



CONCEPÇÕES SOBRE DESENVOLVIMENTO SUSTENTÁVEL DE ALUNOS DO ENSINO PÚBLICO DO MUNICÍPIO DE POMBAL – PARAÍBA

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Resumo

O entendimento do conceito sobre desenvolvimento sustentável e suas aplicações é fundamental para a consciência ambiental do aluno. Esse estudo avaliou as concepções sobre desenvolvimento sustentável dos alunos do ensino médio público do município da cidade de Pombal, Paraíba. Participaram dessa pesquisa 30 alunos. Os dados foram coletados por meio de um questionário que versava sobre o conceito de desenvolvimento sustentável. Dentre os alunos entrevistados, 63,3% não souberam conceituá-lo. Dentre aqueles alunos que declararam saber o seu conceito (36,7%), relacionaram-no apenas aos aspectos ambientais (13,3%) ou aos aspectos sociais e ambientais (13,3%), outros 6,7% das respostas destacaram em seu conceito ao aspecto econômico. O estudo revela que a maioria dos alunos entrevistados não sabem o que é desenvolvimento sustentável ou não o compreende adequadamente. Ações educacionais que visem à melhoria desse conhecimento e estimulem ações positivas do homem no meio ambiente, são fundamentais para o desenvolvimento de sociedades mais sustentáveis.

Palavras-chave: Meio ambiente. Semiárido. Sustentabilidade.

IDEAS ON SUSTAINABLE DEVELOPMENT OF STUDENTS FROM A GOVERNMENT-RUN SCHOOL IN POMBAL, PARAÍBA

Abstract

Understanding sustainable development and its implications is basic for students' environmental awareness. Current analysis evaluates concepts on sustainable development of 30 high school student from a government-run school in Pombal, Paraíba, Brazil. Data were collected by a questionnaire on the concept of sustainable development. Further, 63.3% of interviewed students could not give an opinion on the subject. Students (36.7%) who declared knowledge on the concept linked it to environmental (13.3%) or social and environmental (13.3%) or to economic aspects (6.7%). Current study shows that, in spite of the dissemination of environmental issues, most students failed to know the meaning of sustainable development or they understood the meaning failed to do so adequately in all its dimensions. Educational activities for the improvement of knowledge on the subject and which stimulate positive actions within the environment are essential for the development of more sustainable societies.

Keywords: Environment. Semiarid. Sustainability.





DISEÑOS DE DESARROLLO SOSTENIBLE DE EDUCACIÓN PÚBLICA DE ESTUDIANTES POMBAL CONDADO – PARAÍBA

Resumen

Entender el concepto de desarrollo sostenible y de sus aplicaciones es fundamental para la conciencia ambiental de los estudiantes. Este estudio evaluó los conceptos de desarrollo sostenible de los estudiantes de la escuela secundaria pública en el municipio de la ciudad de Pombal, Paraíba. 30 estudiantes participaron en esta investigación. Los datos fueron recolectados a través de un cuestionario que fue sobre el concepto de desarrollo sostenible. Entre los estudiantes encuestados, el 63,3% no pudo conceptualizarlo. Entre aquellos estudiantes que reportaron conocer su concepto (36,7%), en relación no sólo a los aspectos ambientales (13,3%) o con aspectos sociales y ambientales (13,3%), otros 6,7% de las respuestas resaltados en su concepto al aspecto económico. El estudio revela que la mayoría de los estudiantes entrevistados no saben lo que es el desarrollo sostenible o no la entiende correctamente. Las actividades educativas dirigidas a mejorar el conocimiento y fomentar las acciones positivas del hombre sobre el medio ambiente, son fundamentales para el desarrollo de sociedades más sostenibles.

Palavras clave: Ambiente. Semiáridas. Sostenibilidad.



INTRODUCTION

Throughout History, mankind has experienced several life-style changes by which people mastered and improved techniques (for instance, fire and tools) that modified the environment and accelerated its degradation (MACHADO, 2014). Modern economy and technology are built on the premise of large-scale production, with higher consumption to prop high-scale production. The escalating spiral will continue till it reaches biophysical limits and ecological collapse (RAJESWAR, 2010).

