

Sustainability in the Education System

What is Sustainable Development?

Sustainable development is a broad topic of protection of oneself and the natural world; protecting and enhancing the natural environment through educating one to live within our environmental limits (TS Special Sustainability, No Date). Through adopting sustainability into a curriculum enables children to be engaged in fun, empowering activities allowing children to take responsibility for their actions and think in a sustainable manner (Laurie et al., 2016). The establishment of Education for Sustainable Development (ESD) highlights the importance of settings adopting participatory teaching methods with the aim of motivating and empowering learners to change their behaviours towards sustainable thinking (University of Plymouth, 2014). ESD involves including key sustainable development issues into teaching practice involving topics on climate change, biodiversity and poverty reduction (University of Plymouth, 2014). Additionally, according to the University of Plymouth (2014) Education for Sustainable Development (ESD) focus is on empowering individuals to think on a critical level regarding the ways one can contribute to the environment in a sustainable manner.

Education System

The Education system acts as a facilitator to sustainable learning aiding individuals to transition to sustainable ways of thinking and living (Elliott and Davis, 2009; Pearson and Degotardi, 2009). According to TS Special Sustainability (No Date) by schools adopting sustainable approaches, schools are actively establishing plans to deliver knowledge on the topic of sustainable development to young children. However, creating a sustainable environment within the education system requires an evolution of positive attitudes and behaviours towards the topic of sustainability; encouraging children to be empathetic towards the natural world (TS Special Sustainability, No Date; Horsley and Bauer, 2010). Bandura's theory of social learning highlights children learn through modelling the behaviour of another; therefore the role of the adult in the education system is to assist the child's development and values through modelling the desired behaviour the child should morally rein act (Ayodele et al., 2014). This can be done through adopting an enthusiastic creative approach to sustainable activities such as implementing recycling into the education system as a tool for learning about sustainable living (Biddle et al., 2014).

An Australian study found children are likely to attain knowledge on sustainability if the learning approach is creative; the study found children engaged in creative sustainable learning were able to illustrate emerging awareness of negative contributions of deforestation, global warming and the impact of litter (Hicks and Holden, 2007).

Activities promoting sustainable thinking

Practical activities such as recycling and composting are considered to meet the criteria of ESDGC offering valuable opportunities for children to actively engage in sustainable learning providing the knowledge children require on sustainable development (Tinney and Hirst, 2017). Involving children in recycling activities promotes an awareness of sustainable practice; providing children with opportunities to problem solve and express creativity in ways which develop their respect for the natural environment considering themselves to question the use of limited natural resources allowing further learning to take place (National Quality Standard, 2016). However, Tinney and Hirst (2017) note there is a possibility that sustainable activities such as recycling may fail to identify the nature of ESDGC failing to recognise climate change, human rights and environmental depletion.

According to TS Special Sustainability (No Date) the UK Government Department of Education report stated the level of carbon emissions in the schools sector were high from energy use and travel accounting for 2% of UK greenhouse gas emissions. Schools can reduce their level of carbon emissions by adopting sustainable ways of teaching for example adopting an action plan of sustainable instructions for children to follow; for example implementing ways to promote sustainable travel such as walking to school or cycling (Huggins and Evans, 2017). Similarly, Littledyke et al., (2000) and Duhn (2011) notes one way in which schools can act sustainably is through focusing on reducing the school's carbon footprint by introducing instructions which are considered sustainable for children to follow such as turning off the light switch when not in use. However, in order for sustainable practice to be effective in relation to meeting the criteria of ESDGC, practitioners in Wales are required to integrate sustainable activities into their everyday practice allowing children to develop the values, knowledge and understanding of the natural environment (Welsh Assembly Government, 2008a).

