A Comparative Study of Prominent Themes and Practices in Education for Sustainable Development between Australia and Britain

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ABSTRACT
Education for sustainable development (ESD) has become significantly important with increasing concerns about sustainability and the need for improving the knowledge, skills, values, and attitudes of young individuals towards relevant issues in society. This study has conducted a comparative analysis of ESD between Australia and Britain to highlight emerging themes and practices along with concerns that require attention for improvements in the future. In this respect, the literature review method has been employed and it has been highlighted that a comprehensive analysis of ESD in different countries can be performed by focusing on the three aspects of the curriculum, experiential learning, and teacher training. The findings show that both countries have made advancements in curriculum development that include knowledge and skills relevant to sustainable development. However, the Australian curriculum is more explicit and detailed while the lack of policy direction by the British government has created limitations. Similarly, Australian educational practices provide greater opportunities for experiential learning and performing project activities to develop practical skills. While similar opportunities exist in Britain, there are comparative limitations. However, there are concerns about suitable teacher training in both countries with limited capability of educators to incorporate ESD in their pedagogical practices. Therefore, a focus on policy-driven curriculum development, experiential learning, and teacher training are necessary to incorporate ESD in contemporary pedagogical practices.

Keywords: *Education for sustainable development (ESD), Curriculum development, experiential learning and sustainability skills, Teacher training for ESD.*

1. INTRODUCTION

Education for sustainable development (ESD) is an important concept in the field of sustainability, which suggests that education needs to be employed for the development and promotion of knowledge, skills, values, and attitudes towards sustainability among individuals in society [1]. It also suggests that future generations need to be equipped with appropriate knowledge and skills so that they can integrate economic, social, and environmental dimensions for effectively conducting sustainable development [2]. Therefore, educational practices at various levels have been considered crucial for driving the agenda of sustainable development through achieving comprehensive changes [3] [4]. In this regard, there are three important dimensions including curriculum design and development, practical training and projects for sustainability, and teacher development that can be valuable for enhancing the capabilities of students and generating awareness of the significance of sustainable development [5] [6]. An analysis of these three dimensions in various educational contexts can be conducted to determine the appropriateness of education for sustainable development. This article performs a comparative analysis of prominent themes and practices regarding the three dimensions of education for sustainable development in Britain and Australia. It discusses contemporary strengths and weaknesses in the contemporary methodology and offers recommendations for improvements in the future.

2. PROMINENT THEMES AND PRACTICES IN EDUCATION FOR SUSTAINABLE DEVELOPMENT IN BRITAIN AND AUSTRALIA

The three important aspects in education for sustainable development have been regarded as curriculum design and development, project and practical training, and professional development of teachers for conducting sustainable development educational practices. The comparative analysis of Britain and Australia with respect to these three dimensions in education for sustainable development has been provided in the next sections.

2.1 Curriculum Design and Development

The curriculum is an important element in the educational practice that can contribute to the dissemination of knowledge and awareness regarding the importance of sustainability and sustainable development.

2.1.1 In Australia

Over time, the Australian curriculum has been significantly developed and it has been regarded as one of the three cross-cultural priorities in the curriculum [7] [8]. In 2008, states and territories adopted the Melbourne Declaration on Educational Goals for Young Australians with a focus on developing creative and informed citizens possessing skill sets that are highly relevant to the context of sustainable development [9]. Further, in 2013, significant developments were adopted in various learning areas of the curriculum and particularly subjects including geography, civics, and citizenship with a focus on a broader understanding of sustainability issues for providing detailed and complex information to students. In this regard, an analysis of the key ideas in the Australian curriculum regarding sustainable development has been conducted, which suggests that it provides information related to three important areas including systems, worldview, and futures.

