

# **PRODUCTION OF OPEN EDUCATIONAL TEXTS: STUDY SITUATION IN THE NATURAL SCIENCES AND THEIR TECHNOLOGIES**

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**The characteristics of textbooks, designed to provide learning contents to be transmitted to students in each grade or school year, don't meet current needs for quality education (AMARAL, 2006).**

**The textbook were subject of many researches in Brazil, which identified serious flaws of various kinds and teachers' indication to be read, studied and memorized by students for evaluation.**

**A famous saying circulate among Brazilian educators *a matter of school comes from the textbook to the blackboard and back to the student's notebook without passing through the mind of either of two persons* (FROTA PESSOA, personal communication)**

**The nature of the work school teacher requires  
guidelines to be consulted at any time with  
systematized and intentionally meaning school  
knowledge.**

**In Brazil, the teachers of basic education from 5th year of schooling have a workload that requires them to change many times from one classroom to another of the same school or different schools in the same day.**

**Thus, the textbook is the possible resource!**

**The National Programs for Distribution of Textbooks favor this cycle, while national and international assessments of Brazilian students of basic education show a sagging performance in knowledge, skills and cognitive abilities.**

**Therefore, the textbook has not made the  
role to constitute the younger generations  
with the knowledge required by the  
technological and cultural environment**




**Students come to school today with their own explanations about the phenomena of everyday life because they are subjected to lots of information, not found in textbooks.**

**They control practices and the mental operations supported by concepts of experience, whose meanings were produced in social interactions, with a complex mental structure.**

***How the mental development can happen in everyday situation and at school it has been little?***

**In everyday life, the learning and mind development happen mediated by the meanings produced and internalized, in the practical situation, in interaction with other individuals.**




**At school, the purpose is to teach, learn and develop the minds of students, mostly with idealized situations and not real.**

**This requires change in the traditional pedagogical practices in the classroom: to produce a rich environment interaction on a given situation.**

**Thus, we argue that the resource materials used by teachers and students at the school have these characteristics, as we suggested in Situations Study (SS) in our Interdepartmental Group for Research on Education in Science (GIPEC-UNIJUÍ)**

**The Study Situations deal with everyday situations of high experience of students and teachers, conceptually rich, from the point of view of science.**

**They were elaborated and systematized in a contextualized perspective, interdisciplinary and transdisciplinary, which allows the development of conceptual understanding significantly.**



**It is a didactic text open, where the scientific concepts are recognized in the situation to be systematized , as well as the skills, values, procedures and attitudes.**



