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Journal on Educational Psychology

An attempt to explore the mental mechanism of teaching and learning

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The diminishing value of self concept is a major problem faced by our student graduates, and while zooming into the lifestyle of our contemporary youth, we can see the prevalent hesitancy scattered throughout and their unwillingness to accept difficult and undesirable situations. This immature temperament in the personality level of the youth is developed due to the least importance given to the children's behavioral observation in the past.

In Indian context, our perception of the personality development of the youth is not strong. Though educational psychology is an integral part of education, the psychological aspects of teaching and learning and student's cognitive and behavioral levels were not assumed as major traits to fix a student's success as in the Western countries. Hence psychology of a student learner, i.e., their grasping or observation level, their reading, writing or listening difficulties, interaction problem etc were not tuned in a way to boost their self confidence.

This negligence of the psychological motivation by our curriculum designers results in low self esteem among students that ultimately throw them into mess when they happen to encounter with complicated situations in their way through. If the younger generation had been motivated with high level of self-esteem they can set a more challenging and determined goal for their future; they can well classify the tasks that demands healthy steps for its execution and also can identify and eliminate the insufficient or time consuming steps taken. Luckily, in this blind alley, our curriculum designers have begun to realize the lapses in our education system in motivating the youth and had started to impart Educational Psychology into our milieu for the past few decades.

The papers of this issue try to insist the importance of motivation in building self esteem by providing progressive and successful experiences from early childhood. Ravi in his article discusses one of the latest traits of Instructional strategy, Activity Based Learning. He proposes that imparting ABL will help to enhance self-accessing skills of pupil and a confidence in students to set their own lesson plans. He further believes that this type of learning may help to improve student's self-concept in the early years itself. Jerry Galloway tries to touch some important problems of knowledge seeking in conventional background. He tries to differentiate the major purpose of education which should be for gaining knowledge than simply gathering information and concludes that the 'real knowledge' only could develop a student into a skillful personality. He also suggests that incorporating methodologies into the early childhood education would enhance students' personality level.

While the articles discuss the ways to instill self concept, Alaba's and Tom page's papers in the Research category, discuss how it can be enhanced in online Education milieu. Tom Page, in his paper tries to connect the person's emotion with teaching and learning behavior in online environment, where emotional strength of a student is a prerequisite for the successful completion of a course. Alaba's paper offers an overview that enlightening students with the use of effective digital technology from the early childhood will augment their interaction skill and self concept and will empower the younger generation to successfully meet the challenges of Digital technologies.

Marsha J. Harman and Sarsani's papers emphasize another major source of influence, i.e, societal or familial persuasion which determines student's self-concept. Marsha in her paper tries to substantiate a maxim that students' help seeking behavior is inculcated by their ethical or cultural background, through the survey conducted among the Asian American students. Sarsani in his paper explains how the socio cultural and environmental factors influence the self-concept level of students. Singaravelu's paper proposes that implementing Learner oriented co-operative learning will be a successful method for Higher Educational Learners than traditional methodologies.

The value of self-efficacy to the contemporary youth is emphasized with the evidence of these papers. While discussing the most prominent stages of personality development a potentially strong argument arising is, 'Is Human motivation a concept restricted only to a particular segment?'. Training a student for personality development has to cross several stages and in each stage the student has to encounter different phases, starting from the cultural, financial and ethical background of family, environmental influences and social persuasion. The positive and negative reinforcement they receive from the society and finally the student's own personality levels are all the factors which lead to the successful cultivation of self-esteem. It is our moral commitment to realize our role in motivating the youth and support to generate an ideal younger generation with higher level of self - esteem.

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EVOLVING NOTIONS OF KNOWLEDGE AND LEARNING FOR TODAY'S STUDENTS

By

JERRY P. GALLOWAY*

ABSTRACT

This paper addresses some current and fundamental issues in the classroom and focuses on some relatively important issues and perspectives commonly ignored by practicing teachers, their student counterparts and existing literature. This position paper is, essentially, a report of a troubling phenomenon among students, their mindset and motivations, which, if true, has serious implications for learning. Specifically, students focus more on information acquisition over knowledge or understanding and how this skews their motivations in the educational experience. Teachers exacerbate the problem by ignoring the development of knowledge, critical thinking and wisdom. This paper raises issues and suggests further debate and awareness.

Keywords: Knowledge, Epistemology.

