

## Sexuality education: Analysis of Moroccan teachers' and future teachers' conceptions

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**Abstract:** Conceptions are analyzed as being the emergences from interactions between three poles: scientific knowledge (K), values (V) and social practices (P). The teachers' beliefs and values have a direct influence on the way of understanding and teaching a topic. These beliefs must be taken into account in the content and strategies of the teacher's formation. In this paper, the authors discuss the importance of studying and analyzing these conceptions and present the results of the research on teachers' and future teachers' conceptions about sexual health education. In this topic, the conceptions could be deeply rooted not only in scientific knowledge but also in value systems and social practices, because teachers often refuse to teach the ethical, psychological, economic and social issues not strictly reducible to biology, such as sexuality health. The authors used a questionnaire prepared jointly within the European project Biohead-Citizen.

**Key words:** conception; sexuality education; teachers

### 1. Introduction

Research in didactics of sciences was very interesting in the pupils' conceptions from the point of constructivist standpoint (Tiberghien & Delacote, 1976; Astolfi, 1978; Giordan & Vecchi, 1987; Clement, 2006). Many researchers (Astolfi, 1985; Giordan & Vecchi, 1987; Clement, 1998) showed the importance of taking into account of the individual conceptions about a subject in the individual's training. The authors are mainly working on the conceptions of teachers, as well as authors and publishers of school textbooks.

Taking into account of teachers' conceptions makes it possible to better adapt the formation which is intended to them. As Giordan (1998) recommended, taking into account of the conceptions must imperatively become the starting point of any educational projects as this reveals of certain foreseeable obstacles to by-pass.

Understanding these conceptions, origins and analysis as social representations is an essential stage to be able to consider teachers' training, like defining curricula.

Scientific education must take into account the deep roots of teachers' conceptions on scientific topics with

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strong educational range like health education, sexuality education (SE) or environment education. In these scientific topics, the conceptions could be strongly anchored not only in scientific knowledge but also in systems of values and social practices (which often prevent them to assume lessons on these topics) (Clement, 2008).

### 1.1 Analysis of conceptions: The KVP model

In this paper, the conceptions of some actors of the educational system are analyzed as being the emergences from interactions between the 3 poles: K, V and P, as proposed by the KVP model (Clement, 1998; 2004; 2006). The 3 poles are scientific knowledge (K), values (V) (The values are defined in a large sense, including opinions, beliefs and ideologies) and social practices (P).

Nevertheless, the KVP model (as shown in Figure 1) is useful to analyse important features of the taught knowledge—the epistemological one, to try to understand what is related to science, values in a scientific presentation and its interaction with social practices.

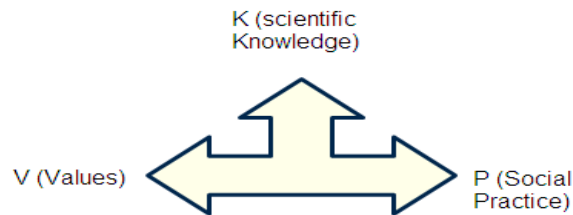


Figure 1 The KVP model

Teachers' beliefs and values have a direct influence on the way of understanding and teaching a topic: the teaching practice. They frequently constitute true obstacles with teachers' professional development and the improvement of the processes of teaching-training. These beliefs must be taken into account in the contents and strategies of the teachers' training and their conceptions related to students' present and future social practices (their future professional jobs and their present and future responsibility as citizens).

In this paper, the authors are interested in teachers' and future teachers' conceptions about sexual education. The authors' work falls under didactic sciences, but is also related to social psychology with the concept of the social representations.

### 1.2 Sexuality education

Sexuality education or sex education is the process of acquiring information and forming attitudes and beliefs about sexuality. It is also about developing young people's skills so that they make informed choices about their behaviours and feel confident and competent about acting on these choices. It is widely accepted that young people have a right to receive sex education, partly because it is a means by which they are helped to protect themselves against abuse, exploitation, unintended pregnancies, sexually transmitted diseases and HIV (human immunodeficiency virus)/AIDS (acquired immunodeficiency syndrome).