FIGURE 1:
SCHOOL SECTOR CURRICULUM DELIVERY OF EfS CONTENT

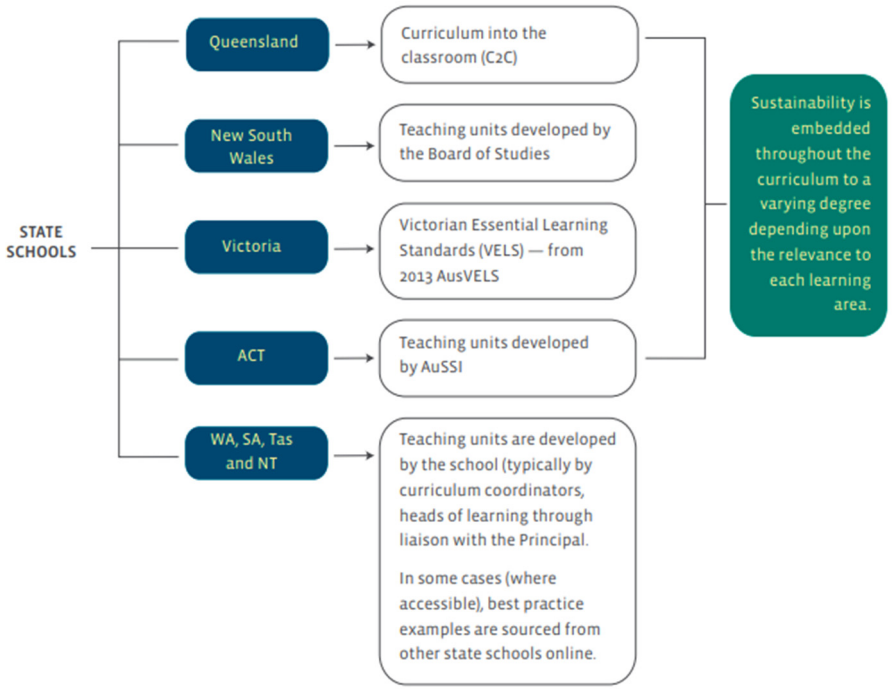

Figure 1: Education for Sustainability Curriculum [7]

In terms of systems, the curriculum provides information about the biosphere as a dynamic system necessary for the sustainability of life, dependence of human beings on ecosystems for their well-being and survival, and interdependence of social-economic and ecological systems for sustainable patterns of living [7]. In terms of worldview, healthy ecosystems, diversity, social justice at personal, local, national, and global levels have been developed for enhancing knowledge and awareness among students [10]. Further, in the case of futures, students are provided with an understanding of individual and community level actions for the preservation of ecological, social, and economic systems, analysis of past practices, and scientific and technological development for the future with social and environmental perspectives [7]. Therefore, it can be analyzed that the

curriculum in Australia has given importance to education for sustainable development at all levels and incorporated diverse perspectives for comprehensive understanding and awareness of students. However, while key ideas and information about ecological aspects have been included in the curriculum, it has also been found out that there is a lack of direct reference to education for sustainability and various aspects relevant including ecological footprint, eco-efficiency, eco-space, life-cycle analysis, inter-generational equity precautionary principles, and others [11] [12]. Similarly, there has been a focus on symptoms instead of causes of environmental degradation and importance for sustainability through dealing with causes. There is an emphasis on the production of natural resources and biodiversity with limited consideration for human activities responsible for degradation. Hence, there are limitations towards direct references to issues relating to adverse impacts on environmental sustainability.

2.1.2 In Britain

Moreover, education for sustainable development has also been included in the UK curriculum for the development of knowledge and skill-sets in students. For example, revisions of the national curriculum have been conducted in various regions in Britain to provide knowledge and awareness regarding sustainability issues among students and foster positive attitudes and behaviors towards sustainability and global citizenship [13]. In this regard, a personal and social education framework has been developed that gives importance to sustainability education for 7-11 years and post-16 phase students [14]. Similarly, the development of "curriculum for excellence" and adoption by education institutes in Britain has given a broad focus to the advancement of education for sustainable development through incorporating philosophical, pedagogical, practical, and theoretical frameworks and contexts in the curriculum [15]. Moreover, higher education institutes including colleges and universities in different parts of Britain have also incorporated sustainable development perspectives in various fields and importance for contributions towards dealing with ecological challenges in the contemporary and future context.