Wales

Wales is reaching success in delivering sustainable development by establishing effective ways of teaching sustainability within the education system (Welsh Assembly Government, 2008a). According to Estyn (2014) the Estyn report established in 2014 revealed children in Wales are highly interested in the natural environment and their knowledge and understanding of the environment is considered good. Moreover, Tinney and Hirst (2017) note Wales has been successful in meeting the criteria of ESD by establishing Educational for Sustainable Development and Global Citizenship equipping children with the knowledge and understanding of sustainable development through play based activities which the Foundation Phase redeems as vital for learning (Welsh Government, 2015). ESDGC is education aiming to prepare children and young people in Wales for the 21st century; focusing on providing children with an understanding on what their actions can result in with regards to the environment and economy (Welsh Assembly Government, 2008a). ESDGC prepares learners for the upcoming challenges that will play a role in their futures such as climate change and international competition for resources (Welsh Assembly Government, 2008a). However, ESDGC is a body of knowledge holding an ethos that can be embedded throughout schools and therefore should not be seen as an additional subject added to the curriculum (Welsh Assembly Government, 2008a).

Whole School Approach

In order to deliver sustainability within schools, ESDGC should be embedded across the Welsh curriculum infused daily in order to familiarise children with the importance of continuous sustainable practice (Welsh Assembly government, 2008a). Therefore, within Schools in Wales there is a statutory requirement for schools to adopt a whole-school policy incorporating the criteria of ESDGC in order to deliver sustainable development (Bennell and Norcliff, No Date). According to the Welsh Assembly Government (2008a) ESDGC will be effective if the whole school community is involved; teachers, learners, parents, governors, carers encouraging partnerships to be built. The Reggio Emilia philosophy of learning highlights the importance of schools working in partnership with the local community involving a whole-school approach; allowing information to be shared allowing change to occur (Strong-Wilson and Elis, 2009). Therefore, building positive partnerships is a fundamental aspect working within the

education system; building a foundation of trust and communication helping to raise an issue of concern such as environmental problems (The Early Childhood Curriculum Framework, No Date). According to David (2010) and Collins (2008) note in order to deliver effective knowledge on sustainability schools need to work together; good communication is desirable to establish new ways of promoting sustainable ways of thinking.

One school in Wales implemented a whole-school approach working towards sustainable development meeting the criteria of ESDGC through using the natural environment by visiting local nature reserves with children and their parents (Welsh Assembly Government, 2008c). The setting was successful in delivering sustainable development; parents were equipped with the importance of providing children with opportunities to engage in the natural environment physically and on a global basis (Welsh Assembly Government, 2008c). According to Bucknall (2012) it is important to provide parents with information and knowledge on the subject of sustainability allowing further learning to take place in the home environment regarding sustainability. Moreover, while engaging in the environment the children were developing empathy towards the natural world along with developing responsibility to their surroundings (Welsh Assembly Government, 2008c). Delivering empathy towards the natural world is fundamental in life; showing good citizenship and development as an individual (Davis and Elliott, 2014; Haas and Ashman, 2014). Therefore, RSPB Cymru believes children should be provided with regular opportunities to connect with the natural environment in order for children to show appreciation to the natural world through prioritising and establishing action to save the natural world (RSPB, No Date).

Another school in Wales delivered sustainable learning to children meeting the criteria of ESDGC through establishing a partnership with a school in Lesotho; this involved exchanging letters to children allowing children to become aware of global issues such as health issues in Lesotho (Welsh Assembly Government, 2008c). Additionally, the partnership involved developing school gardens both in the school in Lesotho and Wales to discover along with compare the effects of climate change; children were then able to link this with food production and the impact it has on people's lives enhancing the child's knowledge on sustainability and meeting the criteria of ESDGC (Welsh Assembly Government, 2008c). According to Nawab (2010) it is important for

practitioners to educate children on the subject of sustainability discussing global issues; encouraging children to understand problems occurring around the world and ways they can work towards promoting help and sustainable thinking.