INTRODUCTION

Students' motivation and mindset are in-borne and nurtured when they enter college. Their views of responsibilities, student-teacher roles and their mission are all shaped by a lifetime of interaction with parents, previous years of school, relationships and more. By their conduct in the classroom, attention to academics, interaction with instructors, they can enable and empower or hinder and undermine the educational process accordingly. If the notion of knowledge and learning were clearer and more universally understood, everyone could proceed more efficiently to make progress in today's institutions.

Knowledge

Since there is no agreed definition of knowledge (Clarke, 1999), it is equally problematic to define learning as the acquisition of knowledge. As a term, *knowledge* can be ambiguous and vague and can lend itself to semantic confusion. Students go to college to gain knowledge without knowing what it is they're pursuing and being unable to recognize it when they get it.

Knowledge is mistakenly thought to be the same as information. Students speak of knowing something in terms of whether they have the information related to something. Do you know the name of the explorer? Do you know the date of the event? Do you know the

distance, the size, the name of this, of that, etc. Thus, knowing something is thought to be the same as having the information. Some definitions of knowledge commonly available unfortunately offer similar accounts (Merriam-Webster, 2007) so it seems to be a common, if not a natural notion.

Students seem to perceive knowledge in terms of a body of information. This issue seems fundamental to the classroom experience and an integral part of students' personal missions and motivations. While it may be argued that students are neophytes in the experience of formal education and their definitions and perceptions are not yet developed or refined, their faculty counterparts ought to know better.

This article will certainly not resolve the debate over what is and is not knowledge; one of the oldest ideas was promoted by Plato equating knowledge and wisdom. While facts and information might certainly be involved, real knowledge or wisdom demands an awareness, understanding and perspective of principles. Consistent with this view, George Siemens offers an elegant and simplistic definition of knowledge (Siemens, 2007) and differentiates knowledge and information clearly. He describes understanding as an emergent property of a network of connections between nodes of information. These connections and nodes which are not at all metaphorical but certainly abstract, are intended quite

literally. Knowledge is defined as the presence of those connections, and understanding is a consequence of a sufficient number or threshold of connections.

Siemens has not defined the nature of these connections in technical terms instead, he used anecdotes or real life examples to illustrate the meaning indirectly. However, connections appear to be a function of associations, interactions, meaningful groupings and, most particularly, relationships. More connections symbolise a greater understanding. Meaningfulness resides in the connections not in the nodes. That is, establishing connections creates meaning, while creating additional nodes does not.

It is an essential premise in this article that a real problem exists among today's students - they seem to equate knowledge with information, the nodes, rather than the connections between them. This is a critical factor for education, and where teachers are unaware or ignorant of the problem, classroom success is threatened.

Learning Problem

In the Siemens theory of knowledge, learning might easily be defined as the process of building the connections. While most would agree that education is about acquiring skills and knowledge, the mission is to question to the extent that learning is misunderstood. Though skill depends on knowledge in part or in whole, skill and knowledge are not the same thing. The author suggests that today's education focuses almost exclusively on skill and too little on the knowledge on which the skill really depends.

Fitzgerald (2007) accounts that education is about gathering something more than knowledge, skills or competence. He describes education as the prime concern for acquiring confidence, to ask questions, to understand, to know, to dream and to realize one's aspirations. However, this seems contrary to his acceptance of modern trends of training over education, job skills and marketable competencies which are the primary goal and does not account for the notion of just becoming smarter or more knowledgeable.

It might be unfair to expect students to show the same

kind of excellence as their faculty counterparts, like to know some of the finer distinctions of epistemology and what it means to be educated. Nevertheless, students do have ideas and expectations about their mission that can affect what they do and how they do it (S. Galloway, 1999). How students record notes, ask questions and even what they remember can all be affected by their mindset and perspective.

The author discusses a serious problem existing among today's students and faculty regarding confusion and misconception about learning and what that entails. They do not understand their purpose, the nature of the mission they have undertaken, and what to expect or how to proceed. Apparently, their faculty counterparts also misunderstand because pedagogy does not seem to address such problem.

Students are interested in gaining more information and they believe their job is mainly to acquire information. To put it simply, they view learning as the acquisition of information. They seem to believe that their duties are to record, memorize and to report the information. In examinations also they are only challenged to acknowledge their memorization limits that is trying to distinguish what information is important. For that task, they charge the responsibility to the instructor and classroom teaching. That is, good teaching might be viewed as providing clear distinctions between important, relevant and irrelevant information whereas poor teaching would include a lack of such clarity. This perspective is evident in their course evaluations and summary comments.

