
The Eurasia Proceedings of Educational & Social Sciences (EPESS), 2016

Volume 4, Pages 93-100

ICEMST 2016: International Conference on Education in Mathematics, Science & Technology

MOROCCAN TEACHERS' CONCEPTIONS ON FOOD EDUCATION

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ABSTRACT: Food education is a component of health education which plays an important role in the development of citizenship and human resources of a country (Jourdan, 2010). School is a vital element in implementing some positive behavior and making students drop out other dangerous behaviors. Today educating students to healthy nutrition allows them to develop the abilities to act, choose, decide on an autonomous and responsible manner and capacity face reality and deal with conflict (Jourdan, 2010). Food is present in our daily lives and in our curricula but the problem lies in the manner/ way in which it is processed, hence the importance of this study. And as the teacher constitutes a strong link of the didactic transposition, he may influence this transposition by his conceptions, values and practices (Clément, 2004). In this context, we are interested in this study to identifying the teacher' conceptions about food education, and answering the following question: - What are the Moroccans teachers' conceptions about food education? We have thus used as a tool of investigation in the form of a questionnaire administered to 200 teachers at all grade levels. The conception of Moroccan high-school teachers towards food education is more often expressed by implementing the Promotion of Health (HP) approach, while those at primary and middle school adopt a Biomedical approach (BM) in their definitions. This could be in relation to each grade level teachers' educational background of each level school.

Keywords: Food Education, Conception, Didactic transposition, Teacher, Promotion of health, Biomedical approach.

RESEARCH CONTEXT and PROBLEMATIC

Food education is a component of health education which plays an important role in the development of citizenship and human resources of a country (Jourdan, 2010). Food Education is seriously taken into account by the international education systems, as it is subject to numerous studies and programs fund-raised by international public organisations' including the World Health Organisation (WHO) and Food Aid Organisation (FAO). This is evidence that food is an essential condition for the physical, mental and psychoaffective growth of the child and the adult. It serves as a major determinant for health and a key factor to a country's development (Moroccan Ministry of Health, 2011).

In Morocco, foodstuffs take a major place among the vital concerns of the citizens; that is clearly apparent in the outcomes of the investigation undertaken by the High Commissioner of Plans (Statistics Division) in order to determine the consumer price index, all along the years 2007 and 2013). The study reveals that foodstuffs (as

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- Selection and peer-review under responsibility of the Organizing Committee of the conference

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well as alcohol-free drinks) make the first priority among other products Moroccans consume and throughout the years of the study there has been a dramatic increase in the consumption of these products (HCP, 2015).

In relation to all developing countries Morocco is undergoing consequences of the deviation from the Mediterranean diet model. In this context, there have been profound and rapid changes in the Moroccan nutrition patterns as a result of the growth of food production industry, and the role of the media in encouraging the consumption of products generating obesity and other metabolic disorders, as well as setting up a nutrition transition.

This transition is characterized by the coexistence within the same social segments, even within the same family, of various diseases including obesity among adults and malnutrition of young children (Moroccan Ministry of Health, 2011).

By dint of these changes, challenges relating to the education of young people, the future generation, are increasingly demanding. To convey the best necessary training to all young people, against the backdrop of a complex and changing social environment requires a constant and continuous readjustment of practices; from this stand point emerges the indispensable/crucial role of school that is actively involved in adopting certain positive behaviors and abandoning other risky practices (and harmful habits) for young people.

School is a vital element in implementing some positive behavior and making students drop out other dangerous behaviors. Today educating students to healthy nutrition allows them to develop the abilities to act, choose, decide on an autonomous and responsible manner and capacity face reality and deal with conflict (Jourdan, 2010).

Food is present in our daily life and in our curricula but the problem lies in the way with which it is tackled in class; hence the concern of this study In fact, the choice of contents of knowledge to teach is made according to school programs and teaching instructions which underline the considerable role of the teacher as one of the main actors in the process of the didactic transposition of knowledge; he could thus influence the transposition by his own conceptions, values and practices. (Clément, 2004) (Figure1).

