UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
CENTRO DE CIÊNCIAS DA SAÚDE
NÚCLEO DE TECNOLOGIA EDUCACIONAL PARA A SAÚDE

PROGRAMA DE PÓS-GRADUAÇÃO
EDUCAÇÃO EM CIÊNCIAS E SAÚDE

NOME: _____

NÚMERO DE INSCRIÇÃO: _____

PROVA DE INGLÊS - DOUTORADO 2017

Prezado(a) Candidato(a),

O objetivo desta prova é avaliar o conhecimento de língua inglesa dos candidatos ao Programa de Pós-graduação Educação em Ciências e Saúde, nível Doutorado, Turma 2017.

Esta prova é composta de duas questões, sendo uma de compreensão de texto e outra para tradução.

A duração da prova é de três horas, no máximo.

É permitido consultar o dicionário impresso.

BOA SORTE!

Nº INSCR____

1ª Questão: Leia o texto abaixo e responda, em português, às questões formuladas.

Historically, science education has meant learning sets of concepts that laboratory scientists thought to be foundational to their disciplines. Thus, a brief look at science textbooks shows that science education generally asks students to memorize such things as Newton's Law of Gravity, the Krebs cycle, or the process of oxidization/combustion. When science educators came to realize that knowing a concept means knowing it in relevant contexts, they began to consider including the discussion of Science, Technology Society, and the Environment (STSE) issues in the classroom such as missile launches and the social aspects of the relationship between combustion and the atmosphere (Aikenhead, 1994).

(...)

The underlying idea is that discussing STSE issues provides students with a means of linking what they learn in science classrooms and their everyday world outside (DeBoer, 2000). This thereby constitutes a link between knowing science and responsible citizenship, which in turn leads science educators to suggest that science students of all ages ought to get involved in changing their worlds (Roth & Désautels, 2004). Increasingly science educators become concerned with the gap between knowing science and acting in ways that embody this knowledge.

From an ethico-moral standpoint, the desirable form of knowing is 'knowing in and for action'; preparing students for action means ensuring that they gain an understanding of how decisions are made within a variety of everyday contexts (Hodson, 2003). In the concept of *phronesis,* that of wise practical action, the ancient Greeks already knew that decision-making inherently involved ethics. As a way of cultivating scientific literacy for citizenship, the STSE curriculum development addresses ethical dilemmas of socio-scientific issues to help students make informed decisions and take action in a complex modern society (Sadler & Zeidler, 2004). Given that scientific knowledge and collective decision-making could have a great impact on health and the environment, it becomes necessary for students as future citizens to understand the complexity of STSE and human ethical relationships in their everyday life.

Some science educators design learning environments in which students argue about real STSE issues in the confines of their classrooms (Kolstoe, 2000); others see such an

approach as artificial and suggest instead involving students directly in a real everyday activity outside of schools so that their knowing and learning might have immediate consequences for their community (Roth & Lee, 2004). It is in and through their practical work relative to environmental issues that students act ethico-morally and develop ethicomoral actions (Roth, 2008).

Despite the concerns and efforts to support students' development of scientific knowledge in relation to civic responsibilities, STSE education has been taken as an addon or peripheral under the scheme of content-oriented science curricula and has not made much progress in terms of the connection of scientific knowledge, decision-making, and taking action in real life (Kolstoe, 2001; Robert, 1995).

Most science curricula in schools today still focus on factual knowledge in that they mostly involve the laws, theories, and concepts of science without responding to the rapid changes in the practice of science and technology, the information age, and human life values (Hurd, 2002). Even while teaching STSE, many and perhaps most science teachers address ethical dilemmas without much consideration of students' personal emotional understandings of the issues as if the issues are the problems or the situations of others (Zeidler et al., 2005).

KIM, M.; ROTH, W. M. Rethinking the ethics of scientific knowledge: a case study of teaching the , environment in science classrooms. **Asia Pacific Education Review**, v. 9, n. 4, 2009.

(1) De acordo com o texto, qual a contribuição da abordagem Ciência Tecnologia Sociedade e Ambiente para a formação dos estudantes?

(2) Segundo os autores há uma lacuna entre saber ciência e agir com base nos saberes científicos. Que perspectiva os autores defendem para a educação em ciências?

(3) Por que os autores acreditam que muitas propostas baseadas na abordagem Ciência Tecnologia Sociedade e Ambiente ainda não possuem grandes progressos do ponto de vista educacional?

Nº INSCR____

2ª Questão: Traduza o texto abaixo para o português.

Abstract: In many educational contexts throughout the world, increasing focus has been placed on socio-scientific issues; that is, disagreements about potential personal, social and/or environmental problems associated with fields of science and technology. Some suggest (as do we) that many of these potential problems, such as those associated with climate change, are so serious that education needs to be oriented towards encouraging and enabling students to become citizen activists, ready and willing to take personal and social actions to reduce risks associated with the issues. Towards this outcome, teachers we studied encouraged and enabled students to direct open-ended primary (e.g., correlational studies), as well as secondary (e.g., internet searches), research as sources of motivation and direction for their activist projects. In this paper, we concluded, based on constant comparative analyses of qualitative data, that school students' tendencies towards socio-political activism appeared to depend on myriad, possibly interacting, factors. We focused, though, on curriculum policy statements, school culture, teacher characteristics and student-generated research findings. Our conclusions may be useful to those promoting education for sustainability, generally, and, more specifically, to those encouraging activism on such issues informed by student-led research.

BENCZE, L.; SPERLING, E.; CARTER, L. Students' Research-Informed Socio-scientific Activism: Re/Visions for a Sustainable Future. **Research in Science Education**. 42:129, 2012.