The World Council of Comparative Education Societies

WCCES is an international organization of comparative education societies worldwide and is an NGO in Operational Relations with UNESCO. WCCES was created in 1970 to advance the field of comparative education. Members usually meet every three years for a World Congress in which scholars, researchers and administrators interact with counterparts from around the globe on international issues of education.

The WCCES also promotes research programmes involving scholars in various countries. Currently, joint research programmes focus on: theory and methods in comparative education, gender discourses in education, teacher education, education for peace and justice, education in post-conflict countries, language of instruction issues, Education for All and other topics.

Besides organizing the World Congress, WCCES issues a Bulletin in Innovation, the publication of the International Bureau of Education in Geneva, Switzerland, and in CERCular published by the Comparative Education Research Centre (University of Hong Kong), to keep individual societies and their members abreast of activities around the world. A web site is maintained, at http://www.wcces.net.

As a result of these efforts, comparativists have become better organized and identified, and more effective in viewing problems and applying skills from different perspectives. It is anticipated that we can advance education for international understanding in the interests of peace, intercultural cooperation, observance of human rights and mutual respect among peoples.

The WCCES Series

Series Editors: Suzanne Majhanovich and Allan Pitman

The WCCES Series is established to provide for the broader dissemination of discourses between its members. Representing as it does Societies and their members from all continents, the organization provides a special forum for the discussion of issues of interest and concern among comparativists and those working in international education.

This volume is the first of five, with their origins in the proceedings of the World Council of Comparative Education Societies XIII World Congress, which met in Sarajevo, Bosnia and Herzegovina, 3 – 7 September, 2007. The conference theme, Living Together: Education and Intercultural Dialogue, provides the frame linking the set. The books represent four major strands of the discussions at the congress, and a commemoration of the work of David Wilson, a major contributor to the field of comparative and international education and to the work of the World Council. Each chapter in this peer reviewed series have been developed from presentations at that meeting.

The books are:
Tatto, M. and Mincu, M. (Eds.), Reforming Teaching and Learning.
Geo Jaja, M. and Majhanovich, S. (Eds.), Policy, Politics and Economics
Fox, C. & Pitman, A. (Ed.) Comparative Education and Inter-Cultural Education

and
Masemann, V., Majhanovich, S. and Nhun Truong (Eds.), Clamoring for a Better World: Papers in Memory of David N. Wilson

Reforming Teaching and Learning

Comparative Perspectives in a Global Era

Maria Teresa Tato
Michigan State University

Monica Mincu
University of Turin
SEX EDUCATION

Analysis of Teacher’s and Future Teacher’s Conceptions from 12 Countries of Europe, Africa and Middle East

On ne reçoit pas la sagesse, il faut la découvrir soi-même, après un trajet que personne ne peut faire pour nous, ne peut nous épargner.

Marcel Proust, À l’ombre des jeunes filles en fleurs, 1919

Sex education is the process of acquiring not only information but also attitudes and beliefs about sex, sexual identity, sex relationships and intimacy. It is also about developing young people’s skills so that they make informed choices about their behaviour, and feel confident and competent about acting on their choices. It is widely accepted that young people have the right to sex education to protect themselves against abuse, exploitation, unintended pregnancies, sexually transmitted diseases, and HIV/AIDS (WHO, 1999; 2004a).

The hypothesis guiding our study is that teachers’ personal values influence their conceptions of health education, reproduction and sex education HER/SE. These conceptions may influence the manner in which they teach related school disciplines (e.g., biology or anatomy), and how comfortable they feel teaching these topics to pupils in different school levels (e.g., primary or secondary level). Their conceptions may be in turn affected by their professional training (in service or pre service) and by their gender, and country context, and religion.

