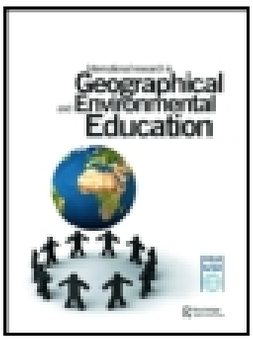

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Water education in school curricula: impact on children knowledge, attitudes and behaviours towards water use

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ABSTRACT

At present, there are alarming reports raising serious concerns about water availability in many countries including Morocco. In this context of water scarcity and increasing water demand, education may play a crucial role in transforming values and habits that promote a sustainable management of the resource. Therefore water education topics should be incorporated in school curricula. The first objective of the present study was to explore the status of water education in Moroccan curricula designed for Primary and Lower Secondary School levels. The second objective consisted in assessing students' knowledge, attitudes and behaviour regarding water-related issues. The study results showed that water-related topics are incorporated in the curricula with multi and interdisciplinary approaches and the most involved are Sciences and Geography; however there is a lack of field and extracurricular activities. While students' attitudes towards water were positive, their daily water use habits did not match attitudes. To make curricula more effective in changing students' attitudes and behaviour regarding water use and conservation, water-topics should be taught in accessible ways using values-driven education and innovative methods, field trips and school life activities.

KEYWORDS

Attitudes; behaviour; children; curriculum; water education

Introduction

The water sector in Morocco has been a major concern of economic policy because of its key role in food security and support of sustainable development. However, since the 1980s, water resources in Morocco have faced the negative impacts of climate change and an increased demand from residential and economic sectors, and have decreased substantially in volume and availability (Alaoui, 2013). As a result, the natural water resources are among the lowest in the world and Morocco is one of the countries with the smallest volume of water per capita. Water availability has dropped from 3500 m^3 per capita per year in 1960 to 1000 m^3 in 2000, and forecasts are

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predicting it will further fall to 490 m^3 in 2020, below the United Nations' "Absolute Water Scarcity" level impending crisis (Haddouch, 2015).

To fill the gap between water supply and demand, and in order to prevent a critical situation, Morocco has implemented a strategy focused on the increase of water supply, as well as preservation and protection of water sources (ONEDD, 2015). However, improvements in water management cannot be accomplished only by technical or regulatory measures, but these must be combined with societal changes in attitudes and behaviours regarding the use of water (WWAP, 2012; Ouda, Shawesh, Al-Olabi, Younes & Al-Waked, 2013). Achievement of long-term changes in attitudes, knowledge and behaviours around water resources concerns, as well as creating citizens with the readiness to take action on water issues, are underlying goals of water education (Hurlimann, Dolnicar & Grun, 2009; Gopinath, 2014). More importantly it's recognized that it's during the early grades of education that the young can acquire lifelong learning and awareness, and make more informed value judgments based on a valid knowledge of water-related concepts (Rejeski, 1982; Dieser & Bogner, 2016). Hence, there is potential for the early education sector to model community education for water conservation. Consequently, increasing attention is being given these days to the education of children and youth on water related topics. School provides unique opportunities for awareness raising as they bring large groups of people together for learning purposes and usually have systems for production and dissemination of educational material. They can also provide an entry point to the community as school children educated to the benefits of water conservation may carry those messages far beyond the school walls, bringing therefore lasting improvement to their families and wider community (Bryx & Bromberg, 2009; Daniel, 2014). Furthermore, today's children will, sooner or later, decide on the future use of water resources and the most efficient way to equip the next generation with knowledge and attitudes that promote the wise use of water and appropriate behaviour is through educating children at school (Schaap & van Steenbergen, 2001; GWP, 2003). As a result, in several countries water education has been incorporated into educational curricula and programs (Gruver, Smith & Finley, 2009; Smith, Heck & Worker, 2012; Irvine, Seow, Leong & Cheong, 2015; AWA, 2016), which are critical tools that teachers rely on to teach and train their students (Coban, Akpınar, Kucukcankurtaran, Yıldız, & Ergin, 2011). It involves the integration of relevant water sustainability topics into school education to increase knowledge, change attitudes and encourage action to promote the wise use of water (GWP, 2003).

