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Differentiated Digital Teaching Models using ICTs in Greek Context. Good Practices: "Caretta-Carreta"

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Abstract. Today's pedagogy supports the inclusion of people with special needs in the general classroom. An Open School, A school for all. The new Technologies are a tool that helps in this direction by turning standard teaching into teaching for everyone. Uniform teaching that adapts to the peculiarities, abilities, interests, and experiences of each student. It helps create and implement differentiated instruction, giving all students the ability to approach knowledge at their own pace and time. In this work, a scenario of differentiated teaching in an environmental project is presented.

Keywords.New Technologies, Differentiated teaching, and students with special needs.

1. Introduction

The purpose of this project entitled "Tell you what I learned, tell me what you know: I introduce my diversity and talk about the right to the social and natural environment" is a program that concerns the protection of the "Caretta-Caretta" turtle and is carried out by 4 students with mental retardation and autism (of the 1st Special Primary School of Peristeri) aged 8 to 11 and students of typical development of the 2nd Grade, age 8 (of the 11th Primary School of Amarousi), where a student with Asperger's syndrome also attends.

The students of the Special School and the students of the General School through the activities of the scenario (differentiated teaching) will collaborate, become aware, and get to know the diversity of individuals, but also through a work plan and activities for the protection of the sea turtle "Careta - Careta" will become ecologically conscious.

2. Differentiated Teaching and Special Education

2.1 Definition of Differentiated Teaching.

One definition of differentiated teaching is "teaching that treats the student as an integral entity inside and outside the school structure [1] with the aim of understanding concepts, acquiring fundamental skills, as well as the active involvement of the student in the learning process of approaching knowledge." This goal will be accomplished through differentiation tasks, the use of teaching methods and strategies of pleasure and creation [2] that modify/shape the content of the academic material. Differentiated teaching teaches students how to learn and makes it possible for all students to participate equally in a

collaborative and high-quality learning environment [3] with equal participation and full access to knowledge.

Tomlinson claims that the four key areas on which instructors should concentrate are addressed by differentiated instruction:

• Content: Information the learner must know and helpful resources.
• Method: choosing exercises that will help students quickly absorb the new teaching content.
• Projects are a good approach to find out what knowledge pupils have learned.
• Learning environment: Establishing a learning environment will guarantee that the class works together smoothly.

The use of materials with varying degrees of difficulty, small group teaching, customized intervention, and traditional whole-class instruction are all components of differentiated education. Teachers also take Gardner's multiple intelligences into account when designing exercises. The three components of differentiated teaching—the student's readiness, his interests, and his distinctive learning style—are intended to emphasize each student's value and help them fit into the learning environment that is created.

Goals are set according to each student's learning profile, and such learning environments are created so that all students can approach knowledge[4]. Differentiated teaching is thought of as a method of co-education, with the priority of responding to the learning needs of all students and of each one individually according to his diversity. The evaluation of students in a differentiated class is formative, [5] , [6] a continuous process during the instructional unit that strives to track student progress and research the learning style of each student in order to create the most effective teaching possible. In the final examination, his growth and effort as a student [4] to boost his self-confidence and self-esteem rather than his performance are reviewed.

2.2. Teaching methods that differentiate instruction [7]

Each student, who coexists in certain courses with pupils of about the same chronological age but with quite diverse levels of language skills, talents, motivations, and needs, is targeted through differentiated instruction to achieve successful teaching and learning.

The most crucial tactics for differentiating instruction are then discussed, along with how to design and organize lessons around a central theme that will focus on teaching the students rather than the course material. 1. Learning facilities Graded Course, 3. Cubing, 4. Think-Tac-Toe, and The KUD Strategy, 5. RAFT Jigsaw, 7. Frayer Model, Think-Pair-Share, and 8. 10. Discover Someone Who, KWL stands for Know-Want to Know-Learned (8).

2.3. Digital Differentiated Teaching

ICTs [9] are regarded as the appropriate tool for differentiated instruction because they allow teachers to modify the content and activities in accordance with the interests, needs, and level of learning of each individual student, or the student's learning profile, and the goals they have set. This helps to create a learning environment that is conducive to acquiring knowledge in the most effective way possible. Applying the TPACK (Technological Pedagogical Content Knowledge) strategy, which combines pedagogy, technology, and content (material) [10]. To stay up with their peers, students with special needs might benefit from assistive technology. [11] summarizes ICTs' six features and argues in favor of their application in individualized teaching. These characteristics are: privacy; collaborative and communication skills; organization; support for learning styles and sensory learning; providing options; and authentic learning.

