

Research Paper on Curricular Models

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Families, Children and Communities in a
Multicultural and Diverse Society

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Introduction

Abstract

The focus of this research paper is on the role of teachers and the teaching strategies used in classrooms. The premise is that teachers are now realizing that they need to reach beyond traditional ways of teaching in order to assist their students in acquiring a deeper understanding of the topics being studied while developing critical thinking abilities. Strategies examined in the article are Social Interaction, Problem Based Learning, Inductive and Deductive (Eggen, 2001). By familiarizing themselves with the aforementioned strategies, teachers will be able to clearly define learning objectives and appreciate the value of these strategies in enhancing students learning. Included in the strategies are examples teaches can implement into their instructional modes to ensure differentiated instructional and an equal learning opportunity for all students.

As changes continue to occur in the field of instruction, most teachers view themselves as being in the middle of one of the most exciting periods in the history of education (Bishop, 2002). Many teachers continue to use teaching literature and strategies that were popular in the 1970's and 1980's as a foundation; however, the majority of teachers now see the need to go beyond this way of thinking and focus on assisting their students in acquiring a deeper understanding of the topics they study while developing critical thinking abilities (Eggen, 2001). This current or "new" foundation is reflected in greater emphasis on the social nature of learning, the impact of context on comprehension, the need for domain-specific knowledge in higher order thinking, novice differences in problem solving, and the beliefs that learners construct their own understanding of the topics they study (Eggen, 2001).

Teaching strategies should be selected on the basis of their expected utility in meeting specific course objectives. Teachers will rarely use all strategies in a single course. Each strategy is associated with a foundation in learning theories. Teaching strategies are independent of the learning theories that encourage them; however, teachers should familiarize themselves with learning theories before exploring and implementing strategies (Stone, 1999). By familiarizing themselves with the strategies they (teachers) intend to implement, teachers are able to clearly define learning objectives and appreciate the value of these strategies in enhancing students learning. Important factors for teachers to be aware of are the continuing cognitive approaches or advances of cognitive psychology; which provide a clear picture of how students learn, and understand, and identify the links between themselves and their students.

Justification

In recent years, educators have explored links between classroom teaching and emerging theories about how people learn. Exciting discoveries in neuroscience and continued developments in cognitive psychology have presented new ways of thinking about the brain; the human neurological structure and the attendant perceptions and emotions that contribute to learning (Caine, 2006).

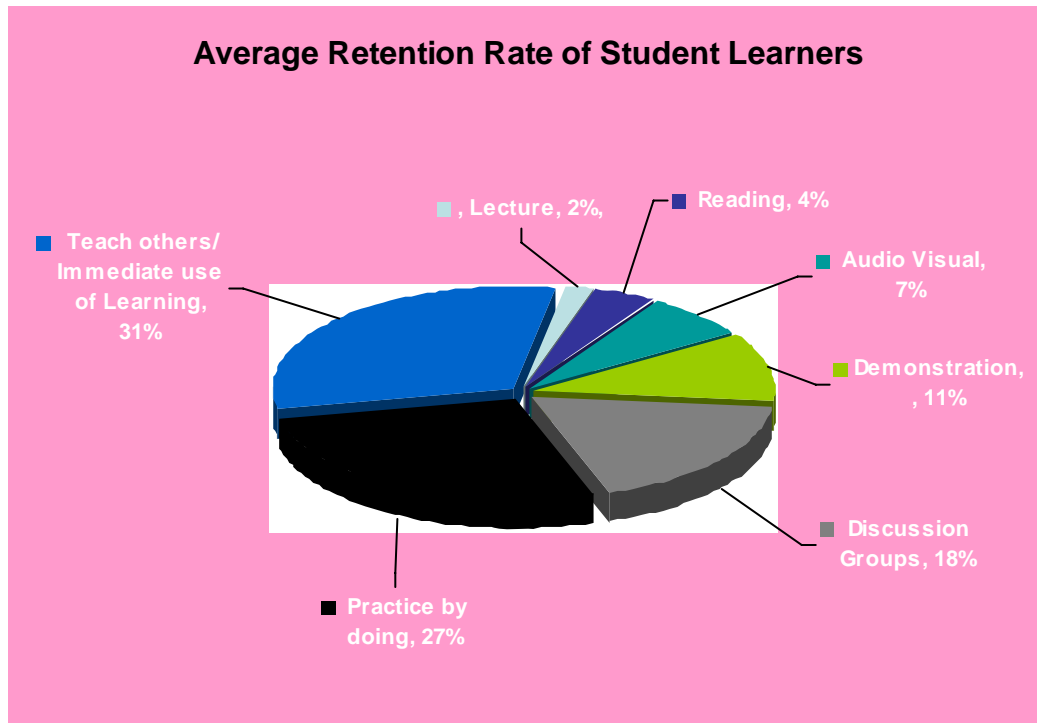
Marian Diamond, author of *Differentiating Instruction*, states in her article that brain research conforms what experienced teachers have always known:

- No two children are alike.
- No two children learn in the same identical way.
- An enriched environment for one student is not necessarily enriched for another.
- In the classroom, teachers should teach children to think for themselves.

Diamond (2003) further states that although essential curricular goals may be similar for all students, methodologies employed in a classroom must be varied to suit the individual needs of all children. Learning must be differentiated to be effective, Diamond adds.

Pierce (2004) asked in her opening statement “How can we as teachers possibly reach all of the students in our classrooms when they are academically diverse”? In addition to the fact that a typical classroom is filled with academically diverse students, Caine (2006) stated that each student also learns and retains information differently. Cain further states in her article that out of 100 children surveyed the average attention rate were as follows: 2% of benefited from lectures, 4% from reading instruction, 7% learned via audio-visual means, 11% learned best via demonstrations, 14% via discussion groups, 27% by

practicing what was taught and 31% learned best when they could immediately use the concepts and methods taught. In a pie chart, these numbers would be reflects as:



This chart demonstrates that children receive, interpret and retain information differently. Due to this, school administrators, principles and teaches should insist on the restructuring of classroom instructional techniques and rise to the challenge of adding strategies to their knowledge of teaching techniques. This restructuring or re-vamping will ensure that the learning styles of all students are being met and attended to.

Discussion on Teaching Strategies

Teaching strategies vary depending on the type of classroom a teacher creates, the population of the class, the students in the class, and their specific needs in terms of learning styles and personality (Eggen, 2001). Strategies are also influenced by the environment as well as environmental changes (Stone, 1999). Strategies vary from teacher to teacher, district to district, state to state, country to country and by curriculums (Moss, 2000). It seems as though what is acceptable in one country is not necessarily acceptable in another. Eggen (2001) states that there are four models that teachers may use when implementing strategies into their class structure they are: Social Interaction, Problem Based Learning, Inductive and Deductive.

The social interaction model is comprised of group work, cooperative learning strategies and team work. The social interaction model consists of strategies that involve students working collaboratively to reach common goals. These models have evolved over several years in order to increase a learner's involvement in classroom activities, provide leadership and decision making experiences, and give students the opportunity to interact with students from other socio-economic and cultural backgrounds (Eggen, 2001). Within the social interaction model lies group work and cooperative learning strategies.

The problem based learning model deals with problem solving and inquiry base learning. Problem base learning is designed to teach problem solving skills and content and to develop self-directed learning. Problem base learning uses a problem as a focal point for student investigation and inquiry (Eggen). Problem base learning contains a broad family of teaching strategies that includes problem solving, project based teaching,

case based teaching and anchored instruction. Common to all of these different strategies is the student's active involvement in trying to solve a problem or answer a question (Eggen). Problem base learning strategies share the following common characteristics: they all begin with a problem or question, students assume the primary responsibility for investigating the problem and pursuing inquiry, and the teacher's role is that of facilitator. The goals of problem based learning are to: develop the student's understanding and ability to investigate a question or problem systematically, to develop self-directed learning, and obtain content acquisition (Pierce, 2004).