Primary and Lower Secondary School levels are the most critical ones in getting water education since they are one of the most important stages where growing teens learn material that will shape their thinking process, and through this critical stage, teachers have the greatest influence (Rejeski, 1982; Leonard, 2017). Therefore, the present study aimed to explore the current status of the key water education topics in the Moroccan curricula designed for Primary and Lower Secondary School levels, which may allow identifying opportunities to promote existing quality resources aligned to the curricula and develop suggestions to fill identified gaps. The second goal was to assess students' basic knowledge, attitudes and behaviour towards water issues.

Methods

Curricula analysis

Education in Morocco is provided mainly by the Moroccan government through the Ministry of National Education (MNE). Basic education is divided into six years (grades 1–6) of Primary School Education, generally attended by 6–12 years aged children; and 3 years (grades 1–3) of Lower Secondary School Education (Sassi, Bouderga, Chaibi & Hammani, 2015).

In Morocco school curricula are established at national level and the number of sessions per topics is prescribed and compulsory. Therefore the normal practice is that courses focus on goals of official curricula. The current study was focused on the curricula of Primary and Lower Secondary School levels (MNE, 2009a, 2009b, 2015, 2016a, 2016b). In fact, children at this age (6–16 years) develop the ability to grasp other points of view and start to develop social and analytical skills. This development enables children to analyze, understand and see logical relationships (Khanal et al., 2005), which lead them to critically analyze behaviours regarding water-related issues in the community and develop several solutions. They also begin to understand abstract concepts around water and social relations (Mooijman, Snel, Ganguly & Shordt, 2010). The comparison between subject areas involvement was made based on the number of water references in the curriculum as well as the number of sessions offering the opportunity to address water-related topics.

Investigation of students

The present study investigated forty randomly selected students, from both genders with a male to female sex ratio of 0.82:1 (18 boys vs. 22 girls) aged between 11 and 17 years, attending schools in districts with medium living standards in Marrakesh. Informed consent was taken from the Heads of the schools. A questionnaire was developed and administered to students (Appendix 1). The items specifically focused on students' knowledge, attitude and practice of sustainable water use and conservation. In the "knowledge" section, the respondents were asked to answer items on topics specifically related to water sources, management, availability, chemistry, treatment … Other items were included in the "attitude" section, focusing on students' awareness, beliefs and contribution in water preservation. In the "behaviour" section, included items related to the everyday practice in preserving water (water-use diary including individual water-use patterns and activities). They were also asked about water-related extracurricular activities at school and the degree to which water use and consumption is a family concern. The Chi-square test was used for the comparison of the frequencies distribution (SPSS version 15). A p-value<0.05 was considered significant.

Results

Water topics in Moroccan curriculum in Primary and Lower Secondary Schools

To explore the opportunities presented by the Moroccan curricula regarding water education, the present study explored the water topics explicitly addressed in the

curricula, grades in which these topics occur and any eventual gaps in the current water-related curriculum resources. It focused on the Life and Earth Sciences, Physics and Chemistry, Geography, Citizenship Education, Languages, Islamic Education and Mathematics subject areas. The study results are summarized in Appendix 2 (Primary School curricula) and Appendix 3 (Lower Secondary School curricula).

The main addressed topics are water as environment and source of life, needs and water resources, water treatment, water use, methods of conservation and the impact of pollution, water cycle, chemical composition and properties of water, water as an energy source, water as a dynamic landscape element, water and climate, water and hygiene … However water-related topics are present in the curricula of subject areas in varying degrees. Indeed, in Primary School curricula, water-related topics are most present in Sciences than other subject areas. Of the 34 total water references, 16 (47%) were found in Sciences, addressed in 8 (28.6%) of the 28 total sessions offering opportunities to address water topics. Geography and Islamic Education accounted for 9 references each (26.5%) addressed in 8 (28.6%) and 5 (17.9%) sessions, respectively (Appendix 2, Figure 1). The curricula content is designed to introduce water-related concepts and provide students with knowledge regarding local and global water-related issues. It could therefore increase students' awareness, develop their sense of responsibility and adopting positive attitudes and behaviours towards water resources. The content is delivered using competency-based and values-driven approaches and active learning techniques, e.g. problem-based learning, case studies, practical experiments, questions and answers, visual-based learning … (MNE, 2009b).

