"FIVE QUESTIONS MARK FOR SUSTAINABLE ELEMENTARY EDUCATION."

Research Paper

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Abstract: "How to enjoy, learn and live sustainably in elementary school?"

According to the education for sustainable: A road map (Aurélia Mazoyer, 2020) We must learn what we live, and we live what we learn.". The method of Education must modify to evoke the environmental crisis such as the earth warming and the decline of biodiversity. After studying the 17 the author find the SDG (4) quality of Education will lead to attain the 17 goals. The key to sustainable development is human. If we build a strong and sustainable brain to our kids and child in elementary school, for sure this information will be embedded for all over their life. The author in this paper focus on the elementary school. Cognitive skills according to (Dale H. Schunk, 1989) develop very fast in the first few years of the elementary school. The author would like to profit from the behaviour of child in elementary school. They ask a lot of questions and it's normal they try to discover the world. Teacher or trainer should give them the initiative to ask and listen to them carefully. The child in this case will be very attentive to the reply of his or her question. Also, he will be proud that the teacher pay attention to the question and by this way it is the opportunity of teacher to feed the correct information. Sustainable education in elementary school should focus on open door class, observation, trips in nature to puch the childs to discover the environment we live.

Keywords: sustainable education, SDG's, elementary school, development goals in elementary school, cognitive skills in elementary school, green school, bio school, and sustainable learning.

1 Introduction

The author concentrates on the elementary level from three to six years (Kapur, 2021). The Childs at this age are receptors of information and knowledge. Childhood at this age would like to discover everything and they ask a lot of question about the universe. According to (Dan Rothstein, 2011) teach the students ask their own questions. Why? Where? How? What? Whom?

The author suggest that from this questions the teacher or trainer will take the thumb to feed the relevant information.

At early age, the information which the enfant will receive, will be embedded in his memory forever. It will build his brain, his way of thinking, develop his/her behaviour.

Childhood would like to discover everything the environment, the society and by direct or indirect way the economics also. The three pillars constitute the sustainability.

The writer proposes to craft the basics of these three pillars as an art to be implanted in the value and the core of his/her behaviour.

1.1 The approach

For social sciences a lot of progress was done, and many researchers found that the narrative research approach is appropriate (Moen, 2006) to "examine and understand how human actions are related to the social context in which they occur and how and where they occur through growth."

For natural resources, environmental sanitation, health, and social development. The researchers recommended the interdisciplinary approaches in research for sustainable development (Jakob Zinsstag, 2011) founds that the complexity of sustainable development cannot be adequately addressed by research approaches restricted to single scientific disciplines.

For educational research purposes, the author is searching in deepness about the appropriate research skills to elementary School Children when kids start to learn how to learn. The author did not search for the regular approach to writing Instruction in elementary Classrooms (McQuitty, 2016), or regular reading skills approach (Patricia A. Antonacci & Catherine M. O'Callaghan, 2012).

The writer found that the best cycle of research for this project is "deduction" test hypotheses (Bhattacherjee, 2012). The writer's idea is creating and examine a set of techniques for building a scientific knowledge.

1.1.1 The theoretical plan and hypotheses

Implanting a set of behaviours and habits in the brain and the memory of children in elementary education == to be his behaviour in the future in all his life.

Building a sustainable receptor memory brain for kids (Independent variable) == \rightarrow has a direct and indirect positive effect in the future on the (Triple bottom) society, environment and economic (dependent variable).

The approach used is qualitative narrative (Levinson, 2006) descriptive methods (Ganes Gunansyah, 2021). The research is concentrated on "the art of learning". Telling Story and doing activities. Creating from learning about the sustainability a joyful time for Childs. Focus on how to practice the ecological information. Focus on life activity for children in open air to deal with the natural resource by themselves (Roche, 2012).

The slogan of project.

"How to enjoy learning, breath, and live sustainably?"

This research purpose is concentrated on the role of coach or trainer or tutor more than a teacher. Provide a big opportunity to Childs for imagination and creation. This research uses primary and secondary data from several literatures and practical examples of ecological and sustainable school (McClanahan, 2014).

1.1.1 The research question

How the open-air and open-door ecological activities in elementary education has a positive and direct effect on the life behaviour of children in cascading from elementary, secondary, high college, universities, and labour force, workers, investors, towards the society, the environment, and the economy.

1.1.2 Theory

Theory of planned behaviour (TPB) is "a generalized theory of human behaviour in the social psychology literature that can be used to study a wide range of individual behaviours." "It presumes that individual behaviour represents conscious reasoned choice, end is shaped by cognitive thinking and social pressures." Further to (AJZEN, 1991) "Attitudes, subjective norms, and perceived behavioural control". The author proposes to direct and control this behaviour from the elementary education. One of the fruitful results of this research that after the observation could achieve a result

could be underpinning to the birth of a "new theory of implanted behaviour". The author believes that the behaviour could be embedded and implanted from early age of kids in elementary education.

1.1.3 Collecting data & literature review

The primary data is the data which the researcher collect it by himself. The secondary data is the data collected for other studies or purposes. According to (Mark Saunders, 2012) that the secondary data could be used as a research basis, or complementary to the primary data. The data used in this research in priority is a secondary data in case of the data collected in 2021-2022. Further to other old data which was mentioned by date.

After studying the disadvantage of the secondary data, we will follow the procedures of Saunders to evaluate the secondary data source.

Overall suitability: to find in the secondary data all the information and the analytical data base requested to answer the research question.

Precise suitability of the data: The researcher could evaluate the reliability if the data were recurred in many sources. Focusing on the validity it is depending on the method which the data were collected.