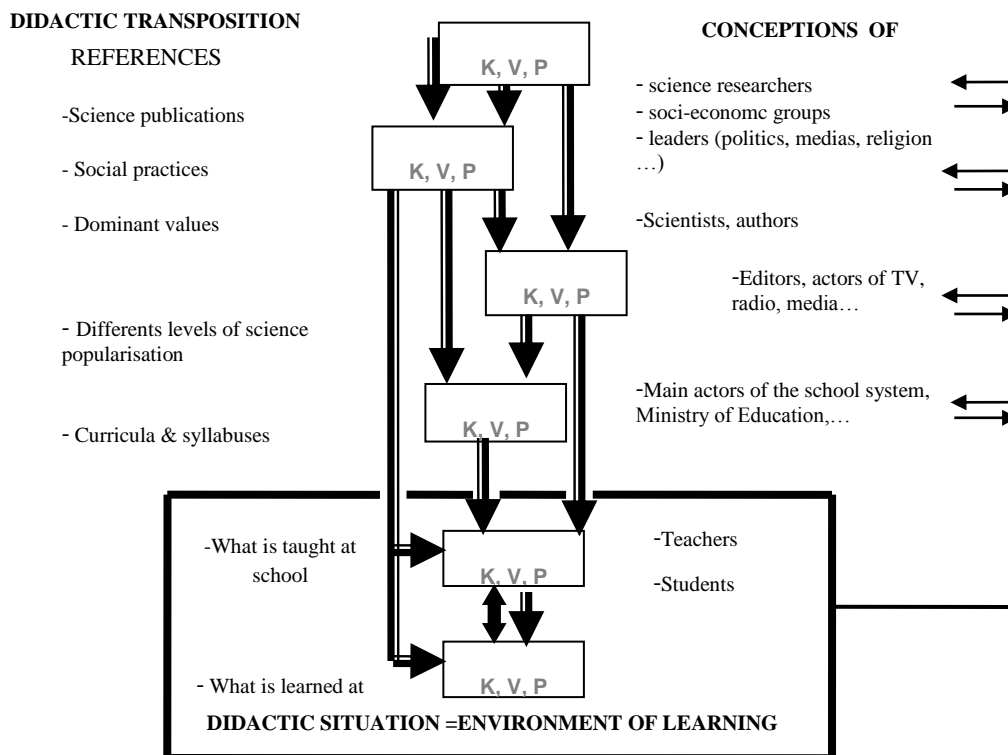


Figure 1 - Schema Of The Didactic Transposition, Linked To The Analysis Of The Conceptions Of The Main Actors Of The Transposition (Modified From Clément 2006).

In the present work, the conceptions of some actors of the educational system are analysed as being the emergences from interactions between the 3 poles K, V and P, as proposed by the model KVP (Clément 1998, 2004, 2006). The 3 poles are: the scientific knowledge (K), the systems of values (V) (The values are defined in a large sense, including opinions, beliefs and ideologies) and the social practices (P) (either professional, family's, or citizen) (figure 2)

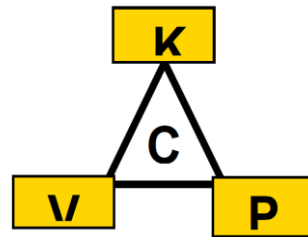


Figure 2: The KVP Model: Conceptions (C) Can Be Analyzed As Interaction Between Scientific Knowledge (K) Values (V) And Social Practices (P) (Clément, 2004; 2006).

Nevertheless, the KVP model is useful to analyse important features of the taught knowledge: the epistemological one, to try to understand what is related to science or to values in a scientific presentation, and also its interaction with social practices.

The teacher's 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 the teacher's 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 but also their conceptions related to the students present and future social practice of (their future professional job but also their present and future responsibility as citizens).

In this framework, we are interested in this study, to identify the conceptions of teachers relating to the Food Education (FE), by answering the following question:

- What are the Moroccan teachers' conceptions relating to the FE?