Sexuality education seeks both to reduce the risks of potentially negative outcomes from sexual behaviours like unwanted or unplanned pregnancies and infection with sexually transmitted diseases, and to enhance the quality of relationships. It is also about developing young people's ability to make decisions over their entire lifetime. The WHO (World Health Organization) texts insist on the necessity for implementing early sexuality education, particularly in primary schools (WHO, 1999; 2004).

School, socialization spaces and citizenship practices have a share of responsibility with regard to pupils' health and their preparation of adulthood by helping them to adopt behaviours which preserve their health in the respect of themselves, others and their environment. Sexuality education contributes in a specific way to this

formation in its individual dimension as in its social inscription.

The young people are often exposed to situations with vulnerability for sexual health. Childhood and adolescence are periods when situations of risk emerge. It is the most convenient moment to initiate them with actions, making it possible to preserve or improve their health conditions.

The school remains, for the young people, the principal source of information on sexual health. It is the only place where the children and the teenagers can reach objective information. The school thus has a role to play for educating the young people by the knowledge.

The authors' objective in this work is to identify social conceptions and the personal opinions of the teachers and future teachers about a topic of strong educational range: sexual health education.

The hypothesis is that the teacher's personal values influence their conceptions on sexuality health Education. These conceptions can be linked to: the school disciplinary (biology or national language Arabic), the teaching level (primary or secondary level), the training (in service or pre service).

## **2. Methodology**

### **2.1 Simple**

This study is included in the Biohead-Citizen research project. The authors used a questionnaire elaborated in a common work with all the research teams (Clément, et al., 2007). Six samples were collected as shown in Table 1.

**Table 1 Samples within the framework of Biohead-Citizen research, by teaching 6 balanced data groups**

Groups		Effectifs
InB	in-service biology teachers in secondary school	66
PreB	pre-service biology teachers in secondary school	42
InL	in-service teachers in secondary national language	49
PreL	pre-service teachers in secondary national language	62
InP	in-service teachers in primary school	50
PreP	pre-service teachers in primary school	61
Total		330 (57.9% women; 42.1% men)

### **2.2 Questionnaire and coding**

The research concerns only 24 questions (A41, A57 to A59, A60, A65, A85 to A90, B3, B13, B17 to B18, B19, B24, and B37 to B41) on sexuality education (cf. annex).

Responses are coding with a number scale. Questions A41, B3, B13, and B17 to B19 are coding from 1 to 4 from "agree" to "totally disagree" (Likert scale).

Some questions are on biological knowledge (e.g., B17: "After ovulation, the follicle changes into corpus luteum which produces high levels of progesterone and estrogens"). More are on teaching practices, values and knowledge (e.g., B19: "Psychological and social aspects of sex education should be taught primarily by biology teachers"). Questions A57 to A59 and A65 are about abortion. Responses are coding from 1: "In this case, abortion is morally acceptable" to 4: "In this case, abortion is morally unacceptable", and in A 65: "Abortion is acceptable", from 1: "Never" to 5: "At any moment".

Question A 60: "There are several behaviours that can help to decrease the spreading of AIDS world-wide. In your view, what is the behaviour you find most relevant to be considered in school sexual education?" is coded

from 1: “To have sex only within a stable relationship (not have several sexual partners)” to 4: “To have safer sex, for instance, by using a condom in sexual intercourse”.

The questions A85 to A90 and B37 to B41 are for students at the age which teachers think the following topics should be first introduced at school by teachers and/or external specialists. Responses are coded from 1: “Less than 6 years old” to 5: “Never in school”.

### 3. Results and analysis

#### 3.1. Global approach

Multivariate analysis allows representing more structuring components of individuals. These components state better individual’s variance. Statistical multivariate analysis has become a standard to investigate complex data featuring the behaviours of many individuals, according to many variables (Lebart, Morineau & Piron, 1995). Here, variables are questions in a questionnaire for which the authors gathered answers. To analyse the SE and teaching practices data, the authors use principal component analysis (PCA) (Lebart, Morineau & Piron, 1995). Variables are coding as numbers.