As was already said, differentiated education aims to mold the project/outcome, method, and content.

A) In terms of content differentiation, ICTs may be used to teach the same lesson to students with various needs by utilizing diverse content and by expanding or altering the content so that it is accessible to and understood to all students. In order to grasp and approach concepts, ideas, terminology, etc. for teaching and learning, instructors employ a range of materials, including digital texts, virtual environments, simulations, visualization, movies, etc. Students may connect with educational resources and select the ones that best fit their learning preferences and interests.

B) With regard to the process's differentiation, ICTs give instructors and students new avenues for researching, analyzing, and assessing AP ideas and goals.
1) Learners: Using software and apps that enable a systematic method of overcoming challenges, such as closed software, advice, practice, and practice, ICTs are utilized and supported by students in a class who master each new learning subject. Virtual manipulatives address the problems that children with weak processing skills or kinesthetic learners encounter. Additionally, there are interactive Web tools, collaborative learning environments, and open software. 2.0 e-books, podcasts, blogs, social networks, forums, online periodicals and newspapers, YouTube, etc. allow students to study by leveraging their learning methods and interests. stimulate the interests of advanced learners. Accessing instructional information using online tools and platforms—such as shared Google Docs, podcasts, and courses saved on an interactive whiteboard, Moodle—benefits students who have difficulty and those who require more processing time. Additionally, resources like videos, tutorials, presentations, etc. help students understand the material and offer teachers and parents a useful selection of teaching materials. This allows them to attend the lesson as many times as necessary at their own pace to get the best results when learning new material. [9].
2) Teachers: Teachers differentiate the process of enhancing, extending, and personalizing their instruction [12], using tools like blog entry instructions, appropriate prompts and support for their students, web explorations, simulations, wikis, and LMS (like Moodle), or helpful tools to students for their work: text editors, presentations, creation and expression software, Voice Thread, Movie Maker, Web-Comics, etc.

C) In relation to outcome/end product difference, students' modes of expression demonstrate their identities as individuals, producers, and learners. Giving pupils a selection of ways and means from which to express or capture the accomplishment of their goals is known as product/outcome differentiation. The scientific community agrees that giving students a variety of recommendations for how to study empowers them, increases their motivation to learn, and improves their involvement and learning [13]. ICT tools "offered" include presentation software, concept maps for inspiration, software for creating comics, Web 2.0 tools like podcasts, blogs, and wikis, online social bookmarking services like Delicious, digital storytelling tools like Prezi and shared/collaborative presentations, Youtube, and social networks, as well as the use of Blog and Wiki.and other such platforms enable students to demonstrate their knowledge [14] while also showcasing their creativity [15]. Finally, pupils are able to arrange their thoughts and reply to challenging and arduous activities with the help of multimedia. These include Voice Thread, Digital Posters, and DigitalStorytelling, among others [9].

2.3.1 Special education and differentiated instruction

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The application of differences in the following categories is part of the inclusive education methodology, which is currently a philosophy in formal education institutions: A) students with special needs and impairments B) students from national minorities C) students who speak Greek as a second language D) students whose parents are from poor socioeconomic backgrounds [16]

4. Project Description

In the context of the good practices of differentiated teaching, a scenario, and a lesson plan with the use of ICTs are presented. "LET ME TELL YOU WHAT I LEARNED TO TELL ME WHAT YOU KNOW: I RECOMMEND MY DIFFERENCE AND I'M SPEAKING ABOUT THE RIGHT TO THE SOCIAL AND PHYSICAL ENVIRONMENT"

4.1. Cognitive areas involved

This didactic learning scenario is aimed at co-education of students of standard education with students with Special Educational Needs, aged 8-11 years of the Middle Level. There are 4 students in the Special School section: 2 students with autism and 2 with moderate Mental Retardation. The students of the general school of formal education are 16 in total.

The scenario is linked to the thematic cognitive areas: Language, Environmental Studies and Visual Arts. The scenario is compatible with the A.P.S. students in the Areas of Social Adjustment (Environmental Studies), Creative Activities (Art), and Basic Academic Skills (Language). The scenario will be carried out with the help of ICTs since according to the primary school's EDPS, ICT can be used as an investigative tool, a communication tool, and as an information search tool.