METHODOLOGY

Data Collection Instrument

To identify teachers' conceptions, we chose as a tool of investigation a questionnaire. The questionnaire is in Arabic, it was validated after its elaboration. The people involved in the research were all volunteers and the questionnaires were preserved anonymous.

Participants

Educators teaching in public institutions of three school levels: primary school (elementary education), middle school (former high school) and high school (secondary school).

We were able to collect only 200 questionnaire copies afterwards.

We analyzed the results concerning training on the food education (initial or continuing training) and the definition given by teachers relating to FE only.

The collected definitions of FE were categorized according to both conceptions related to health: Biomedical Model and (BM) and Health Promotion model (HP).

- **Biomedical Model (BM)** focused on the diseases and the prevention, in a reductionist cause- effect perspective, with information about health problems, ways to handle and cure them, and how to avoid them by using persuasion by teachers and/or health professionals (Leininger, 1984)
- **Health Promotion model (HP)** defined by the charter of Ottawa (1986) as a process which imparts the populations the means by which they can ensure a bigger control over their own health and can improve it.

There are indicators in the speeches used in the definitions given by the teachers, making it possible to detect each model of health. We used the categorization developed in the European project Biohead-Citizen (Carvalho et al., 2004)¹. (cf. grid in annex).

- Indicators for the biomedical conception of health: pathological, curative, and preventive concepts.
- Indicators for health promotion conception: healthy, empowerment and environmental concepts.

¹ BIOHEAD-CITIZEN. Biology, health and environmental education for better Citizenship. CITC-CT-2004-506015. (2004-2008). Project Coordinator : Graça S. Carvalho , Pierre Clément, Franz Bogner. Morocco is one of 19 countries participating in this European project (the Participant Group).

With regard to the emphasis on the *Biomedical Model* and the *Health Promotion* approaches. In each definition we find expressions associated with the Biomedical Model (BM) or the Health Promotion (HP) approach.

Table 1.Characteristics Of The Sample:

Institutes	Primary school	Middle school	High school	Total
Number	6	30	14	50
Sex				
Male	16	46	18	80
Female	60	26	34	120
Total	76	72	52	200
Level of study				
< Bac	6	8	0	14
Bac	40	54	2	96
Bac+2	2	4	0	6
Bac+4	24	8	50	82
No answer	4	0	0	4

In Terms of seniority, the sample is very heterogeneous; teachers with more than 30 years of teaching experience are the most dominant with a percentage of 27%. All teachers got some job training in teachers' training centers (CFI², CPR³, ENS⁴, CRMEF⁵) appropriate for each grade level.

The processing of the results' analysed from the collected questionnaires is done using:

- Microsoft Office Excel;
- SPSS: Where khi two tests of independence were performed to test whether the differences between the grade levels are significant or not.

RESULTS' ANALYSIS

Concerning training on the food education (initial or continuing training)

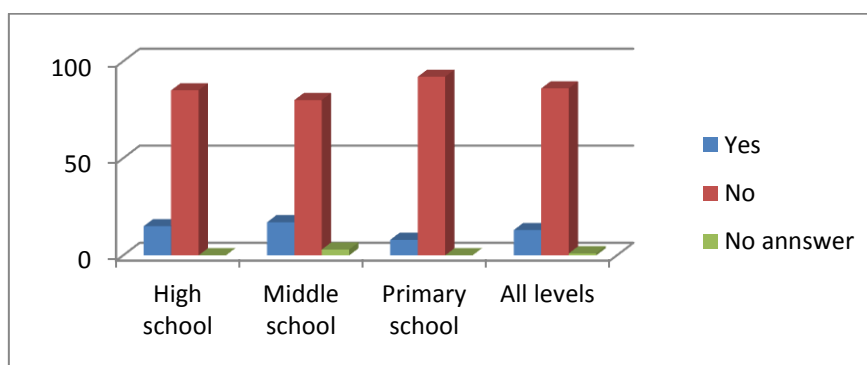


Figure 3: Percentage Of Teachers According To Their Training In FE

The majority of teachers (86%) of all levels did not have training on FE during their vocational teaching formation while only 13% of teachers have been on topics such as: food rations, food composition and roles, and nutritional deficiencies.