THEORETICAL FRAMEWORK

Human sexuality is conceived as going beyond the basic function of transmitting life and includes four important dimensions (Pelège & Picod, 2007; Berger, Jourdan & Collet, 2006; Whigt, 1998):

- Biological dimension – including sex physiology, procreation and survival;
- Social dimension – including culture, social norms or rules and political, juridical and religious influences;
- Psychological dimension – including views on gender, the construction of national identities and personalities, and self esteem;
- Affective and relational dimension – including feelings, points of view and emotions.

M.T. Tatto and M. Mincu (eds.), Reforming Teaching and Learning: Comparative Perspectives in a Global Era. 215–230. © 2009 Sense Publishers. All rights reserved.
Sexuality presents a multidimensional aspect that deeply affects humans in the interweaving between sexuality, social influences, cognitive and affective development. In other words sexuality cannot be reduced to a biology/psychology dichotomy, as it also involves psycho-affective maturation and social learning (Whiting, 1998).

Sex education seeks not only to reduce the risks of potentially negative outcomes from sexual behaviour like unintended pregnancies and sexually transmitted infections but also to enhance the quality of inter-personal relationships. It also aims to promote young people’s abilities for informed decision making along their entire lifetime (Dickson, 1997; Stephenson et al., 2004).

Although most interventions are directed at teenagers (reviewed in Kirby, 1991; 1994) or young adults (Ergene, Cok, Tümür & Unal, 2005), the World Health Organization (WHO) insists on the necessity to implement early sex education, particularly when children are attending primary schools (WHO, 1999; 2004a; 2004b). However, it is advisable for teachers and others to go beyond a prescriptive approach, toward a learner-centred approach (Develay, 1993), and to take into account the children’s conceptions, expectations and needs (Berger et al., 2006; Fassler, McQueen, Ducan & Copeland, 1989; Ferron, Feard, Bon, Spyckerelle & Deschamps, 1989; Fischer, 2001; Kelly, 1995; Sly Eberstein, Quadano & Kistner, 1992; Schaalma, Kok & Peters, 1993; WHO, 1999; 2004a; 2004b). Children’s conceptions are not only constructed from what they learn at school but also what they learn from their own life experiences (Forest 2002; Downie, Tannahill & Tannahill, 1999). Thus these conceptions may be rather resistant to change as they are linked to their emotional responses, to their cultural and social group, and they constitute a decisive element in their relationship with the world (Abric, 1997; Berger et al., 2006). Health related conceptions are complex and depend on values and beliefs shared by the social group as a common viewpoint expressed during social interactions. Health related conceptions are closely linked to behaviour and they are considered as a good target for change as it is known that knowledge is much easier to change as compared to behaviours. Thus a study aiming at looking at these conceptions requires not only to target relevant knowledge but also the social and cultural aspects of children’s and teachers’ daily environment (Pelege & Picod, 2007).

**METHOD**

Twelve of the nineteen countries involved in the Biohead-Citizen project, contributed data for the study (Carvalho, Clement & Bogner, 2004). Four are outside Europe and have a large Muslim population (Tunisia, Morocco, Senegal, Lebanon). Eight countries are Europeans members (Portugal, France, Italy, Finland, Cyprus, Estonia, Hungry and Romania) and present different characteristics according to their location in Europe: north and south, east and west; and according to their religion: catholic, protestant or orthodox.

In each country, we collected data from convenience samples of pre-service (PRE), and in-service (IN) teachers in primary school (P) and in secondary schools (S). We focused on classes where this subject was likely to emerge: in biology (B) and national language (L). Bringing all these characteristics together we had a “6 balanced group design”.

The data includes responses obtained from 5187 questionnaires: Cyprus (CY, 322), Estonia (ES, 182), Finland (FI, 306), France (FR, 732), Hungary (HU, 334), Italy (IT, 559), Lebanon (LB, 722), Morocco (MA, 330), Portugal (PT, 350), Romania (RO, 273), Senegal (SN, 324), Tunisia (TN, 753).

**Questionnaire**

The questionnaire was elaborated in the Biohead-Citizen Project with participation from all the research teams and translated in the national languages (validate by retro-translation). The questionnaire was pre-tested before implementation in each country.