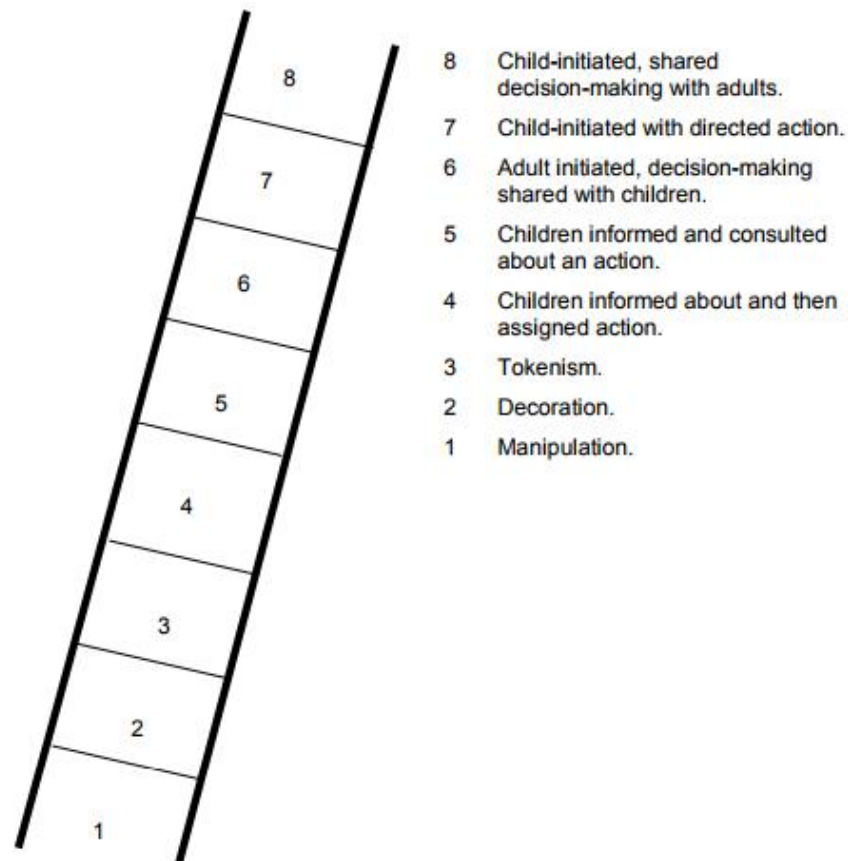
As like the Foundation Phase, the Montessori philosophy of learning adopts a whole school approach to learning; involving the whole community; parent involvement is an integral part of the whole-school approach allowing parents to feel involved in their child's learning and development (Hamburg and Hamburg, 2004; Sunni Sonnenburg Winkler, 2013). According to Davis and Elliott (2014) it is important to engage parents and carers in their child's development; building a form of support for parents, along with assisting them on the development of their child. Additionally, Issacs (2012) and Nash (2015) notes as part of Montessori's whole school approach, learning is child-led; children are in control of their own learning through self-construction where their opinions are voiced similar to the Foundation Phase (Welsh Government, 2015).

Children have a voice

Through adopting a whole school approach, educators are allowing children to have a voice of opinion and effective teaching requires the involvement of children in decision making regarding issues affecting their local environment and themselves (Bucknall, 2012). Article 12 of the United Nations Convention on the Rights of the Child (UNCRC) underpins the importance of children voicing their opinions stating children worldwide have the right to be listened to and respected within the decision making process with their opinions taken into account (Unicef, No Date). Providing children with a voice enables them to act in a responsible manner enabling them to willingly want to engage in topics of serious matter enhancing children's knowledge on the world (Robin, 2010). Therefore, according to Cheminais (2008) it is important to provide children with opportunities to participate in decision making; adopting Hart's ladder of participation as a guide to successful involvement. The cycle is used to measure and assess the level of pupil participation offering a framework to assist teachers to understand the various levels of pupil participation and empowerment as shown on figure 1 (Cheminais, 2008).

Figure One

The ladder of participation



(Source: Hampshire Services, No Date).

