

**Swimming does not need to be all command, command, command.....**

**Consider the effective implementation of open and productive teaching methods?**

Ever since the introduction of the National Curriculum for physical education (NCPE) there has been an emergent need for practitioners to broaden their application of teaching styles, in order to encompass a shift from 'reproductive' to 'productive' teaching and learning (Curtner-Smith et al, 2001, p.1). This shift towards more pupil centred approaches to teaching results in greater focus on learning, improvement, variety and enjoyment, and creates a more mastery involving teaching climate (Morgan et al 2005). Recent research (Hanif and Mardesia, 2014) details a taxonomy between such 'productive' teaching styles and motivation to acquire swimming skills, thus underpinning the need to scrutinise various approaches and practices which may contribute to effective swimming pedagogy.

Due to the distinctive nature of this discipline, its unique environment and skill acquisition, swimming is inimitable: skills must be learnt in the context to fully participate (Wallis and Binney, 2010). Deduction, dissemination and impartation of swimming knowledge and skills are therefore essential. Hence, due consideration is given to the pedagogical nature of swimming (Penney and Evans, 1997) and the intrinsic implication of effective 'teaching styles' (Mosston and Ashworth, 1990). Historically, authoritarian means have been determined as the preferred method for swimming teaching (Goldberger and Howarth, 1993); however insights into the benefits of 'productive' teaching styles, and their anatomies, now challenge this conjecture. Ofsted (2005; 2009) evidence that heavily teacher dominated lessons are significantly less effective than lessons at the closed end of the spectrum and state that through the use of such reproductive methods, pupil ability remains limited. Bar-Yam et al (2002, p.1) state that 'learning styles and preferences affect the way students approach any task and the way they function under different conditions and different learning environments'. Acknowledging the impact that choice of teaching style can have upon learning to swim is imperative.

Undoubtedly, no uniform approach can be taken. Building upon the works of Mawer (1993), Curtner-Smith et al (2001) derive that use of a multitude of teaching

styles enables both practitioners to meet the prerequisites of the National Curriculum (DfE, 2013) and allows pupils to acquire a more profound, holistic skill set. Although combining a number of approaches within lessons can be effective, open or productive teaching styles, most notably Mosston and Ashworth's (1990) 'guided discovery' and 'divergent' teaching styles can be combined to create flexible, student-focused, active and autonomous aspects of learning, and is strengthened by the social interactions, peer and teacher guidance, feedback and subsequent modifications related to this form of teaching. Penny et al (2002, p.104) state the need for a 'discernible teaching style conducive to the nature of the subject'. Hereby, open teaching styles can be considered a vehicle for meaningful, profound learning and is deemed well suited to swimming, as this physical discipline allows for proprioceptive variability and individual technique alternatives. Productive teaching and learning encompasses the ideal that there is no 'one' correct answer, and can thus take into account that swimming is unique, tacit and intuitive to each individual and that multiple modus operandi can exist.

Within swimming activities, divergent or guided discovery tasks manifest through open-ended tasks and questions (Mosston and Ashworth, 2008), which allow children to independently and openly explore swimming techniques and water dynamics to construct their own stroke schema and formulae. Mosston and Ashworth (2008, p.219) detail that such opportunities for learning

often lead learners to understand the mechanics of movement, the principles in science that guide performance, and/or the relationships of one movement position to another'.

By taking a more open approach to the teaching of swimming, parameters of learning can be extended beyond mere National Curriculum aims (DfE, 2013). Whilst this method can assist pupils in learning how to: 'swim competently, confidently and proficiently over a distance of at least 25 metres' and 'use a range of strokes effectively' (DfE, 2013), it can go further to deepen children's understanding of subject matter and subtly introduce more complex concepts of swimming, such as: hydrodynamics and streamlining; aquatic self-induced locomotion; rhythmical motives; mediator function; maximal speed versus energy consumption; optimum

entry points and many other gestalts (Hermann et al, 2012), all of which children can engage with, question and begin to understand through divergent discovery of their movements within the water-based environment.

In light of the heuristic nature of productive teaching styles it is fundamental to create and maintain a positive learning culture, wherein children feel safe to explore new concepts, ask questions and try new ideas (Alfrey, 2003). Mosston and Ashworth (2008) reinforce the need for practitioners to reassure children that their solutions and findings will be accepted. By illustrating to pupils the individual, flexible nature of swimming and the possibility of alternative, legitimate solutions arising, children can be comforted by the notion of multiple answers. Therefore, resulting in inclusive learning foundations, children may be more inclined to participate freely and discuss swimming concepts within lessons, without fear of being wrong. Herein, it is the role of the teacher to anticipate responses from children and to utilise fundamental swimming subject knowledge and pedagogical tactics to skilfully direct and lead children towards predetermined objectives.