Consumption standards, if currently maintained, will make sustainable life impossible. In fact, mankind has lost its connection with the environment because it became individualist (KONDRAT e MACIEL, 2013) and well removed from the idea of the need for a mankind-environment equilibrium for the survival of all species on earth.

Education focused on sustainability is still the paradigm for the teaching-learning stance (SILVA et al., 2014) with great but necessary challenges for a thorough change in society which requires a personal and deep transformation in one's way of thinking (CLOSS e ANTONELLO, 2014). This fact is more serious since we live within an economic system where the population is strongly affected by consumerism and is hardly aware that the use of natural resources is finite. That is why, during the last decades, sustainable development became a worldwide issue (ADAMS, 2006) with initiatives in research, projects and academic activities that aim at its enhancement (BLACKSTOCK e CARTER, 2007).

According to the Brundtland Report (1987, p. 46) prepared by the World Commission for the Environment and Development, sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The UN Conference on Environment and Development (UNCED) sought an international agreement for the functionality of the concept of sustainable development. The concept thereby became highly popular and enhanced studies and the establishment of management policies that would rethink their main principles.

According to Patriarcha-Gracioli (2014, p. 1), “issues on sustainability stand on the economic, social and environmental pillars for the effective development of sustainable societies”.

The Earth Charter on sustainable society (2002, p. 01) also states:

We stand at a critical moment in Earth's history, a time when humanity must choose its future. [...] We must join together to bring forth a sustainable global



society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.

In 2014, the 10-year UN Programs on Sustainable Consumption and Production (2005 – 2014) came to an end. It was a worldwide program to attend to the basic needs of the present without jeopardizing the capacity of future generations and their needs.

The term ‘sustainability’ occurs in all discourses and gains attention of governments, social media (SULAIMAN, 2011) and schools which all include the theme within the subject matters taught in the classroom to inform school children on the impacts caused by society’s life style and make them aware for a more sustainable use of natural resources and thus warranting the needs of future generations. The role of education also comprises the social and environmental conscience-raising of this community for an improvement in environmental and human awareness (REIS, 2012).

Since it is highly relevant to know the concepts that students have on the term ‘sustainable development’, studies are indispensable to diagnose the subject so that the schooling perceives possible gaps in education related to Environmental Education, especially education for sustainability.

Current analysis evaluates the ideas on the meaning of sustainable development of high school students in the government-run school in Pombal, Paraíba, Brazil, with regard to its economic, social and environmental aspects.

MATERIALS AND METHODS

This research was conducted between august and october 2014, as activity Outreach PASS Program - Action Program for Environmental Sustainability. The PASS Program is at work since 2011 by the Federal University of Campina Grande, in the campus of the city of Patos, Paraíba. Its main goal is to make possible the transforming relationship between university and society through Environmental Education.

Current study was undertaken in the Arruda Câmara Elementary and High School in Pombal, Paraíba, Brazil. Sample population comprised 30 school-leaving students (age bracket 15 - 17 years), chosen at random.

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The town of Pombal has an area of 889 km², with 32,110 inhabitants (IBGE, 2010) and distant 378 km from the state's capital city of João Pessoa, comprising the micro-region of Souza, Paraíba (Figure 1).



Figure 1 – Location of the municipality of Pombal.
Source: Edited by the authors, 2015.

Were collected by a questionnaire with the following questions: “Do you know what sustainable development means?”; “If your answer is Yes, write a text on the term sustainable development”.

Analysis of data was done by descriptive statistics, with Excel 365, and by qualitative analysis of the discursive answer. Students' ideas were classified according to their concept of sustainable development in its social, economic and environmental aspects, or their combinations ((Econômica/Environmental or Social/Environmental).

RESULTS AND ANALYSES

Results registered a high percentage (63.3%, n = 19) of students who declared they did not know what sustainable development was. Approximately one third (36.7%, n = 11) answered they could define it (Figure 2).

Most students who gave a definition of sustainable development have only a partial view of the issue: they either gave a definition from the environmental (13.3%, n = 4) or from the

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socio-environmental (13.3%, n = 4) aspect. A small percentage (6.7%, n= 2) insisted on the economic and environmental aspects.

