Water as a Source of Life - From Greek Mythology to Orthodox Tradition: A Cross - Thematic Scenario

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Abstract: Water is a valuable good, which remains inaccessible to millions of people. Many school activities and projects are carried out so as to raise students’ awareness regarding water usage, sustainability, and environmental protection in general. However, water is present in everyday life and religious rituals. What is more, it was worshipped in Ancient Greece. The present five-hour didactic cross-thematic suggestion was addressed to third grade students. Students learnt about the significance of water in ancient Greek culture (deities, myths, narratives, pottery art, statues) and contemporary Christian Rituals and Sacraments (Baptism, Sanctification of water, Epiphany) by using collaborative strategies and ICT. At the end students understood the use of water in Greek Mythology as well as in the Christian tradition.

Keywords: Teaching scenario, water, Greek Mythology, Religious Education, Primary school

1. Introduction

The first international meeting on global environmental and developmental needs was held by the United Nations Conference in Stockholm in 1972 (European Environmental Agency [EEA], 2022). During this conference, the United Nations’ Environment Program (UNEP) and Ministries of Environment were founded in several countries all over the world. Twenty years later, representatives from 172 countries were gathered in Rio de Janeiro in June 1992, in order to participate in the United Nations’ Conference on Environment and Development, where several environmental issues were introduced and foundations for international agreements were laid, such as: Agenda 21, Rio Declaration on Environment and Development, Declaration on the principles of forest management (EEA, 2022).

The United Nations Organization has established the 22nd of March as Water International Day in order to inform the public, raise awareness, and apply political pressure for decision-making in regards with drinking water inaccessibility that affects billions of people. 2013 was set out as International Year of Water Cooperation and the current decade (2018-2028) was set out as “International Decade for Action on Water for Sustainable Development”, highlighting global interest in the matter (United Nations, 2022).

International organizations have taken action in this field. For example, UNESCO supported the development of Water Management curricula in 2017 titled “Water management curricula using ecohydrology and integrated water resources management”, which includes three volumes. These volumes are one of many suggested solutions or approaches regarding education on water (UNESCO, 2017). Moreover, UNESCO’s Intergovernmental Hydrology Program (IHP) provides top research programs for knowledge development in regards with water and sustainability. During IHP-VIII (2014-2024), the program’s central focus was “Water education, key to water security” (UNESCO, 2021). Furthermore, Food and Agriculture Organization of the United Nations has created activity books under the title “I am learning the steps” which refer to climate change, ecosystems, global warming for students aged 6 to 12 (F.A.O. & M.A.F., 2022) as well as a teacher’s guidebook (F.A.O. & M.A.F., 2022).

Educational systems are supposed to play an important role in this field (Amahmid et al., 2019). New curricula development and lesson planning, as far as water education is concerned, are a necessity. Countries, such as the USA, Singapore, and Australia, have started to implement water education within school project and textbooks (Gruver et al., 2009· Irvine et al., 2015· Smith et al., 2012· Australian Water Association [AWA], 2016).

In Greece, under Law 1982/90, article 11, paragraph 13, environmental education is introduced in Primary and Secondary school curriculum. Work placements as environmental education supervisors and founding environmental education centers are provided for by the same law. The main aim of environmental education is for students to comprehend how humans relate to the natural and social environment and raise their awareness on issues that derive from that relationship (Pedagogical Institute, 2022). Environmental education complements other main subjects (Geography, Environmental Studies) that students are taught in the classroom, while it provides students the opportunity to engage themselves with crucial environmental problems such as: water and environmental pollution, sustainability, climate change, flora and fauna protection. Environmental Education Centers (EEC) all over Greece (Eleftheriou-Kordellou, 2009· Velvedou, 2012· Kalamata, 2022) inform and run projects for Primary and Secondary education students relating to water, sustainability, and environmental education. Even EYDAP (Drainage and Water Company in Attiki Region) has
developed a similar educational program named “O stagonoulis (The little drop).” In the meantime, water -as a subject- has been implemented in main school courses, such as Environmental Studies and Geography. Also, a curriculum named “Environment and Education for a sustainable development” for Pre-school, Primary, and Secondary education has been published (Institute of Educational Policy, 2022b).