**everyday  
situations  
students and  
teachers  
experiences**

**INTERDISCIPLINAR  
TRANSDISCIPLINAR  
INTER-RELATIONAL**

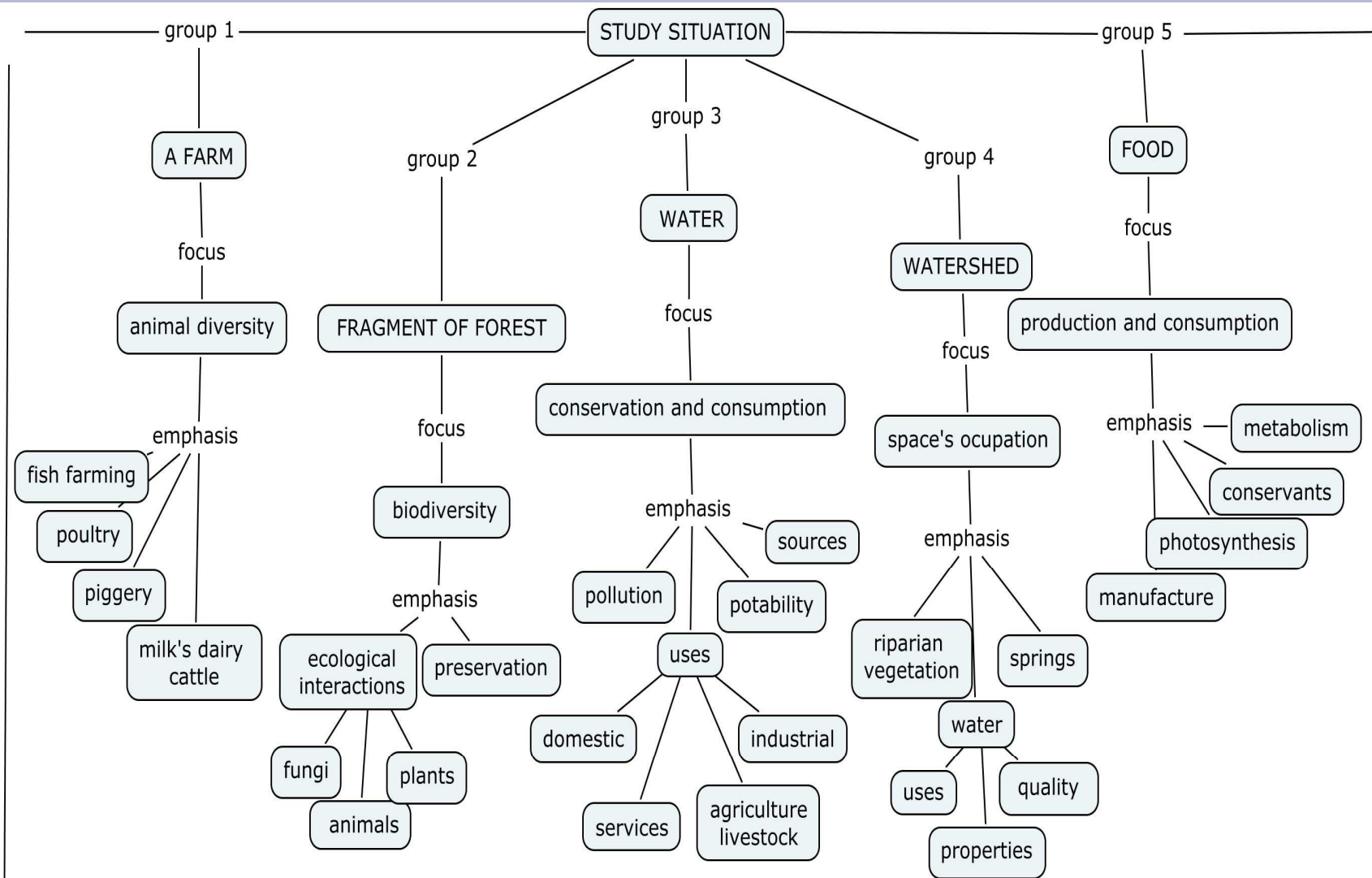
**EVOLUTION  
OF THE  
CONCEPTS**

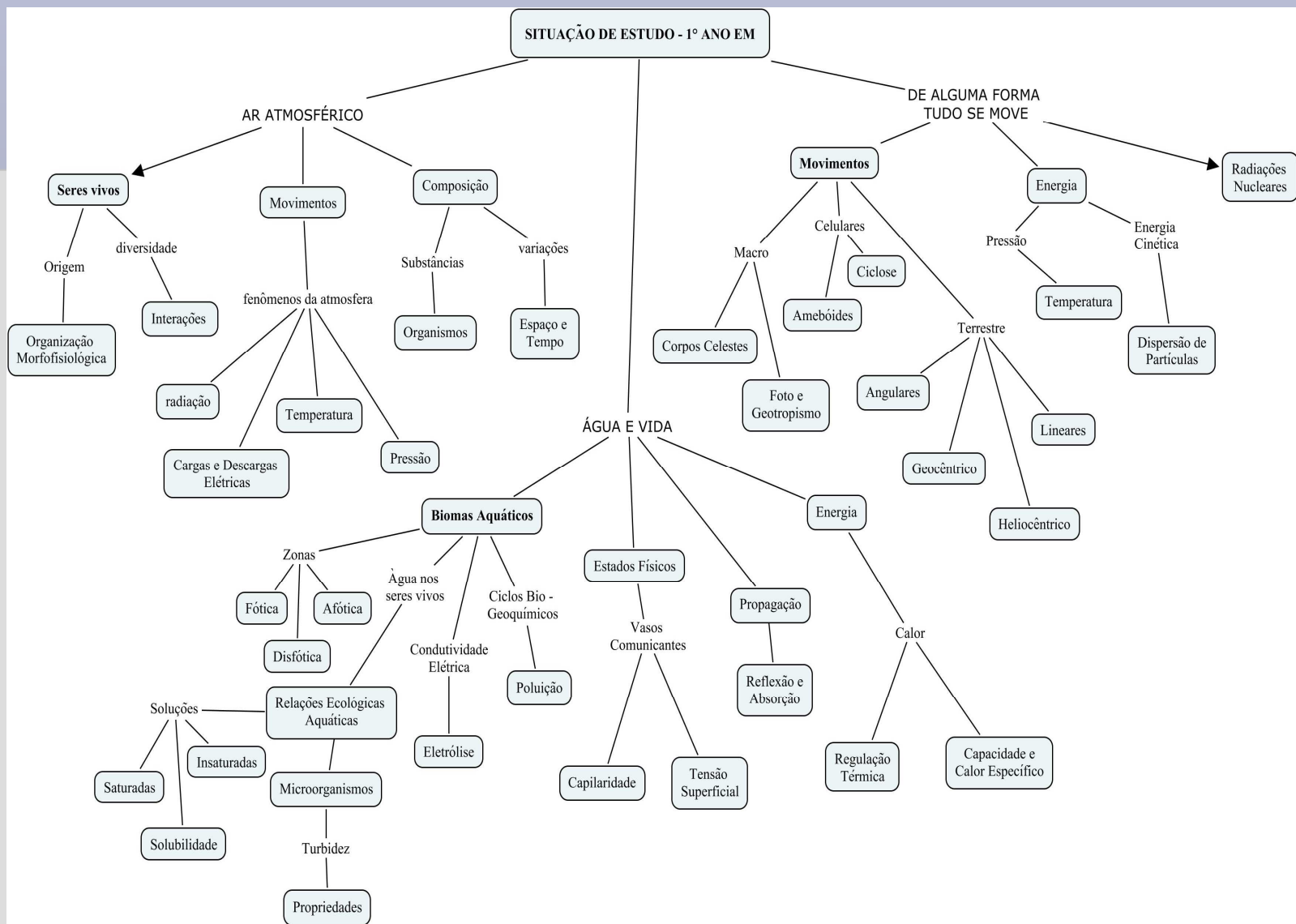
# **STUDY SITUATION'S CHARACTERISTICS**

**INITIAL AND  
CONTINUING  
TEACHER'S  
FORMATION**

**WORLD GLOBAL  
VISION.**

**SCIENCE,  
TECHNOLOGY  
AND SOCIETY  
(STS)**





**The students utilized the concepts of the  
3 disciplines in the Biology, Physics and  
Chemistry's classes, when their  
transition from one field to another was  
essential and facilitated understanding of  
the issues addressed in each one.**