The inductive model consists of the concept-attainment theories and the integrative models. The inductive model is a straightforward but powerful strategy designed to assist students in acquiring a deep and thorough understanding of the topics they are studying (Eggen, 2001). Eggen further documented that teachers will need to present information that illustrates the topics and then guides the students as they search for relationships in the information. The model is grounded in the view that learners construct their own understanding of the world rather than recording it in an already – organized form (cognitive learning theory and constructivism). The inductive model as Pierce (2004) states; requires teachers to be skilled in questioning and guiding students thinking and is highly effective in promoting students involvement and motivation. The goals for the inductive model are: to assist students in acquiring a deep and thorough understanding of specific topics and to put students in an active role in the learning process of constructing their own understanding (Eggen).

The deductive model involves direct instruction and lecture-discussion groups. This is a teacher-center strategy that uses teacher explanations and modeling combined with

student practice and feedback to teach concepts and skills (Eggen, 2001). Pierce (2004) adds that it is teacher centered in the sense that the teacher identifies the lesson and goals. The teacher in this model explains the concept and models the skills for the students. Students are actively involved in developing initial understanding and practicing. Four phases of this model are: introduction of a lesson topic, presentation of information – explaining the concept/skill, guided practice-students practice the skill and independent practice – students practice the skill/concept on their own (homework) (Eggen). The goals of this model as stated by Eggen are: to measure students understanding of the concepts and to show how the topics can be applied to the real world.

The above models are associated with a theory and have their own set of goals and objectivities. The models serve as a framework on which teachers can build on or plan their lessons and activities. Through-in service training and conferences, teachers can be taught how to effectively implement these models into their classroom structure and the benefits these models will have on their classroom environment.

Examples & Applications

Across the nation, school are responding to political, economical, social and technological pressures to be more responsive to student's needs and more concerned about how well students are prepared to assume future societal roles. Adelman (2002) author of *Building Comprehensive, Multifaceted, and Integrated Approaches to address Barriers to Students Learning* documented that teachers are feeling the pressures to lecture less, to make learning environments more interactive, to integrate technology into the learning experience, and to use collaborative learning strategies when appropriate.

The section will explore the following strategies: Cooperative Learning, Differential Instruction and Experiential Learning.

Cooperative Learning as stated by Goodwin (1999) is a teaching arrangement that refers to groups of students working together to achieve a common learning goal. She further states that in this type of environment small groups of students discuss topics and learn to take charge of their own learning. Team spirit rather than competition is stressed as students work together. Positive interdependence is the goal of cooperative learning; therefore, the success of the group depends on each member attaining both the group and his or her own individual learning goal (Goodwin). Although higher achievement is one of the goals of the developers of cooperative learning, additional reasons for using cooperative learning include improved motivation, positive attitudes, better social skills and the accommodation of heterogeneity (Strom & Strom, 1999). The defining features of cooperative learning vary somewhat, depending on the form of cooperative learning. Emmer et al., (2002) describe cooperative learning features as incorporating group goals (giving certifications and other recognition of group grades) and individual accountability (individual testing or task specialization). The key features identified were the use of group task, accountability to the teacher and some degree of interdependence among students in order to complete group tasks. Salvin (2002) also emphasized the importance of group interaction and the necessity of students being allowed to make mistakes and to struggle on their own, without excessive teacher supervision and interference.

Cooperative learning is a versatile procedure and can be used for a variety of purposes. In the past, the main purpose for which cooperative learning was used were fairly basic, for example: completing worksheet, textbook assignments, reviewing for test or homework

assignments (Sparapani, et.al., 2000). The primary instructor for working in cooperative learning groups were to “work together”, “check each other” and “decide on an answer”. Typically the teacher assigns students to groups and maintains a balance of activities. Teachers may also assign roles to students in the groups. Cooperative learning groups may be used to teach specific content (formal cooperative learning groups), to ensure active cognitive processing of information during a lecture or demonstration (informal cooperative learning groups) (Johnson & Johnson, 1999). Formal cooperative learning consist of students working together, for one class periods or several weeks, to achieve shared learning goals and complete specific task and assignments (problem solving, writing a report, conducting a survey, learning vocabulary or answering questions at the end of a chapter (Johnson & Johnson). Informal cooperative learning consists of students working together to achieve a joint learning goal. During a lecture, demonstration or film, informal cooperative learning can be used to focus students attention on the material to be learned, set a mood conducive to learning, help establish expectations as to what will be covered in class sections, ensure that all students cognitively process the material being taught and provide closure to an instructional session (Sparapani, 2000). Since the early 1970’s, a variety of cooperative learning methods have been developed. Some of the methods are simple, whereas others are more complete or difficult (Goodwin, 1999). Listed are a few of the methods teachers can implement into their classroom structure to enhance the learning environment:

- Think/Pair/Share – a strategy designed to provide students with “food for thought” on a given topic enabling them to formulate individual ideas with other students.