The present cross-thematic scenario doesn’t focus on proper water management and usage since these are taught in other school courses. The scenario rather focuses on the wide-ranging importance of water in culture, mythology, and religion. Planning this project was based on the learning outcomes that derive from the New Curricula for History and Religious Education (Institute of Educational Policy, 2022c) and on Cross-Thematic Curriculum Framework for Compulsory Education.

2. Learning Theories

Constructivism is a complex theory rooted in Philosophy, Psychology, Sociology and Education. It focuses on the student as an active learner who can transfer the process of learning in other environments, develops communicative and social skills through collaboration. Essentially, prepares the students for the real world (Bada & Olusegan, 2015). Assessment is an ongoing process of feedback, which doesn’t refer to mere cognitive outcomes but rather to active participation as well as initiative and creative thinking (Irzik, 2001).

Cognitive constructivism is grounded in individual construction of knowledge and is based on the work of Piaget (Leichsenring, 2013). It highlights individual interpretation of perceptive experiences of external environment and personal construction of knowledge (Tan, 2017) and it has been criticized on the ground that it excludes other aspects of learning, such as collaboration and dialogue (Jimoyiannis, 2019). Social constructivism, mainly expressed by Vygotsky, emphasizes on the way a student learns. It focuses on the way meaning and comprehension derive from social interaction (Leichsenring, 2013), by highlighting the social interpretation of external environment and sociopolitical construction of knowledge (Tan, 2017). Vygotsky believed that sociocultural environment is crucial for the cognitive development of the individual (Blake & Pope, 2008; Pasqualletto et al., 2015). A child’s intellectual development is understood only when seen within its historical and cultural framework of his/her experience. What also plays an important role is systems of signification, meaning the symbols that people have created in order to think, communicate, and solve problems (Nurkholida, 2018). Language plays a critical role in cognitive development; therefore, language teaching should be emphasized (Stasinos, 2015).

One of the cornerstones of Vygotsky’s theory is Zone of Proximal Development (ZPD), a tool to measure and assess the educational potential of children (Fani & Ghaemi, 2011). Vygotsky defines ZPD as “the distance between the level of real development (as it is defined by independent problem solving) and the level of potential development (as it is defined by problem solving under the guidance of or in collaboration with a more capable peer)” (Eun, 2019). Educators play an important role, as, on the one hand they help their students shape a project’s framework in an appropriate way, and on the other hand they act as role model that boost a project’s completion (Feldman, 2011). It is suggested that assisted discovery, reciprocal teaching, and guided participation (a gradually minimized guided participation by the educator) are employed (Leichsenring, 2013), while the teaching methods that are suggested are dialogue, collaboration, and interaction with others, so students can construct knowledge in a collaborative way by expanding their horizons (Jimoyiannis, 2019).

In the present scenario, Project Method was used. Project Method is a constructivist approach which emphasizes on active learning (Goldstein, 2016) and researching (Krajcik et al., 2008). It is rooted in Dewey’s and Vygotsky’s ideas. The latter highlighted the importance of social interaction during learning (Goldstein, 2016). It focuses on the student (Maros et al., 2021), while many benefits are recorded, such as the development of critical thinking, autonomy (de la Puente Pacheco et al., 2019), socializing and teamwork skills (Tanaka, 2022), communication, raising students’ awareness on real life circumstances (Choi et al., 2019-Kokotsaki et al., 2016), a sense of responsibility development (Maros et al., 2021), creative thinking (Duchovicova et al., 2018), empathy (Kim, 2020), while knowledge remains vibrant for a long period of time (Holm, 2011). In addition, it facilitates change in teaching methods (Maros et al., 2021). The method requires greater effort on behalf of the educator and students, limited and purposeful guidance to set students free, more time, deeper knowledge of the subject by the educator (Karantzis & Manesis, 2013), while classroom management issues come up (Dickinson & Summers, 2010).