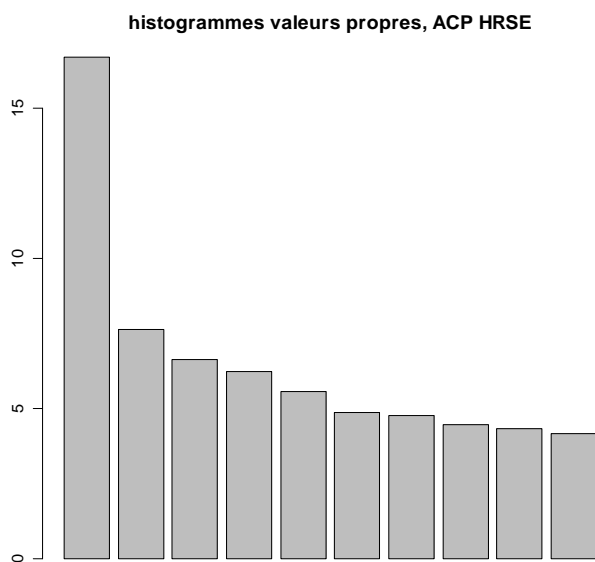


Figure 2 Histogram of eigenvalues, percentage of variance for successive components

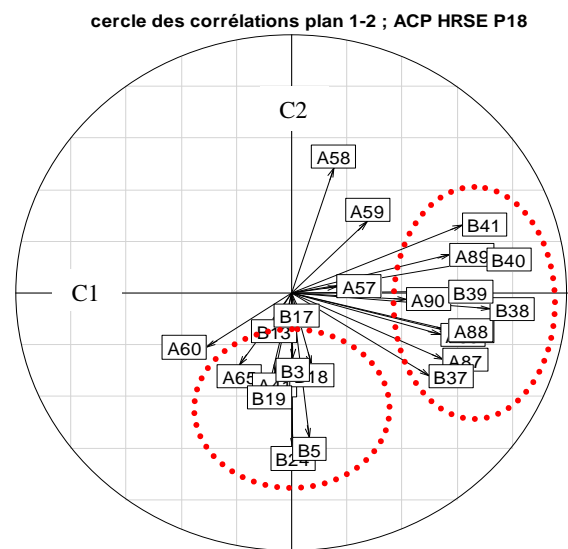


Figure 3 Principal component analysis (PCA), global correlation circle

The first two components (C1 and C2) are the most significant, making it possible to explain 24% of the answers variance of the 330 individuals (Figure 2). They are represented graphically in relation to the variables (Figure 3), and express two independent tendencies in the way of individuals answering. The graduated responses are represented by means of vectors, whose point represents agreement with the multiple choice questions.

A vector-variable whose projection on an axis has more raised value is more strongly dependent on this axis than the others. The coordinates of the variables on the axes make it possible to identify the conception which characterizes them: In the plan (C1-C2) of the PCA State (Figure 3) on the whole of the variables, the structuring of the variables thus makes it possible to characterize two principal components:

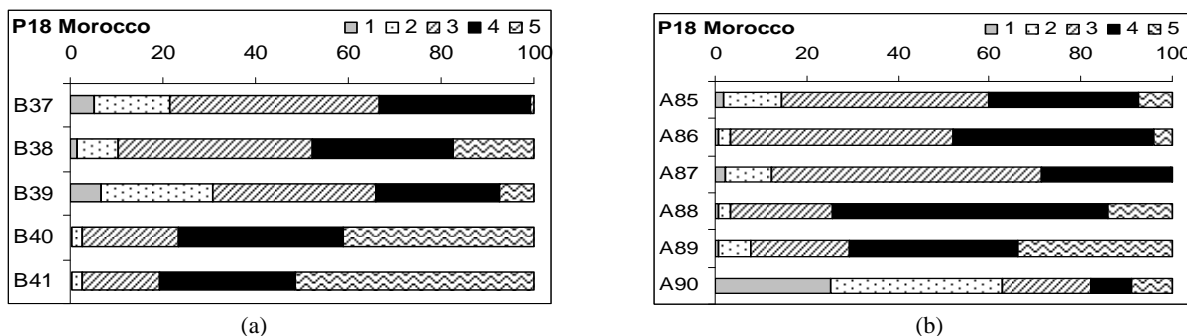
(1) A component “values” (C1): They are indeed the questions carrying about values (morals) which have a value raised in projection on the x-axis. The variables which express the most differentiation between individuals

relate to the values associated with the age when certain topics relating to sexuality should be taught by the teachers or outside contributors (A85 to A90 and B37 to B41). The teachers questioned tend to deny having taught certain topics relating to sexuality education (“Never within the school framework”) or to teach them only tardily (“More than 15 years”).

