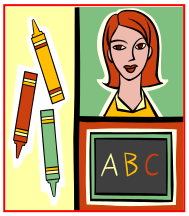
P3 Progressive Pupil Primary

Effective Teaching

Newsletter No 12, Term 3, Week 3. 24th July, 2009.



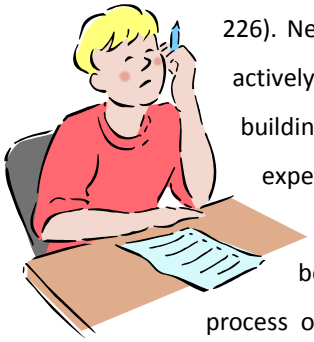
Welcome to the latest issue of 'Effective Teaching'.

- A reminder the 'Constructivism and Assessment' Workshops will be on Friday 14th, August.
- All staff are required to attend and relief teachers have been rostered for all classrooms.
- There are two sessions throughout the day - please check the roster to confirm your workshop time.

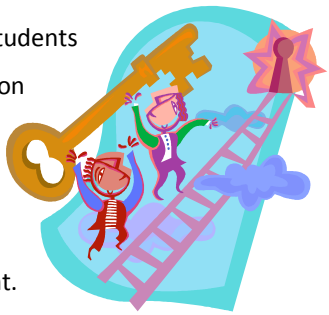
Contemporary effective teaching methods embrace all learning theories and strategies, adapting and changing to best suit the needs of the child. The South Australian Curriculum, Standards and Accountability Framework (SACSA) focuses on constructivist approaches and was "…written to be consistent with constructivism in order to support the development of teaching and learning" (Department of Education, Training and Employment [DETE], 2001, p. 11).

What is Constructivism?

The theory of Constructivism indicates: "Learners construct, rather than record, knowledge" (Eggen & Kauchak, 2010, p. 226). New understanding and knowledge is actively developed by reflecting and building on previous learning, everyday experiences and actions. Constructivist teachers are student focused; believing learning is not a submissive process of listening, memorisation and rote learning but requires active and interactive student involvement. Students' attempt to make sense of what they see, hear and do, concentrating on thought processes to develop conceptual knowledge and the internal construction of meaning, relevant to their own previous experiences or understandings. "Learning is active and internally monitored; it is a process of acquiring, discovering, and constructing meaning from experience" (Reys et al, 2009, p. 24).



Students develop at varying rates and cultural and social factors influence understanding and previous knowledge. This helps explain why each student develops their own understanding and why misconceptions of knowledge occur. "Constructivism helps us understand why differences in prior knowledge are so important in classroom learning" (Eggen & Kauchak, 2010, p. 231). Effective teachers are aware of individual student progress, thus adjusting lesson plans and providing scaffolding and feedback according to their specific needs (Marsh, 2008). Effective scaffolding is the process of supporting learning through teacher-student or student-student interaction to help students achieve tasks they cannot manage on their own, challenging existing knowledge and encouraging the connection of ideas to promote high-level cognitive development. Once the task has been mastered, scaffolding is withdrawn (Eggen & Kauchak, 2009; Marsh, 2008). This concept of teaching presents "…a range and variety of learning tasks with appropriate kinds and levels of scaffolding" (DETE, 2001, p. 11).



Constructivist classrooms promote cognitive and metacognitive thinking, teaching students to integrate their knowledge in other learning areas and throughout life, helping to develop a desire for lifelong learning and to utilise their knowledge in relevant and meaningful ways. Contemporary classrooms "...Teach learners how to learn, how to regulate their learning skills, and how to direct their own learning efforts" (Killen, 2007, p. 9).

"The central thesis of constructivism is that the learner is active in the process of taking in information and building knowledge and understanding; in other words, of constructing their own learning." (DETE, 2001, p. 10)

Theories of Constructivism

Constructivism is based on the research of many different theorists, including Piaget and Vygotsky. Effective teaching for the Twenty-First Century embraces a combination of both styles, placing the student at the centre of the learning process.

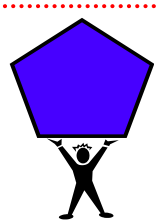
The Image of Piaget (Google Images, n.d.).

