



Education for Sustainable Development (ESD)

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UAB
Publishers &
Distributors

**Universal Academic Books
Publishers & Distributors**

4760-61/23, Ansari Road
Daryaganj
New Delhi - 110002
INDIA

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First Edition 2020

ISBN : 978-81-932820-6-9

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EDUCATION FOR SUSTAINABLE DEVELOPMENT THROUGH HOME SCIENCE AS MULTIDISCIPLINARY APPROACH IN SCHOOL CURRICULUM

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Abstract

This study reviews education of sustainable development through Home Science as multidisciplinary approach in curriculum at school level. It was highlighted by Sterling (2001) that Education for Sustainable Development should play a key role in reorienting traditional education such that it should essentially be transformative, constructive, and participatory.

Sustainability is a means to achieve our present needs without being detrimental on the availability of resources and means for future generations' need. It stands on three pillars economic, environmental and social which are crucial in every human activity. The practical aspect of life, be it scientific, economic or social etc. which the child encounters at home before stepping into four walls of formal education need to be infused into our teaching curriculum for mathematics, sciences, arts, social sciences etc. This would make learning relevant, experiential and fun. It develops functional scientific attitude towards work inside and outside the home.

There is enough evidence that developing an approach to education for supporting future-oriented sustainable development improving the quality of life at individual, family, societal and global levels through wide vistas offered by Home-Economics. (Øvrebø, E.M.2013 Curriculum Education and Development in Home Economics. Curriculum Development, Innovation and Reform). Finland and Japan have set up exemplary curriculum approaches to meet educational demands for sustainable development. Sterling (2005) pointed out that 'sustainable education' is a generic and inclusive term that accommodates diverse interpretations and that such education must cut across disciplinary boundaries to promote the development of unique or transferable questioning and critical thinking skills.

United Nation's agency UNDP (United Nations Development Programme) along with other UN partners are in action to meet their 17 SDG's (sustainable

focus on systems that will define development of the future. These sustainability goals are multi-directional. Hence the pressing need to sensitise, equip students through a holistic conceptual framework in school curriculum to deal with the complex sustainability-related issues such as disparities, environment, economy etc.

Dewhurst and Pendergast study revealed that formal Home Economics curricula made considerable contribution in the education of sustainable development.

Keywords: Education for Sustainable Development, Sustainable Development, Multidisciplinary Approach, Sustainability, Curriculum.

Home Science is an empowering subject enabling students to make intelligent decisions in various aspect of life be it personal, professional and use of resources, materials at hand with proper skill development. Home Science itself functions at various disciplinary levels. Sustainability today is most sought-after goal than ever before with the new use and throw concept flooding our lives. Comparatively fields often talked about are SD (Sustainable Development), ESD (Education for Sustainable Development), CSR (Corporate Social Responsibility). A brief about these terminologies would help us dive into the need of it along with perceiving mentoring for sustainability at an early stage in life such as schooling or early childhood years. In 1977 Hartwick -Solow applied and developed the "sustainability rule". His concept only referred to the economic sustainability which did not consider the multifaceted interactions between the economic and ecological systems. An economy cannot function without natural capital or resources. Perrings Model (1992) explained this gap that the natural capital will be the limiting factor in the future. The depleting marine and geologic deposits limited atmospheric capacity to absorb carbon dioxide shall be a constraint rather than application of technology in running the economy. This ecological approach defined sustainability in terms of non-declining natural capital. This was again redefined by incorporating both economic and ecological dimensions.

The purpose of this theoretical paper is to integrate Home Science along with pedagogies of teaching subjects in the school curriculum for delivering sustainable development lessons tapping the multidisciplinary nature of the subject. The existence of "Home Science" is a marginalized field of study classified as 'Women's knowledge' and is devalued in the school curriculum to the extent that it soon appears to go obsolete. Instead this diminishing subject needs revival as it shall do justice to empower both individuals of all genders and various groups of individuals that live in communion.