(2) A component “practices” (C2): They are indeed the questions carrying about practices which have a value raised in projection on the y-axis. The variables which express the most differentiation between individuals relate to teaching practices. The people questioned have different positions concerning the biology teachers’ role in the assumption of responsibility within the school framework of sexuality education: Who has to approach the psychological and social aspects at sexuality education? Who has to approach certain topics like STD (sexual transmitted disease)? Biology teachers or health professionals (doctors, nurses)? The variables which contribute more are B24, B5, B3 and B19 (teaching of the psychological and social aspects of sexuality education and the STDs by the teachers of biology or the health professionals).

**3.2. Answers analysis to the most discriminating questions: Questions carrying about the values and practices**

Age at which certain topics of sexual education should be taught for the first time at school: (A85) organs of pleasure, (A86) contraception, (A87) sexually transmitted diseases, (A88) abortion, (A90) paedophilia, (B37) pregnancy and childbirth, (B38) sexual intercourse, (B39) incest and sexual abuse, (B40) orgasm and sexual pleasure, (B41) erotism and pornography.



**Figure 4 Distribution of the answers to the questions (a) B37 to B41 and (b) A85 to A90 which relate to the contents of sexual education to be taught and at what age these topics must be taught for the first time in school by the teachers and/or outside contributors**

Note: 1: Less than 6 years old; 2: Between 6 and 11 years old; 3: Between 12 and 15 years old; 4: More than 15 years old; 5: Never in school.

The Figure 4(a) and Figure 4(b) show that the teachers think that it not possible to teach these social components of sexuality education to young pupils. Moreover, they do not agree to teach pupils before 12 years old in school and for certain topics not before the age of 15 or never. The teachers and future teachers think that the majority of these topics could not be taught in primary level and in the first years of secondary level except the paedophilia (A90), they think that it must be taught early before the age of 12 (63%) and the incest and sexual abuse (B39) before 15 years (66%) in primary level and in the first years of the secondary level.

They are especially InP (40%) and InB (35%) (Figure 4) (The mean age of these two groups is respectively InB=43.7 years old and InP=44.2 years old). They are older teachers and oldest in the profession. Age has impact on the teachers’ conceptions views.

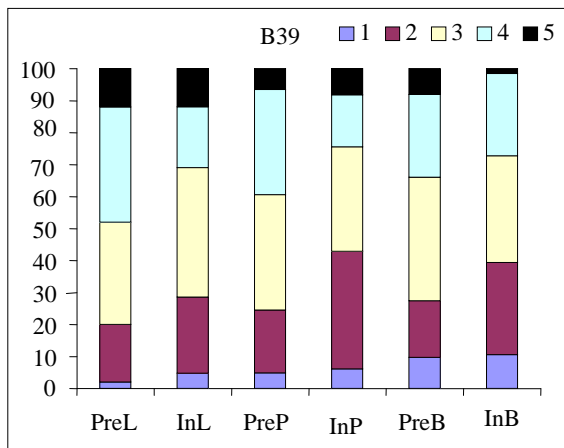
Concerning the behaviours which can help to reduce the spread of the AIDS throughout the world (A60). The majority of the teachers (67%) think that the most relevant behaviour to privilege within sex education in school is to have sexual intercourse only within a stable relation not to have several sexual partners against 20% only which are for sexual practices without danger by always using an in sexual intercourse.

Questions carrying about the practices of teaching: “Who must teach about the sexually transmitted diseases?” (B3, B5, B19, B24); “Why the teachers avoid teaching education with sexual knowledge?” (B18) (as shown in Table 2).