In the Lower Secondary School level, 25 water references were accounted and 26 sessions in which water topics can be addressed. The most involved were Sciences

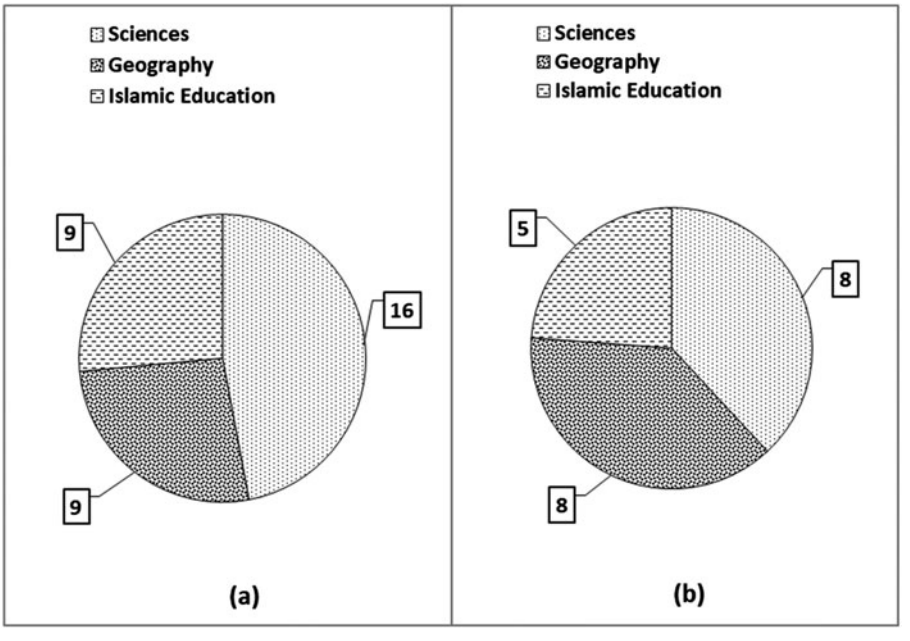

Figure 1. Water-related references (a) and corresponding sessions (b) in the Moroccan Primary School curricula.