Management

Hunt and King (2015) note a whole school approach is advocated useful where issues occur in settings which are complex and need to be supported by the whole school community. Therefore, schools undertaking whole school approaches should incorporate learning for sustainable development throughout many aspects of the curriculum involving long-term planning and

evaluation (Knight and Benson, 2014). Similarly, The Welsh Assembly Government (2008a) note it is important for schools to manage the schooling environment in order for ESDGC to flourish; for example schools should not provide children with unhealthy and unsustainable beverages while teaching them the awareness of global implications on sustainability as it would contradict what ESDGC is encouraging (Welsh Assembly Government, 2008a).

Learning through play

Under the Reggio Emilia philosophy of learning, children are active participators in their own learning; constructing their own learning with the adult intervening when appropriate (Strong-Wilson and Elis, 2009). Children should be enriched with opportunities that promote learning through play in order to discover the world for themselves, creating their own knowledge by themselves; allowing the child to be an independent learner (Adams, 2009). Therefore, sustainable learning should be taught within schools through play based activities providing opportunities for children to develop knowledge on topics relating to sustainable living (Davis and Elliott, 2009). However, Edwards and Cutter-Mackenzie (2013) note traditional play-based pedagogies in the education system prevent practitioners from delivering effective sustainable knowledge within the education curriculum. In contrast, Reyhler et al. (2009) notes actively involving the children to participate in sustainable development will enhance their curiosity of the natural world which according to the Welsh Government (2015) under the Foundation Phase children are encouraged to be curious learners in order to develop fully and be competent beings. This links to Piaget's theory of learning; Piaget advocated children learn through experiential learning providing children with the opportunity to be in control of their learning allowing children to engage in risk taking experiences through discovery (Coon et al., 2015; Jose et al., 2016). The Foundation Phase supports the work of Piaget by implementing a play based pedagogy to sustainable learning where children learn through first hand experiences through play and engagement (Welsh Government, 2015).

Eco schools

Eco schools are a good example of delivering sustainable development through establishing a whole school approach; educating one on how to live in a sustainable manner without causing harm to the environment (Eco Schools, No Date). Additionally, Eco schools provide children with opportunities to express their views on topics concerning them about the environment and

issues regarding sustainability through the establishment of an eco-committee (Keep Northern Ireland Beautiful, 2017). The programme is child-led encouraging the child to make their own decisions regarding the environment allowing children to develop their knowledge, their wellbeing and facilitation (Keep Northern Ireland Beautiful, 2017). However, Keep Northern Ireland Beautiful (2017) notes as a part of the eco school program, adults act as a guide, assisting the children when appropriate allowing children to feel a sense of empowerment and strong sense of leadership meeting the criteria of ESG leadership, management and support; again allowing children to develop responsibility for their environment (Welsh Assembly Government, 2008b). Overall, eco schools are effective in delivering sustainability; an Estyn report published in 2014 announced since the establishment of eco schools children have felt more valued and respected within settings undertaking the eco-school programme; stating children's development enhanced holistically (Estyn, 2014).

What are the Benefits of Becoming more Sustainable?

Research has shown that a sustainable school raises the well-being and health of its pupils; promoting healthy decisions and learning outcomes (David, 2010; Edwards and Cutter-Mackenzie, 2014). However, David (2010) notes embedding sustainability within the school's curriculum also creates an opportunity for individuals to recognise unsustainable practice; allowing individuals to tackle practice that is considered unsustainable. However, many practitioners today feel they do not have the right amount of knowledge on embedding sustainability into the teaching curriculum due to lack of information shared to them (Drake, 2003). Therefore, it is important for all individuals working in the education system to familiarise themselves with sustainability; this can be done through attending courses which will allow the individual to be fully equipped with the appropriate information to educate children and young people (Taylor et al., 2013). Amnesty International provides assistance helping practitioners deliver sustainability within the education system by providing a toolkit to practitioners with the correct information on how to implement a whole-school approach, noting the ten global principles, the global standards and suggesting activities to include in their everyday practice (Amnesty International, 2017).

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