In this chapter we report answers to the questionnaire on sex education. This section included 35 questions. The majority of these questions asked the respondents to give an answer in the range from 1 to 4 or from “I agree” to “I totally disagree”. The questionnaire included questions on values (e.g. A41: “Homosexual couples should have the same rights as heterosexual couples”); on biological knowledge (e.g. “B17: After ovulation, the follicle changes into corpus luteum which produces high levels of progesterone and estrogens”); on teaching practices and values (e.g. B19: Psychological and social aspects of sex education should be taught primarily by biology teachers); on moral issues (e.g., abortion is morally unacceptable”); and on health prevention (e.g., “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?”).

In addition teachers were asked their views on the age they thought sex-related topics should be first introduced at school by either teachers and/or external specialists. Responses were coded from 1 “less than 6 years old” to 5 “never in school”.

**RESULTS**

**Responses’ Analysis**

We use principal component analysis (PCA, Lebart et al., 1995), and discriminating analysis to show differences between groups’ conceptions (country context, religion and gender); level and discipline (primary education, and secondary biology and language abbreviated as P, B, L); type of professional training (in or pre-service); and country.
Figure 1. Principal component analysis (PCA), global correlation circle

Figure 1 shows three distinct groups of variables. The set of questions (A) groups strongly towards axe 1 and indicates that teachers hold in average negative views on teaching the social components of sexuality education to pupils. Moreover they do not agree to teach children younger than 15 years old contents such as homosexuality, sex violence, sex pleasure, and pornography (A85 to A90 and B37 to B41)³.

In set (B) composed of questions about morality and abortion (A57 to 59), the respondents who do not agree with abortion also think that women do not have the same rights as men (A2), that it is not important to have the same number of women and men as deputies (A30), that women, biologically, have not the same intelligence as men (A21), that homosexual couples must not have the same rights as the other couples, and that it is chance what determines the sex of a baby (B30).

Questions belonging to set (C) represent the opposite position as group (B); for instance some of these questions propose that it is possible to try to determine the baby's sex by specific diet or medically assisted techniques (B31, B32), agree with the idea of abortion (A65), that men can be as sensitive and emotional as women (A46), that there is no biological reason to justify inequality between men and women (A6, A36, A46) and agree with teaching safe sex practices (as the most relevant behaviour to be taught in school sexuality education).

Professional Training. Figure 2 shows differences between teachers' professional training. A between-class analysis has been performed to differentiate the six "groups" in our sampling design: pre-service or in-service, primary or secondary level, biology or letters. In fact Biology teachers (in-service or pre-service) have conceptions based mainly on knowledge and on the conviction that they can teach the whole dimensions of sexuality education (Q A31, B5, B18 B17, B22, B3 B24, B30). They seem inclined to think that they have to teach biological aspects of sexuality (human reproduction and STI) and that they are able to speak with their pupils about emotion, feelings, etc., but seem to have difficulties when asked about teaching about safe sex practices (A60) and homosexual rights (A41).

Figure 2. Results of the between-class analysis depicting the variation in conception across teaching groups.
Points located in the abscissa and ordinate respectively feature the first and second most differentiating systems of conceptions. In relation with the others groups, we found a clear difference between in-service and pre-service teachers, particularly in primary school teachers. The in-service primary teachers expressed difficulties teaching content related to sexuality education especially with social and affective issues (questions: A 85 to A90, A 60), questions about homosexuality, and knowledge about genetic factors (question B11).

In contrast, pre-service primary teachers agree with ideas of teaching about safer sex practices, abortion, and homosexual rights, and prefer to teach these contents early in the curriculum.

There is an age/grade related effect on the surveyed teachers’ conceptions. Inside the three thematic groups (primary, secondary biology and general secondary), older teachers (in-service; mean age = 40 years old) are always on the upper part of the axis 2 and the younger teachers (pre-service; mean age = 23 years old) are in the lower position (figure 2).

