

## **Creative Pedagogy**

Creative Pedagogy is the science and art of creative teaching. Creative Pedagogy teaches learners how to learn creatively, become creators of themselves and creators of their future. The founder of Creative Pedagogy, Dr. Andrei Aleinikov, defined it in the form of formula of invention – a strict word pattern used to describe inventions for patenting in technology:

“Creative pedagogy that includes educational influence on the learner for acquisition of certain study material (subject) [as pedagogy in general] and differing from the above by the fact that in order to achieve higher efficiency of learning, the pedagogical influence is provided on the background of centrifugal above-the-criticism mutual activity in which the learner is raised from the object of [pedagogical] influence to the rank of a creative person, while the traditional (basic) study material is transformed from the subject to learn into the means of achieving some creative goal, and the extra study material includes the description and demonstration of the heuristic methods and techniques” [1].

### **Goal (Mission)**

The goal of Creative Pedagogy is to transform ANY subject class (course, program, school) into a creative teaching process that would produce creative learners (life learners) – much more efficient learners than those produced by traditional school. This transformation of the traditional class (course, program, school) is called “creative orientation.”

### **Discussion**

A typical objection to the introduction of Creative Pedagogy is the following, “Every pedagogy is creative.” A good answer to this is, “Yes, to some extent. But what is the rate of creativity?”

The type of pedagogy depends on the requirements of the society. When society needed a follower (in ancient times), there existed methods (pre-pedagogy) to train followers (“Do after me! Do as I do!”). It was good enough to produce hunters, fishermen, gatherers, warriors, etc. When society needed speakers (Ancient Greek studios), there existed pedagogy oriented at the upbringing of a speaker in rhetoric classes, in public discussions (Socrates introduced a new methodology, now known as Socratic method of teaching). When society needed more craftsmen or workers, there appeared technical schools and pedagogies for technical teaching.

When society needed more knowledgeable professionals, like engineers, doctors, and teachers, there appeared pedagogy of knowledge acquisition (schools,

colleges). When in the XX century it turned out that existing ways of teaching and problem solving were not sufficient for the needs of society, there appeared problem-oriented education and schools for Creative problem solving. Creative Pedagogy grew out of them.

All these types of pedagogy exist and co-exist in contemporary Pedagogy, but this century has been many times called the Century of Creativity and Innovation. Society needs more and more creative people. The emergence and growth of the Creative Class [3] is a reality. That's why there appeared Creative Pedagogy as pedagogy aiming at the upbringing of a creator (a creative person) capable of meeting the constantly growing complexity and accelerating development of the society [4].

Some examples of the first Creative Pedagogy applications

Creatively-oriented Linguistics, Military Institute, Moscow, Russia, 1984-92

Creative Management, Center for Creative Research, Russian Academy of Sciences, Moscow, Russia, 1990-1992

Word Origins and Usage (ENG2210), Effective Communication (COM1110), Psychology of Creativity (PSY3390), Foundations of Creative Education (EDU6625), Troy University, Montgomery, Alabama, 1994-2006.

By 2006, Creative Pedagogy and Creative MetaPedagogy in the form of numerous programs for teachers, managers, educational and business leaders, spread from the U.S.A. to Pakistan, Singapore, South Africa, and Thailand. In Russia, where it was published first, it also received further development as "collective creative pedagogy" by I.P. Ivanov. A very interesting statement about the goal of creative pedagogy can be found in the work of TRIZ specialists B. Zlotin and A. Zusman, "Creative pedagogy is an attempt to replace the battle between the teacher and students with the child's struggle for self-perfection. The teacher is the child's assistant and ally in this struggle." Creative pedagogy borrowed from TRIZ one of its most powerful methods - Ideal Final Result (IFR) to create the model of Ideal Education, Ideal Teacher and Ideal Learner.