However, the analysis of curriculum development in Britain has also shown that there is a lack of government focus and policy-driven initiatives for enhancing the incorporation of sustainable development knowledge and perspectives in the curriculum [13]. The reduced involvement of the government in education for sustainable development causes uncertainties among educational institutes and other stakeholders for conducting effective development of the curriculum to provide comprehensive theoretical and practical opportunities to students. There is a limitation of key policy targets regarding the environment and social equity that are considered to be important aspects of sustainable development. The reduced level of government involvement causes limitations in the process of effective change, which suggests that there are limitations in the achievement of goals pertaining to the comprehensive alignment of the curriculum in all fields with a sustainable development perspective. This suggests that a policy-driven approach is important to carry out foundational improvements in curriculum design for education institutes at all levels to achieve appropriate results.

2.2 Practical Training and Projects for Sustainability

Sustainable development education is a comprehensive perspective that requires practical and theoretical skills for enabling students to develop a holistic view of the current situation and make efforts for improvements in the future [16]. In this regard, there is notable importance of training and practical projects in educational and community settings for driving the experiential learning processes of students undergoing capacity building. Therefore, an analysis of the educational practices concentrating on the provision of practical training and project-based learning has been investigated in the context of Australia and Britain in the next sections.

2.2.1 In Australia

The significance of practical learning for sustainability has been realized on various levels in Australia including schools and higher education universities. The Australian Sustainable School Initiative (AuSSI) has developed a framework for conducting sustainability-related activities in schools and practical development of existing programs for providing diverse sustainability skills to students [17]. For example, importance has been given to the adjustments in day to day practices in the classroom with a focus on enabling students to make effective sustainability decisions and incorporate sustainability practice in their everyday operations for gaining skill sets and improving practical capabilities. In this regard, the initiative has achieved a partnership with around 2500 schools that represent around 25% of the educational institutes in the country. Moreover, there is also a focus on integrating various other schools on a global scale to enhance the scope of the framework on a global scale and make effective contributions to the collective development of students. Moreover, similar developments have also been carried out by the Australian Research Institute in Education for Sustainability (ARIES), which has developed a partnership with higher education universities in the country for enabling students to make practical contributions to the issues related to sustainability in the country [7]. For example, the program has encouraged

research activities regarding sustainability in various fields so that diverse perspectives on relevant issues can be developed.

Moreover, there has also been an increased focus on enhancing the experiential learning process to incorporate the practical sustainability projects in the core and elective courses in higher education institutes [7]. However, significant efforts have been made for improving the capacities of students to conduct practical projects and training for learning sustainability skills, it has also been found out that there are various barriers due to lack of ready resources. There are limitations in the professional development of teachers and partnerships across educational and corporate sectors with an emphasis on practical focus on sustainability issues. This suggests that there is a need for development to ensure the effective provision of education for sustainable development.

2.2.2 In Britain

In the case of Britain, it has also been found out that there have been efforts towards the incorporation of project-based learning for improving sustainability skills among students. For example, the Climate Challenge Fund (CCF) has conducted partnerships with educational institutes in the region and funded 37.7 million for conducting practical activities that drive sustainable education benefits for students [13]. Moreover, there has also been a substantial improvement in conducting experiential and informal learning in partnership with education institutes and community-level education initiatives to ensure that students are capable of conducting practical learning to acquire skills that may not be acquired through formal learning opportunities. However, while the training and project-based activities have increased for students to gain skills and education benefits, it has also been analyzed that these projects are mainly conducted as extracurricular activities with informal incorporation with streamlined pedagogical activities. For example, these activities are conducted with independent initiatives of the schools or collaboration with partners driving their sustainable development objectives [19]. Therefore, there are limitations in achieving focused improvement in the skills of students through conducting planned training and projects.

In addition, the analysis of educational activities at the university level has also shown that students have the capability to conduct projects with a focus on sustainable development [20]. For example, projects conducted at the University of Edinburgh and University of Saint Andrews have shown the students carry out sustainable development-focused research activities with the help of university grants [13]. In addition, there are also collaborative activities involving organisations such as Green Academy and other stakeholders from academic and civil society backgrounds participating in training and projects for the development of sustainability skills in students. Nevertheless, there are existing concerns regarding the streamlined incorporation of project activities in the formal practices for the comprehensive learning and development of students.