**Table 2 Percentage of responses to questions B3, B5, B19, B18 and B24 with 1 (agree) to 4 (disagree)**

Items	Repossesses (%)			
	1	2	3	4
(B3) Sexually transmitted diseases should be taught primarily by biology teachers.	62.7	22.1	7	8.2
(B5) Sexually transmitted diseases should be taught primarily by health professionals (doctor, nurse).	32.7	24.8	21.2	21.2
(B18) Teachers avoid teaching sex education because these topics are private.	20.3	18.2	14.5	47
(B19) Psychological and social aspects of sex education should be taught primarily by biology teachers.	29.4	28.8	17.6	24.2
(B24) Psychological and social aspects of sex education should be taught primarily by health professionals (doctor, nurse).	32.1	24.8	19.1	23.9

Concerning the teaching of STD (B3), a large majority of the questioned people (85%) prefer that the STD should be taught primarily by biology teachers, not by health professionals (doctors, nurses) (see Figure 5); these are mainly the in-service teachers and the biology teachers.



**Figure 5 Distribution of the answers by groups of the question B39 (incest and abuse sexual)**

In addition, 61% individuals do not agree that the teachers should avoid teaching sex education because these topics are private (B18). They are especially the biology teachers in-service InB followed by InP. They are older teachers and oldest in the profession (Figure 6). Their views are affected by their old age.

For the majority of the individuals (57%), the psychological and social aspects of sexuality education should be taught primarily by biology teachers (B19) and 56% prefer that the health professionals (doctors, nurses) should teach primarily these aspects (B24).

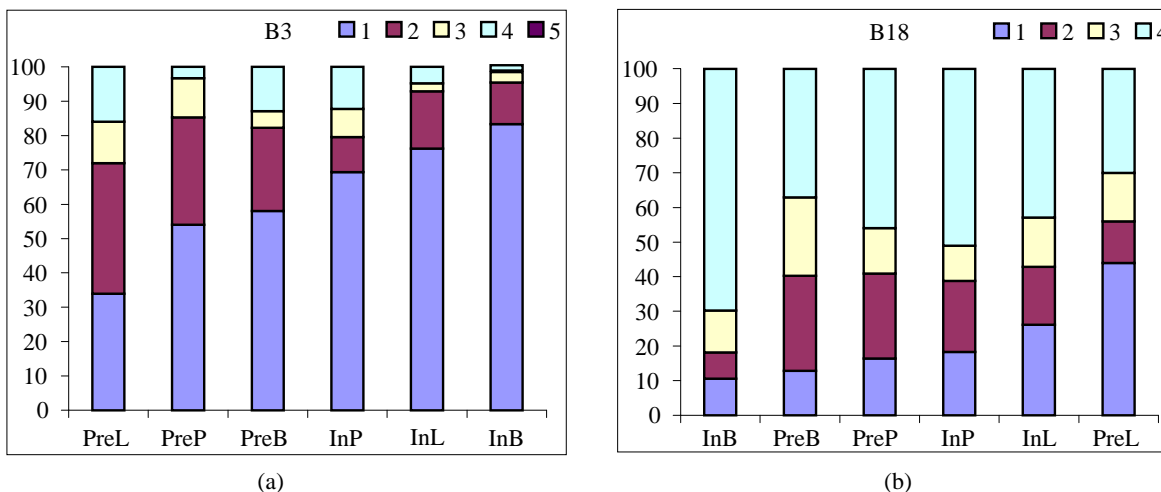


Figure 6 Distribution of the answers by groups of the question B3 (a) and B18 (b)

#### 4. Discussion and conclusions

The results presented in this research relate to the views of 330 Moroccan teachers and future teachers about sexuality education. The authors have found that individuals' conceptions have a great incidence on teachers' social representations and their teaching practices. These conceptions are related to the discipline (biology or letters), the level of teaching (primary or secondary level) and the training (in-service or pre-service).

Concerning the values, teachers and future teachers do not accept to teach certain biological and social aspects of sexuality in primary level or in first years of secondary level below the age of 15. It becomes a tendency of never approaching dimension intimates in sexuality education (sexual pleasure, orgasm and sexual intercourse ...) except the paedophilia, the incest and the sexual abuse. They think that it must be taught early before 12 years old or before 15 years old in primary level and in the first years of the secondary level (especially the in-service teachers).