## Learning

In psychology and education, learning is commonly defined as a process that brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills, values, and world views (Illeris, 2000; Ormorod, 1995). Learning as a process focuses on what happens when the learning takes place. Explanations of what happens constitute learning theories. A learning theory is an attempt to describe how people and animals learn, thereby helping us understand the inherently complex process of learning. Learning theories have two chief values according to Hill (2002). One is in providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe. The other is in suggesting where to look for solutions to practical problems. The theories do not give us solutions, but they do direct our attention to those variables that are crucial in finding solutions.

There are three main categories or philosophical frameworks under which learning theories fall: behaviorism, cognitivism, and constructivism. Behaviorism focuses only on the objectively observable aspects of learning. Cognitive theories look beyond behavior to explain brain-based learning. And constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts.

Behaviorism as a theory was primarily developed by B. F. Skinner. It loosely encompasses the work of people like Edward Thorndike, Tolman, Guthrie, and Hull. What characterizes these investigators are their underlying assumptions about the process of learning. In essence, three basic assumptions are held to be true. First, learning is manifested by a change in behavior. Second, the environment shapes behavior. And third, the principles of contiguity (how close in time two events must be for a bond to be formed) and reinforcement (any means of increasing the likelihood that an event will be repeated) are central to explaining the learning process. For behaviorism, learning is the acquisition of new behavior through conditioning.

There are two types of possible conditioning:

- 1) **Classical conditioning**, where the behavior becomes a reflex response to stimulus as in the case of Pavlov's Dogs. Pavlov was interested in studying reflexes, when he saw that the dogs drooled without the proper stimulus. Although no food was in sight, their saliva still dribbled. It turned out that the dogs were reacting to lab coats. Every time the dogs were served food, the person who served

the food was wearing a lab coat. Therefore, the dogs reacted as if food was on its way whenever they saw a lab coat. In a series of experiments, Pavlov then tried to figure out how these phenomena were linked. For example, he struck a bell when the dogs were fed. If the bell was sounded in close association with their meal, the dogs learned to associate the sound of the bell with food. After a while, at the mere sound of the bell, they responded by drooling.

2) **Operant conditioning** where there is reinforcement of the behavior by a reward or a punishment. The theory of operant conditioning was developed by B.F. Skinner and is known as Radical Behaviorism. The word 'operant' refers to the way in which behavior 'operates on the environment'. Briefly, a behavior may result either in reinforcement, which increases the likelihood of the behavior recurring, or punishment, which decreases the likelihood of the behavior recurring. It is important to note that, a punishment is not considered to be applicable if it does not result in the reduction of the behavior, and so the terms punishment and reinforcement are determined as a result of the actions. Within this framework, behaviorists are particularly interested in measurable changes in behavior.

Educational approaches such as applied behavior analysis, curriculum based measurement, and direct instruction have emerged from this model.[1]

## **Learning**

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### **Cognitivism**

The earliest challenge to the behaviorists came in a publication in 1929 by Bode, a gestalt psychologist. He criticized behaviorists for being too dependent on overt behavior to explain learning. Gestalt psychologists proposed looking at the patterns rather than isolated events. Gestalt views of learning have been incorporated into what have come to be labeled cognitive theories. Two key assumptions underlie this cognitive approach: (1) that the memory system is an active organized processor of information and (2) that prior knowledge plays an important role in learning. Cognitive theories look beyond behavior to explain brain-based learning. Cognitivists consider how human memory works to promote learning. For example, the physiological processes of sorting and encoding information and events into short term memory and long term memory are important to educators working under the cognitive theory. The major difference between gestaltists and behaviorists is the locus of control over the learning activity: the individual learner is more key to gestaltists than the environment that behaviorists emphasize.

Once memory theories like the Atkinson-Shiffrin memory model and Baddeley's working memory model were established as a theoretical framework in cognitive psychology, new cognitive frameworks of learning began to emerge during the 1970s, 80s, and 90s. Today, researchers are concentrating on topics like cognitive load and information processing theory. These theories of learning play a role in influencing instructional design.[citation needed] Aspects of cognitivism can be found in learning how to learn, social role acquisition, intelligence, learning, and memory as related to age.