This notion is further described with an over simplified example; Students were studying the early discovery of the new world in the late 15th century. They were presented with the fact that Columbus discovered America in 1492. They perceived that the name of the discoverer and the date are the key elements for which they are responsible in the learning task. Indeed, the subsequent exam raises questions such as *Who discovered America?* or *When did Columbus discover America?*, Or fill-in the blank or multiple choice or true/false. Pedagogy reinforces that approach and that perception of learning. In short,

students view education as the process of receiving information, holding on to it for a while, and then reporting it back again to demonstrate that they still have it.

Common or casual language, semantics, expressions etc all contribute to and reinforce this serious misconception that learning is about information acquisition. Regarding the year of the Columbus discovery, students speak of *knowing* the year or *knowing* the name. The question is an inherent part of the classroom experience and the lessons themselves: do you know the year? etc. The author argues that this is a misnomer and has nothing to do with learning.

Motivations

Unfortunately, the faculty component of the problem contributes to the failure. If the teachers believe that their purpose is to be imparting information, only a little real learning can occur. If at all the teachers conceive learning more appropriately, impotence still follows, as the students are motivated to acquire information in the traditional approach.

Students' expectations in the classroom, brought with them from years of classroom experiences are getting affected with the teaching methodologies. Berghoff (1997) suggests that learning situations are determined by and a consequence of a positional stance, philosophical perspective and expectation. Berghoff's notion is that the stance creates a context of both bias and opportunity wherein experiences yield meaningful significance consistent with that context, and one's approach determines the outcome. This suggests that students' expectations and point of view about what is necessary to learn can limit what, how and whether or not they learn at all.

Engaging students in thoughtful discourse can help them to explore ideas, develop insight and more. However, students' patience and fortitude during a Socratic-like dialogue of question and answer or discussion that explores issues and relationships wanes leaving the student confused and frustrated. If teachers discuss ideas, the activity is filtered by students to find the information. The experience of reflection is supplanted by

a quest for facts and the teacher seems misdirected from the students' purpose. The whole process again results in frustration for students.

Asking questions in order to generate thought or to prompt reflection is again filtered by students who believe that they are to recall the factual information to answer the question. Students do not seem to be able to relate to a teacher to deliver the facts. The classic question of *will this be on the test?* is entirely designed to differentiate information on which is to focus or which is to include in notes and to study later. Of course, the obvious implication is that if the answer to the question about inclusion of a pending exam is refused, then students need not attend to it at all. And, they do not.

Training vs. Education

These terms are commonly used interchangeably. For example, in teacher training programs students are said to receive education. Or, one might say that in teacher education programs, faculties are involved in training teachers. Certainly, training occurs as one learns specific skills and gains new competencies. Today, however, skills seem to be the exclusive focus of educational programs. Students are expected to develop and demonstrate skills and competencies in order to be marketable in society (Fitzgerald, 2007).

This problem is probably not uniform across all disciplines. For example, science and mathematics education concentrate on giving mental models and resolving misconceptions. Indeed, there are conceptual principles that are common elements of education such as Piaget's conservation of liquid problem where children learn about quantity, being independent of the container (Craig, Love, & Olim, 1973). For adults, science education might include the fundamental conservation of mass-energy, or the 1st Law of Thermodynamics, which simply means that the total mass-energy of the universe does not change (Pidwirny, 2007). Concepts and principles are made to understand these information. Certainly, in *doing* science (preparing microscope slides, recording data, mixing chemicals, preparing a culture dish, etc.) skills and competencies are involved. But, they are

incidental and hardly focus on education.

However, in the comparatively newer discipline of instructional technology, training for skills is predominant. That is, mental models, conceptualization and understanding are overlooked in favor of procedural rituals for training new teachers (J. Galloway, 1997). As described above, students' motivations affect how they proceed in learning and this is equally true in this discipline. Students focus on actions, procedures, formulated steps for prescribed computing tasks. Students seek recipes that can be replicated without much variance or complication for each computing task. Computing instructors comply with this expectation by providing step-by-step procedures designed to direct each action in the task. Indeed, so-called quality teaching in educational computing calls for teachers to provide comprehensive procedures for students, and better teaching means that the lists are more sound, complete or accurate. Students expect this and their course evaluations demonstrate such judgments.