For pupils below the age of 12 is due to the fact that this category of children are more vulnerable, thus they should be sensitized on the matter so that they would be prevented from being sexually abuse. For these opponents, it is advisable to include these contents early in the curriculum.

In Morocco, the scientific activity courses in the primary level do not approach any more general aspects of the human reproduction since the charter of 1999. With the technological change and globalisation, it is becoming impossible to control information which young people have access to on these topics, especially in the absence of the school and the family's supervision. Therefore, pupils are informed on all these topics in their daily life with their peers, in the streets or in the mass media (Internet and TV...) (Selmaoui, Khzami & Agorram, 2008).

Teachers and future teachers have preserving conceptions about the sexual behaviours adopted to protect oneself from STD/AIDS. The majority think that the most relevant behaviour to privilege within the framework of sexuality education is to have sex only within a stable relationship (to have sex only within a legitimate relation, not to have several sexual partners, especially in-service teachers in primary school (InP) and the letters (InL). The total analysis of all the countries participating in this project showed a strong correlation between the religion and teachers' conceptions (Sandie, et al., 2007; Berger, Bernard, Carvalho, Munoz & Clement, 2008). Contrary to the Moslems (Morocco, Tunisia, Algeria and Senegal) who are more conservative, agnostics and atheists in European

countries agree with the idea of having several sexual partners for them, safer sex is the behaviour they find most relevant to be considered in school sexuality education.

Concerning teaching practices, a majority of the questioned people prefer that STD are taught by biology teachers, not by health professionals (doctors, nurses) (most of which are in-service and mainly the biology teachers). It is supposed sufficiently that the biology teachers are able to teach this aspect and do not need the intervention by health professionals, who do not have pedagogy necessary to teach. The school textbooks treated the primarily biomedical conceptions (STD are treated in terms of symptoms, causes and curative treatment) (Bernard, et al., 2008; Selmaoui, Agorram, Khzami, Elabboudi, Bernard & Clement, 2007).

The majority of the questioned people do not agree that teachers avoid teaching sexuality education because they think that subject concerns the private life and should not be approached at school. There are especially biology in-service teachers followed by primary in-service teachers who have already track records. Future teachers are against sexuality education, which they consider as a taboo matter for cultural reason and should not be talked about by decency with young people at the school.

For certain questioned people, the psychological and social aspects of sexuality education should be taught by biology teachers. However, knowing that it is not a question to transmit knowledge but to develop psychosocial competences which could be done only by specialists, others prefer that health professionals (doctors, nurses) should also interfere in this education.

These answers could be interpreted that, generally, the topics related to sexuality are social taboos that people avoid approaching by decency, especially with young people. If it is necessary to speak about it, owing to the fact that after all, the children will have a sexual activity later; it should be done with children beyond the age of 12 because it is generally the age of sexual maturity and consequently, children are able to grasp these various matters. Obverse the sexuality, teachers adopt attitudes which are engrained in traditional values of decency and dignity which characterize their religious faith.

To understand these conceptions and their origins is an essential stage to consider teachers' training and improve their conceptions: improving the interactions between their knowledge (those are to be said that they control and those they accept to teach) and their social values and practices (which often prevent them to assume this lesson in topics with strong educational range). It could be advanced that there is effect of age and the training (in-service or pre-service) on the teachers' conceptions.

The teachers' conceptions are thus related to the discipline of teaching. It has been found that individuals' conceptions have a great incidence on teachers' social representations and their teaching practices.

These entire hypotheses on the interpretation of sexuality conceptions could help the teachers and the curricula makers as well as programs and school textbooks, to implement teaching situations which combine contribution of knowledge to taking into account of social and psychological dimensions, in the respect of the religious and cultural convictions. To be effective, sexuality education needs to include opportunities for young people to develop skills, because only having information is not sufficient.

School-based sexuality education is an important and effective way of enhancing young people's knowledge, attitudes and behaviours (Kirby, 1994; 2001). School-based education programmes are particularly good at providing information and opportunities for skill development and attitude.

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