2.3 Professional Development for Practising Teachers in Education for Sustainable Development

Teachers are the primary stakeholders in the provision of sustainable development education in pedagogical systems based on curriculum and designed practical activities[21]. However, the provision of effective opportunities for students to develop an understanding of sustainability issues and build the capacity of driving valuable change in the future requires the professional development of teachers. Hence, it has been analyzed for a comparative understanding of education for sustainable development in the context of Australia and Britain.

2.3.1 In Australia

A survey of Australian teachers performed by AESA found out that 92% of teachers in educational institutes in different parts of the country consider sustainability to be an important aspect that should be integrated into the curriculum in the country [7]. This suggests that a majority of educators have positive awareness of sustainability and its importance in the context of the curriculum. However, an analysis of the professional development practices for teachers has highlighted that there are limitations in professional development and capacity building of teachers in the country leading to inappropriate results. For example, Lonergan Research on the professional development of teachers in Australia to achieve education for sustainability objectives has found out that 54% of teachers have limited practical understanding of suitable pedagogical practices [22] [7]. In this regard, there are limitations regarding professional development events and funding of teachers for capacity building and professional development to achieve sustainable education goals.

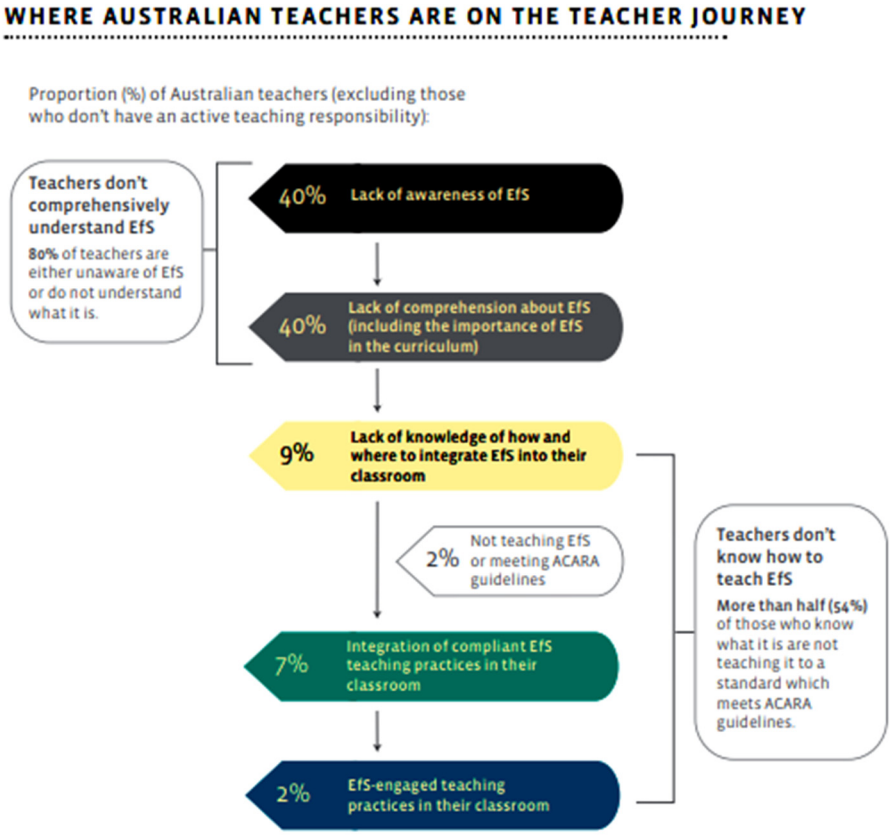

Figure 2: Teacher Readiness for Sustainable Development Education [7]

In addition, inefficiencies in the provision of material and resources for conducting specifically designed activities to enhance the sustainable development skills and knowledge of students have also been experienced in various educational institutes. This has a negative impact on the professional capability of teachers. The practical capability of teachers in the classroom to incorporate sustainability as a cross-curriculum priority requires the availability of resources and teaching material that can complement their pedagogical activities [23]. However, limited accessibility to classroom-ready resource material causes inefficiencies in education for sustainable development practices. In addition, there is a lack of required effort for the development of teacher support networks to conduct integrated efforts for achieving sustainable development education goals. These activities require the availability of grants and funding for projects, events, and combined training activities for the professional development of teachers at different levels. Nevertheless, while partnerships have been promoted by Smartest Goals National Partnerships, there is room for significant improvements for effective development to achieve long-term objectives.

