article.

Behaviorists’ Perspective: Quite often, the learner is characterized as a passive entity that merely reacts to environmental stimuli; the nature of learning viewed as a function of building association between stimulus and response. It focuses on the design of instructional routines (Henich.et al, 1996).

In my opinion, satellite TV instruction is an educational technology developed and used for total instructional purpose. It is the design of pre-specified instructional routines (Behaviorist perspectives) not as the design of learning activities and environments to facilitate learning (Constructivist perspective). This is probably why different scholars explain “Ethiopian satellite TV instruction has lower profiles but still operational,” (Evans, 2005,

p. 30), and “latest technology with oldest educational philosophy and practices” (Gary, 2005, p. 10).

Constructivists’ Perspective: Constructivists consider the engagement of students in meaningful experience the essence of learning (Heinch et al, 1996).The ultimate measure of learning is, therefore, based on the ability of the student to use knowledge to facilitate thinking in real life (Ibid). It gives priority to the design of activity and environment. Constructivists’ perception is simply the common denominator of all the perspectives of lifelong learning. But, satellite TV instruction is operational under the assumption of behaviorist learning theory.

In education, if an educator teaches somebody how to learn; s/he is giving arguably one of the greatest gifts namely, the ability to learn things after s/he has disappeared off the scene and indeed, the ability to shape their own destinies. This is true, if the learner has a comprehensive knowledge (conceptual competence, technical competence and ethical competence) assumed to have a vital role for the overall development of the learner in lifelong learning.

Satellite TV instruction is applicable antithetically to lifelong learning. For instance, laboratory work is crippled by satellite TV instruction; it also develops listening skills rather than speaking skills (Tewodros, 2006). Moreover, satellite TV instructions focus on the richness of the content without considering its relevance and the way of teaching the targeted audience (Tewodros, 2006; Ali, 2005). The classroom interaction is dominant by the satellite TV and students and classroom teacher remain passive in most cases. Though the aim of lifelong learning is to prepare learners to control their destiny through student centered learning (ECCR Nov, 2001).

Concluding Remarks and the way to Forward

As it was mentioned, this article gives more emphasis to theoretical underpinnings that lay behind lifelong learning and satellite TV instruction than the scope they have by assuming that formal learning should be a good foundation for non-formal learning and a means to upgrade our practical life experience(informal learning) with theoretical know how.

As far as my understanding is concerned the Ethiopia satellite TV instruction developers seem to believe learning is a stimulus response connection and acquired by brining rich content (stimulus) to the classroom. They give priority to the design of instructional system (how to control learning), Behaviorists' perspective (oldest perception). Whereas lifelong learning advocates the constructivists' perspective, which stressed learning is acquired only the engagement of students' in meaningful learning and experience. The satellite TV instruction better concentrates on learning activates and environments (facilitates learning) - latest perception.

Generally, satellite TV instruction is theoretically useful and practically the cause of students' learning difficulties in Ethiopian Secondary Schools since it is developed and use with the old educational philosophy and practices. In addition, it focuses on content attribution and not distillated by practical know how (Ali, 2005; Tewodros, 2006).

Satellite TV cannot sustain as a direct instructional system. But, it can be a useful instructional material that can facilitate learning. The best option in my point of view is to intervene the learning orientation from the design of instructional systems (controlling learning) to a learning field vis-à-vis lifelong learning that seeks to create learning environment in which learner can explore (facilitate learning).

I have suggested a pattern as a way to forward. This pattern assumed satellite TV instruction could be an important component of the teaching – learning process. But due to improper development and use of the satellite TV material students suffered a lot. The phrase 'development and use'

covers such sub process as design, application, evaluation, selection, and improvement and problem-solving (Simsek, 2005, p. 185). I want to focus on the design that needs a high philosophical and technical competency in my point of view.

All the students' difficulties that were mentioned before during satellite TV instruction can be classified into three categories (attributions): A multidimensional approach to the study of the major attribution requires the triangulation of the most independent variables: source /content attributions, audience/students attributions, and technology/ media attributions (Amare, 1998b).

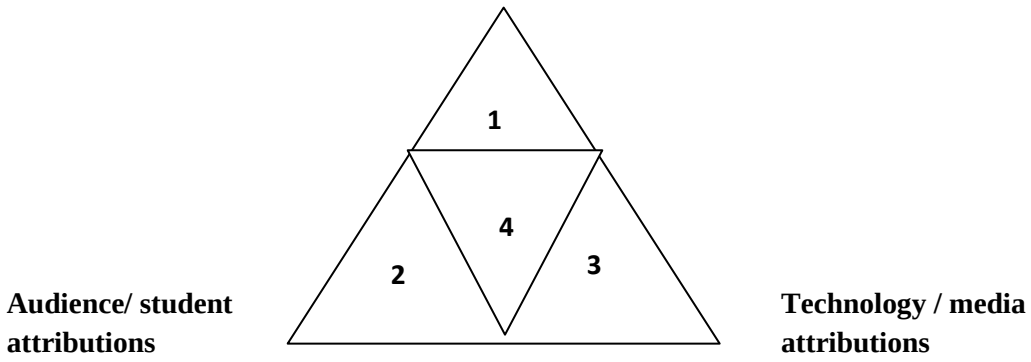

Figure 1: Pattern of strategic emphasis for a designer as adapted from Amare (1998a)

In figure 1, cell 1 focuses on source/content attribution; cell 2 and 3 stress on audience (student) attribution and technology (media) attribution respectively and cell 4 could be taken as a region of fair balance among all factors in the design of satellite TV instruction. The pattern may help the designers of the plasma instruction to conceptualize the different areas of strategic emphasis.

It is absolutely clear that no teaching-learning activity takes place without technology; media (technology) in this context is carrier of information from a source to receivers or vice verse. These carriers could be human (teachers to students) or instructional materials (plasma instruction my word) or a combination of the two; i.e. satellite TV instruction and classroom teacher (Amare, 1999).

It is possible that learning can takes place with the help of classroom teachers without the use of satellite TV instruction (teacher-centered approach). This could, however, mean limited experience to students (ibid). Students can also learn from satellite TV instruction (machine oriented) limited help from teachers. However, in the majority cases, ICT in schools (satellite TV instruction my word) has not brought about what has been desired and expected since schools have still not really integrated it into their entire academic context (Aviram, 2000). It is challenging to synchronize human interest (flexible, depends on individual differences) to machine oriented instruction (very rigid).

Theoretical and practical research findings would, however, tell us that it is most effective if we combine the two types of media (Amare, 1999). I would prefer to follow the following general guideline as a way to forward (my vision):

- Have a clear vision about the old and new educational philosophies and practices related to educational technology.
- Identify the strength and weakness of the satellite TV instruction and classify them into source/ content attributions; audience /student attributions and technology/media attributions. Equally relate them to satellite TV Instruction design (look back at cell 4 - in Fig.1).
- Try to synchronize the selected content and its instructional approach based on three perspectives: the new educational philosophies and practices of educational technology (constructivist paradigm described before); the attributions of the strength and weakness of satellite TV instruction and reassessed and redefine the role of teachers and students; learn from the experience of other countries with relevant issues of media instruction to that of ours.

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