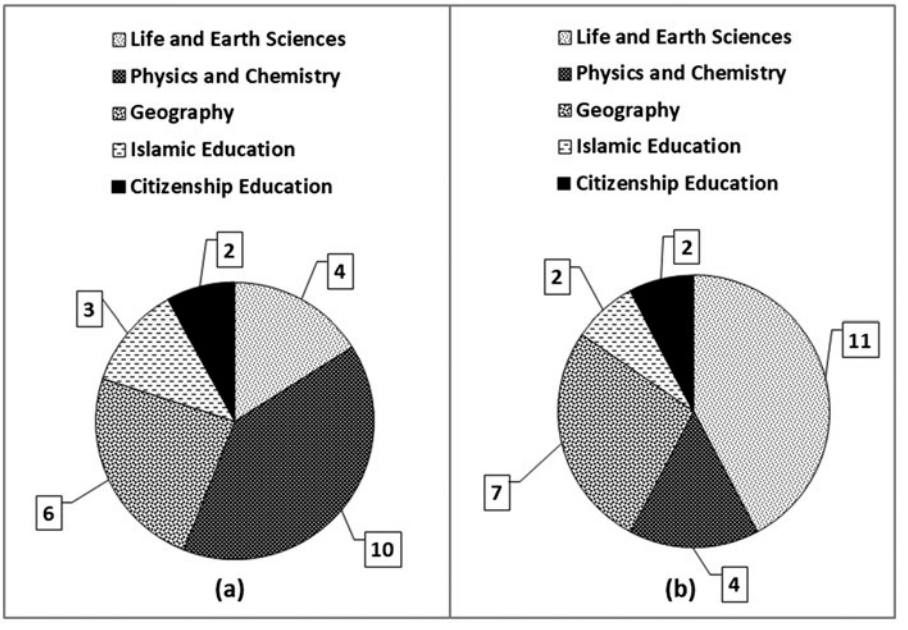

Figure 2. Water-related references (a) and corresponding sessions (b) in the Moroccan Lower Secondary School curricula.

(Life and Earth sciences with Physics and chemistry) with 14 (56%) references addressed in 15 (57.7%) sessions. Geography curriculum accounted for 6 (24%) references with 7 (26.9%) corresponding sessions. In the Citizenship and Islamic Education curricula 3 (12%) and 2 (8%) references were found, within 2 (7.7%) sessions, respectively (Appendix 3, Figure 2). However, in both levels, water references were absent in the curricula of Mathematics and Languages (Arabic, French and English) where they were not explicitly referenced.

The Science curricula grades reflect continuity between primary and secondary education, enabling students to strengthen previously learned concepts and skills while developing new ones. The 'Hotspots' for water topics were identified in content descriptions in particular year levels of the curricula. For sciences in primary school the key 'hotspots' where water topics appear of importance are grade 1 and 4, which provides the strongest opportunity to learn about water-related topics. Relevant topics include different water uses, water sources, and water as vital resource for humans and animals, water conservation, water quality (clean water, turbid water …), water use economization and protection.

In the Lower Secondary School Science curricula (Life and Earth Sciences, Physics and Chemistry), the highest occurrence of water related references, sessions and hourly volume were recorded in grade 1 addressing several topics including catchment processes, water cycle systems and developed the topics previously taught in Primary School. Physics and Chemistry content descriptions also provide opportunities for a cross phase sequence of activities that develop student understanding about the properties and interactions of water as well as water treatment processes in grade 1. It also addressed the chemistry of water, water pollution sources and behavioural aspects towards water.

Water topics feature strongly in the Moroccan curriculum of Geography in Primary and Lower Secondary School. Grade level content descriptions relevant to water topics are displayed in Appendices 2 and 3. Water topics are most obvious in the water and climate and also addressing catchment management, water scarcity and variability, liveability and droughts, water and agriculture with trends to address local water related issues.

With regards to Education for Citizenship, water topics are found in the third grade of the Lower Secondary School mainly focused on water conservation. Similarly, Islamic Education curriculum focused on water-related topics concerning water use, sanitation and hygiene issues as well as attitudes and behaviour to adopt for its conservation.

Survey results

The assessment of students' knowledge regarding water such as water cycle, water chemistry and water treatment steps revealed that students were not well informed about these topics since 73% of them did not respond correctly (Figure 3).

Concerning water availability the survey showed that 45% of the investigated students were aware of the alarming decreasing trend in water amounts and have positive attitudes regarding water use and conservation, while these where absent in 55% of cases. The observed difference was not statistically significant ($p > 0.05$).

With respect to students' daily water use habits, it was found that in 70% of cases their practices are water-wasting versus 30% having non-wasting practices and the difference was statistically significant ($p < 0.01$). The present survey findings revealed that a gap exists between students' attitude and behaviour. In fact 45% of students were aware of water scarcity and the need to conserve it, but the behaviour of 70% did not match this attitude.