The trans disciplinary approach of Home Science makes it "People Sciences" that would make education for sustainable development conducive by sourcing ideas from psychology (to understand how children feel, think, and relate), from sociology (to consider the influence of socio-economic factors), from Gender Studies (looking into prevalent gender disparities), from Anthropology (the importance of culture), from health and nutrition.

and from Social Work (methods of working with family and community). Home Economics is that field of study which utilizes both knowledge and practices drawn from various disciplines, sciences, arts, and humanities to manage human and material resources in order to improve man's quality of life. Nickell and Dorsey have extensively published about morals, values and goals in human resource management. Human and non-human resource management are key to sustainability. WCED (World Commission on Environment and Development) formulated in 1983, published a report in 1987 in which sustainability was first defined by Gro Harlem Brundtland. This led to various international meetings to pursue the agenda of sustainability. Since then the thrust had been on economic development, employment opportunities, desired consumption. Kates *et al.* (2005) shifted this thrust to human development which included values and goals such as equity, awareness, sensitization, increased life expectancy etc. Home Science or Home Economics has been aiming for sustainability long before the concept or term was coined in various cultures.

The roots of the discipline in New Zealand similar to that of European countries stem back to its earliest association in the 19th century with the teaching of manual training, the purpose of which was to train the mind, eye and hand co-ordination (Coon, 1964). At the same time there was also an intention for future generations to live better than the present one.

The International Federation of Home Economics (IFHE) is the only global organization representing the profession of home economics and have made a proactive attempt to locate the profession in contemporary context by launching position paper- he21c "Home Economics in the 21st century" (IFHE, 2008). According to International Federation of Home Economics (IFHE, 1988), "Home Economics is both the body of theoretical knowledge based on exact science and humanities and forms of practice, backed up by appropriate technologies. Its area of activity is the development, use and management of human and material resources for the greater welfare of individuals, families and human society in its entirety".

From the above, Khaleel (2012) viewed Home Economics education in developing the individual in totality:

- It improves the individuals' quality of life.
- It empowers the individual with knowledge and skills for gainful employment.
- It equips the individual with life skills necessary for everyone family and community living.
- It develops the individual with a creative mind to play entrepreneurial roles.
- It equips the individual with the ability to manage both human and material resources.

The multidisciplinary subject is apt for inculcation of 21st century skills and making global citizens through different levels of disciplinary, such as; intra-disciplinary, cross-disciplinary, interdisciplinary and trans-disciplinary. A cross cultural comparative study by Dewhurst, Pendergast 2008 in Scotland revealed that 93% majority concur that home economics is multidisciplinary and located within the Human Sciences, while 96 % agreed home economics prepares individuals for their personal and professional lives. The practical aspect of life, be it scientific, economic or social etc. which the child encounters at home before stepping into four walls of formal education needs to be infused into our teaching curriculum for mathematics, sciences, arts, social sciences etc. This would make learning relevant, experiential and fun. It develops functional scientific attitude towards work inside and outside the home. It is evident that Home Economics has many opportunities to develop a visionary approach to education for future-oriented sustainable development, improving the quality of life at individual, family, societal and global levels (Øvrebø, E.M., 2013 Curriculum Education and Development in Home Economics. Curriculum Development, Innovation and Reform).

Home Economics Institute of Australia stated in 2002 that education provides "the necessary balance in bringing together theoretical understandings and addressing practical everyday problems. It contributes to empowering people to become active and informed members of society with respect to both living independently and living in caring situations with other people. Students develop an understanding of the interdependence of their everyday living with that of other human beings and broader issues related to ecological sustainability". Teaching of home science integrated school subject enables collaboration with other subjects and includes integrative elements. These characteristics have been used to describe Home Economics in every Finnish national curriculum since 1970 which has made their education system one of the best in the world for students and all stakeholders of education. The latest curriculum reforms in Finland have shifted the aims of education towards learning how to learn, and their secondary education sector is already required to teach integrative skills. A study was conducted how curricular demands can be fulfilled in context of the subject Home Economics (J. Haapaniemi *et al.* 2018). Analysis indicated that all three kinds of tools – material, psychological and other humans – were used to support the integrative approach to learning. The pedagogical arrangements supporting the integrative approach to learning were identified as differing in terms of who led the integration; whether the integration was based on knowledge, skills, experiences, methods or materials; whether the pupils from different subjects were mixed in a meaningful way; and whether the objectives and themes of the lesson were of an integrative nature.

In the Finnish Home Economics curriculum, practical everyday management is emphasized and is an important part of a lesson's pedagogical content. In addition, the broad basis of the

opportunities to orient pupils toward science education (Adey & Shayer, 1994; Kivilehto, 2002). Working methods of science education, such as project-type studying, experimentation and explaining phenomena by using models, are also suitable for application in Home Economics lessons since learning in this context has been strongly bound to practical action (Darling, 1995; Peterat & DeZwart, 1991).

