**Educational Constructs**

**1. Cooperative and Collaborative Learning**

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|  | **One of the educational constructs that has influenced my general knowledge about teaching is** [**Cooperative and Collaborative Learning**](http://www.studygs.net/cooplearn.htm) **, a concept widely discussed and supported by theorists and educators construct.**  |

One of the developers of this Educational Construct is [**T. Panitz.**](http://home.capecod.net/~tpanitz) Mostly he concentrated in the component of Collaborative Process. In one of his well known books he states: “Collaboration is a philosophy of interaction where individuals are responsible for their actions, including learning and respect the abilities and contributions of their peers. In 1996 he published “ [**A Definition of Collaborative vs. Cooperative Learning**](http://www.city.londonmet.ac.uk/deliberations/collab.learning/panitz2.html) ” .For more articles and a resume you can go to [**Ted's articles**](http://aolsearch.aol.com/aol/redir?src=websearch&requestId=40aa142fedb93a91&clickedItemRank=2&userQuery=Ted+Panitz&clickedItemURN=http%3A%2F%2Fhome.capecod.net%2F%7Etpanitz%2Fstarterpages%2Farticles.htm) . Collaborative learning is a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the group's actions. The underlying premise of collaborative learning is based upon consensus building through cooperation by group members.” (T. Panitz , (1997), "Collaborative Versus Cooperative Learning: Comparing the Two Definitions Helps Understand the nature of Interactive learning" Cooperative Learning and College Teaching, V8, No. 2, Winter 1997, Panitz, T., and Panitz, P., (1998) "Encouraging the Use of Collaborative Learning in Higher Education." In J.J. Forest (ed.) Issues Facing International Education, June, 1998, NY , NY : Garland Publishing.

Cooperation is a structure of interaction designed to facilitate the accomplishment of a specific end product or goal through people working together in groups. Cooperative learning is defined by a set of processes which help people interact together in order to accomplish a specific goal or develop an end product which is usually content specific. It is more directive than a collaborative system of governance and closely controlled by the teacher. While there are many mechanisms for group analysis and introspection the fundamental approach is teacher centered whereas collaborative learning is student centered. (Panitz 1997, 1998) Spencer Kagan (1989, Educational Leadership (Dec/Jan 1989/1990)) defines cooperative learning: “The structural approach to cooperative learning is based on the creation, analysis and systematic application of structures, or content-free ways of organizing social interaction in the classroom. Structures usually involve a series of steps, with proscribed behavior at each step. An important cornerstone of the approach is the distinction between "structures" and "activities". To illustrate, teachers can design many excellent cooperative activities, such as making a team mural or a quilt. Such activities almost always have a specific content-bound objective and thus cannot be used to deliver a range of academic content. Structures may be used repeatedly with almost any subject matter, at a wide range of grade levels and at various points in a lesson plan”.

Two of the most prominent developers on this component are D.W. Johnson [**David W. Johnson Resume**](http://www.co-operation.org/pages/dwj.html) and Roger T. Johnson [**Roger T. Johnson Resume.**](http://www.hi.is/~joner/eaps/wh_DWJ.htm)

Johnson, Johnson, and Smith (1998, Johnson, D.W., Johnson, R.T., Smith, K.A., Change, July/August) clarify theories which govern cooperative learning strategies. "Social interdependence theory assumes that cooperative efforts are based on intrinsic motivation generated by interpersonal factors and a joint aspiration to achieve a significant goal. Behavioral learning theory assumes that cooperative efforts are powered by extrinsic motivation to achieve rewards. Social interdependence theory focuses on relational concepts dealing with what happens among individuals, whereas the cognitive- development perspective focuses on what happens within a single person (p29).

