



Educational Strategies & Technology

From the desk of Julio Velasco

<mailto:jvelasco@njcu.edu>

Candidate for Master's in Educational Technology

EDTC618: Learning Theories, Motivation & Relationship to Technology

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Abstract: This paper briefly examines the various theories, methods and strategies by which an instructor might try to increase instructional effectiveness using technology within certain educational categories and groups as identified by the author. This document is reflective rather than a formal research paper. Therefore, though some references are provided, the ideas presented are mostly based on the learning experiences to this point in the course and in the author's experiences as a life-long learner and seeker of knowledge.

Introduction

The strategy of using alternative educational approaches gleaned from current education theories should be considered a set of tools, and not to be applied as fashion dictates. The entire question of teaching strategies requires a look at the historical and demographics background of a community to put the theories in context. The classifications, as identified by the author, order the learning community according to 1) learning environment, 2) categories, and 3) group. Motivation is another key factor, when considering teaching strategies, even when applied to new digital technologies. When knowledge transfer occurs and by what means is somewhat out of our hands according to modern theories, but it can be tilted the "right" direction by carefully considering the audience being addressed and the tools at hand. Some of these tools can be very sophisticated, but, if nothing else, one can make due with the old standard: blackboard, chalk and a good textbook. However, if this tool is applied to the wrong audience it is no more useful than language instructional tapes for computer science students.

Hopefully, by applying some form of order to the myriad factors involved, we can achieve every educators goal: to increase instructional effectiveness. The parameters, when examined from afar seem complex, but the picture becomes clearer as the perspective is shifted to a three-dimensional matrix that organizes strategy and technology by group. Educational and psychological theories will be reviewed as we focus the lens on the use of technology in the urban classroom.

Educational Environments

As far as the author can tell, the educational environment is roughly divided into five learning communities. These communities are: 1) Rural, 2) Suburban, 3) Ultra-urban, 4) Urban, and 5) Inner City. The divisions are meant to convey a certain blending of communities, as is the usual case in densely populated areas, where the edges of each neighborhood overlap. The classification of Ultra-urban is defined as the area where suburbia and urban blend. Inner City is defined as the poverty areas, where money for education is scarce and drop-out rates are higher than normal. These areas do not appear as concentric rings on a map. Rather, each community is an epicenter with the edges of its influence blending with the next community - whatever that might be. These divisions are meant to represent a canvas by which to lay the urban community in perspective.

Each community shares a set of similar characteristics in the form of learning categories and groups. However, it is the variation of these characteristics that gives the communities texture. Other demographic factors influencing the educator's choice of tools is the social, educational, ethnic, cultural, financial, and political makeup of the community. To define a "typical" urban community, then, is pointless. It is much more prudent to examine a specific community and adjust methodology and technology accordingly.

Learning Categories & Groups

As mentioned earlier, each community shares the same educational categories and groups. The author has identified the following learning categories:

- | | | |
|---------------|---------------|-------------------|
| 1. Pre-natal | 4. K-12 | 7. Continuing Ed |
| 2. Baby | 5. Vocational | 8. Worker-Learner |
| 3. Pre-School | 6. Higher Ed | |

Again, these may not match traditional educational categories but they serve to reflect the various phases of leaning based on age and inclination in terms of later years. Pre-natal learning is defined as a physical/emotional awareness state where stimulus and response through the mother is transferred on a

subliminal level. Pre-school through higher education or vocational tracks is addressed by the typical educational system. The last three categories are relatively new, reflecting an appreciation of education as a vehicle of success in a digital, global society.

Each learning category shares, and is further divided into learning groups, of which the author identifies seven. These are:

1. The gifted
2. Students at risk of being lost (drop-outs)
3. The "normal" student
4. Adults returning for certification, degrees & advanced degrees
5. Life-Learners
6. Multi-cultural/ESL
7. Special Education

Normal student, for the sake of this paper, is a bright person with average proficiency over the three categories, as defined in the Newark statistics, above. Each group is further characterized by levels of extrinsic motivation and ambitions, from passionate to passive. The extrinsic motivational nature is exhibited early and therefore can be taken advantage of with simple rewards, such as awarding a certificate to a fourth grader who has successfully completed a course module. Extrinsic motivation continues throughout one's life, and changes through the personal acquisition of a greater perspective of the Intrinsic here and now. Intrinsic motivation plays a big role in the early years of development and learning. However, though a Pandora's Box of implications, intrinsic motivation continues to be a guiding force throughout one's life as well.