3. Collaborative learning

Collaborative learning is defined as “a set of teaching and learning strategies that promote students’ collaboration in small groups that aim at optimizing their own individual learning as well as others’ (Johnson & Johnson, as mentioned in Le, Janssen & Wubbels, 2018, p. 103). Collaborative learning contributes to critical thinking development, oral speech cultivation, information exchange, interpersonal relationships development (Kordaki et al., 2019), academic performance improvement, self-awareness, and students’ internal learning motivations (Slavin, 1990b; Johnson & Johnson, 1991), prejudice minimization (Cooper et al., 1980), altruistic behavior development (Johnson et al., 1993), student with special educational needs, learning difficulties or behavioral issues inclusion (Slavin 1990b).

To put theory into practice, several factors are required, such as, interpersonal and teamwork skills (Shimazoe & Aldrich, 2010-Webb et al., 2002), developing a positive environment as well as healthy relationships within the team (Buchs, et al., 2017) to
constrain discipline issues (Baines et al., 2003; Blatchford et al., 2003) and free-riders that have a negative impact on every learner’s learning behaviors (Freeman & Greenacre, 2010-Joyce, 1999- Popov et al., 2012), encouraging students with low self-esteem to participate more actively without fear of rejection (Bunderson & Reagans, 2011). Moreover, transferring power from the educator to the student is also required. This is proven to be challenging, since many educators doubt students’ ability to collaborate effectively within teams (Baines et al., 2009- Blatchford et al. 2003). Finally, educators highlight the necessity of having more available time (Abrami, 2004) as well as that they face difficulties when time management is concerned (Blatchford et al. 2003- Gillies & Boyle 2010).

In the present cross-thematic scenario the collaborative technique called “Think – Pair – Share” was used. The technique helps students to develop collaboration via interaction and exchange of ideas and leads in knowledge acquisition by the members of the team (Tint &Nyunt, 2015). In the scenario also used the collaborative strategy “Snowball” (also known as Pyramid) which is appropriate for themes where every member contributes an idea that is compared to other ideas and therefore enhanced (Hernandez-Leo, et al., 2005). Brainstorming was also used, a technique that applies to problems that get solved through many possible solutions in a short amount of time (Hernandez-Leo et al., 2005). Focused Listing is another technique that was used which is appropriate for cases where students have to describe an issue or a situation (Angelo & Cross, 1993- Johnson & Johnson, 1999) as well as the “Roundtable” technique, which maximizes creativity, communication and team member engagement (Kagan, 1994-Kagan & Kagan, 2015).

4. The Utilization of I.C.T.

ICT effects on educational process is significant and manifold. To begin with, some of the benefits that are recorded are more student engagement during the lesson, an increase of interest and active participation, autonomy while learning regarding time and manner of studying (Henderson, 2020), assuming responsibility for one’s learning (Muhamejanova & Cagiltay, 2012), improving collaboration and collaboration skills, communication and leadership skills, which prepares students for their future professions (Das, 2019-Fikaris, 2016-Munyengabe et al., 2017). ICT can help educators as it facilitates access to an unlimited number of internet sources (Henderson, 2020), communication among them, exchange of opinions and internet material (UNESCO, 2015- van Jaarsveldt& Weasels, 2015- Tarus, 2015), lesson preparation (Burkhardt et al. 2003), communication with students’ parents (Munyengabe et al., 2017- UNESCO, 2015). Several obstacles are recording when using and making the most of ICT, which are divided in two categories (Ertmer, 1999): (a) external obstacles, which concern the available equipment, funding, software, large number of students, limited available time to educate and support the educators (Goktas et al., 2013-Nikolopoulos&Gialamas, 2015- Tsai & Chai, 2012) and (b) internal obstacles, which concern with educators’ beliefs and practices on using ICT during the educational process (Aldama&Pozo, 2016), as well as an absence of “instructional planning” on the educators’ behalf (Tsai & Chai, 2012). It is essential that educators reconsider the traditional roles of a teacher and a student, differentiate the way they assess students, as well as their teaching methods in the classroom (Ertmer, 1999), acquire additional training in creating educational material and differentiated activities according to their students’ needs, in a pedagogical framework (Kalogiannakis, 2010- Mahmud & Ismail, 2010- Tsai & Chai, 2012).