### **Constructivism**

Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge or experience. In other words, "learning involves constructing one's own

knowledge from one's own experiences." Constructivist learning, therefore, is a very personal endeavor, whereby internalized concepts, rules, and general principles may consequently be applied in a practical real-world context. This is also known as social constructivism (see social constructivism). Social constructivists posit that knowledge is constructed when individuals engage socially in talk and activity about shared problems or tasks. Learning is seen as the process by which individuals are introduced to a culture by more skilled members"(Driver et al., 1994) Constructivism itself has many variations, such as Active learning, discovery learning, and knowledge building. Regardless of the variety, constructivism promotes a student's free exploration within a given framework or structure. The teacher acts as a facilitator who encourages students to discover principles for themselves and to construct knowledge by working to solve realistic problems. Aspects of constructivism can be found in self-directed learning, transformational learning, experiential learning, situated cognition, and reflective practice and religious practice.

## Team-Based Learning

The term “Team-Based Learning” has two distinct usages. It was a term first used by Larry Michaelsen, the central figure in the development of the system while at Oklahoma State University, to describe an educational strategy that he developed for use in academic settings. The second usage describes a process for teaching and developing people in the workplace.

### 1 Team-based learning in academic institutions

The main features of the team-based learning approach are the following:

(1) Permanent (term-long) and instructor-assigned groups of 4-7 students with diverse skill sets and backgrounds

(2) Individual accountability for out-of-class work such as reading and preliminary homework being done prior to the first class meeting of each course segment - a division of the course generally based on a theme and lasting from one to three weeks. This accountability is ensured by what is called the Readiness Assurance Process (RAP) in which students (a) take a short (5-15 multiple choice question) *individual readiness assurance test* (iRAT), (b) immediately afterward take the same test again with members of their team working on a single answer sheet (tRAT), (c) students, who have already received their individual and team RAT scores make written appeals on any questions that the team missed on the iRAT, should they find statements in their assigned reading that supports their view, and, (d) the instructor takes questions from the class on any of the questions or themes brought up by them.

(3) Incentive for working effectively together as a team by giving significant credit (course points) for team activities (such as the tRAT), the subsequent in-class activities (application exercises) that are the hallmark of team-based learning, longer term team projects, and team-member given points for "team maintenance", essentially points given to recognize contributions made to team efforts and withheld when a team member is acting as a freeloader or in some other way not pulling his or her weight.

(4) In class application exercises that are (a) significant (correlated to important course objectives, meaningful to the future work that the course

might prepare a student for, (b) the same for all teams in the course, (c) about making a decision – providing a simple answer – based on complex analysis of data or application of course principles, (d) simultaneously reported to the whole class and evaluated then and there by the instructor.

Team-based learning according to Larry Michelson improves student attendance and engagement, helps students learn the course material in a deeper and longer-lasting way, and works to build professional/life skills such as effective collaboration and negotiation. Students often express higher satisfaction with team-based learning course, particularly after they've overcome their initial suspicions.

## 2 Team-Based Learning in the Workplace

A later developed usage of the term describes a process for teaching and developing people in the workplace. It is a set of developmental principles and routines embedded into the day-to-day processes of a work team such that team members continuously learn and develop. The developmental activities are not new, e.g., coaching, stretch assignments, review of lessons learned. However, such developmental activities are typically conducted in an irregular and inconsistent way. The benefit of Team-Based Learning is that everyone on the team participates in the developmental activities on a consistent basis, because the activities provide other benefits that motivate the team to use them. That is, the team not only develops its people but also functions better.



## **Team-Based Learning**

Team-Based Learning was jointly developed by Duke Corporate Education and PricewaterhouseCoopers. In 2005, Judy Rosenblum, then President of Duke Corporate Education, and Tom Evans, Chief Learning Officer of PricewaterhouseCoopers, began to explore the learning environment in teaching hospitals and its possible transferability to corporate environments. They studied several teaching hospitals, principally Johns Hopkins Hospital. Teaching hospitals develop doctors (interns and residents) in the course of providing health care to patients. This is not classroom education. Rather it is teaching the practice of medicine while treating real patients with real diseases. The learning is embedded in the work.