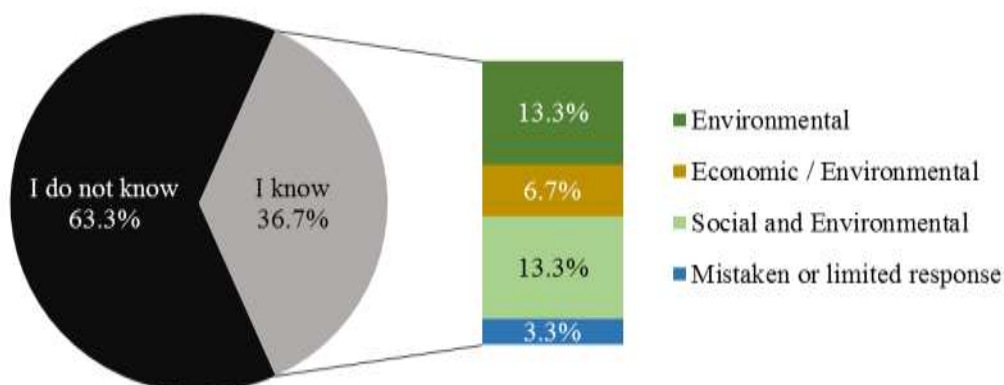


Figure 2 – Analysis of students’ answers according to frequency (%) referring to social, environmental and economic aspects on sustainable development.
Source: Edited by the authors, 2015.

The verbs and nouns below occur in most conceptual answers (70.0%): “aggression”, “jeopardize” and “impact”, or rather, negative terms related to non-aggression, or to something that does not harm or that does not cause any impact on the planet (Table 1).

Aspect	Answers
Environmental	It is development that does not bring environmental impacts to our planet. It is progress based on the conservation of nature and natural resources. It is the development without harming the environment. It is to make things develop without harming the environment, making recycling practices, among others, reducing the pollution of the planet.
Econômica / Environmental	It is promote economic development in a way that does not jeopardize the future of the environment. It is something developing city, factories, or construction so does not harm the environment.
Social / Environmental	It is the development is the use of natural resources consciously. Sustainable Development is to develop without harming the environment, and ensure the survival of all species. It is the development that cares not depleting natural resources. It is when the development in some area without harming the environment.

Table 1 – Students’ replies on Environmental, Economic/Environmental and Socio-Environmental aspects.
Source: Edited by the authors, 2015.

The term “conservation” occurred in the definition as “progress based on the conservation of nature and natural resources”. The term “preservation” was never employed. The two terms (conservation and preservation) have different meanings and it is relevant that students know the importance of both. In fact, “conservation” is linked to the protection of natural resources so that their use to future generations would be guaranteed. On the other hand, “preservation” is related to an untouched environment in which a full protection of the environment is required.

Students who related sustainable development and economic/environmental aspects were prone to forward concern on economic growth and aggression caused to the natural environment. Further, replies that emphasized the socio-environmental aspects revealed that for students sustainable development demanded awareness and concern so that natural resources would not be depleted. Such perception may be perceived in the following reply: “Sustainable development is development without damaging the environment and a guarantee for the survival of all species”.

Results corroborate the opinion of Fonseca (2007) who underscores that sustainable development is not well understood by most students. According to Sulaiman (2011, p 64), “the environmental issue and social relevance came to the fore through the social media which quickly disseminated such themes as climate changes, global warmness, biodiversity, environmentalism, sustainability, environmental citizenship.

In spite of the popularity of the environmental issue, the percentage of knowledge on the meaning of sustainable development by most students was rather low or at least incomplete. Current concept of sustainable development defined by the 2002 World Summit involves a more concrete definition of the aim of sustainable development and, at the same time, distinguishes the factor that limits development and that which may harm future generations (MIKHAILOVA, 2004).

Sustainable development may be thus defined as the capacity of people to interact with the planet by preserving the environment through the conservation of natural resources for the use of future generations, or rather, present decisions will have long term consequences.

The concept is actually rather complex since it attends to a set of interdependent variables which integrate social, economic and environmental issues. So that its wider and fuller connotation would not be lost, the concept must include the above three aspects and attends equally all the fields involved in the development of society.

Concepts that attend to these aspects in an isolated form only partially comply with the true environmental proposal of sustainable development. Such an incomplete way of perceiving the concept has been detected in all the students' replies that defined it.