For the role the families may have in water education, the survey showed that a significantly higher proportion (72.5%) of the investigated students' families were

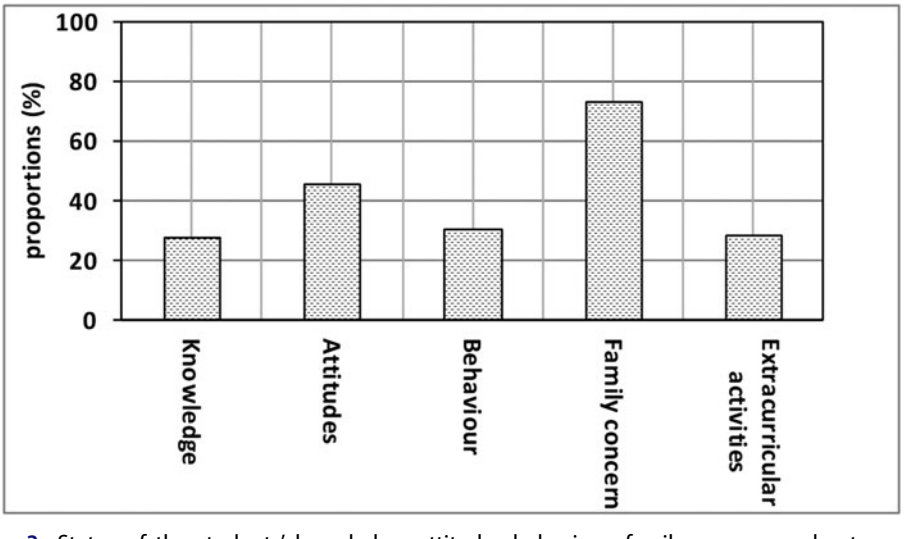

Figure 3. Status of the students' knowledge, attitudes behaviour, family concern and extracurricular water-related activities.

concerned by water issues inciting their infants to economize and conserve water, while 27.5% of the families were not ($p < 0.01$).

In relation to water-related activities at schools 28% of students stated they are regularly organized, while the others stated that they were absent, rarely recorded and event-dependent (World Water Day, World Environment Day …).

Discussion

Moroccan curricula draw upon the tenets of the competency and value-based approaches, as well as the innovative active learning-oriented pedagogical model. Based on the curricula analysis, it has been found that water theme included a broad series of topics that lend themselves to trans-disciplinary and interdisciplinary approaches to instructions. Similar findings were reported by other studies (Papavasileioua & Mavrakis, 2013; Balaji & Anbalagan, 2017). Thus, by encountering water-related concepts in multiple contexts students can develop a deep understanding and explain the relationships between these concepts (Sari, Karkkainen & Tuula, 2018). The most involved are Sciences and Geography. In fact, the curricula of Sciences are mainly designed to build upon interest in and stimulate curiosity about the environment, gain deeper personal insights and gain aesthetic appreciation of the natural world, develop scientific inquiry skills, attitudes and values (Sassi et al., 2015). As Science is released in early school age more aligned resources were available for this learning area.

While water education may, at first glance, seem more connected with the Science curriculum, it has implications for other subject areas descriptions in particular grade levels of the curricula. Not surprisingly, water topics feature strongly in the Morocco Curriculum of Geography in Primary and Lower Secondary school. These findings are in accordance with those reported on the relative importance of 'water' in different subject areas in the Australian curricula, indicating that 49.6% of references were found in Sciences and 39.1% were found in Geography (AWA, 2016). Similarly, water related topics are privileged in the Geography curriculum in Hong Kong and Singapore with inquiry-based learning, intending to encourage students to value water as a precious resource which needs to be protected and used wisely (Curriculum Development Council, 2011; Irvine et al., 2015).

The theme of water is privileged in the activities of Education for Citizenship focusing on water conservation. In this context, water values-driven activities allow students to analyze issues surrounding access to water, explore responsible water use and understand why water scarcity is a national concern, and why access to fresh water is a basic human right. This promotes the development of values of water responsible citizenship in students, by connecting personal actions to impacts at local and national scales (Dean, Lindsay, Fielding & Smith, 2016). For the Islamic Education the focus was on values of awareness on water use, conservation attitudes and behaviours as well as sanitation and hygiene. In fact, cultural and religious beliefs may influence positively or negatively the implementation of water education programs. A program may be unsuccessful if it is in conflict with deeply rooted cultural and religious beliefs and practices of the targeted society; while in other communities, cultural and religious beliefs and traditional spiritual values may serve to promote

water conservation and sustainability. Thus recognizing cultural and religious values of communities can be powerful drivers for water education programs development and implementation (Vazquez & Uribe, 2013).