### **Application to Business Teams**

Training meeting about sustainable design. The photo shows a training meeting with factory workers in a stainless steel ecodesign company from Rio de Janeiro, Brazil. An example of team-based learn in a business team

Rosenblum, Evans and their associates spent two years understanding how teaching hospitals work and exploring how those processes could be applied to business teams. They identified four principles and five routines to carry over to the business world.

#### **Principles**

*Problem-based learning* - Use problems encountered in the course of work as the context for learning

*Point of the Wedge* - Push responsibility combined with support to the most junior person possible

*Teach, Don't Tell* - Use inquiry (Socratic Method) to teach rather than just give the answer or solve the issue

*Owning the Client or Project* – Individuals have a heightened sense of accountability and motivation because they have their own client or project with support from more experienced team members

#### **Routines**

*Rounds* - Meeting where a less-experienced team member presents an issue or challenge and recommends a course of action

*Team Workshops* - A team member leads a developmental event for other members focusing on a specific technical or service topic

*Shadowing* – Less-experienced team member accompanies a more-experienced member to a meeting he or she would not normally attend

*Observation & Feedback* - A specific activity is observed, and using the Socratic Method, coaching is given

*Lessons Learned Forums* - Thorough review and discussion using mistakes and successes as a situation to learn from. This is similar to an After Action Review.

Senior team members need to spend extra time mentoring junior team members, however that time is more than made up by the increased productivity of the team derived from successfully driving tasks to lower levels. Such delegation frees up senior people's time. Junior people enjoy taking ownership of projects (with support) and are more motivated in their jobs. The net result is that the team gets more work done, junior people are developed more quickly, and team morale is higher.

## **Professional educators**

Teaching may be carried out informally, within the family which is called home schooling (see Homeschooling) or the wider community. Formal teaching may be carried out by paid professionals. Such professionals enjoy a status in some societies on a par with physicians, lawyers, engineers, and accountants (Chartered or CPA).

A teacher's professional duties may extend beyond formal teaching. Outside of the classroom teachers may accompany students on field trips, supervise study halls, help with the organization of school functions, and serve as supervisors for extracurricular activities. In some education systems, teachers may have responsibility for student discipline.

Around the world teachers are often required to obtain specialized education, knowledge, codes of ethics and internal monitoring.

There are a variety of bodies designed to instill, preserve and update the knowledge and professional standing of teachers. Around the world many governments operate teacher's colleges, which are generally established to serve and protect the public interest through certifying, governing and enforcing the standards of practice for the teaching profession.

The functions of the teacher's colleges may include setting out clear standards of practice, providing for the ongoing education of teachers, investigating complaints involving members, conducting hearings into allegations of professional misconduct and taking appropriate disciplinary action and accrediting teacher education programs. In many situations teachers in publicly funded schools must be members in good standing with the college, and private schools may also require their teachers to be college peoples. In other areas these roles may belong to the State Board of Education, the Superintendent of Public Instruction, the State Education Agency or other governmental bodies. In still other areas Teaching Unions may be responsible for some or all of these duties.

### **Pedagogy and teaching**

In education, teachers facilitate student learning, often in a school or academy or perhaps in another environment such as outdoors. A teacher who teaches on an individual basis may be described as a tutor.

The objective is typically accomplished through either an informal or formal approach to learning, including a course of study and lesson plan that teaches skills, knowledge and/or thinking skills. Different ways to teach are often referred to as pedagogy. When deciding what teaching method to use teachers consider students' background knowledge, environment, and their learning goals as well as

standardized curricula as determined by the relevant authority. Many times, teachers assist in learning outside of the classroom by accompanying students on field trips. The increasing use of technology, specifically the rise of the internet over the past decade, has begun to shape the way teachers approach their roles in the classroom.

The objective is typically a course of study, lesson plan, or a practical skill. A teacher may follow standardized curricula as determined by the relevant authority. The teacher may interact with students of different ages, from infants to adults, students with different abilities and students with learning disabilities.