4.2. Pre-requisite knowledge

The students in terms of the teaching subject know:
- the existence of the sea turtle.
- the existence of Careta Careta in areas of Greece.

As for the T.P.E. the students:
- have acquired skills in using the YouTube software
-have acquired relevant skills in using the Google Earth software
- have acquired relevant skills in using the Google Maps software
- have acquired skills to navigate the world wide web.

4.3. Objectives of the teaching scenario

The basic teaching goal of the scenario is to raise awareness among general school students towards diversity and its acceptance, but also to acquire social communication and behavior of students with special educational needs as well as the development of cooperation between students (general and special education). with the ultimate goal of including students with diversity in the school community and by extension in society. (Table 1)

Particularly:

The objectives of the scenario are:

Eximia Journal
Vol. 5, 497-523, July, 2022
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www.eximiajournal.com

A) Cognitive objectives:	B) Regarding the use of ICTs	C) Regarding the learning process
➢ To meet the sea turtle "Caretta Caretta". ➢ To describe the habits. ➢ To understand the life cycle of the turtle. ➢ To become environmentally conscious and to ➢ be informed about the protection of the "Caretta-Caretta" sea turtle. **b) abilities:** ➢ To discover the risks it runs. ➢ To propose ways of protecting it. **c) stances:** ➢ To obtain environmental awareness. ➢ To adopt environmental attitudes.	ICT enables students to develop new skills, to acquire a new kind, of more comprehensive knowledge, as well as ICTs can be new learning environments, that is, environments in which learning can take place in a much more efficient way. Specifically: ➢ To practice in the use of computing tools (navigating the network) ➢ To obtain positive attitude towards the use of ICT in the learning process ➢ To be addicted to active search and processing of information ➢ To become competent the students: 1) seek, 2) to identify, 3) analyze, and 4) process information online.	Students are expected to: ➢ to cooperate and interact to achieve the proposed goals ➢ To activate their a propensity for exploratory and collaborative learning. ➢ to familiarize themselves with ➢ the investigation and selection of information through the rich material of the internet or the information material provided by the software.

Table 1: The objectives of the scenario

4.4. Class organization – required hardware infrastructure

The school classroom has a PC, Laptops, Interactive Board, a video projector, and a printer. The PC and Laptops can connect to the internet throughout the course and have the Google Earth software installed.

Media to be used are Google Earth & Google Maps software, Internet, YouTube, Tux Paint, Jigsaw Planet, and Worksheets in .doc format

The co-ed students of the department (formal and informal) have mastered the skill of using the PC. Of the four (4) students of the Special School, two (2) have mastered both the mechanics of reading and writing. Due to the peculiarities of the students, heterogeneous groups of four (4) people will be created in some activities, while in others there will be additional help from the two teachers.

Eximia Journal
Vol. 5, 497-523, July, 2022
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www.eximiajournal.com

4.5. Teaching Materials - Software Category - Combination of Software and Application Categories

To implement the scenario will be used:

A) **Internet: The Internet** will be used with recommended websites for watching videos. ***Guided exploration-discovery.***

B) **Microsoft Office software** and the Word application. Smart Art will be used to create a concept map (Word>Insert> Smart Art) to explore students' pre-existing views of the loggerhead sea turtle. With the technique: Brainstorming, concepts will be recorded and the relationships of concepts between them will be allowed to be explored thus declarative knowledge will be transformed into procedural, students are active subjects, emancipatory-critical school => transformation of ideas, critical thinking. (Software suitable for Language scripts). Word will also be used to create a worksheet for student assessment.

C) **Visualization Software:** open learning environment software where inquiry and discovery learning activities take place. Google Earth & Google Maps: Google Earth software will be combined with Google Maps software to link satellite imagery with various kinds of ***interactive maps***. (Software suitable for Study scenarios)

D) **Painting program:** The painting software Tux Paint, enables creative writing, composing original stories, and producing animations, through individual and group activities mediated by the teacher. Children cultivate skills of synthesis, comparison, organization, and generalization. Through the analysis and creation of images, static and moving, but also through the addition of text, ***creativity is awakened and maintained and*** children 's ***expression*** is cultivated, in the form of ***complex representations***. (Software suitable for Visual and all Cognitive Objects scenarios)

E) **puzzle creation software:** With **jigsaw planet,** students will be asked to "assemble" two turtle pictures: a loggerhead and a land turtle. This will also be an evaluation criterion for establishing the differences between the two species of turtle (comparison).