Country. We also performed a between-class analysis exploring the variation in conceptions across countries (Figure 3). We have on the first axis the distribution of the countries between two poles. At one end we have Lebanon, Tunisia, Morocco and Senegal at the other end Portugal, Finland, Portugal, Estonia and Italy. In the middle there is Hungary, Romania and Cyprus. We can see that there is a correlation between countries and conceptions.

These two charts are linked by axes superposition. We can see that Southern countries have conceptions founded on inequality between men and women rights, and the same seems true regarding homosexual rights. They have conservative conceptions about sexuality education. They do not agree to teach sexuality topics in primary school or in first years in secondary school before 15 years. In opposition, Western European countries show correlation with open views about abortion, equality between men and women and homosexual rights.

But we have a nuance in this analysis; the opposition spreads to teaching practices about these topics (A85 to A90). Teachers surveyed in Portugal, Finland, Estonia, Portugal and Italy are in more agreement regarding the teaching of these contents than teachers from Lebanon, Tunisia and Senegal.

The left chart in figure 4 shows the distribution of the above questions, on the correlation circle. Their scores are between 3 and 4 (in a scale up to 5). It seems that teachers think that sex education topics should be first introduced at school not before 15 years old. The vectors show where theses conceptions are strongly implanted. The chart at the right indicates the countries concerned.

The questions about the teaching of social aspects of sexuality (B37 to B41) have scores near 5. It means the teachers surveyed in the non-European countries clearly believe that it is not their job to teach these contents. On the right charts we can see two poles. One is constituted by the non-European countries (Tunisia, Lebanon, Morocco and Senegal) and the other one by Western European countries (Portugal, Estonia, Finland, Portugal, Italy and Cyprus). Eastern European countries are in the middle (Romania, Hungary). The chart at the right shows the large distribution in conceptions.
The religious impact. There are four religious categories among the countries participating in the study: AGN or agnostic; MUS, Moslem (Sunnite, Chiite, Druze, Alevi); ELS, other religions or beliefs (Jewish, Hinduist, Animist...); CHR, Christians (Catholic, Protestant, Orthodox). There are two poles on one axe: Muslims at one side and Agnostic at the other side. In the middle part, we found others religions, and Christians. Again following an analysis similar to those shown previously, we compared religion and teachers' conceptions.

Figure 5 shows a strong correlation between religion and teachers' conceptions. Agnostics and atheists agree with the idea that abortion would be acceptable at any time (A65). They seem to think that men can be as sensitive and emotional as women (A46) and that there is no biological reason for inequality between men and women (A6, A36, A46). They find the teaching of safe sex practices as most relevant in sex education. They agree with rights equality between men and women
and among homosexual couples. At the opposite pole we find Muslims. For a better understanding we crossed these data with the levels of beliefs in a God.

*Investigating the variation in conceptions according to levels of belief.* In question P12, the responses are coded from 1 “most important” to 5 “I don’t believe in God”. We did a PCA which illustrates that the level of faith is a more important variable than being a member of a religion (figure 6).

![Figure 6. Between-class analysis. Faith’s distribution](image)

The variable “faith” contributes heavily to axe 1 as shown by figure 7. There is a great difference between those who express a high level of faith (1) and all the others (2, 3, 4 and 5). We note a small scale progression between 2 to 5 along axe 1.

![Figure 7. Relative contribution of main factors (faith’s level)](image)

All data are clearly oriented in two blocks. Those who believe deeply that there is a God are positioned on the more conservative pole essentially believing that it is not the schools’ role to teach sexuality education. In contrast, the more teachers do not believe that there is a God the more they agree with teaching sex education, and other related beliefs.

We crossed these data (faith level) with religion and once more confirmed that faith level is the most important factor impacting teachers’ conceptions. In fact Christians with high faith levels have the same kind of responses to the questionnaires as the Muslims with the same faith level.