Perhaps the most significant difference between primary school and secondary school teaching is the relationship between teachers and children. In primary schools each class has a teacher who stays with them for most of the week and will teach them the whole curriculum. In secondary schools they will be taught by different subject specialists each session during the week and may have 10 or more different teachers. The relationship between children and their teachers tends to be closer in the primary school where they act as form tutor, specialist teacher and surrogate parent during the course of the day.

Co-teaching has also become a new trend amongst educational institutions. Co-teaching is defined as two or more teachers working harmoniously to fulfill the needs of every student in the classroom. Co-teaching focuses the student on learning by providing a social networking support that allows them to reach their full cognitive potential. Co-teachers work in sync with one another to create a climate of learning.

## **Rights to enforce school discipline**

Throughout the history of education the most common form of school discipline was corporal punishment. While a child was in school, a teacher was expected to act as a substitute parent, with all the normal forms of parental discipline open to them.

Medieval schoolboy birched on the bare buttocks.

In past times, corporal punishment (spanking or paddling or caning or strapping or birching the student in order to cause physical pain) was one of the most common forms of school discipline throughout much of the world. Most Western countries, and some others, have now banned it, but it remains lawful in the United States following a US Supreme Court decision in 1977 which held that paddling did not violate the US Constitution.

30 US states have banned corporal punishment, the others (mostly in the South) have not. It is still used to a significant (though declining) degree in some public schools in Alabama, Arkansas, Georgia, Louisiana, Mississippi, Oklahoma, Tennessee and Texas. Private schools in these and most other states may also use it. Corporal punishment in American schools is administered to the seat of the student's trousers or skirt with a specially made wooden paddle. This often used to take place in the classroom or hallway, but nowadays the punishment is usually given privately in the principal's office.

Official corporal punishment, often by caning, remains commonplace in schools in some Asian, African and Caribbean countries.

Currently detention is one of the most common punishments in schools in the United States, the UK, Ireland, Singapore and other countries. It requires the pupil to remain in school at a given time in the school day (such as lunch, recess or after school); or even to attend school on a non-school day, e.g. "Saturday detention" held at some US schools. During detention, students normally have to sit in a classroom and do work, write lines or a punishment essay, or sit quietly.

A modern example of school discipline in North America and Western Europe relies upon the idea of an assertive teacher who is prepared to impose their will upon a class. Positive reinforcement is balanced with immediate and fair punishment for misbehavior and firm, clear boundaries define what is appropriate and inappropriate behavior.

Although, officially, schools have extremely rigid codes of behavior, in practice many teachers find the students unmanageable and do not enforce discipline at all.

Where school class sizes are typically 40 to 50 students, maintaining order in the classroom can divert the teacher from instruction, leaving little opportunity for concentration and focus on what is being taught. In response, teachers may concentrate their attention on motivated students, ignoring attention-seeking and disruptive students. The result of this is that motivated students, facing demanding university entrance examinations, receive disproportionate resources, while the rest of the students are allowed, perhaps expected to, fail. Given the emphasis on attainment of university places, administrators and governors may regard this policy as appropriate.

Democratic schools claim that popularly based authority can maintain order more effectively than dictatorial authority for governments and schools alike. They also claim that in these schools the preservation of public order is easier and more efficient than anywhere else. Primarily because rules and regulations are made by the community as a whole, thence the school atmosphere is one of persuasion and negotiation, rather than confrontation since there is no one to confront. Sudbury model democratic schools' experience shows that a school that has good, clear laws, fairly and democratically passed by the entire school community, and a good judicial system for enforcing these laws, is a school in which community discipline prevails, and in which an increasingly sophisticated concept of law and order develops, against other schools today, where rules are arbitrary, authority is absolute, punishment is capricious, and due process of law is unknown.