For Mathematics and Languages curricula there were no references to water and the quasi absence of the theme of water in these curricula may be considered as a major gap (Balaji & Anbalagan, 2017). Integration of water topics into mathematics programs to teach math concepts and develop students' skills may be possible through water-based activities that include water resources data. These provide valuable opportunities to calculate and compare volumes, percentages, areas, stocks and flows, as well as to create and interpret graphs and develop problem-solving skills (Thomson & Hartog, 1993; Curriculum Development Council 2017). Water context may also be used to calculate and map how much water a family uses at home and the amount due, compare water availability over time, clean-up and development costs (Schaap & van Steenbergen, 2001; AWA, 2016). For languages, water theme may be integrated in languages curricula through literature and poetry, and water contexts may offer opportunities to discuss and exchange ideas related to water, reading and/or writing articles on water issues.

The current survey results showed that the students' knowledge on water topics was low, and 45% of them were aware about the alarming decreasing trend in water availability. For water use habits, up to 70% of the investigated students showed water wasting practices. In France, a previous survey (Agenais, Guerchovitch & Montginoul, 2013) revealed that 54% of the investigated Lower Secondary School students are aware of water scarcity for millions worldwide, and 50% of them stated to take care of wasting water. Other surveys carried out on school students reported that water education programs are generally effective on the students' knowledge and conception about water, as well as awareness, attitudes and behaviour related to water usage and children modelling water conservation principles to their families (Middlestadt et al., 2001; Davis, Miller, Boyd & Gibson, 2008; Coban et al., 2011; Genc, Genc & Rasgele, 2017). Elsewhere, according to the UNESCO report (2015), while schools are excellent places to foster water education since they are well structured and are linked to the parent community, the current situation of water education at schools, in many countries, is inadequate due to old-fashioned and fragmented methodologies which dominated water education which often only consider children with more academic profiles. However better and successful practices with respect to water education were developed in other countries (UNESCO, 2012; Irvine et al., 2015). A good program should find an optimal combination of different objectives and a balance between knowledge, attitudes, behavioural and promotional aspects. Water related activities should integrate practical real-life situations rather than focusing on more abstract topics. It involves children thinking about the relevant water issues in their locality or region (Schaap & van Steenbergen, 2001).

The present survey revealed that a gap exists between students' knowledge, awareness and behaviour. The knowledge lack may affect negatively the establishment of awareness and positive attitudes as well as behaviours in relation to water issues, while increasing children's knowledge can help create a greater awareness about water issues (Chen et al., 2011; Aminrad, Zakaria, Hadi & Sakari, 2012). Hence researchers stated that the increasing of environmental knowledge leads to positive awareness and

attitudes which results in pro-environmental behaviour and action (Ewert, Palce & Sibthorp, 2005; Lizawati, 2012). In contrast, previously reported surveys found that people with positive attitudes may not always exhibit positive behaviour (Jorgensen, Graymore & O'Toole, 2009; Fan, Wang, Liu, Yang & Qin, 2014). Similarly, Ahmad, Noor & Ismail (2015) reported that attitude is not a good predictor for sustainable practices and a weak relationship was noted between students' level of knowledge, attitudes and practices. The reasons behind such a gap include water-use habits, water-saving behaviour information and false perceptions of water consumption (Corral-Verdugo & Frías-Armenta, 2006; Beal, Stewart & Fielding, 2013; Fan et al., 2014).