*Investigating the variation in conceptions according to religious practices.* Figure 8 shows the questions related to level of religious practices. The responses are coded from 1 “I practice a religion” to 5 “I don’t practice a religion”. The distributions near axe 1 indicate that practising a religion is a relevant factor on teachers’ dispositions to sex education.

We can observe two groups: the first one is composed of those who declare practising a religion (1 and 2) and those who don’t. These groups are also linked with teachers’ conceptions. Teachers who express having a religious practice do not agree with abortion, equal rights, safe sex practices, and with teaching the social contents of sexuality education (A 85-90 and B37-41). In addition they think that psychological and social aspects of sexuality education should be taught by health professionals.

*Investigating the variation in conceptions according to academic training.* Figure 9 shows the relevance of initial academic training on teacher’s conceptions about sex education in each component.
We found correlations between academic level and conceptions; specifically it seems that attendance to higher education institutions has an additive effect over the information received solely from local culture and religious convictions. Those with more than 3 years in university seem to have more informed views on issues having to do with teaching the contents and the social and psychological dimensions of sex education. Not surprisingly, these individuals see the role of religion and politics as belonging to separate spheres from education. Conversely, those individuals who have attained lower education levels don't agree with notions of equal rights and think that sex education must be implemented by medical workers (nurses or physicians) rather than teachers.

CONCLUSION

One important conclusion of our study is that teachers' and future teachers' conceptions are not homogeneous. Local culture and religious beliefs seem to have an effect on teacher's conceptions; and teachers' conceptions seem to have an impact on surveyed teachers' declared pedagogical practices. Specifically, teachers seem reticent to implement the social aspects of sex education (relationships, emotions, affects, equality, gender issues, sex orientation). Importantly our research reveals that teacher training seems to have some influence on teachers' conceptions as this variable seems to be associated with more scientific views regarding sex education, and more information about how to teach important knowledge to their students; in other words, the more teachers have high training levels, the more they seem to understand the importance of (and feel capable of) teaching Health Education, Reproduction and Sex Education. Further research needs to be done in this area to explore these preliminary findings.

The first step in prevention according to WHO (1999) is the capacity for individuals to access sexual health education which is expected to allow individuals:
to acquire knowledge that is relevant to their specific sexual health issues;
- to develop the motivation and personal insight that they will need to act on that knowledge;
- to acquire the skills necessary to enhance sexual health and avoid negative sexual health outcomes;
- to help create an environment that is conducive to sexual health.

As we have argued, research consistently shows that positive sexual health outcomes are most likely to occur when sexual health education integrates knowledge, motivation and skill-building opportunities. As health promotion in sex education lies at the intersection of private and public spheres, it is not easy to identify the school's mission. In an environment saturated by the models transmitted by the media, politics and religion, enabling teachers to effectively and ethically work with school and home environments is essential in promoting a healthy global citizenry.

NOTES
1. This study was carried out within the Biohead-Citizen research project «Biology, Health and Environmental Education for Better Citizenship» (FP6, CIT2-CT2004-560615, Carvalho et al. 2004), to analyze in service and pre-service teachers' conceptions of health education, reproduction and sex education [HER/SE] and these conceptions' impact on the promotion of better citizenship.
2. Nevertheless, it is well known that pupils found all these topics in their daily life with their peers, in the streets or in the media (press, radio, TV...)

REFERENCES
APPENDIX

Questions about RHE/SE

A2. In a modern society, men and women should have equal rights.
A9. Women are less intelligent than men are because their brains are smaller than men's brains are.
A21. Biologically, women can be as intelligent as men.
A30. It is important that there are as many women as men in parliaments.
A31. When a couple has already had two girls, the chances that their third child will be a boy are higher.
A36. Men might be more able to think logically than women, because men might have different brain bilateral symmetry.
A37. Religion and politics should be separated.
A41. Homosexual couples should have the same rights as heterosexual couples.
A46. Biologically, men cannot be as sensitive and emotional as women.

Here are stories of couples, or women, who are considering the necessity of having an abortion. If you were in these situations, would you consider the possibility of abortion? (Tick only ONE of the four boxes for EACH situation).