5. The didactic cross-thematic scenario

The present cross-thematic scenario is based on the New Curriculum (Institute of Educational Policy, 2022) and involves many subjects such as Language, Literature, Environmental Studies, History and Religious Education, while Art and Culture are also deployed. It is oriented towards mainly third grade students. However, other grades can implement it as well (for example, fourth grade) -with a larger number of students. Its duration is five teaching hours, but it can be implemented as a part-time project, laid out across more school days. It can also be implemented as part of a History or Environmental Studies lesson or the skills workshop named “Global and Local Cultural Heritage”.

The scenario aims for students to comprehend the role of water in ancient Greek culture (Mythology), as well as in religious Christian rituals. Learning outcomes and activities are designed and based on New Analytical Curriculum in Religious Education and History (Greek Ministry of Education and Religious Affairs, 2014, 2015).

Third grade students have previous knowledge about water cycles, water usage in everyday life, Poseidon as well as first-hand experience from religious Christian rituals and Sacraments that make use of water. In addition, students should be already familiarized with working in teams, using worksheets and assessment worksheets.

The teaching materials that were used were: a PC, a projector, worksheets, audiovisual media (such as videos, pictures, and songs), flashcards that depict themes (figures or situations) from the lesson.

The scenario cultivates essential 21st century skills, such as: communication, collaboration, creativity, decision-making, teamwork and autonomy, critical thinking development, problem solving, exchange of ideas with fellow students. Moreover, students present their project, receive other students’ opinions, assess themselves and others.

Students are expected to achieve the learning outcomes (LA) below:

1) Remember water cycles and learn about benefits and dangers regarding water.
2) Learn myths about Poseidon with a clear reference to intense natural phenomena.
3) Link polytheism to forces of nature and the desire to placate them.
4) Learn religious stories and compare them to stories from mythology
5) Compare characters and situations from mythology and Christian tradition
6) Recall Christian rituals and Sacraments where water is used
7) Discover the importance of Epiphany and sanctification of the water
8) Describe the ritual of Baptism and compare it to other cultures

The worksheets are available at the link

6. Description
6.1 Introduction – Preparation

The educator shows students a video that refers to water cycles, benefits, dangers, human activity, pollution, and solution regarding protecting water. After the viewing, the educator asks students to call out a word from what they saw or thought about water by using “Brainstorming” technique. The educator writes down all answers on the computer and they project them in the shape of a word cloud (https://wordart.com/). Alternatively, if a computer is not available, words can be written on the classroom board. By using students’ answers as food for thought, the educator informs students that they are going to learn about water in ancient Greek culture (Mythology) and in Sacraments and Christian rituals as well. (Activity 1, Duration 15’, L.A., 1)

6.2 Exposure to new data – Processing – Conclusions

The educator hands out Worksheets 1a and 1b to students. Firstly, there is a picture of the twelve gods of Olympus. Students have to recognize -by discussing with their seatmate- who is the god of sea, write the name, and the characteristics by which they recognized him. Afterwards, students view a presentation with some information about god Poseidon (his name, how did he become god of the sea, how is he represented in art and how is he worshipped). Then, students divided in teams will complete the second activity in the worksheet by using the “Snowball” technique (Pyramid). Firstly, each student attempts at answering by himself/herself, secondly, they collaborate with a partner by exchanging opinions, thirdly, they collaborate with a team, and they agree upon a final and commonly accepted answer that gets presented in the classroom. Finally, all the students discuss in plenary. (Activity 2, Duration 25’, Worksheets 1a, 1b, L.A., 2)

In worksheet 2a and 2b students are given a chart from the textbook with information about the creation of the world and gods. In this chart, previous gods and titans are added. Students study small texts. Team A works on Rivers and Oceanides (Worksheet 2a) and Team B works on Ocean and Nereus (Worksheet 2b). Students have to detect words or phrases from the text that describe water or sea, by using the collaborative technique “Think – Pair – Share.” Finally, a representative from each team presents these words or phrases in plenary. (Activity 3, Duration 30’, Worksheets 2a, 2b, L.A., 3)