4.6 Estimated Duration

It is estimated that the duration of the teaching scenario will be three (3) teaching hours.

4.7 Content Analysis

The goal of the scenario is of particular interest and importance since, in addition to its cognitive content, it is also related to the awareness of children in environmental protection issues and the development of ecological consciousness among them. The estimated time for developing this script (three teaching hours) is understandably not enough to cover this important topic. The activities, however, may push teachers and students to draw up a work plan where there will be the possibility to process the topic more thoroughly and to take advantage of the many possibilities that the internet provides in the retrieval of information. There are many websites with interesting topics that touch on many different aspects of the subject.

As far as the issue of inclusive education is concerned, it is a concept that responds to the idea of diversity. Thanks to her, children learn how to live through particularities and different needs. It helps all students learn, by doing, the concept of equal value and equal rights. Guided by inclusive education, students without special needs learn to respect diversity and become aware of special education issues. They also understand that all people have abilities and that they must all work together to survive and be happy.

The script was developed in the context that all children learn best when they are all together**.** Simultaneously with the creation of favorable learning conditions for students with disabilities, the conditions for improving the learning conditions of all students are created. Low-achieving students benefit from inclusive education practices. Special techniques such as repetition, experiential teaching and learning methods provided in the classroom also help students who are not doing so well.

5. Methods-Tools

5.1 Organization of the Department

The lesson takes place in the classroom. The desks are arranged in pairs so that four students sit opposite each other. 5 groups of four students are created and in four of them, a student from the special school sits. In the fifth group sits a student from a typical school diagnosed with Asperger's. Placing the desks and the students with this distribution helps the comfortable movement of students and the teacher inside the space as well as easy access to the interactive whiteboard. At the desks of each group, there is also a laptop.

With the introduction of ICTs in education, the teacher can differentiate his teaching in all subjects. In this scenario, we will take advantage of teamwork. Students work in pairs with the composition of the group selected appropriately by the teacher.

The main purpose is for all students to participate in the groups in the context of cooperation and the acceptance of otherness.

The teacher has the role of coordinator and animator of the groups. He acts as a guide, whenever necessary, intervenes as an assistant to the groups when asked, and acts as a supporter by subtly orchestrating the process.

He has taken care to study the websites that will be investigated, he has prepared the groups' worksheets, and he has anticipated any unforeseen and unexpected developments during the course (difficulty in using the software by the children, disagreements in the groups, etc.)

In this scenario, there is also a secondary teacher with a participative, dialectical, and equally supportive character. His role is recorded as follows:

- ✓ He collaborates and highlights his highlights and then he discusses them with the teacher who applies the scenario.
- ✓ It focuses on those points, which make it difficult for the students of both schools, as well as on the ways of acquiring new knowledge and skills while improving the existing ones**.**
- ✓ He practices philological criticism with high expectations. He has a sense of mission to adapt instruction where necessary in the context of collaborative professional development that improves teacher practices and subsequently student learning outcomes.

5.2 Teaching Approaches and Strategies

5.2.1.Theoretical approach

The New pedagogy wants student-centered teaching, with the student an active member of learning and the teacher a companion, guide, supporter, and animator of the student, in the discovery, investigation, conquest, and construction of knowledge. The use of ICTs in the classroom is considered an important tool in collaboration with the conventional way of learning.

Eximia Journal
Vol. 5, 497-523, July, 2022
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According to the above, we are guided to the possibilities given to students by the use of ICTs in the learning process and their familiarity with ICTs, their use as tools and sources of learning as well as tools for acquiring cooperative and exploratory learning skills.
The scenario is theoretically based on:

- In the constructivist approach of Piaget, Bruner, and Vygotsky (building knowledge step by step, through creative activities of the students themselves, of its discovery and cooperative learning **(Teamwork)**
- In Guided Inquiry (students follow commands and questions and engage in investigative and collaborative activities).
- In Experiential - discovery learning using ICT (with appropriate tours, videos, pictures, and songs, for students to get a kind of experiential learning).
- The worksheet is given to each student individually, worked with the whole group of 2 people, and presented to the whole class.