Piaget's theory of cognitive constructivism indicates children search for understanding in their environment to develop individual internal knowledge, thus focusing on "...the cognitive processes that people use to make sense of the world." (Killen, 2007, p. 7). He suggested two principles of cognitive development: adaptation and organisation. Adaptation is the process of maintaining cognitive equilibrium and when children experience something to disrupt this balance they reconstruct their knowledge accordingly. He introduced the concept of schema, defining this as a form of intellectual categorising and understanding of unfamiliar knowledge (Marsh, 2008). Piaget specified two methods for children's schemata: "Assimilation occurs when a child incorporates new knowledge into existing knowledge. Accommodation occurs when a child adjusts to new information" (Santrock, 2001, as cited in Marsh, 2008, p. 17). Organisation relates to the cognitive maturation of the child and the ability to categorise events in their environment into existing schemata.

The Image of Vygotsky (Lev Vygotsky Image Gallery, n.d.).

Vygotsky's theory of social constructivism indicates social interaction has a direct influence on the construction of knowledge suggesting surroundings contribute to learner comprehension. Vygotsky introduced the Zone of Proximal Development (ZPD) which specifies the area between where students manage their own knowledge without assistance to the stage beyond this, where support is required from someone who has required additional information, sometimes known as the More Knowledgeable Other (MKO). At school, effective teachers and sometimes other students are the MKO and by the process of cognitive social consultation offer scaffolding to assist the student to develop skills required for the task. "Vygotsky believed that when a student is at the ZPD for a particular task, providing the appropriate assistance (scaffolding) will give the student enough of a 'boost' to achieve the task." (Galloway, 2007, p. 2). When the necessary skills are developed the scaffolding can be withdrawn (Galloway, 2007; Marsh, 2008).

The constructivist foundation of effective teaching and learning is experience and discovery, supporting the use of manipulatives and authentic learning opportunities. "...children learn math most effectively if they discover ideas while manipulating concrete objects such as blocks and sticks, rather than having them presented by a teacher..." (Eggen & Kauchak, 2009, p. 227). The student develops metacognition, critical thought processes and social development skills that will be utilised throughout life.



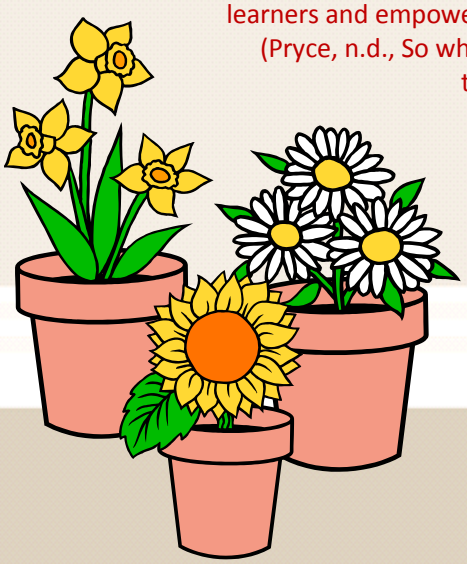
What is the role of the teacher in a constructivist, Twenty-First century classroom?