With regard to the reduction of sustainable action to mere environmental aspect, Sechinato (2012, p. 74) writes that, "a product does not become sustainable by simply reducing the use of natural resources and environmental pollution. Social and economic issues should also be included". Further, society and nature should form a single socio-environmental world (ARAÚJO e FRANÇA, 2013) that warrants the survival of all species; in other words, biodiversity in harmony with social development.

The above concepts foreground the proposal that underlies the concept of sustainable development, or rather, that "improves the life quality of people on the planet and, at the same time, respects the production capacity of ecosystems in which we live" (MIKHAILOVA 2004, p. 26).

Results revealed that probably school education for sustainable development in the school under analysis was only slightly efficient. Educational activities that provide the students with more information on the theme are required so that they become citizens who are able to participate actively in environmental improvements, issues and problems of the town.

Barbieri e Silva (2011, p. 62) underscore that: "Education should provide knowledge and attitudes so that people would take decision and act coherently with the principles and thus conceive development as an instrument of sustainable development".

Faced with this diagnosis reported here, it is important that the school be involved in proposals that includes the environmental knowledge to their students through actions such as:

1. Educational projects in Environmental Education: where different disciplines are related in an inter and transdisciplinary approach to develop, throughout the school year, environmental issues to guide students to an environmental awareness more critical and conscious, especially about the impact of their socio-environmental initiatives for a more sustainable development of society.
2. Socio-environmental activities with regional focus: It is essential that the human being has necessary education for harmonious living with the environment in which it is inserted (VASCONCELOS e SILVA, 2015). These activities would insert students in the environmental context of its region, knowing aspects of its biodiversity and geodiversity, mainly its environmental problems and weaknesses. This way they will enhance the value of resources that the environment he lives offers and have better conception of sustainable local development.

The school can provide, the easier way, these proposals above, since that school learning phase people are more receptive to new knowledge (SCHWANKE et al., 2013), including environmental knowledge (SILVA et al., 2015).

It is highly relevant to perceive that the education of future generations focused on the formation and positive changes in the environment is essential for the development of more sustainable societies.

FINAL CONSIDERATIONS

Most high school students of the government-run school under analysis do not know the meaning of sustainable development. Students who said they knew had only a partial idea of the concept since they defined it in a fragmented way and failed to associate it to all the aspects it should comprise.

Results show a probable fragility in the teaching on the concept of Environmental Education, particularly on sustainable development, in the school. Educational activities that enhance such insertion more efficiently are basic so that students' formation warrants their participation in the construction of more sustainable societies.

Among these actions, proposals such as the development of educational projects with inter- and transdisciplinary approaches in Environmental Education and socio-environmental activities with regional focus, can provide more knowledge and critical thinking of students on sustainable development.

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REFERENCES

ADAMS, W. M. **The Future of Sustainability: Re-Thinking Environment and Development in the Twenty-First Century, report of the IUCN Renowned Thinkers Meeting**, 2006.



Concepções sobre desenvolvimento sustentável de alunos do ensino público do município de Pombal – Paraíba

Disponível em <http://cmsdata.iucn.org/downloads/iucn_future_of_sustainability.pdf>. Acessado em 05 de outubro de 2014.

ARAÚJO, M. L. F.; FRANCA, T. L. **Concepções de Educação Ambiental de professores de biologia em formação nas universidades públicas federais do Recife.** Educar em revista. n.50, p. 237-252, 2013.

BARBIERI, J. C.; DIRCEU, S. **Desenvolvimento sustentável e educação ambiental: uma trajetória comum com muitos desafios.** Revista de Administração Mackenzie. v. 12, n. 3, p. 51-82, 2011.

BLACKSTOCK K. L, CARTER C. E. **Operationalising sustainability science for a sustainability directive? Reflecting on three pilot projects.** Geographical Journal. v. 173, n. 4, p. 343–357, 2007.

CLOSS, L. Q.; ANTONELLO, C. S. **Teoria da aprendizagem transformadora: contribuições para uma educação gerencial voltada para a sustentabilidade.** Revista de Administração Mackenzie. v. 15, n. 3, p. 221-252, 2014.