Students' families were found to be concerned about water issues and consumption. However, this concern did not impact their children water use habits and might only be raised by the bills the families should pay on the basis of water consumption levels. In Morocco, a previous report (Kurtze, Morais, Platko & Thompson, 2015) analyzed the current policies and initiatives in reaching the overall goal of adaptation to the decreasing water supply based on background research, visits to relevant sites and organizations, and interviews. The authors revealed that public awareness of the decrease in water availability is not high and citizens in water-plentiful areas of Morocco do not seem concerned about the availability of water indicating that the low public value of water is not simply due to the low financial cost, but also the lack of education of the citizens about its value. Other studies found that high parents' education level and public awareness campaigns affected positively students' attitudes and resulted in a decrease in water consumption reaching up to 57% in certain cases (Bryx & Bromberg, 2009; March, Domenech & Sauri, 2013; Aydogdu & Çakır, 2016).

Extracurricular water-related activities at schools were mainly event-dependent and irregular. In fact, on the occasion of celebrating environmental events (e.g. world water day, world environment day, world oceans day…) activities centered around water theme can be organized. These activities may include design of posters, sensitization workshops, hands-on works, competition among school students, conferences and debates, theater … to raise awareness for water and environmental issues. Kurtze et al. (2015) stated that programs to educate children do exist in Moroccan curriculum, but are not utilized to their fullest extent. It was suggested that two methods should be used to teach children about the environment, in-class learning to give them background knowledge and extracurricular activities including field trips. These activities are required to enhance active involvement of students in learning process, make them gain an appreciation of the real water issues and understand the importance of its conservation and protection (EPD, 2007; Papavasileioua & Mavrakis 2013; Olgun, 2018). Field trips may be conducted to water treatment plants and water recycling facilities to learn about these processes, to rivers to take measurements and discover river characteristics, water museum to discover the history, tradition and culture of using water in old time as in recent days … Studies have shown that the active learning environment of the field trip and real-life experience outside the classroom is more likely to result in superior learning and affective benefits (Boyle et al., 2007; Higginsa, Dewhurst & Watkins, 2012). Fieldworks clarify environmental concepts and develop a sense of responsibility and favorable attitudes towards the defence of the natural resources (Braund & Reiss, 2006). Furthermore field trips sharpen students' observation and perception skills,

amplify motivation and curiosity, together with longer-term retention, for the concepts introduced (Behrendt & Franklin, 2014). As a consequence, curriculum developers in many countries have included fieldwork as a teaching strategy in the school curricula and syllabuses of subjects such as sciences and geography (MNE, 2009b; Irvine et al., 2015; Curriculum Development Council, 2011, 2017).

With respect to teachers, they have a pivotal role in water education through the implementation of the official and compulsory Moroccan curricula. Their role during the curriculum process is to contextualize and customize the delivery of the prescribed content to ensure student achievement using methods like active learning. Teachers build lessons and choose the best appropriate techniques to reach the goals. Wide variety of techniques and activities are used including whole-group instruction, practical experiences, simulations, charts, projects, case studies, hands-on activities … Moreover, teachers involved in school-based clubs, such as the Environmental Club, organize, together with students, water-related activities to create awareness and explore water issues. Thus, well trained teachers are most influential in educating students about water resources conservation (ESA, 2010).

Conclusion

Water education through School curriculum can help raise the next generation with knowledge that provides the basis and motivation for awareness, behavioral changes or action towards water crisis and what is happening to the water in Morocco. Water-related topics are incorporated in both Primary and lower secondary school curricula of many subject areas with Sciences and Geography as the most involved in teaching water topics. The outcomes and impacts of these programs on students' knowledge, attitudes and behaviour regarding water use and conservation may be so limited if not well designed and correctly implemented. To be successful, school-based water education programs should be adapted to the cognitive level of the targeted students. It needs to focus not only on the provision of scientific knowledge, but also on the development of skills, attitudes and behaviors. It is necessary to adopt interdisciplinary and constructivist approaches emphasizing innovative learner-centered methods, practical training, interactive learning technologies and field trips for students. This requires more time and resources with collaborative efforts actively involving well trained teachers, families, water professionals, mass media … Human behaviour is very different from theory to practice; water education requires an urgent change in the mentality, and the patterns of water consumption with adoption of sustainable values. Furthermore, water education should be focused not only on the educational processes of children and young people, but also on the educational processes of adults.