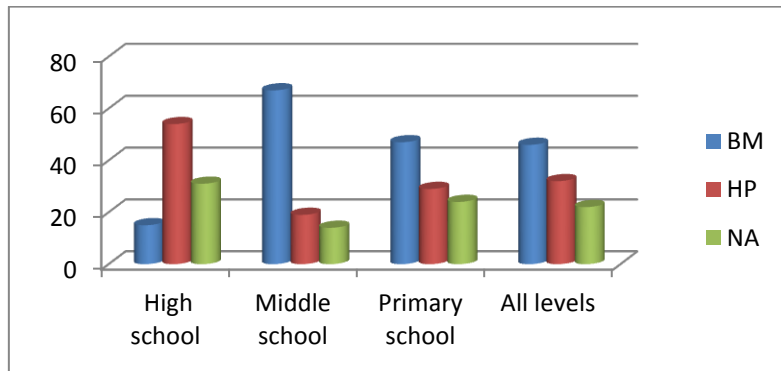
² CFI : Primary teacher training center

³ CPR : college school teacher training center (Middle school former high school)

⁴ ENS : High school teacher training center (secondary school)

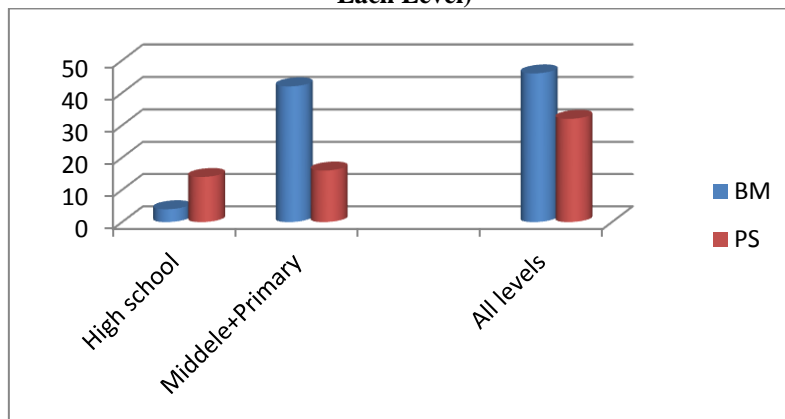
⁵ CRMEF : All teacher training center

Definitions of Food Education:



(BM: Biomedical Model. HP: Health Promotion. NA: No answer)

Figure 4: The Percentage Of Teachers Depending On The Conception Of Their Definition Of EA (For Each Level)



(BM: Biomedical Model. HP: Health Promotion. NA: No answer)

Figure 5: The Percentage Of Teaching(S) Depending On The Conception Of Their Definition Of EA (For Regrouped Levels)

Most of the teachers (46%), the majority of whom belongs to the middle and primary school (42%). 67% in the middle school and 47% in the primary school provided definitions that reflect BM conception.

Examples of definitions relating to biomedical conception:

- FE is the need to know what we have to consume so that we can live without disease;
- FE refers to educating the citizens to consume nutrients they need without exaggeration, in order not to get sicknesses like obesity and diabetes.

32% of the teachers, most of which make part of the high school (14%), provided definitions that adopt as HP conception. 54% in the high school compared with other levels Primary school (29%) and middle school (19%).

Some examples of definitions relating to Health Promotion:

- FE can develop in citizens' responsibility to choose the proper food stuffs to build a healthy body, allowing it to be active and productive.
- FE is a set of concepts and knowledge we should gain awareness about in order to adopt appropriate form of behavior for a mental and physical stability, for a healthy well-being and an active life.

We note that 22% of the teachers did not give a definition to FE.