COMISSÃO MUNDIAL SOBRE O MEIO AMBIENTE - CMMA. **O Nosso Futuro Comum.** Ed. 2. Rio de Janeiro, RJ: Editora Fundação Getúlio Vargas, 1991.XIII, 430 p. Disponível em: <<http://pt.scribd.com/doc/12906958/Relatorio-Brundtland-Nosso-Futuro-Comum-Em-Portugues>>. Acesso em: 07nov. 2014.

FONSECA, M. J. C. F. **A biodiversidade e o desenvolvimento sustentável nas escolas do ensino médio de Belém (PA), Brasil.** Educação e Pesquisa. v. 33, n. 1, p. 63-79, 2007.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA - IBGE. **Censo 2010.** Disponível em: <<http://cidades.ibge.gov.br/xtras/perfil.php?lang=&codmun=251210&search=paraiba|pombal>>. Acessado em: 06 de outubro de 2014.

KONDRAT, H.; MACIEL, M. D. **Educação ambiental para a escola básica: contribuições para o desenvolvimento da cidadania e da sustentabilidade.** Revista. Brasileira de Educação. v. 18, n. 55, p. 825-846, 2013.

MACHADO, M. M. B. **Temas meio ambiente, sustentabilidade, e educação ambiental no ensino de biologia: um estudo sobre as práticas dos professores do ensino médio de Sapucaia do Sul, RS.** Dissertação de mestrado (Mestrado em Educação em Ciências: Química da Vida e Saúde). Instituto de Ciências Básicas da Saúde. Universidade Federal do Rio Grande do Sul - UFRS. 2014.



Concepções sobre desenvolvimento sustentável de alunos do ensino público do município de Pombal – Paraíba

MIKHAILOVA, I. **Sustentabilidade: evolução dos conceitos teóricos e os problemas da mensuração prática.** Revista Economia e Desenvolvimento. v. 1, n. 16, p. 23-41, 2004.

ONU - Organização das Nações Unidas. Estados Unidos da América. **A Carta da Terra.** 2002. Disponível em <www.mma.gov.br/estruturas/agenda21/_arquivos/carta_terra.pdf>. Acessado em 06 de outubro de 2014.

PATRIARCHA-GRACIOLLI, S. R. **Sustentabilidade Ambiental e qualidade de vida: Uma reflexão.** Revista Ambiental em Ação, n.49, Ano XIII, 2014.

RAJESWAR, J. **Deconstructing the development paradigm: a post-structural perspective.** Sustainable Development. v. 18, n. 5, p. 245–251.

REIS, C. S. **Desenvolvimento Sustentável: a Educação e o Ambiente.** AdolesCiência - Revista Júnior de Investigação.v. 1, n. 1, p. 51-55, 2012.

SCHWANKE, C.; MENEZES, J. A.; RODRIGUES, D. L. M.; SENNA, H. B.; GOULART, C. L. **Construindo cidadania ambiental na escola.** Extensio: Revista Eletrônica de Extensão. v. 10, n. 16, p. 14-22, 2013.

SECHINATO, A.S. **Minerais orgânicos na produção sustentável de aves e suínos.** Anais do II Congresso Brasileiro de Produção Animal Sustentável. Ed. 1. Brasília, DF, 2012. 250p.

SILVA, E.; NOBREGA, M. A.; OLIVEIRA, H. M.; SILVA, P. M. **A Educação Ambiental e o resgate da valorização da natureza pelo uso de plantas medicinais.** Educação Ambiental em Ação, v. 50, 2014.

SILVA, E.; SILVA, F. G.; SILVA, R. F. L.; SILVA, R. H.; OLIVEIRA, H. M. **Avaliação do saber ambiental de professores do ensino público do município de São Bento, Paraíba.** Scientia Plena. v. 11, n. 9, p. 1-11.

SULAIMAN, S. N. **Educação ambiental, sustentabilidade e ciência: o papel da mídia na difusão de conhecimentos científicos.** Ciência e educação. v. 17, n. 3, p. 645-662, 2011.

VASCONCELOS, H. D. L.; SILVA, E. **Research in environmental education in the state of Paraíba, Brazil: Analysis of its insertion and professors' commitment in post-graduate courses.** Revista Brasileira de Educação Ambiental, São Paulo, v. 18, n. 2, p. 113-125, 2015.