## **Teacher Enthusiasm**

Since teachers can affect how students perceive the course materials, it has been found that teachers who showed enthusiasm towards the course materials and students can affect a positive learning experience towards the course materials. On teacher/course evaluations, it was found that teachers who have a positive disposition towards the course content tend to transfer their passion to receptive students. Teachers cannot teach by rote but have to find new invigoration for the course materials on a daily basis. Teachers have to keep in mind that they are teaching new minds every term or semester. Otherwise, teachers will fall into the trap of having done this material again and start feeling bored with the subject which in turn bore the students as well. Students who had enthusiastic teachers tend to rate them higher than teachers who didn't show much enthusiasm for the course materials.

Teachers that exhibit enthusiasm can lead the students who are more likely to be engaged, interested, energetic, and curious about learning the subject matter. Recent research has found a correlation between teacher enthusiasm and students' intrinsic motivation to learn and vitality in the classroom. Controlled, experimental studies exploring intrinsic motivation of college students has shown that nonverbal expressions of enthusiasm, such as demonstrative gesturing, dramatic movements which are varied, and emotional facial expressions, result in college students reporting higher levels of intrinsic motivation to learn. Students who experienced a very enthusiastic teacher were more likely to read lecture material outside of the classroom.

There are various mechanisms by which teacher enthusiasm may facilitate higher levels of intrinsic motivation. Teacher enthusiasm may contribute to a classroom atmosphere full of energy and enthusiasm which feed student interest and excitement in learning the subject matter. Enthusiastic teachers may also lead to students becoming more self-determined in their own learning process. The concept of mere exposure indicates that the teacher's enthusiasm may contribute to the student's expectations about intrinsic motivation in the context of learning. Also, enthusiasm may act as a "motivational embellishment"; increasing a student's interest by the variety, novelty, and surprise of the enthusiastic teacher's presentation of the material. Finally, the concept of emotional contagion, may also apply. Students may become more intrinsically motivated by catching onto the enthusiasm and energy of the teacher.

Research shows that student motivation and attitudes towards school are closely linked to student-teacher relationships. Enthusiastic teachers are

particularly good at creating beneficial relations with their students. Their ability to create effective learning environments that foster student achievement depends on the kind of relationship they build with their students. Useful teacher-to-student interactions are crucial in linking academic success with personal achievement. Here, personal success is a student's internal goal of improving himself, whereas academic success includes the goals he receives from his superior. A teacher must guide his student in aligning his personal goals with his academic goals. Students who receive this positive influence show stronger self-confidence and greater personal and academic success than those without these teacher interactions.

Students are likely to build stronger relations with teachers who are friendly and supportive and will show more interest in courses taught by these teachers. Teachers that spend more time interacting and working directly with students are perceived as supportive and effective teachers. Effective teachers have been shown to invite student participation and decision making, allow humor into their classroom, and demonstrate a willingness to play.

The way a teacher promotes the course they are teaching, the more the student will get out of the subject matter. The three most important aspects of teacher enthusiasm are enthusiasm about teaching, enthusiasm about the students, and enthusiasm about the subject matter.



## **Instructional Design**

Instructional Design (also called Instructional Systems Design (ISD)) is the practice of maximizing the effectiveness, efficiency and appeal of instruction and other learning experiences. The process consists broadly of determining the current state and needs of the learner, defining the end goal of instruction, and creating some "intervention" to assist in the transition. Ideally the process is informed by pedagogically and andragogically (adult learning) tested theories of learning and may take place in student-only, teacher-led or community-based settings. The outcome of this instruction may be directly observable and scientifically measured or completely hidden and assumed. There are many instructional design models but many are based on the ADDIE model with the phases analysis, design, development, implementation, and evaluation. As a field, instructional design is historically and traditionally rooted in cognitive and behavioral psychology.

### **Instructional design models**

Perhaps the most common model used for creating instructional materials is the **ADDIE Process**. This acronym stands for the 5 phases contained in the model:

**Analyze** – analyze learner characteristics, task to be learned, etc.

**Design** – develop learning objectives, choose an instructional approach

**Develop** – create instructional or training materials

**Implement** – deliver or distribute the instructional materials

**Evaluate** – make sure the materials achieved the desired goals

Most of the current instructional design models are variations of the ADDIE process.

