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The Opportunities And Challenges Of Integrating Education For Sustainable Development Into Early Years Practice.

Introduction

Throughout this article discussed is the situation in Wales as well as comparing and contrasting international examples on sustainability in schools. The education for sustainable development (ESD) in Wales is discussed in Wade (2012) and describes this as aiming to encourage a change in how people think that will advise economic, environmental and social decisions (Wade, 2012). This can be compared to Sweden as mentioned by Davis (2005) as they have many different projects within schools that support sustainability such as the sustainable planet project and the water conservation project (Davis, 2005). However, Rabušicová and Engdahl (2010) contrast these countries as Africa does not follow as type of ESDGC as transferring knowledge to children from older generations is often excluded from their education system (Rabušicová and Engdahl, 2010). Horsley and Bauer (2010) argue with Africa and suggest Australia has to follow a type of ESDGC as there population is the fastest growing of any organisation for economic cooperation and development (OECED) (Horsley and Bauer, 2010).

The ESD

Wade (2012) describes the ESD as focusing on participation of sustainable development, use of resources, equality and social justice. The aim of ESD is to encourage a change in how people think that will advise economic, environmental and social decisions. It is culturally appropriate and relevant to the community as it follows needs yet recognises this can often have consequences and effects. Education occurs through informally, formally and non-formally as this suits the developing nature of the sustainability concept. This type of education encourages life long learning as it acknowledges local priorities, issues globally, helps maintain social tolerance, decision making and quality of life is increased. Pedagogical techniques can promote critical reflective skills as well as encouraging participation (Wade, 2012).

The ESDGC

Bennell and Norcliffe (No Date) develop this further and tell within the 2000 curriculum, education for sustainable development and global citizenship (ESDGC) are in the subjects of geography, religious education, english, music, art and science. This shows that the different

subjects will cover different aspects of the ESDGC so it is easy for children to see how it can fit into their everyday life (Bennell and Norcliffe, No Date). Davidson (No Date) identify the ESDGC benefits and report that standards are raised if the school is sustainable as well as raising the well-being of the pupils. It can help children become more engaged with their learning which can then lead to enhanced behaviour. It also promotes a healthy lifestyle and school environment. It is a way to prepare the pupils for life challenges and develop language and concepts so all pupils can engage with sustainability agenda to the best of their ability. Sustainable education can lead to a secure and promising future within a healthy, social and bio diverse world (Davidson, No Date). However, Venkataraman (2009) argues of the negatives to ESDGC. It is explained that sustainable development is complex and can be difficult to describe, especially to children. There is a broader concept of sustainable development that the educational community has not uncovered yet which does not provide children of all the information needed. It is also argued that the curriculum is to full and sustainability is another issue that would take up a lot of time and effort and therefore over take other important topics (Venkataraman, 2009). Prince (2010) would argue with this view and contrast that the ESDGC has many benefits. It is informed that children are ready to be involved with their environment from birth as children experience the need for air, water and food which comes from the natural environment. As the child gets older, psychological and emotional aspects develop of their ecological self. This shows that through their unique development, it enhances the process of their connection to the environment. Through socialisation, the child's knowledge increases as they feel more comfortable with their environment (Prince, 2010). However, Nutbrown et al. (2008) put forward Comenius' argument that gender and social class should not matter or be made aware of and that all children should receive the same education. He highlighted that education itself was natural enough as well as enjoyable without adding emphasis on sustainability. From this, it is believed that children are denied the emotional and intellectual development that they are capable of which causes themselves and society to decline (Nutbrown et al., 2008).

Sweden

Davis (2005) put forward Sweden's support of the ESDGC. They have many different projects within schools that support sustainability such as the sustainable planet project and the water conservation project. The sustainable planet project includes day to day activities that the children participate in such as recycling, wildlife conservation and gardening. The water

conservation project educates children on where household water comes from and water issues such as drought. From this, children were given the opportunity to go through newspapers and magazines to find pictures and information on water which can also make them feel as a part of society and their community. This was then developed into making signs, pictures and messages about how people can help to conserve water which is a main issue of the environment. This project encourages participation in making decisions and taking further actions which can help contribute to early political literacy (Davis, 2005). However, Hägglund and Samuelsson (2009) criticise Sweden's approach and express that although activities occur that include the theme of sustainability, this is not an actual goal of the curriculum. The activities develop basic values and contain the basic actions that would occur at home, for example, gardening, working with wood and kitchen work. These could be seen as the foundation to learning as these experiences are familiar to children and would not add to their development (Hägglund and Samuelsson, 2009). However, Nutbrown et al. (2008) presents Erikson's argument that nature determines the stages of development which therefore limits which nurture operates. This shows that Sweden's activities are appropriate as the stage that the children are at does not enable them to do more complex activities. In order for a child to progress successfully, each stage should enable the children to reach their full potential healthily (Nutbrown et al., 2008).