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Appendices

Appendix 1. Examples of the survey questions.

Topic	Questions
Water knowledge	• What elements is water made of? • Chemical composition of drinking water? • Water quality norms? • Water forms in nature? • Stages of the water cycle? • Water roles of water in nature? • How much water does an individual use daily? • What are the main resources of water in morocco • Where does our home water come from?
Awareness and consciousness/attitudes	• Our country is undergoing water shortages and pollution issues? • Have you notified any reduction of rainfall in Morocco in recent years? • Is there a need of water-saving in our country? • Do you believe that wasting water is a serious environmental problem? • Feel a moral obligation to use water carefully? • Do you (personally) feel that you save water? • How much water do you use per day? • Do you consult your water meter? • Do you track water consumption based on your billing? • Average of water (monthly your family consume according to the water bill?
Practices/behaviours	• Do you have a shower instead of a bath? • Do you pay attention to the length of time spent in the shower? • Does it take you more than five minutes to have a shower? • During the brushing of teeth allow the faucet open? • Do you turn off the tap while you brush your teeth soap in the shower? • Do you leave the tap running waiting for cold water?
The family and water	• Does the family discuss water bills/usage? • Does your family ask to preserve water? • Do your parents regularly check the water meter?
Activities at school	• How often does your school organize water-related activities?

Appendix 2. Water education in Curricula: Primary School level.

Subject area	Grade	Topics	No. references	No. sessions
Sciences	**1**	• Different water uses • Water sources • Ways to conserve water • Water quality (clean water, turbid water …) • Water and hygiene • Water: a vital resource for humans • Water as a living medium and vital resource for animals • Water power	8	7
	2	• Water as a living medium for animals • Respiration of aquatic animals	2	2
	4	• Water as a vital resource for plants • Water phases • Water as a solvent • Water: a source for energy production	4	4
	5	• Water as abiotic components of ecosystem	1	1
	6	• Water as a soil components (water)	1	1
	Total		16	8
Geography	**4**	• Observation, description and drawing the main village/district repairs: fields, wells, gardens, wells, roads … • Elements of the rural domain: rivers, valleys, mountains, highlands, oases, deserts)Description of natural views) • Difference between river and valley • Description of the area: natural elements, villages, cities, roads, rivers, wells … through aerial photo of the area • Localisation of coast, main cities, rivers, mountains … on the country map	5	5
	5	• Climate elements: temperature and precipitation • Temperature and precipitation measurement • Water conservation	3	2
	6	• Moroccan climate, temperature and precipitation variations	1	1
	Total		9	8
Islamic Education	**1**	• Water quality for ablution • Water, hygiene and sanitation • Water pollution sources • Water usages • Ways to economize water • Prevention of water pollution • Positive vs. negative behavioural attitudes towards water • Water conservation at home and school	9	5
	Total		9	5
Total			34	28

Appendix 3. Water topics in Curricula: Lower Secondary School level.

Subject area	Grade	Contents	No. references	No. sessions
Life & Earth sciences	**1**	• The concept of hydraulic basin • Different forms of water in nature • Water cycle • Dangers threatening water resources - Treatment and prevention measures.	4	11
	Total		4	11
Geography	**1**	• Continents and water bodies	1	2
	2	• Morocco: varied reliefs and surface resources • Morocco: climate with varied characteristics • Definition of drought and its manifestations in Morocco • Efforts made to limit drought impacts • Methodical steps to follow in preparing a folder on water theme	5	5
	Total		6	7
Citizenship Education	**3**	• Types of water resources • How to preserve natural resources • Method to perform awareness campaign about the water topic	3	2
	Total		3	2
Islamic Education	**1**	• Environmental protection against pollution	1	1
	3	• Environmental care and protection	1	1
	Total		2	2
Total			25	26