5.2.2. Methodological approach

The scenario includes pedagogical activities of collecting and recording data related to the Caretta Caretta sea turtle, selecting relevant images, searching for articles related to the risks faced by this species, and commenting on the children themselves on human interventions and the effects on the sea turtle life. Students realize how important human intervention is in nature and how much it can even affect the lives of some living organisms. At the same time, however, they can also wonder about the ways of protection and whether the citizens themselves can take active action, by being informed, criticizing, participating in protection programs, the possibility to spread their messages to the state, agencies, and ordinary people.

5.2.3. Teaching approach with ICT

The module includes pedagogical activities utilizing ICT technological tools through which an attempt will be made to inform students on the subject of teaching, and, above all, to raise their awareness on the issue of the protection of the Caretta Caretta sea turtle in our country.

6. Implementation of script

6.1 Project Analysis

SCRIPT TITLE "The Caretta Caretta Sea Turtle"

Class – Students:
Educational level / Level: Elementary, cooperation of students from the standard education section with students from the special elementary school with mental retardation and ADHD.
Typical age range: 8-11 years
Student characteristics: Standard education students and students with Pervasive Developmental Disorders and Mental Retardation

1. SCENARIO DESCRIPTION

Eximia Journal
Vol. 5, 497-523, July, 2022
ISSN: 2784-0735
www.eximiajournal.com

The teaching follows the following structure:

1ST TEACHING HOUR: arousal and interest-provoking activities

1) The children notice the turtle pillow in the classroom.

2) Watch the video:

The students watch the video: " Caretta Caretta the turtle tells her life" from Youtube: https://www.youtube.com/watch?v=u2RBUE8crr0

For students to collaborate, interact and share their prior knowledge about the topic, we ask them to express their points of view. We discuss and explain to our students, the fact that the loggerhead is an endangered species and we refer to the turtle's main nesting area, Zakynthos. The above is intended to inform and, above all, to raise the awareness of students on the specific subject.

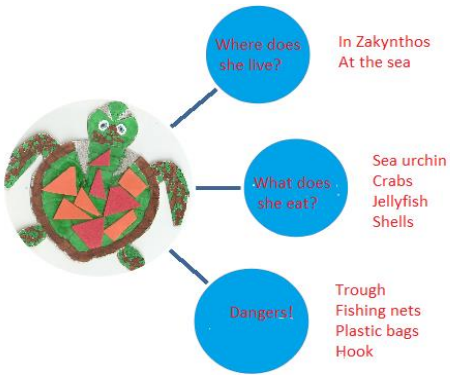
3) Browsing the internet.

We find Zakynthos and Laganas with Google Earth and Google Maps.

We compare the distance from the school unit, see sights, and discuss the place of Caretta Caretta.

https://www.google.com/maps/place/%CE%9B%CE%B1%CE%B3%CE%B1%CE%BD%CE%AC%CF%82/@37.7249978,20.8680817,3a,75y,340h,90t/data=!3m8!1e1!3m6!1sAF1QipMJApGK3Y9gaPsCJDGCymmLuVigxPIeVFfjwXMX!2e10!3e11!6shttps:%2F%2Flh5.googleusercontent.com%2Fp%2FAF1QipMJApGK3Y9gaPsCJDGCymmLuVigxPIeVFfjwXMX%3D%2Flh5-yano-h12011-yano-h2011 8-ro-0-fo100!7i7410!8i3704!4m5!3m4!1s0x1367391667797139:0x400bd2ce2b99400!8m2!3d37.7274964!4d20.863862

2ND TEACHING HOUR: Create conceptual maps with the conceptual mapping system.



Eximia Journal
Vol. 5, 497-523, July, 2022
ISSN: 2784-0735
www.eximiajournal.com

Encourage students to create the identity of the turtle (Brainstorming)
Worksheet 1 (for student assessment) is then given
The script evaluation process:
The Worksheet has a double meaning:
-*it works as a formative assessment tool* because the students in the wider groups and with the help of the teacher, check the data they have collected and their usefulness, come back and complete or modify it to complete the worksheet in the best way.
- *it works as a final assessment tool* because the control of the completed worksheets and the results leads to the creation of a perception of the achievement of objectives.

