

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 INGLES - MESTRADO 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 Mestrado, Turma 2017.

Esta prova é composta de duas questões, sendo uma de tradução (5pts) e outra de compreensão do texto (5pts).

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

É permitido consultar o dicionário impresso.

BOA SORTE !

NOME: _____ **Nº INSCR** _____

1ª Questão: Traduza o texto abaixo para o português:

After 36 years of studying the teaching and learning of science, it is clear to me that there are many ways to teach in order to produce success and just as many ways to teach to produce failure. Being an effective science teacher entails much more than changing one or two variables and maintaining high expectations for the achievement of youth. Instead, effective teaching is complex, necessitating that teachers enact successful chains of interactions, not just for one person, or even one person at a time, but for a social network, producing and sustaining learning environments built upon fluent transactions that facilitate collective and individual outcomes. Teaching science is collective, and it is important that all participants, teachers and students, have a sense of the game that affords forms of participation that are timely, appropriate, and anticipatory. Central to productive learning environments are individuals who act not only for themselves, but also for the collective; that is, they enact practices not only intended to promote their own achievement but also to expand the agency and learning of others. Accordingly, each learning practice also becomes a teaching practice and teaching and learning are regarded as dialectical constituents of a learning environment.

The essences of a dialectical relationship are irreducibility and copresence, each entity presupposing the existence of the other. I employ dialectical theory to avoid the creation of binaries and the use of either/or logic and I depict dialectical relationships using the following convention, teaching | learning, in which the vertical stroke is indicative of a dialectical relationship between the adjacent constructs.

Tobin, K. Sociocultural Perspectives on Science Education. In Fraser, B., Tobin, K., McRobbie, C. J. (Eds.). **Second International Handbook of Science Education**, chapter 1, pp 3-17, 2012.

NOME: _____ **Nº INSCR** _____

2ª Questão: Leia o texto abaixo e responda em português às questões formuladas:

Several educators in science have called for the inclusion of socio-scientific issues' discussion in science curricula because of its potential for creating a more real, humane image of scientific activity and for promoting scientific literacy, an essential tool for a responsible citizenship regarding decision-making processes related to socio-scientific issues (Kolstoe, 2001; Millar and Hunt, 2002; Millar and Osborne, 1998; Monk and Dillon, 2000). They argue that in a democratic society, the public evaluation of science requires the participation and involvement of as many citizens as possible, and this is only possible by understanding what science is and how it is produced. At the same time, several authors claim that the discussion of socio-scientific issues in the classroom has shown to be extremely useful both in terms of learning about the contents, the processes and the nature of science and technology, and in terms of the students' cognitive, social, political, moral and ethical development (Hammerich, 2000; Kolstoe, 2001; Millar, 1997; Reis, 1997; Reis, 2004; Sadler, 2004).

However, the discussion of socio-scientific issues is an uncommon practice in science classes. Some teachers avoid discussing these issues for fear of protests by the students' parents and a possible lack of control during the discussions (Stradling, 1984). Many teachers lack management skills related to classroom discussions and the required knowledge to undertake discussions about socio-scientific issues, namely knowledge about the nature of science and the sociological, political, ethical and economic aspects of the issues at stake (Levinson, 2001, 2004; Levinson and Turner, 2001; Newton, 1999; Reis, 2004; Reis and Galvão, 2004a, 2005; Simmons and Zeidler, 2003; Stradling, 1984). Other teachers feel the restraints imposed by the excessive number of topics in science curricula (Levinson and Turner, 2001; Reis and Galvão, 2004a) or by national evaluation systems that do not value this type of discussion activity (McGinnis and Simmons, 1999; Newton, 1999; Reis, 2004; Reis and Galvão, 2004a). It is also true that many science teachers view science as an objective enterprise free from values. These science teachers see their task as teaching the facts (and not discussing opinions or ethical aspects), shifting the onus for discussion of the social, moral and ethical implications of science and technology to the lessons of their humanities colleagues

NOME: _____ **Nº INSCR** _____

(Levinson, 2001; Levinson and Turner, 2001). When ethical questions are introduced into the science classroom, they are treated as an initial starting point and presented briefly with little analysis or criticism. All these facts stress the importance and relevance of studying the factors that influence the implementation of discussion activities regarding controversial issues in science classes, whether positively or negatively. Identifying and understanding these factors is decisive for the conception and implementation of intervention processes that help teachers overcome these restraints and support them in planning and carrying out such activities.

Reis, P.; Galvão, C. Teaching Controversial Socio-Scientific Issues in Biology and Geology Classes: A Case Study. **Electronic Journal of Science Education**, V 13, No. 1, p. 1-22, 2009.

(1) Segundo os autores, quais argumentos indicam a relevância da integração do enfoque sócio-científico no ensino de ciências?

(2) De acordo com o texto, quais são os desafios enfrentados pelos professores para adotar o enfoque sócio-científico no ensino de ciências?