- Roundtable – a cooperative learning strategy in which students take turns contributing answers in a group. Roundtables is usually completed in written form.
- Webbing – a graphic organizer strategy that provides a visual picture of how words or phrases connect to an object, concept or topic. Webbing helps students clarify concepts.

Accountability is an important component of cooperative learning. Individual accountability involves two components (a) each groups member is individually responsible for his/her own learning and (b) each member is responsible for helping other members of the group learn. Individual accountability enhances group work in a number of ways: it ensures that each student has important responsibilities that are apparent to all team members, it signals if a student needs support or additional assistance, and it decreases the possibility of unnecessary duplication of group member's efforts' (Schniedwind et al., 2000). Researchers have provided evidence that cooperative learning is a viable method to enhance academic performance of all students across all developmental levels. Langlois (2001) states that cooperative learning is an effective instructional alternative to competitive learning and individual learning. Strom et al., (1999) commented that cooperative learning offers students powerful support because it increases the number of people who will listen to them, care about their problems, and offer assistance. Goodwin, (1999) states that researchers who have examined cooperative learning outcomes consistently report improvement in problem solving abilities, more favorable attitudes towards schooling, higher self-esteem, increased willingness to try

new things and difficult tasks, an appreciation of culturally diverse peers and better relationship among classmates.

Differentiating instruction is the process of adapting course material to meet the needs of all students in a given class. Rather than marching students through the curriculum in lockstep, teachers can modify their instruction to meet student's varying readiness levels, learning preferences and interest (Checkley, 2000). Differentiated instruction is not a new concept, explains Checkley; who goes on to state that back in the day of the one room schoolhouse, differentiated instruction was how school was implemented. With differentiated instruction, teachers use a variety of teaching strategies to instruct class. These strategies are not limited to a particular class or frame but encompass all aspects of the educational arena. The strategies associated with differentiated instruction are vast and largely depend on the teacher. Research has proven that flexible grouping is a must in differentiated instruction (Checkley). Other strategies associated with differentiated instruction are:

- Entry points – a strategy from Howard Gardner, which proposes students exploration of a given topic through as many as five avenues (narrative, logical, foundational, aesthetic and experimental).
- Problem base learning – this strategy places students in an active role of problem solving.
- Choice boards – a strategy where work assignments are written on cards and placed in hanging pockets, the teacher targets works toward students needs yet allows for student choice.

- Compacting – a strategy that encourages teachers to assess students before beginning a unit of study or development of a skill.

Teachers as noted by Pierce & Adams (2004) can differentiate instruction through content, process, product or environment. Differentiating the content can be described as knowledge, skills and attitudes we want children to learn. Differentiating the content requires that students are pre-tested so teachers can identify the students who do not require direct instruction (Checkley, 2000). Students demonstrating understanding of the concept can skip the instruction step and proceed to apply the concepts to the task of solving a problem. This strategy is referred to as compacting the curriculum.

Differentiating the process means varying learning activities to provide the appropriate methods for students to explore concepts. It is important to give students alternative paths of manipulating the ideas embedded within the concept (Pierce & Adams). Varying the complexity of the assignment can very effectively facilitate levels of cognitive processing for students of differing abilities. Differentiating the product means varying the complexity of the product that students create to demonstrate mastery of the concepts. Students working at or below grade level may be asked to produce work that requires more complex or more advanced thinking (Checkley, 2000). Pierce & Adams noted that differentiating by manipulation of the environment allows teachers to look at classroom/learning environment and make sure they are accommodating to all students. Environmental factors that should be considered are those of: handicap accessible, learning distractors and room or facility temperature. An understanding of Howard Gardner's multiple Intelligences is important here due to the fact that all students learn at different rates and by different measures resulting in the need for different or

accommodating environments (Theroux, 2002). Even though these approaches look at differentiating instruction in different ways, they all have merit and should be viewed as excellent strategies. Theroux further states that an amalgamation or blending of these concepts is more effective than any one approach. Varying teaching strategies makes sure that students will occasionally learn in a manner compatible with their own learning preference but also one that expands their repertoire of alternative learning strategies. Checkley (2002) states that it is important for teachers to take on the challenge of differentiating instruction because teachers have a responsibility to challenge students to their fullest potential. Public schools have a responsibility to promote educational equity and to educate a future public for a democracy.