3RD TEACHING HOUR: creative activities: music, painting, and puzzles.

1) Through a YouTube song to protect the Carreta Carreta, students raise awareness of the dangers of the turtle.
2) Then with the TuxPaint software, they collaborate and paint in groups, capturing knowledge about the turtle.
3) With JigsawPlanet software they put together sea turtle and land turtle group puzzles and compare.
4) They announce the results. (painting and puzzle pictures)

2. WORKSHEETS

WORKSHEET 1

-Students are asked to watch an animated video that tells the life of a sea turtle Caretta Caretta. (also displayed on the interactive table)
https://www.youtube.com/watch?v=rFiqZaPgEiI
-The students are then asked in an exercise with questions read by a student or by the teacher to circle the visualized correct answers.

Eximia Journal
Vol. 5, 497-523, July, 2022
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www.eximiajournal.com

ΑΡΧΕΛΩΝ

WORKSHEET 1

Full name.....

CARETTA CARETTA

1) I go to the website. : The story of a sea turtle

2) I watch the video carefully.

3) I circle them correctly

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1 Circle the sea turtle's nest.

2. Circle what sea turtles eat.

3. Circle the animals that eat sea turtle eggs and baby turtles.

4 Circle the front flipper of the sea turtle.

Circle the correct answer.

ARCHELON

Eximia Journal
Vol. 5, 497-523, July, 2022
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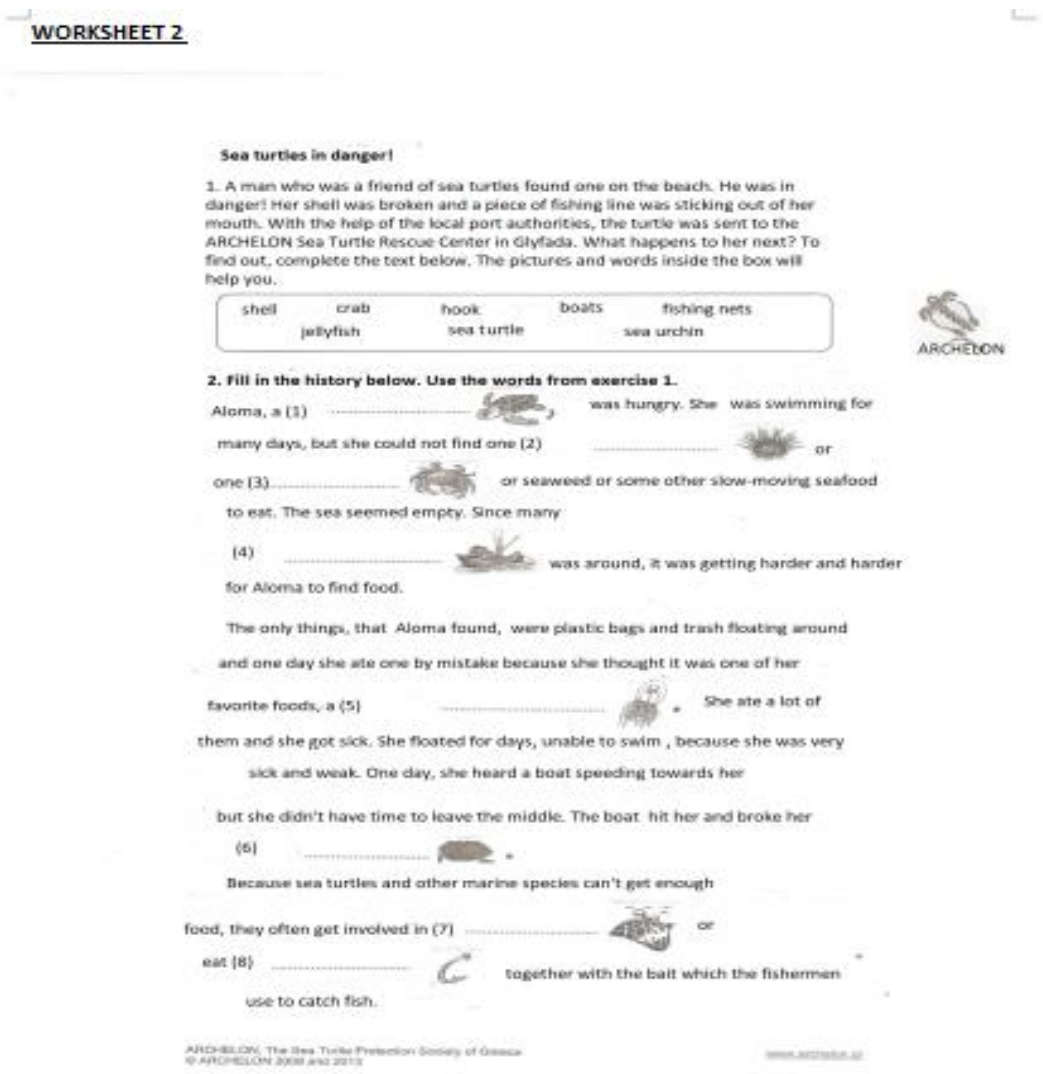
www.eximiajournal.com