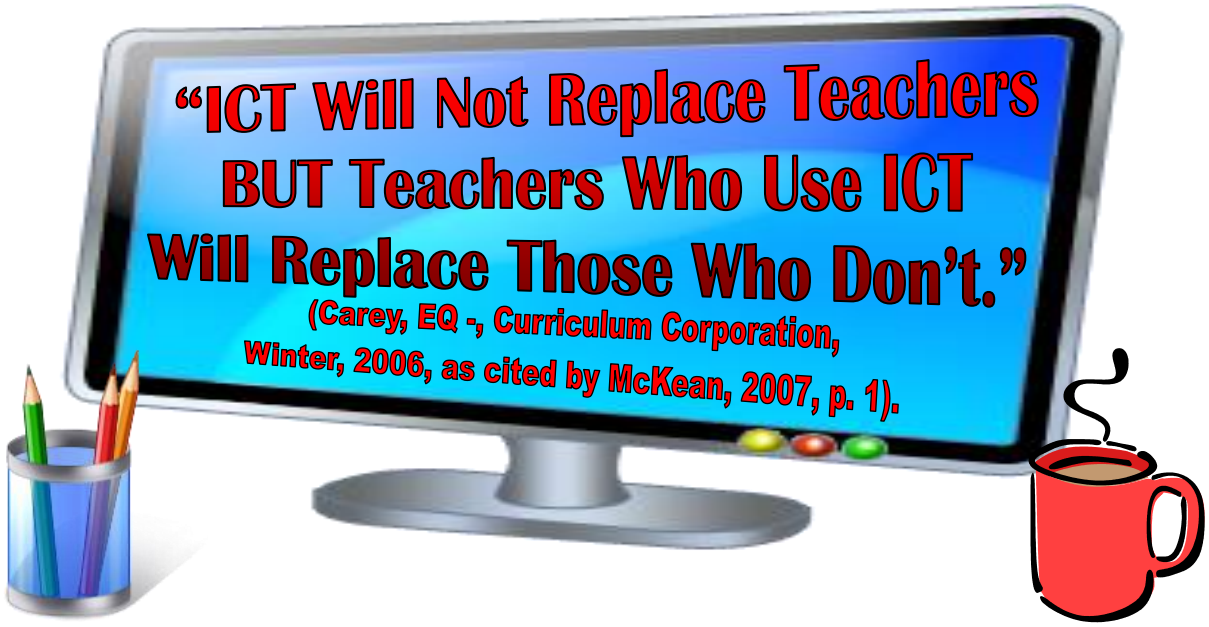
The modern classroom is no longer dominated by teacher directed instruction (Marsh, 2008) instead focussing on student centred learning, thus "...creating learning environments in which learners exchange ideas and collaborate in solving problems is an essential teacher role" (Anderson et al., 2001; Meter & Stevens, 2000, as cited in Eggen & Kauchak, 2010, p. 228). Effective future teachers will become mentors and guides to their students, teaching them skills needed for a lifetime of learning and development "It will be the teacher's role to guide learners towards a broad and balanced curriculum and teach them the skills needed to embark on personal study and research." (Pryce, n.d., So what will be the role of tomorrow's teachers?, ¶ 1).

The SACSA Framework places the student at the centre of learning to ensure "...they experience new and creative ways of making connections across concepts and processes...and across multiple perspectives" (DETE, 2001a, p. 31).
A successful constructivist teacher involves the student in decision making and provides challenging learning experiences with consideration of all learning styles and available teaching methods.
Effective techniques include:

- Modelling: The demonstration of skills, with ongoing verbal descriptions of the thought processes involved.
- Verbalisation: Ask students' questions to encourage thinking and descriptions of their thought processes.
- Increasing complexity: Provide challenges as the ZPD expands & develops.
- Exploration: Provide the opportunity for students to link their knowledge with other learning areas and problems.
- Scaffolding: Support provided to assist skill development and autonomous learning. (Eggen & Kauchak, 2010).

The importance of equality and understanding of individual student needs are recognised by self reflection and dedication to high expectations, incorporated in a positive classroom environment. Effective twenty-first century teachers "...will unlock the potential within all learners and empower them with the tools for learning." (Pryce, n.d., So what will be the role of tomorrow's teachers?, ¶ 1).





Technology is a fundamental part of youth culture and has a major influence on modern life. We use multimedia tools on a daily basis and the continuous change of knowledge, education and society provides students' with immediate access to knowledge in various formats and from varied locations. An effective teacher will work with students to develop the skills needed to use Information and Communications Technology (ICT) and to incorporate, analyse and critically interpret this information in daily and future lives. "All human beings must be enabled to develop independent, critical thinking and form their own judgement, in order to determine for themselves what they believe they should do in the different circumstances" (Delors, 1996, p. 94).

Students and teachers can use ICT tools to research, collect and categorise data, present information and to interact socially on a local and global scale. Technology provides the opportunity for student centred learning, discovery and research while engaging students in authentic tasks that cater for many styles of learning. "Research suggests that educational technology is most effective when used to enhance constructivist or student-centered instructional strategies." (Association for Educational Communication and Technology, 1992, as cited in Southwest Educational Development Library, 1998, p. 1). Technology offers the use of virtual manipulatives and real world learning experiences and effective teachers will ensure tasks align with curriculum outcomes to contribute to successful learning. (Eggen & Kauchak, 2010).

Technology suits the constructivist approach to social interaction and supports the development of thought processes and conceptual understanding. "In the electronically connected world of the Communication Age, knowing "what" is insufficient. Knowing "how" is and will be the key to future self-efficacy and career development." (Hagstrom, 2006, p. 32).

CONSTRUCTIVIST ASSESSMENT

Effective teaching includes effective assessment and within a constructivist classroom asks: What is the student learning? Why is this necessary? How is this information used? “Assessment *for* learning becomes an integral part of the total teaching-learning experience.” (Eggen & Kauchak, 2010, p. 434).