Questioning is crucial to achieving this and must be embedded within all aspects of the learning process. Incorporation of effective questioning is integral (Casbon and Spackman, 2005: Sabin, 2002) and can manifest through all areas of swimming, including the different strokes and life-saving skills. In particular, open questioning and open-ended tasks can be used to explore optimum stroke technique.

Practitioners can facilitate this learning process by promoting an inclusive ethos and by inviting different responses from pupils. Moreover, learning can be extended by practitioners who communicate and circulate amongst learners to encourage more divergent production (Mosston and Ashworth, 2008). Through conversation with learners, higher order thinking skills (Bloom, 1956) can surface and element of analysis and reflection can be undertaken. This dialogue between practitioners and learners can also be used to refine and redirect learning, whilst adding specific questioning to support and extend individual pupils, enabling personalised learning to take place.

Similarly, productive teaching styles support a constructivist approach (Vygotsky, 1978) to learning. Peer discussion, analysis and cognitions can be used to further intended learning (Capel et al, 2013) and ensure that children are working within their 'Zone of Proximal Development' (Vygotsky, 1978, p.23). Opportunities within activities can be constructed so that pupils can share ideas verbally and physically related to a task. Within such exploratory circumstances, two first-hand opinions and experiences can assist pupils in ascertaining valid responses and this peer collaboration can help children to not only excel physically in swimming, through peer suggested improvements to performances, but can also develop learners cognitive and social abilities. Curtner-Smith et al (2001, p.5) reinforce this advantage and underline that the transformation from exclusive 'direct, reproductive, or teacher-centred styles of teaching' to the 'more indirect, productive, pupil-centred styles' (Curtner-Smith et al, 2001, p.5) benefits children's holistic development and can enhance all three domains of development (Bloom, 1956) (psychomotor, cognitive and affective) simultaneously.

Another tool available to the teacher of swimming is the effective application and creative use of differentiation, which can further support the students through their open ended and divergent tasks. Commonly, swimming lessons are differentiated through two main measures: differentiation by outcome or differentiation by task. Although differentiation by outcome is not necessarily a problem', there are several flaws related to it, including: restrictions to pupils' progress due to such predetermined outcomes; implications for children's motivation, if a task is not pitched correctly; and the paradigm that sole reliance on this type of differentiation requires minimal task development or planning.

Differentiation by task can be considered slightly more advantageous. This form of differentiation is deemed more measurable and reliable in ensuring pupils make progress and is noted to actively increase the likelihood of children working within their 'Zone of Proximal Development' (Vygotsky, 1978). Within PE and swimming, differentiation by task is related to both the Youth Sport Trust's (2008, p.24) 'STEP' acronym (Space, Task, Equipment, People) and the parallel Australian Sports Commission (2010, p.1) 'TREE' abbreviation (Teaching style, Rules/

Regulations, Environment, Equipment). Within universal swimming activities, this support can manifest through: the use of supportive equipment, for example, flotation devices and fins; changes in distance or speed of a task; additional elements of adult or peer support; or a change in teaching style to suit the preferred learning style of participants.

To conclude, a number of practical swimming examples have been provided that reflect the theoretical principles discussed and will offer teachers opportunities to create open ended tasks for their pupils through guided discovery and divergent activities aimed at empowering the pupil to find the correct technique or to understand the principles and mechanics behind successful swimming.

### **Practical examples**

1 –Breaststroke- pupils can be asked to determine the order in which gross body movements by the head, arms, legs and whole body extension occur. The correct order is pull, breathe, kick then glide, but pose questions in such a way that allows the pupils to explore these four actions, trying different orders before realising that the correct order is the most efficient and easiest to perform.

2 – Frontcrawl – Pushing and gliding. Allow pupils opportunities to explore ways in which they can create drag or resistance against the water using their bodies or equipment and to select which actions great the greatest amount of opposition when gliding through the water. Then allow meaningful discussion about why this is, and how it affects streamlining. The next task is for pupils to use this information to create the most perfect streamlined position in the water, devising self-competitions where they try to beat previously attained gliding distances.

3 – Backstroke – Ask pupils to swim on their backs, in a horizontal position across the pool but they have to keep a small float in contact with their hips. However they are not allowed to hold the float with their hands, but through exploration they will realise that in order to successfully achieve this task, they must keep their hips high in the water to ensure that float stays in contact with their body.

4 – Butterfly – Play some heavy metal music and ask the pupils to explore what impact head banging has on the body when lying in a horizontal position in the

water. The skill here would be to guide the pupils to start using this head action to start the dolphin propulsion, with the head action starting to move the hips and the feet in the correct way to create propulsion from the feet (the effective use of flippers for some pupils can also be applied for this task).

5 – Diving – Once the basics of sitting diving or standing diving has been established, pupils can explore diving into the water through hoops. The divergent task is for them to discover the optimum distance that the hoop should be held away from the side but to also to consider the angle that the hoop should be held in order for them to successfully dive through it. Deep far would create a flat, shallow dive, and if the angle of the hoop is too steep, then the angle of entry would replicate this.

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