Another well-known instructional design model is **The Dick and Carey Systems Approach Model**. The model was originally published in 1978 by Walter Dick and Lou Carey in their book entitled *The Systematic Design of Instruction*.

Dick and Carey made a significant contribution to the instructional design field by championing a systems view of instruction as opposed to viewing instruction as a sum of isolated parts. The model addresses instruction as an entire system, focusing on the interrelationship between context, content, learning and instruction. According to Dick and Carey, "Components such as the instructor, learners, materials, instructional activities, delivery system, and learning and performance environments interact with each other and work together to bring about the desired student learning outcomes".[ The components of the Systems Approach Model, also known as the Dick and Carey Model, are as follows:

Identify Instructional Goal(s)

Conduct Instructional Analysis

- Analyze Learners and Contexts
- Write Performance Objectives
- Develop Assessment Instruments
- Develop Instructional Strategy
- Develop and Select Instructional Materials
- Design and Conduct Formative Evaluation of Instruction
- Revise Instruction
- Design and Conduct Summative Evaluation

With this model, components are executed iteratively and in parallel rather than linearly.

Another instructional design model is **the Instructional Development Learning System (IDLS)**. The model was originally published in 1970 by Peter J. Esseff and Mary Sullivan Esseff in their book entitled IDLS—Pro Trainer 1: How to Design, Develop, and Validate Instructional Materials.

Esseff and Esseff contributed synthesized existing theories to develop their approach to systematic design, "Instructional Development Learning System" (IDLS).

The components of the IDLS Model are:

- Design a Task Analysis
- Develop Criterion Tests and Performance Measures
- Develop Interactive Instructional Materials
- Validate the Interactive Instructional Materials

## What is Taught and what is Learned

It is a simple point that what is taught is not the same as what the students learn, but it does have a number of implications.

Some of what we teach is wasted effort: but the diagram is a representation of only one learner's learning. It may be that within a class as a whole, everything we teach is learned, by someone. The shape representing the teaching is smaller than that for learning, because students are also learning from other sources, including colleagues and the sheer experience of being in the educational system, as well as more conventional other resources such as books.

It is an open question in any given case as to whether what they learn apart from what they are taught is a "good" thing or not. It includes the "hidden curriculum", which is a phrase used by Snyder (1971) to describe what students learn by default in educational settings. His original observations at MIT in the late 'fifties were about how students with an over-loaded curriculum acquired survival tactics to get through their courses, such as mugging up only the parts which were likely to come up in the exams, and thus losing the point of much of the teaching. This selective learning is one of the characteristics of what is now called "surface learning", although that tends to be seen as an attribute of the learner — Snyder saw it as a problem of the institution.

From a sociological (Marxist) rather than primarily educational perspective, Bowles and Gintis (1976) suggested that all US schooling has a hidden curriculum dictated by the demands of a capitalist economy. More recently, critical theorists have sought to expose the hidden assumptions behind curricula (see, for example, Collins (1991) — see also Cultural Considerations). Some of the work seems marginal and academically political, but there is no denying that teachers' strategies, such as labelling, can have a profound effect on a student's experience. Claxton (1996) has convincingly argued that adult learning is profoundly influenced by "implicit theories of learning" acquired at school, and that teachers tend to reproduce their implicit models in the ways in which they themselves go on to teach.

A great deal of learning takes place in a social context, whether that be the family or the classroom or the work-group (hence social constructivism and situated learning). It is thus subject to social pressures which, while they may not appear directly relevant to the subject matter to be learned, influence underlying attitudes and perspectives affecting motivation, the value and priority to be given to academic work, and so on.

Behaviourists seem to believe that people learn only when it's worth their while. Humanists seem to believe everyone wants to learn. But learning is a form of personal change, and that can be resisted as often as it is embraced.