2.3.2 In Britain

The training and development of teachers involved in the process of carrying out pedagogical activities have been realized in the Britain context as well. For example, Partnership 75 between education institutes and ecological sector organization such as RSPB, Red Cross, and various other NGO sectors for the development of networking opportunities, training events, and regular communication to ensure that development opportunities are available to members [13]. In this regard, teachers at the school and university level have also been included in these initiatives so that they can be provided with resources and training opportunities to enhance their capacities in providing sustainable development knowledge and skill sets to students. Nevertheless, the accessibility to these forums and the incorporation of teachers remains significantly low. For example, the Education and Training Inspectorate report conducted with respect to the education for sustainable development capabilities of teachers has found out that there are major limitations that cause inefficiencies in the ability of teachers to carry out appropriate activities [24]. There are concerns regarding the ability of students to incorporate sustainability activities and knowledge in their regular classroom activities and take decisions with effective leadership. Therefore, there is room for significant improvement to ensure that teachers are appropriately equipped to provide necessary learning opportunities to students for developing comprehensive capabilities.

3. RECOMMENDATIONS

Therefore, there are a few recommendations that can be considered for bringing improvements in the future.

First, there is a need to carry out the development of curriculum and the incorporation of a sustainability perspective through policy initiatives at the national level [6]. The policy initiatives can provide comprehensive recommendations for the development of curriculum and teaching practices and methods in different parts of the country to ensure that students from all demographic backgrounds can provide appropriate sustainability skills through the availability of suitable sustainable development education.

Second, practical and experiential learning is highly important for students to acquire the necessary skills and develop functional capabilities regarding dealing with various sustainability issues in their professional life [16]. In such cases, there is notable importance of the availability of project and training based activities to achieve improvements. Thus, educational institutes have to incorporate project-based learning, training, and workshops in their formal pedagogical practices to deliver practical sustainability skills to students.

Third, teachers are important stakeholders in the process of education for sustainable development, as they carry out teaching activities [25] [26]. In this regard, there is a need for developing mechanisms to provide professional development opportunities to teachers, so they can appropriately incorporate education for sustainable development in their routine activities and take suitable decisions with leadership in the classroom. They must also be provided with the appropriate resources necessary for achieving professional capability.

4. CONCLUSION

The article has conducted an analysis of the education for sustainable development perspective in the context of Australia and Britain. It has been found out that there is recognition of the importance of sustainability in the educational framework and the need for incorporating sustainable development learning for the benefit of individuals and society. In this regard, efforts related to the development of curriculum, practical learning, and professional development of teachers are important for achieving sustainable educational goals. The analysis has shown that both countries have made efforts to incorporate a sustainability perspective in their curriculum. The revisions of the national and regional curriculum in different parts have incorporated greater knowledge and emerging perspectives related to sustainable development for enhancing the theoretical learning and awareness of students. However, it has been realised that while the curriculum development has been conducted with policy measures and government stakeholder interest in Australia, there are limitations in the development of policy measures for driving change in Britain. This causes limitations in the comprehensive development of the curriculum in Britain for achieving sustainable development education objectives. Further, the analysis has also shown that training and project-related activities in Britain are primarily conducted with public-private partnerships while there is limited incorporation of such activities in formal educational practices. This may limit students' ability to develop practical skills required for long-term development. Alternatively, there are more streamlined efforts for the incorporation of practical and experiential learning in Australia, which is more appropriate. In addition, with respect to the professional development of teachers, it has been highlighted that there are major concerns in both countries because of the limited availability of opportunities for teachers to undergo development. There is a limited focus on providing teachers with an understanding of sustainable development education and resources that can be incorporated for suitable management of the pedagogical activities.

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