Experiential learning is the process of immersing students in real life situations in which they construct knowledge as they seek success in action. Experiential learning can yield practical skills as well as theoretical knowledge (Theroux, 2002). The goal of this strategy is for students to actively engage in the learning process, to understand and retain course content, to provide an opportunity for outreach and/or service to the community, to expose students to possible career paths and to develop skill in decision making, team work, communication and problem solving (Pierce & Adams, 2004). To make experiential learning effective, the learning wheel is used. Experiential learning is unique in that the approach to experiential learning utilizes the students own experiences and their own reflection about the experience, rather than lecturing as the means of gathering and the transferring of skills and knowledge. When teachers implement experimental learning Pierce & Adams stated that they are allowing students to discover an activity or concept, discover how it made them feel and what that experience means to them.

Experiential learning is particularly effective due to its holistic approach of addressing the cognitive, emotional and the physical aspects of the learner. Under the holistic approach, experiential learning cultivates self sufficiency (Theroux). Some principles of experiential learning are that experiential learning: recognizes that people learn best from their own experiences and their own reviews, subscribes to the notion that what people do is more important than what they know, moves beyond knowledge and into skill by generating a learning experience (Bishop, 2002). The experiential learning environment respects students' ideas and choices, gives students the right to confront difficult situations, and provides an opportunity to take on challenges in an atmosphere of support and caring. Duffy (2001) reported that experiential learning can be implemented through various methods, which includes: fieldtrips, outdoor learning activities, community service and modeling. Through the implementation of these learning situations, students are able to practice what they have been taught as well as to obtain a deeper understanding of the concepts.

As teachers plan their lessons and activities, attention to selecting which teaching strategy (cooperative learning, differential instruction and experiential learning etc.) to implement should follow as well as the decision about what students will be asked to do to demonstrate to show their understanding of the subject (Duffy, 2001). Whenever possible, learning opportunities should be consistent with what is known about how the brain learns (Winebrenner, 2003).

Conclusion & Recommendations

One size does not fit all, and not all students learn, think, act or react the same. Each student is unique and has very special talents, treasures, traits and learning abilities. In order for teachers to be truly effective, they have to be in tune to the learning styles and preferences of their students; remembering the intelligences of the students, their social and emotional levels as well as their ages (Checkley, 2000). Through the implementation of cooperative learning, differentiated instruction, and experiential learning strategies, teachers will be better equipped to assist their students and enhance the learning environment. For teaching strategies to be successful, Pierce and Adams states that teachers must first introduce the strategies and concepts to their students.

Curriculum is no longer defined in terms of what a teacher will teach but rather in terms of what a student will be able to demonstrate (Diamond, 2003). Diamond further states that if teachers are to be responsible for what a child learns then it is essential that teachers understand what the child knew at the beginning of the term and how to move the child forward from that point in a successful manner. This means, teachers will need to be informed and educated on how children learn and how each child learns best.

Teachers should also remember that incorporating strategies into their activities takes time, energy and patience. Pierce & Adams (2004) documented that teachers will need the support of their administrators and peers as well as to continue to update their professional development and knowledge of learning strategies and techniques.

Checkley (2000) suggested that teachers start off small, by incorporating their favorite lesson then slowly adding other activities and modules into the structure. She also added

that teachers will need to rely on media specialist, coordinators and parents in order to successfully implement strategies into their learning environments.

“It is important for teachers to remember that every child is unique”. Although we may rejoice in this fact Checkley adds, it poses a dilemma for educators. When students are diverse, teachers can either “teach to the middle” and hope for the best, or they can face the challenge of diversifying their instruction and teach so that all of their students can learn.

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