Inspired by the fact that Poseidon was God of the sea, students are asked to answer, if they already know, who is the Saint that protects sea and sailors according to Christian Religion. Then, they work on Worksheets 3a & 3b, which include pictures and stories of Poseidon and Saint Nikolas. Each team reads one story about Saint Nikolas and Poseidon. With the use of collaborative strategic technique “focused listing”, each student completes the list individually and later they discuss their conclusions with the team and complete the list with common and different elements. Finally, members of each team observe similarities and differences and draw conclusions. Results are presented in plenary and further discussion follows. Each team has relied on a different narrative and therefore is lead to different results. The educator emphasizes on different views between the two figures that were studied by the students. (Activity 3, Duration 30’, Worksheet 3a, 3b, L.A. 4, 5)

6.3 Applying new knowledge

The educator uses “Brainstorm” technique and asks students to mention if they know in which Sacraments and religious rituals water is used. By processing answers, it comes up -among others- that water is used during Sanctification of the water, Epiphany, and Baptism. In case there’s a student from another country with different habits and customs, their experience is written on the board, so the classroom can recognize differences and similarities between religions. (Activity 5, Duration 10’, L.A., 6)

The aim now is that students delve deeper in religious use of water, so they work in teams on worksheets 4a and 4b. Team A takes on Sanctification of water and Team B takes on Epiphany. In every worksheet there are small texts that are studied by the students. Then, they answer questions according to the collaborative strategy “Snowball.” They all discuss their answers in plenary. (Activity 6, Duration 25’, Worksheets 4a, 4b, L.A., 7)

Afterwards, students from each team work on Worksheet 5 (common worksheet). They study two texts, one that refers on Sacrament of Baptism and one that comes from Mythology and talks about the plunge of Achilleas in river Stigas. By making use of the “Roundtable” technique, students answer questions, and they discuss in plenary, that water is used as a mean to make people invulnerable. Then, they record something that made an impression on them. (Activity 7, Duration 25’, Worksheet 5, L.A., 8)

6.4 Summation

The educator has prepared flashcards with themes (characters or situations) from the lesson (Worksheet 6). The flashcards face down the table. Each student chooses a card and puts it on the forehead without knowing what it depicts. The rest of the student’s team have to describe the card, so the student with the card can guess the character or the situation. The student with
the card -standing in front of the board- can choose who fellow student from his/her team will help. The team that answers more quickly wins.

(Activity 8, Duration 35’, Worksheet 6, L.A. 2,3,4,5,6,7,8)

6.5 Assessment

Students answer an online quiz, for the final assessment. Each team answers seven questions (as many as the team members). The winning team is the one that gets more points or answer more quickly.

(Activity 9, Duration 15’, L.A. 2,3,4,5,6,7,8)

7. Conclusion

This teaching cross-thematic scenario was adjusted to two teams, seven members each, since many students were absent the day the project was carried out. Therefore, the didactic suggestion can work with more students divided in more teams. Students showed great interest in all the activities during the project. Videos, presentations, and narrations about Poseidon, Saint Nikolas, Titans, flashcards, and the quiz got the student’s attention. They completed all their worksheets with enthusiasm, even the more demanding ones. The collaboration between the teams was excellent, even in difficult activities, such as Activity 3. Students presented their opinions, discussed, drew conclusions, and achieved the learning outcomes to a very satisfying degree. Activity 8, which took more time than it was estimated, was carried out on the school’s playground where there was enough space for students to move around. During the final assessment, students stated that the activities were enjoyable and that they would like it if other subjects, such as Language, Mathematics, and Environmental Studies were carried out in a similar way. At the end, through the scenario, students understood the significance and the use of water as a source of life in Greek Mythology as well as in the Christian tradition.

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**Dimi Dollars** has just graduated with honor from the Department of Educational Sciences and Social Work of University of Patras. He is interested in didactics, curricula, and utilization of ICT in education. He regards education as a provocative procedure. He wants to continue his studies as a postgraduate student.