Australia

Horsley and Bauer (2010) discuss Australia's support of the ESDGC. Australia's population is the fastest growing of OECED. This is due to the expansion of immigration which leads on to almost 14% of the population being born in a non-English speaking country. 16% of the population speak a language other than English at home. The Australian education system is sculpted around this information as they have to adapt to the respect of difference. The system promotes culturally inclusive as well as sustainable education from global principles that encourage cultural and social equality (Horsley and Bauer, 2010). Innovative Learning (2010) present Vygotsky's theory that would support Australia's education system. It is established that the zone of proximal development (ZPD) is what a learner can do with and without help. Scaffolding then occurs when a teacher gives the necessary help to the ZPD and slowly decreases the help as the learner becomes more capable. This links to Australia as they provide support for all children and help them to adapt to their country (Innovative Learning, 2010). Rabušicová and Engdahl (2010) contrast Australia's education system with Africa. Africa does

not follow the ESDGC as transferring knowledge to children from older generations is often excluded from their education system. Schools have shown that education does not always lead to employment but more likely lead exclusion from society, poverty and unemployment. This is because the topics children are being taught in schools are not transferrable to their needs and lifestyle. There is no balance between traditional life skills, risk taking, flexibility, use of resources and language being taught in schools. Culture along with a global perspective is not developed within schools which suggests children are not as well educated compared to countries such as Australia (Rabušicová and Engdahl, 2010). However, Nutbrown et al. (2008) demonstrate Dickens argument that how to prevent crime should be taught to children to dismiss any early ideas of rebellion against society. It is also argued that social issues should be addressed to show societies daily problems and how this can be dealt with. The effects of poverty on children should be emphasised and recognised as something that can be prevented with the help of the community (Nutbrown et al., 2008). Furthermore, Nutbrown et al. (2008) also extend this with McMillan's contrast that when children are hungry, they are unable to learn. This emphasises the importance of schools providing free school meals so that the education has a purpose, especially in a country with poverty (Nutbrown et al., 2008).

Wales

These countries education system can be compared to the ESDGC in Wales. Welsh Government (2017) provide the ESDGC main themes and aims. Unlike Africa, the ESDGC in Wales aims to give all learners an understanding of the effects of their decisions on other people as well as how it effects the environment and economy. The seven main themes of the ESDGC include health, choices and decisions, climate change, consumption and waste and the natural environment. Another theme is wealth and poverty which Africa fails to educate their children about. The theme of identity and culture also occurs which links to Australia's education system (Welsh Government, 2017). Welsh Assembly Government (2008) illustrate how the ESDGC in Wales links to the foundation phase curriculum. The theme of personal and social development, well-being and cultural diversity link to discussing and researching different types of culture and what food is from which country. The theme of language, literacy and communication skills can be used for discovering food cycles and information about the uses of different animals. Mathematical development is another theme that can use the environment by observing patters as well as planning and mapping out the setting environment. Children can also use natural resources to help with numbers and as examples to mathematical situations.

The Welsh language development theme encourages talking in Welsh about the environment. Also, bilingual signs can be focused on and Wales as a community. The physical development theme can be used to observe different insects and plants and how they can contribute to the environment. The last theme of creative development can include using natural resources to make objects such as musical instruments so children can represent the sounds they have heard from their environment (Welsh Assembly Government, 2008). Nutbrown et al. (2008) show Mason's support of the foundation phase curriculum in Wales with the link of the ESDGC. It is described that learning through the outdoors and experiences can increase the learning income. It is emphasised that children should not be isolated from the real world included daily routines and adults, and should be encouraged to participate in their community. In order for them to do this, they need to be educated appropriately. It can be argued the best classroom is the outdoors where children can learn through living. Another view tells of Tanner who supports the use of natural resources and using them for arts and crafts, poetry and music. Tanner also suggests this should be at central to education. (Nutbrown et al., 2008). Singh and Erbe (2017) identify Piaget's agreement with the ESDGC and report that from Piaget's theory, children begin to develop the ability to form operational and logical thoughts. They begin to welcome their cognitive ability that helps create their own identity and form attachments. As this happens and children become more aware of their reality, they can begin to recognise and make critical decisions in certain situations. This helps children to increase their independence and understand the type of support available to them from their own community. However, Letson (2007) explain Donaldson's argument with Piaget. It is informed that errors occur with children as it is their way of responding to what they were asked to do and by trying to making meaning and understanding the task. This is children's way of trying to make sense of a situation, stopping the logical and operational thoughts that Piaget suggests. On the other hand, Donaldson suggests there are two types of thinking that occurs within children which are disembedded and embedded. Embedded suggests thinking is familiar and is more easily understood by children who can make their own decision on the situation. Disembedded occurs when a child is expected to do something that they are not yet familiar with and that is out of their comfort zone. This can make a situation unrealistic and does not make sense to them. Piaget's theory is questioned as it should be about what the children are able to do rather than being challenged on what they cannot do. Everything a child learns should be presented at a view where they would understand and not in a view for adults (Letson, 2007). Nutbrown et al. (2008) supports Donaldson with the view of Froebel and Montessori as they suggest that children learn most effectively when situations are scaled down to their level and with child

sized environments to make a child feel more comfortable with learning so it becomes familiar to them (Nutbrown et al., 2008).

Conclusion

To conclude, the ESDGC are integrated into all subjects of the curriculum including geography, religious education, English, music, art and science according to Bennell and Norcliffe (No Date). Hägglund and Samuelsson (2009) argued that Sweden's approach contains activities that include the theme of sustainability, although, this is not an actual goal of the curriculum (Bennell and Norcliffe, No Date). Nutbrown et al. (2008) demonstrate Dickens argument against Africa, that how to prevent crime should be taught to children to dismiss any early ideas of rebellion against society (Nutbrown et al., 2008). Nutbrown et al. (2008) also showed Mason's support of the foundation phase curriculum in Wales with the link of the ESDGC. It is described that learning through the outdoors and experiences can increase the learning income (Nutbrown et al., 2008).

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