Some, if not all, of these learning groups can be further sub-classified. For example, special education into the Learning, Physically, and Emotionally Challenged groups. Or, ESL into subsequent language and ethnic components.

Learning Theories

Learning theories fall into two schools of thought, Classical and Modern. Though the classical theories remain with us today in the form of methods based on mental discipline and self actualization thru

unfoldment, it appears to the author that the concept of Apperception - where there is a dynamic mental association built based on the external environment - started a revolution leading to the panorama of modern, more adaptive learning theories.

There are many families within the Modern school of learning theory. One of the first theorists are the Behaviourists whose contributions of Watson's stimulus/response and and Neo-haviorists like Skinner's operant conditioning started a new era of teaching methodology. The Cognitive theory families were added soon there after in an explosion of creative thinking. Each of these families added something for which, in turn seemed to offer another stepping-stone into the inigma of learning theory. Early Interactionists, like Göhler and Koffka, believed in the Gestalt theory, where the whole is greater than the sum if it's parts. Goal Insight based on the Zone of Proximal Development and Scaffolding theories promoted by Vygotsky led to cultural-centered, narrative theories by Dewey and others. Another cognitive theory, is where the person interacts linearly to his environment, as promoted by Bandura, Bowers, et al. This Linear theory led to current Field theory, where proponets like Bigge see a simultaneous interaction between the external environment, intrinsic and extrinsic motivation, and a person's past and future realities as extensions of an interactive-being in the here and now; a psychological environment in linear interaction -- a really big Gestalt theory.

The theories continue to evolve and expand. A fairly recent addition to the Modern school is Multiple Intelligences by Gardner. Here, the thought is there are eight ways of learning: Verbal, Logical, Visual, Kinesthetical, Musical, Intrapersonal, Extrapersonal, and Naturalistic. Current theorists have tenatively added a nineth, Exitential, and are proposing a tenth, Emotional. Now, the role of play is being re-examined and re-introduced in learning theory and practice. All of these theories look at how learning is transferred to new situations and in reinforcing the primary motivation to continue learning new things.

Teaching Methods & Technology in the Urban Environment

There is no "correct" teaching method. Rather, each method should be applied where appropriate in terms of the learning group and other parameters. However, there may be more than one method applicable to a specific group. To further complicate the issue, once a method is decided upon there are several tools available, both in analog and digital format, that could be used to enhance the learning experience.

Appendix A provides a table correlating teaching methods and learning groups. In Appendix B, a table correlating methods & technologies is provided. According to a recent presentation by my colleagues, there are 14 teaching methods, grouped into Explanatory and Exploratory. The author has added a third method: Rote. Also, one of the teaching methods presented is video tapes/slides. However, this also falls under the rubric of "technology". To eliminate redundancy, this was deleted from the methods list and assumed to be technology.

To use the charts, first find a teaching method according to learning category in appendix A. Then, look for the corresponding tools in appendix B. For example, tonight's teaching activity with a group of masters program students will be lecture with discussion. Turn to Appendix B and scan down column 3.a. (Lecture with discussion) for appropriate technologies.

Conclusion

The parameters of this paper may be a bit unorthodox, and the subsequent charts of recommended technologies subjective, but they offer to illustrate a point. The issue of using a single theory or technology - be it Classical or Modern, analog or digital - as a panacea to all types of learning situations is impossible. There are too many variables. Rather, the complexities of modern life and our own motivations require applying knowledge as tools, matching the skill level along with other factors of the group of learners to the appropriate method and technology. The results gleaned from the two charts is further constrained by other parameters as mentioned in this paper and not addressed in the charts, but hopefully it remains useful.