Generally speaking, when people fail to learn something which they have been taught, the failure is attributed to one or more of three factors:

**lack of motivation**

**lack of ability or aptitude**

**poor teaching.**

Experience, however, suggests a fourth factor which is often neglected:

**the cost of learning.**

The economic cost of undertaking higher education is a real factor for many students in much of the UK at the moment, but "cost" is here used psychologically. It implies the loss involved for the (superficially) competent and experienced adult in "changing their ways". This change may be termed "supplantive learning", to be contrasted with simple "additive learning" in that instead of just adding new knowledge or skills to an existing repertoire, supplantive learning calls into question previous ways of acting or prior knowledge and replaces them (Atherton, 1999).

Supplantive learning is difficult enough when it is entirely under the learner's control, but when it is required, demanded or forced, or creeps up out of awareness, or there is significant emotional investment in previous beliefs or ways of acting, it becomes problematic.

## **Teaching and Learning Core Focus Areas**

### Core Focus Areas

For a number of years, the Edmonds School District has focused on four core areas for supporting the district mission and instructional goal. The four core areas include the development of a standards-referenced system, a focus on teaching for understanding, the development of a collaborative culture, and efforts to strengthen the learning environment.

### Core Area Characteristics

#### *Implementing a Standards-Referenced System*

The purpose of a standards-referenced system is to ensure optimal learning for all students. Using standards as a guide and assessments for gathering evidence, educators can monitor student progress and provide appropriate learning opportunities. All aspects of the teaching and learning process focus on the goal of students demonstrating their learning. The system places an emphasis on the learners, the products they produce, and the processes they use. Students are provided a coherent curriculum: there is vertical and horizontal articulation of the standards, assessments, and instructional materials. Students are accountable for meeting standards and demonstrate achievement of standards in a variety of ways. Students are provided with ongoing feedback of progress and supports to meet standards. Teachers and administrators provide time and opportunity necessary for student success. System support ensures staff members have:

A wide variety of instructional strategies for meeting the diverse learner needs. A deep understanding of the critical elements of a rich learning environment. A deep knowledge of the subject matter and research foundation in the areas they are responsible for.

Teachers and administrators use data driven results to inform continuous school improvement.

#### *Teaching for Understanding*

The ultimate goal of teaching for understanding is to ensure students really understand what they learn. Teaching for understanding is a complex process that requires a depth of content knowledge and pedagogy. High quality teaching is essential to quality student learning. Teachers communicate and support high expectations for learning. Teachers design, create, and invent high quality, intellectually demanding work for students - work that calls upon students to think, to reason, and to use their minds well (rigor and relevance). Teachers employ instructional best practices to actively engage students in learning. Teachers utilize

a wide variety of instructional strategies to meet diverse learner needs. Teachers have a lifelong interest in refining their craft.

### *Developing a Collaborative Culture*

Building collaborative learning communities enhances the development of high quality teaching and is essential to improved student learning. Creating collaborative learning communities requires commitment and capacity for adults to think and problem solve together about how to improve instructional practice and student learning. Job embedded professional development focuses on building teacher leadership capacity in schools and gives teachers the opportunity to share the responsibility for teaching and learning. Practitioners engaged in authentic work focused on the improvement of student achievement at the classroom and building level. There is a collective responsibility for supporting all students.

Leadership capacity within schools is enhanced through:

Strengthening deeper understanding for curriculum/instructional planning and best practices. Examining instructional practice and student work using protocols and facilitation skills. Developed quality instructional models, mentorship programs, and content area leads.

### *Strengthening the Learning Environment*

The school is built on supportive human relationships that help students learn. A safe, civil, healthy, and intellectually stimulating atmosphere positively impacts student learning. Every student is known, appreciated, and included in a diverse collaborative community. Every student feels respected and connected and their learning is personalized. Programs and facilities are organized in ways that encourage the development of healthy student-adult relationships (the school is small or feels small). Both students and teachers exercise choice and make decisions in important elements of school life. The school supports student learning by providing nurturing, inclusive environment that recognizes individual student needs, strengths, and future goals. The school day and calendar provide flexible and variable blocks of learning time, with extended time when appropriate for the learner. The classroom teacher fits learning to the definable, developmental level of students.