A57. A couple already has one child, and the mother is at risk of dying from a complication during her pregnancy.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Possible Abortion Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this case, abortion is morally acceptable</td>
<td>In this case, abortion is morally unacceptable</td>
</tr>
</tbody>
</table>

A58. A young couple in severe economic difficulty.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Possible Abortion Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this case, abortion is morally acceptable</td>
<td>In this case, abortion is morally unacceptable</td>
</tr>
</tbody>
</table>

A59. A woman who has been informed of the high probability of giving birth to a severely handicapped child.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Possible Abortion Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this case, abortion is morally acceptable</td>
<td>In this case, abortion is morally unacceptable</td>
</tr>
</tbody>
</table>

A60. There are several behaviors that can help to decrease the spreading of AIDS world-wide. In your view, what is the behavior you find most relevant to be considered in school sexual education? (Tick only ONE of the four boxes)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Possible Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have sex only within a stable relationship (not have several sexual partners)</td>
<td>To have safer sex, for instance by using a condom in sexual intercourse</td>
</tr>
</tbody>
</table>

A65. Abortion is acceptable (tick only ONE answer):

- Never
- Up to 2 weeks after conception (i.e., before implantation in uterus)
- Up to 12 weeks after conception (the legal period in countries where abortion is authorized)
- Up to 6 months (before the foetus can survive outside the uterus)

At any moment

At what age do you think the following topics should be first introduced at school by teachers and/or external specialists? (Tick only one box in EACH line):

<table>
<thead>
<tr>
<th>Topic</th>
<th>Less than 6 years old</th>
<th>Between 6 and 11 years old</th>
<th>Between 12 and 15 years old</th>
<th>More than 15 years old</th>
<th>Never in school</th>
</tr>
</thead>
<tbody>
<tr>
<td>A85.</td>
<td>Organs of pleasure: clitoris, penis...</td>
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<tr>
<td>A86.</td>
<td>Contraception and birth control</td>
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<tr>
<td>A87.</td>
<td>Sexually transmitted diseases</td>
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<td></td>
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<tr>
<td>A88.</td>
<td>Abortion</td>
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<tr>
<td>A89.</td>
<td>Homosexuality</td>
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<tr>
<td>A90.</td>
<td>Paedophilia</td>
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</tbody>
</table>

B3. Sexually transmitted diseases should be taught primarily by biology teachers.
B5. Sexually transmitted diseases should be taught primarily by health professionals (doctor, nurse).
B11. There are genetic factors in parents that predispose their children to become homosexual.
B13. When women stop taking the contraceptive pill, menstruation occurs, due to the absence of progesterone and estrogens hormones.
B17. After ovulation, the follicle changes into corpus luteum which produces high levels of progesterone and estrogens.
B18. Teachers avoid teaching sex education because these topics are private.
B19. Psychological and social aspects of sex education should be taught primarily by biology teachers.
B24. Psychological and social aspects of sex education should be taught primarily by health professionals (doctor, nurse).

Admitting that you don't have any children and that you wish to have only one child, would you do the following?

B30. Let chance determine the sex (as usual)
B31. Try to choose the sex of your child by a specific diet
B32. Try to choose your child's sex by spermatozoa selection (or by other medically assisted techniques)

When do you think the following topics should be first introduced at school by teachers and/or external specialists? (tick only ONE box per line):

<table>
<thead>
<tr>
<th>Topic</th>
<th>Less than 6 years old</th>
<th>Between 6 and 11 years old</th>
<th>Between 12 and 15 years old</th>
<th>More than 15 years old</th>
<th>Never inschool</th>
</tr>
</thead>
<tbody>
<tr>
<td>B37. Pregnancy and birth</td>
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<td>B38. Sexual intercourse</td>
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<td>B39. Incest and sexual abuse</td>
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<td>B40. Orgasm and sexual pleasure</td>
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<tr>
<td>B41. Eroticism and pornography</td>
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</table>