Enjoyment is seen to be significant in improving student outcomes as evidenced by current learning research, which indicates a correlation between positive emotions and their contribution to higher order thinking and long-term memory effectiveness (Pendergast, 2006; Haksell, 2001). If enjoyment is such a crucial factor to learning, then there are clear implications for the sustainability of students as lifelong learners (Hipkins; Vaughan, 2002).

Develop and evaluate an interdisciplinary primary school Education for Sustainable Development (ESD) curriculum as a collaboration among the subject areas of Kateika (Japanese Home Economics), art, and music of 38 sixth-graders in the primary school attached to a national university. Assessment of curriculum effectiveness revealed that the students learned to think about alternatives while questioning convention, to use all five senses, and to look at things from different angles. The students were also encouraged to explore and pursue their personal interests and to develop the motivation and determination to put forth effort.

Setsuko (2012) reported in a home science journal indicating that pre-service teachers comprehended problems in the first ESD practice plan and were able to improve their plans, taking into account children's sustainable developmental processes. Proving the PIP (Projection Images by Photography) Model as effective teaching for ESD practice.

Dewhurst and Pendegarst (2011) revealed that amongst students in the age group 11-18 yrs. teachers considered sustainable development to be an important issue, and the formal Home Economics curricula made significant contributions to the education of this topic. However, the field of sustainable development education has neglected studies of Home Economics education and its teachers' perceptions about sustainable development education, and this is reinforced by a lack of research generated from the Home Economics field. The researchers argue that this is an inhibiting factor affecting the capacity of schools to achieve sustainable development goals.

Haapla *et al.* (2012) found Home Economics (HE) teachers can have a central role in teaching sustainable development (SD) to young adolescents through everyday household management and the promotion of personally and globally sustainable well-being. Their objective study was to survey Finnish HE teachers' perceptions of their current practice, coping, and future intentions in terms of teaching SD. Enablers and inhibitors to carrying out this task were further suggested that HE teachers have adopted

teach it. Ways to promote cross-curricular projects and wider integration of SD into HE are discussed in their study.

McGregor and Sue LT asserts unique role of home economics in national development. With knowledge of nation's human condition and national development plans and strategies, home economists can be effective change agents acting as a catalyst between families and governments. Families are integral to national development; secure and thriving families mean a more secure and thriving nation, which in turn bolsters the human condition thereby setting up a positive reciprocal relationship. This catalyst would enable achieving sustainability goals too.

Home science offers learning opportunities by exploring, creating, expressing and practicing human values. Inculcating moral values in public and personal life. To catch up with the dynamic process such as globalization, privatisation, liberalization educational needs to have to mould so as to meet these demands and prevent their aftermath. Home Science integrated lessons during pre-service and in-service teacher training can help education stakeholders make heuristic individuals. With global efforts being made in the field of education to deliver home economics integrated school subjects for holistic development. Indian education policy makers too should make desirable changes. Psychosocial competencies and interpersonal skills can be inculcated through this approach along with enhanced learning to achieve sustainability. ESD also requires us to rethink conventional curriculum and pedagogy shifting from our conventional, fixed set of academic abilities.

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About the Book

This book covers the views and opinions of various Academicians and Researchers on a Global theme 'Education for Sustainable Development' in the form of Research Papers and Articles. The book is the collection of 35 Research papers covering various dimensions of Education for Sustainable Development in relation to ICT, Innovative Pedagogical Practices, Globalisation, Liberal Learning, Inclusive & Equitable Quality Education for life long learning, Global, Social, Economical and Environmental issues for Sustainable Development. This book is an effort to develop an insight for Education for Sustainable Development among Teachers, Researchers, and Students dealing with the theme.

About the Editors



Dr. Sugandha Goel is an Experienced IT Professional, true teacher and an innovative Leader having a vast experience in the field of Information and Communication Technology. She is serving as the Director IT Department & Dean Academics of IPEM Group of Institution, Ghaziabad. Dr. Goel is Ph.D, MCA, M.Sc (Physics) with specialization in Electronics. She has more than 20 years of experience in academics and industry. She has graced various academic and social events with her benign presence at Schools and colleges. Dr. Goel is also the Editor-in-Chief of IPEM Journal for Innovations in Teacher Education. Her many research papers have been published in

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F-22 B/3, Laxmi Nagar, Delhi - 110092

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Email : uabpdindia@gmail.com

website: www.uabpd.com

ISBN: 978-81-932820-6-9



₹1295.00