The problem of a course is simply that this does not constitute learning anything. That is, the student-teacher never actually learns to be a competent user by virtue of the educational experience itself. This misconception about what it takes to successfully master technology as a user or as a teacher precludes experiencing concept-building and other valuable contributory activities. That is, student-teachers resist learning anything and avoid any experiences which are not listed in the prescribed application. Concept-building activities, and situations that contribute to understanding and resolving misconceptions are avoided in the procedural rituals of training.

The development of intuition, problem-solving and critical thinking abilities consistent with learning and mastery are not commonly recognized as vital for classroom integration of technology or even for becoming competent computer-users. Such elements of education require one to change. Becoming a competent user of technology involves a transformation as one acquires mastery in education. Students don't

want to change, instead they merely pickup copies of their recipes for later replication and thus their mindset precludes being educated at all.

Recommendations

Initially, teachers themselves need to recognize that the essence of education does not reside in the facts. Teachers should not design assessments for primarily query memorization. Admittedly, asking students about facts can, be useful to recognise their deeper knowledge and understanding. The point is simply that teachers need to be aware of what they are assessing. It may seem somewhat nebulous but one of the goals of getting education is to become smarter (Moursund, 2004). Perhaps this starts with understanding knowledge and learning.

It might be important or at least useful to avoid the use of "to know" terminology. For students, ask not 'what you know?' but 'what do you understand?'. For teachers, its not 'what your students will know?' but 'what your students will understand?'. Learning is not about gathering information. The acquisition of or having information memorized is a minor concern at best. In today's context, Information is readily available literally at our finger tips. We can have all the information either from internet, television or from print. It is not in the storing but the using of information that indicates learning.

Consider, 'What do students understand?, What way do students relate?, What perspective do students have?, What problem solving strategies do they employ?, What insight does a student have and how do they apply their imagination or intuition?'. Critical thinking may deal with facts and facts may be necessary but learning addresses how one deals with the information, not gaining the information alone. Siemens' (2007) explains nodes and emergent properties of a network of connections might be right on target to best illustrate the distinction.

Considering that students bring their motivations and preconceived mindset with them into the classroom, it might be worth addressing change in the earliest possible years. Perhaps students have been conditioned to conduct themselves in a particular way with a particular

approach to learning because of pedagogy in the elementary years. It may be that methodologies in earlier levels of schooling precondition students towards particular motivations in learning.

Research is clearly warranted. Research methodologies might also need to be developed to effectively investigate these issues. Researches of existing issues and problems of education might focus on the mindset of students entering into their graduation, relative to their respective educational backgrounds or targeted discipline areas. An additional resource might be comments in student course evaluations compared to documented teacher styles of those courses.

The author suggests a number of elements that need attention: (a) students' perceptions of responsibility and perceived roles of teachers versus student roles of obligations, (b) relationships between such roles, perceptions and notions of knowledge and learning, and (c) how widely a problem is perceived. It may be useful to examine recent college graduates or even the public at large. How are facts or mere information differentiated from higher-order thinking in junior and senior high school programs? How does this undermine or enhance at the college level? Teaching for higher-order thinking skills has long been identified as critical yet lacking in education (Bloom, Enghart, Furst, Hill, & Krathwohl, 1956). In this new century it is no less important, but is primary and fundamental in the learning process (Learning Point Associates, 2007).

Teachers' motivations and perspectives, of course, also need to be examined. How do teachers perceive learning and knowledge versus facts and information in their own disciplines? How do instructional methods in the classroom address those distinctions? How do public school teachers differ from college teachers on these issues?

Research into treatments and remedies might be more difficult. One might address how advanced organizers (Anderson, 2004) would improve classroom focus and progress. Assessing something other than information acquisition or discrete skills and competencies might help

to enhance students' decision making abilities, understandings, misconceptions and other higher-order elements of knowledge. Practice given to solve problems can make one better at solving problems and, indeed, make one smarter (Moursund, 2004). So, on a larger scale, perhaps a stronger focus on discovery learning and constructivism (Brooks & Brooks, 2005) without an exaggerated concern for student frustration might be considered.

If we target parenting as an avenue for change, teachers are to be on the front lines of the battle. As epistemology is a branch of philosophy and fundamental in learning, it might be argued that all teachers, at least in part, must be intellectual philosophers. That is, it is not sufficient that teachers are merely trained or skilled, they must also be thinkers. It may be true that we want college graduates to be skilled with marketable competencies, we should also find that they bloom smarter when they started their educational experience.

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