WORKSHEET 2

-Students are asked to form groups, to fill in the blanks with the visualized words.
-Students are asked to read the completed exercise.



WORKSHEET 2

Sea turtles in danger!

1. A man who was a friend of sea turtles found one on the beach. He was in danger! Her shell was broken and a piece of fishing line was sticking out of her mouth. With the help of the local port authorities, the turtle was sent to the ARCHELON Sea Turtle Rescue Center in Glyfada. What happens to her next? To find out, complete the text below. The pictures and words inside the box will help you.

shell crab hook boats fishing nets
jellyfish sea turtle sea urchin

ARCHELON

2. Fill in the history below. Use the words from exercise 1.

Aloma, a (1) ..... was hungry. She was swimming for many days, but she could not find one (2) ..... or one (3)..... or seaweed or some other slow-moving seafood to eat. The sea seemed empty. Since many (4) ..... was around, it was getting harder and harder for Aloma to find food.

The only things, that Aloma found, were plastic bags and trash floating around and one day she ate one by mistake because she thought it was one of her favorite foods, a (5) ..... . She ate a lot of them and she got sick. She floated for days, unable to swim , because she was very sick and weak. One day, she heard a boat speeding towards her but she didn't have time to leave the middle. The boat hit her and broke her (6) ..... .

Because sea turtles and other marine species can't get enough food, they often get involved in (7) ..... or eat (8) ..... together with the bait which the fishermen use to catch fish.

ARCHELON, The Sea Turtle Protection Society of Greece
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I am in a group with my other three classmates. We fill in the worksheet and present it to the class .

Eximia Journal
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WORKSHEET 3

- The students are asked to go to the address given to them, https://www.youtube.com/watch?v=KkFEFEOJXNo, listen to the song and sing together (it is also shown on the interactive board).
- Finally, they are divided into 2 groups a) the 1st group draws something related to the sea turtle in TuxPaint and prints the drawing b) the 2nd hour creates the loggerhead turtle and the land turtle, with the help of a puzzle and compares them.

Eximia Journal
Vol. 5, 497-523, July, 2022
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WORKSHEET 3

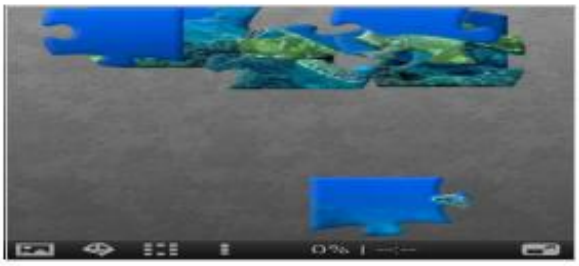
1) I find the little song: "Save Careta Careta", we listen to it and sing it together.

2) We are divided into 5 groups of 4 students

A) 1st - 2nd GROUP
I draw Caretta Caretta on the interactive Whiteboard.

B) 3rd -4th -5th GROUP
I go to the page https://www.jigsawplanet.com/?rc=play&pid=14223a92c861 and make the puzzl

C) I go to the page: https://www.jigsawplanet.com/?rc=play&pid=2f637e2b52ba and create the turtle.



D) Then I discuss with my classmates, find similarities and differences between the two images and announce them to the whole class.

