

## **Reproduction and Sex Education in Portuguese Primary School textbooks: a poor contribution to scientific learning**

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### **Abstract**

The main goal of the present study was to understand the evolution of primary school textbooks as far as reproduction and sexuality is concerned, since its implementation (1993), giving special emphasis to both scientific rigour and pedagogical approach. Only a graphic improvement was found along the studied time since the scientific drawbacks are maintained along the time. Results show that textbooks give to Human Reproduction a “*minor*” status when compared to other human biological systems taught in primary school. Some concepts are definitively wrong and others are taught in an ambiguous way allowing pupils’ acquisition of alternative and wrong conceptions.

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## **Introduction**

Sexuality is an integral part of the human being personality and the total development depends on the satisfaction of basic human being necessities such as contact desire, privacy, emotional expression, pleasure, affection and love (Vaz et al., 1996).

Sex education always existed throughout the human kind history but not in a intentional and systematic way as it is intended nowadays. Silence meant that these questions were inconvenient for discussion and to ask questions, much less were school learning subjects. Although the slowness, the attitudes and the mentalities in relation to the sex have been changed gradually and showing the interest and the great public sensibility for all the sexuality questions (Gomes et al, 1987).

The first legislation in Sex Education was approved by the Portuguese Parliament in 1984. This law “Sex Education and Familiar Planning” intended to make the state committed to support the families in the tasks of the sex education, to introduce in the school programmes contents concerning the human sexuality: anatomy, physiology, genetics, the male and female role. Only in 1990 the topic Reproduction and Sex Education was introduced in the National Programme of Primary School (ME, 1990). This teaching module “Reproduction” is integrated in the chapter of “Human body and vital functions” which is included in the general area of “Environmental Studies” (“*Estudo do Meio*”).

In general, primary school teachers tend to use the textbook as their main source (or even the only one) for their teaching (Sá and Carvalho, 1997; Teixeira, 1999), therefore the textbook assumes an enormous role in the teaching-learning process. The main goal of the present study was to understand the evolution of primary school textbooks as far as reproduction and sexuality is concerned, since its implementation, giving special emphasis to both scientific rigour and pedagogical approach.

## **Methodology**

The corpus of this study was composed of a total of 34 textbooks of primary school since 1993 (when this topic was included in primary school textbooks) released by 11 publishers.

A grids for textbook analysis was constructed by using the following items :

- Proportion of reproductive system to other human system;
- Interrelationship (yes/no) between reproductive system with other systems;
- Proportion between the space occupied by images and texts in the reproductive system topic;

- Text information (no scientific info; scientific incorrect info; scientific correct info)
- Image types (photography; drawing; schema)
- Image quality (no scientific info; scientific incorrect info; scientific correct info);
- Image legend (yes/no);
- Reference text/Image (yes/no);
- Types of activities (diagnosis; contents learning; learning assessment);
- Activities for children and /or adults.

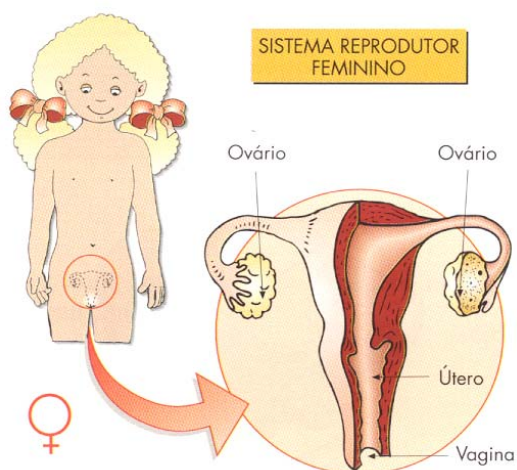
Emphasis was given to the level and quality of scientific contents (*Non Scientific; Incorrect Scientific* and *Correct scientific*) for either texts or icon presentation, as well as for the kind of activities proposed to pupils.

## Results and Discussion

- In general, images show the traditional family (father, mother and 1 to 2 children) giving more emphasis to the social/cultural aspect rather than to the biological information.
- Usually, the textual and iconic scientific information is little, *i.e.* no more than the previous children's general knowledge.
- Anatomy is described (although in short) but organs function or physiology is never or scarcely presented.
- Scientifically incorrect images are frequent and designating the "vulva" by "vagina" is an omnipresent error (Fig.1).
- The external male genital organs are usually represented but the external female ones usually are not.
- The intercourse (sexual act) is never referred.
- The word "fecundation" is sometimes mentioned with sentences like this ex: "it is necessary that a male cell finds a female cell" out of context and so without any possibility of understanding.
- Usual reference of "mother's tummy" (instead of "uterus") for the place where the "baby" (instead of "embryo" or "foetus") grows up.
- The embryo usually is represented outside its natural context and deprived of embryo annexes and captions.
- Rare reference to baby deliverance is mentioned and natural deliverance or caesarean is never referred.
- Health education – including hygiene, prevention of sex transmitted diseases, contraception, etc – is absent in all textbooks.
- Textbooks do not propose activities to promote discussion of problematic issues related to reproduction and sex education like scientific, social and ethical issues.

Overall this study showed that the primary school textbook contents are not very promising as far as pupils' learning about Reproduction and Sexuality is concerned. This analysis shows books give to Human Reproduction a "*minor*" status when compared to other human biological systems taught in primary school. Some concepts are definitively wrong and others are taught in an ambiguous way allowing pupils' acquisition of alternative conceptions.

Only a graphic improvement was found along the studied time since the scientific drawbacks are maintained along the time.



**Fig. 1.** Scientifically incorrect image: Vulva is designated as vagina, and vagina is designated as uterus.  
*In:* Borges, F., Lima, J. & Freitas, M. (1997). *Andorinha Torrinha*. Estudo do Meio. 3º ano. Porto: Porto Editora. p. 20.

The results of this study can be useful to primary school teachers, so that they can adopt a more critical position during their teaching and understand children's obstacles when teaching them. These results should also be taken into account by textbook authors and publishers in order to improve the scientific quality of Portuguese primary school textbooks.

## References

- Gomes, F., Albuquerque, A. & Nunes, J. (1987). *Sexologia em Portugal*. Vol. I. Lisboa: Texto Editora.
- ME – Ministério da Educação (1990). *Organização Curricular e Programas do Ensino Básico do 1º Ciclo*. Lisboa: Direcção Geral do ensino Básico e Secundário.
- Sá, J. & Carvalho, G. (1997). *Ensino Experimental das Ciências. Definir uma Estratégia para o 1º Ciclo*. Braga: Editora Correio do Minho.
- Teixeira, M. (1999). *Reprodução Humana e Cultura Científica: um percurso na formação de professores*, Tese de Doutoramento em Didáctica. Aveiro: Universidade de Aveiro.
- Vaz, J., Vilar, D., & Cardoso, S. (1996). *Educação sexual na escola*. Lisboa: Universidade Aberta.