A guideline to create a Cooperative and Collaborative Learning situation in class would be:

•  Team activities begin with training in, and understanding group processes.
An instructor begins by facilitating discussion and suggesting alternatives
but does not impose solutions on the team, especially those having difficulty working together

•  At least 4 students. Larger teams have difficulty in keeping everyone involved

•  Teacher-assigned groups with specified roles for each member and with rotation of their responsibilities. Such roles would include but is not limited to : team leader, recorder, assessor, summarizer

•  Diverse skill levels, backgrounds, experience, and gender

•  Each individual brings strengths to a group

•  Each member of the group is responsible to not only contribute his/her strengths, but also to help others understand the source of their strengths

•  Any member who is at a disadvantage or not comfortable with the majority should be encouraged and proactively empowered to contribute

•  Learning is positively influenced with a diversity of perspective and experience
increasing options for problem solving expanding the range of details to consider

•  Establishing a Problem Solving Protocol:

•  Work independently,

•  discuss with your partner,

•  discuss with your team

•  Share your team's work with the class.

•  Problem solving team expectations

•  Cooperative : One set of answers from the team

•  Expected criteria for Success : Everyone must be able to explain the problem

•  Individual Accountability : one member will be picked randomly to demonstrate

•  Expected Behaviors :everyone is expected to be actively participating, encouraging

Cooperative learning can also assist teachers with the diversity seen in classrooms. These learning methods give teachers an effective way to respond to diverse students by promoting academic achievement and cross-cultural understanding.

You can look at [**Cooperative Learning Center**](http://www.clcrc.com/) to get even more information .

This construct has hugely influenced the way I teach. I have already applied most of these rules in my classroom and I'm in the process of refining it in order to get better results. Students are enjoying it and the results seem to be very positive. It's very interesting the way that students profit from each other. Much more needs to be done in terms of keeping them focused in task within the group.

**2. INSTRUCTIONAL DESIGN AND CURRICULUM DEVELOPMENT**

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|  | **Another Educational Construct that has influenced my experience as a teacher is** [**Curriculum Development and Instructional Design**](http://www.allconferences.com/conferences/20031103142330) **. Instructional Design is the systematic development of instructional specifications**  |

using learning and instructional theory to ensure the quality of instruction. It is the entire process of analysis of learning needs and goals and the development of a delivery system to meet those needs. It includes development of instructional materials and activities; and tryout and evaluation of all instruction and learner activities.

One of the most prominent developers is Ralph W. Tyler [**Ralph Tyler (1902-1994)**](http://www.coe.ufl.edu/webtech/GreatIdeas/pages/peoplepage/tyler.htm) .He published “Basic principles of Curriculum and Instruction “. Specifically, his work focused on the administrative aspects of the curriculum and called for the application of four basic principles in the development of any curricular project. These four basic principles include:
1. Defining appropriate learning objectives.
2. Establishing useful learning experiences.
3. Organizing learning experiences to have a maximum cumulative effect.
4. Evaluating the curriculum and revising those aspects that did not prove to be effective.

Tyler wrote:

“Any device which provides valid evidence regarding the progress of students toward educational objectives is appropriate...The selection of evaluation techniques should be made in terms of the appropriateness of that technique for the kind of behavior to be appraised” (Pinar , W., Reynolds, W., Slattery, P., and Taubman, P. (Eds.) (1995). “ *Understanding Curriculum”* New York : Peter Lang., p. 136).

As a result of the basic principles, the role of the curricularist and teacher shifted to that of scientist. In the development of any curriculum using the Tyler method, hypotheses are to be established in direct relation to the expected learning outcomes for students. As the curriculum is enacted, teachers and curricularists become scientific observers, determining whether or not their curricular hypotheses are in fact demonstrated by student behavior. Following the application of the curriculum, educators return to the curricular plans to make any adjustments so as to ensure the proper outcomes in the classroom. In this case, students do not participate on any level in the planning or implementation of their education; rather, they solely assume the role of object of study. Today the Instructional Design is being developed in a modern way by various educational institutions which have included high technology and software assistance .One of them is TrainSys, Inc [Instructional Systems Design](http://www.trainsys.com/instructional_systems_design.htm) which uses the ISD model.