SIMILARITIES	VARIOUS

GOOD LUCK

6. Results & Conclusions

6.1 Evaluation - Feedback

The evaluation of the student's work is a) exploratory throughout the program, where the existing knowledge of the students, the interest they show in the subject, but also in the use of the tools and any difficulties that arise, are evaluated, b) formative for feedback and goal reformulation and c) final by the students and the teacher.
Thus, mainly through dialogue and observation, as well as from the results of the activities presented in the groups' worksheets, we conclude that:
• The students' interest in the specific subject was intense, while along the way it was strengthened by the use of technological tools that expanded their knowledge and skills.
• All students were actively involved, while those with some familiarity with computers helped integrate the rest. The use of the projector excited the students as what they saw on the laptop screens they also saw on the interactive screen, bigger and sharper and thus everyone participated, with greater interest.
• Teams generally worked well, were flexible with few conflicts, and had quick problem-solving.
• The students as a whole enjoyed the activities, despite all the difficulties faced by some children in using the tools, and, of course, they were satisfied with the group result.
• They also presented their activities to the communities of the two schools, receiving very positive feedback.

6.1.1 Additional information

The proposed scenario can be expanded with other activities that will include:

❖ The playing of an environmental board game entitled: "Journey on the turtle's back" by a group of 6 or 7 children at a time. This is a very interesting and attractive educational game made by the ARCHELON Association.

❖ Spatial orientation games and creating geometric shapes using the MicroWorlds Pro programming tool. Thus, we also achieve the connection of our subject with the Mathematics course.

❖ The presentation of a play, written by the children themselves (through the text editor), about the protection of the Caretta - Caretta sea turtle, as well as the creation of special invitations and a poster (through special software programs of the Pedagogical Institute).

❖ The posting of the final results of the student's work on the school's Website or Blog.

Finally, the expansion of the scenario and its differentiation depends on the cognitive level of the class, the dynamics of the participating groups, as well as the logistical infrastructure available to the school.

6.1.2 Disturbance

1. Was the scenario implemented according to its design and objectives?

We consider that the scenario implemented in May 2019 was in line with the original design and its objectives as the particularities that the department would present were taken into account.

2. Did it pique the learners' interest?

The students showed interest in the topic of the scenario and exchanged opinions and experiences, as the teaching referred to topics that interested them but also to topics that had a playful form. This interest was expressed by the questions and comments during and at the end of the process as well as by their dynamic participation in the activities.

3. Were the learners actively involved in the teaching process?

The students did not remain mere listeners but actively participated in the activities assigned to them. They expressed their willingness to apply what they learned in doing various tasks such as using the internet to gather information as well as educational software.

4. What difficulties were encountered?

In the co-education of two schools with children of formal and non-formal education, i.e. with students who were not at the same cognitive level, it is not possible not to have difficulties. So some completed the activities comfortably, while others needed a lot of time and help to complete them. The teacher should create an educational framework, which should be based on the universal design since in the department there are not only students with special educational needs or the opposite and this requires time and specialized knowledge.

5. If you were to design the script again, would you change all or some of its elements, and which ones?

Justify and write them in detail. In a possible redesign of the scenario, we would put more emphasis on the activities we would assign to the students.

In particular, we would have more time for children to experiment with the possibilities of the tools and carry out more activities. In addition, due to the peculiarities of the section, we would spend more time discussing each phase of the scenario so that it is more understandable by all students. We hope that the specific teaching will be the motivation for further engagement of the children with the specific tools.

6. How did planning, implementing, and reflecting on the script benefit you as an educator?

The whole process was a motivation, as we were asked to construct and implement a scenario that was addressed to students who need differentiated teaching, i.e. to standard students but also students with special educational needs. In an inclusive framework, the teacher must take into account during planning, the educational needs of all students, but also modify the educational environment and methodology, so that all students can participate.

Finally, through the second teacher with the role of observer, who took notes during the teaching, it was easier to identify some elements that may need to be changed.

6.2 Conclusions

Concluding, we have to underline the role of digital technologies in the education domain that is very productive and successful, facilitates and improves the assessment, the intervention, and the educational procedures via Mobiles [23-40], various ICTs applications [41-97], AI & STEM ROBOTICS [98-115], and games [116-133]. Additionally, the combination of ICTs with theories and models of metacognition, mindfulness, meditation, and emotional intelligence cultivation [134-206] as well as with environmental factors and nutrition [17-22], accelerates and improves more over educational practices and results, especially in the digitalized learning and education domain.

7. References

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