The difference between the conceptions adopted by the teachers in their definitions and the level taught is significant ($0.02(=p) < 0.05$).

This significance could be in relation to each grade level teachers' educational background of each level school. That more the level of study is high (as high as a university degree) more the conception relates to the health promotion approach is adopted.

DISCUSSION OF RESULTS

Food Education is 'one strategy of Health Promotion. It aims to develop in students skills to better manage their health and their environment's (Odile, 2011). In effect, Food Education should be taught according to a well-determined program which clearly defines the skills to develop and which is part of a policy to promote health.

The conception of high school teachers towards Food Education expresses itself most often by the adoption of a HP approach while primary and collegial secondary cycle teachers adopt a BM approach in their definitions. This could be according to the level of study of the teachers of each level since in the primary and collegial secondary cycles; teachers with a baccalaureate degree prevail whereas at secondary qualifying cycle the teachers there have achieved at least a higher university degree (baccalaureate+ 4 years study).

Our results match with those found in a comparative study of teachers' and future teachers' conceptions from 16 countries relating to health education (Carvalho & al., 2007 et Carvalho & al., 2014), a study carried out in the framework of European project Biohead -Citizen⁶ (project involves nineteen countries including Morocco). In this study, it has been shown that more the level of study is high (as high as a university degree) more the conception held by current and future SVT (life and earth sciences) and Arabic language teachers from primary and secondary schools, relates to the health promotion approach.

Jourdan & al, (2012)⁷ have shown that, among the factors influencing the vision of teachers and future teachers from 15 countries (Morocco is part of these countries) on health and Health Education is the age and the level of study. Seniors and people with a high academic education, have a more positive vision on health making part of the approach to health promotion.

In another study, the majority of the Moroccan teachers at primary school are in the inability to define education to health and most of their definitions fit to biomedical approach (Khazami & al.; 2008).

But the Moroccan primary textbooks (for the age group of 6 to 9 years) adopt the HP approach and in the other levels (most age) adopt the BM approach (Selmaoui and al., 2007a ; Selmaoui et al., 2007b ; Selmaoui et al., 2007c, Selmaoui et al., 2009; Khzami and al., 2010).

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⁷ Morocco is one of 15 countries in this study (European project Biohead -Citizen).

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ANNEX

Table: INDICATORS for the BIOMEDICAL CONCEPTION of Health: Pathologic, Curative, and Preventive concepts;

INDICATORS for the HEALTH PROMOTION CONCEPTION: Healthy, Empowerment and Environmental concepts.

BIOMEDICAL CONCEPTION OF HEALTH (BM _c)	
CONCEPTIONS	INDICATORS
PATHOLOGIC	- words: "disease", "illness", "sickness", "infirmity", "infection", "disorder"
	- disease name(s)
	- patient image (photo, drawing, etc.)
	- disease symptoms or other disease signals
	- direct causes of diseases mentioned (infectious agents, genetic inheritance, etc.)
CURATIVE	- "normality" (normal/abnormal, common/ uncommon person, image of " <i>abnormal person</i> "), blaming the victim (or the patient)
	- Disease treatment
PREVENTIVE	- Doctor as the expert in disease diagnosis, its prevention or its treatment
	- Presence of the words: "prevention", "protection", "caution"(danger).
	- Risk factors mentioned (exposition to environmental factors, behaviour factors, etc.)
	- Person's image showing risk behaviour
	- Behaviour rules, behaviours to avoid, authoritarian recommendations, paternalism, culpability
HEALTH PROMOTION CONCEPTION (HP _c)	
HEALTHY	- Words/expressions : "health promotion", "health gain", "healthy lifestyle", "healthy body", etc.
	- Assuming diverse health dimensions: physical, mental, emotional, social, spiritual.
EMPOWERMENT	- Personal skills development, empowerment, informed healthy choices or decisions
	- Awareness of health demoting factors
ENVIRONMENTAL	- Social environment (working places, domestic...)
	- Physical environment
	- Quality of life, living conditions