This construct has influenced my understanding about Instruction, its principles and the ways to adopt in the light of the new requirements by State Education to achieve higher standards. In my school, in Math Department, we can now make appropriate adjustments so as to ensure the desired outcome takes place in the classroom.

**3. Differentiated Instruction**

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|  | **This Educational Construct is based on the fact that students differ in their learning profiles. Typically, every classroom consists of a mixture of students who have**  |

different learning abilities as well as a variety oflearning styles. Differentiated learning is an educational construct that has been used in classrooms to successfully work with students who have different abilities **.** [**Carol Ann Tomlinson**](http://www.textkit.com/1_Carol_Ann_Tomlinson.html) is considered the expert on differentiated learning in the classroom.  According to Tomlinson, it is inexcusable for teachers to think that the students in their classroom can all be taught with the same curriculum and expect the same outcomes.  She stated

“… Differentiating instruction means “shaking up” what goes on in the classroom, so that students have multiple options for taking in information, making sense of ideas and expressing what they learn. In other words, a differentiated classroom provides different avenues to acquiring content, to processing or making sense of ideas, and to developing products”

Carol Ann Tomlinson (1995)

[**Differentiated Instruction**](http://www.ascd.org/pdi/demo/diffinstr/differentiated1.html) provides students with individualized learning which can be tailored to their specific needs. Currently in education, a driving force is the idea of a standards based classroom.  Many teachers are driven by the fact they are given concepts and standards that each student must have a solid grasp on before the end of the academic year.  According to Tomlinson, standardized curriculums leave many students behind, as the work is not individualized for their specific learning needs.  Unfortunately, many teachers think that differentiating the curriculum means that they will have to remove the standards based curriculum.  Differentiating in the classroom can be integrated with the standards based curriculum.  One must understand that differentiating is not a method of teaching but a philosophy in teaching which has beliefs that going along with it

Differentiated learning is a way of teaching that continues throughout the year in each lesson.  After this concept is understood, teachers have to realize that in order to correctly differentiate a classroom all of the students' abilities will be understood.  Differentiation then focuses on creating activities personalized for each student so that they are working slightly above where they normal would without assistance. A basic guideline (but not limited) for the basis of differentiation instruction to take place in a classroom would be:

•  Pre-test : Used to assess knowledge students bring with them.

•  Instruction: Offered to those students pre-testing below the satisfactory level

•  Individual practice/application : For those students that have “passed” the pre-test, or have received the instruction on the given topic

•  Assessment/Final Product: A means by which to judge the amount of progress and understanding of the student at unit's end

•  Individual practice/application : For those students that have “passed” the pre-test, or have received the instruction on the given topic

•  Varied levels : Throughout these pieces (bar the pre-test), the content offered is altered in some way (ability, intelligence style, other) so as to promote growth and understanding within the individual's parameters of learning

Differentiated instruction, I believe, will be one of the constructs which will dominate the direction of education as we progress into the future.  With technology advancing, it will become easier for the classroom teacher to create and track all of the students' work in the classroom with more efficiency.  All teachers realize that every student learns differently and differentiated learning seems to be one of the answers to teaching all of the students. Classroom should be geared towards students being active learners not passive learners. Multiple options should be available for students when taking in content, for processing information and the product they produce.

[Instructional technology](http://carbon.cudenver.edu/~mryder/itcon.html) lends itself to differentiated instruction in a variety of ways. Because of the vast and diverse amount of material available through the use of instructional technology, teachers can generate lessons appropriate to all types of students. By this I mean individual learning styles, can be planned for and met with the intention of meeting student growth in appropriate manners. Without the use of instructional technology, many of the more successful student generated projects that I have assigned would be impossible or far less educational. Most of the time the instructional technology is completed on class time thereby, preventing the parents from completing any of the projects. It is here that you are able to see the vast intelligences of our children no matter what level of intelligence their standardized tests say they are at.  It is through the integration of these three educational theories that my students are able to reach these results on a continual basis in my classroom.