To fill the gap, of the absence of some data requested to reply to the research question.

After studying the qualitative approaches, the researcher find that the case studies are the appropriate way to fit the research. Accordingly, to the research question which is "how" and "why" nature.

1.2 Literature review

(Jos van Helvoort, 2020): How to learn Childs differentiate between fake information and real information. Searching on internet provide several meanings between correct and wrong. The role of school at elementary stage to combat fake news.

(Maghfirotul Ulum, 2020): To develop learning tools based on discovery learning model and test the feasibility of these development products in learning physical education, sports, and health on the small ball game material for high grade students at the elementary school level.

(Dumais, 2006): This research had been examined the number and types of extracurricular activities in elementary schools' participation during kindergarten. Test the effect of this activities on the grade of students in all learning materials.

(Harrell, 1997): This research study the risk factors of common leisure time activities (video game, playing football, bicycling, watching TV) of children on their health. This study is important because of the privilege of technological mean how as a tool of learning and his effect on the eyes and children health.

(Butler, 2005) This research study the goal of English education in elementary school through videotaped in south Korea, Japan, and Taiwan.

(Charles B. Fleming, 2008) This study examines the associations between after school structured and unstructured activity involvement to assess the behaviour of the children.

(Lina Rihatul Himaa, 2019) This research study the effect of learning by activities to understand the mathematical identity of students.

(Block, 1984) This study based to find solution for many problems of comprehension at elementary school and making their school learning activities more work like.

1.2.1 Cases study and samples from ecological and green elementary school:

*Copenhagen international School, Denmark. *Green School, Bali.

*Green school, New Zealand. *John Lewis Elementary school in Washington, D.C. (Goldchain, 2022).

*Green Elementary Flossie Floyd Green elementary school Texas, USA. (School, 2022)

The following some example of eco schools: (Michler, 2022)

*Philippine Bamboo School. *Project FROG. *Oaxaca School of Plastic Arts. *APAP Open School.

*German High School. *School of Art, Design and Media.

The author proposes and develop new idea of learning model for sustainable elementary education:

"Five questions mark for sustainable elementary education"

The writer will develop and propose three lessons about sustainability based on the five question marks? (Watson, 2017)

First Issue: plant and trees source of oxygen.

Second Issue: bees' source of diversity.

Third Issue: recycling, reuse, reduce saves natural resources and energy.

Five questions mark for sustainable elementary education

1.2.1.1 First issue of elementary school learning. Plant & trees source of oxygen.

Breathing Clean Oxygen \Rightarrow open air lessons

Not throw banana skin and use food leftovers bin \rightarrow practice from learning to doing

Composting and recycling \rightarrow cooperative activity

No waste water and use watering can

Why do we need a plant, a flower, vegetables, fruits, trees? (Let him take a breath and explain to him simple and easy just information that this oxygen he/she breath is resulting or coming from the plant).

During the second part of the lesson in the video room: show him videos with his native language and other videos with other languages and the trainer could translate it. Several languages are important to understand that we discussed about the universe and worldwide subject to protect the earth. It does mean that every student in his community and his country should keep and grow green areas. At the end, this is accumulated work worldwide.

How can we plant a vegetable? (Life training and gaining skills). Give him seeds and plant it with him. During the second part of the lesson in the video room: show him videos with his native language and with other languages. Several languages are important to understand that we discussed about the universe and worldwide subject to protect the earth. It does mean that every student in his community and his country should keep and grow green areas. At the end, this is accumulated work worldwide.

Where can we plant? (To reply to this question the author proposes to visit farm of corn or wheat, whatever the season or the kind or type of agriculture crop). Showing the green space and discussing with farmers. Let the farmers explain the process of agriculture plant.

During the second part of the lesson in the video room: show him videos with his native language and with other languages. Several languages are important to understand that we discussed about the universe and worldwide subject to protect the earth. It does mean that every student in his community and his country should keep and grow green areas. At the end, this is accumulated work worldwide.

- Plant in school Garden.
- Plant in Community Garden.
- Help mommy plant in the garden:
- Using kids' tractor.
- Plant the home garden.
- Plant anywhere.

What we need to fertile the soil? (By Food waste recycling) taking the information by easy way.

Giving the child a banana then tells him do not throw the skin of the banana anywhere but in a special bin for composting the food waste then fertile the soil. Doing many examples with apple, cucumber and so on.

Show him several bins for waste. Giving him colours let him paint and creating a bin by himself. Expressing the meaning by drawing fruits or vegetables. Give him a space for thinking and expressing his idea by drawing?

Learn child how to compost the food waste.

Learn child how to separate waste

How we take care about the plant? (Watering daily) (Explaining easy and simple that we must use a watering can for not wasting the water) We give a good portion of water without wasting the water or using (garden hose with integrated dripper).

Give love to the plants. Puling the weeds. Putting the plant under sunlight. Watering the plants. Cultivating the soil. Putting some fertilizers.

Watering daily. Do not cut trees. Do not crush small plants. Do not pluck flowers.

Watering can save water

Garden hose save water and give small and enough portion of water to the plant

Whom benefit from this plant?

Important for people and animals. Provide medicine, Food, Materials, & Cleans the air.

Food to still alive Fruits, vegetables, cereals, legumes, spices, oils, tea & coffee, & sugar.

Roots: Carrots, Radis, onion, & beet. Stem: Potato, & asparagus.

Leaves: spinach, lettuce, & cabbage. Fruits: Orange, Mango, Apple, & grape.

Flower: Brocoli, & coli Flower. Plants purify air & make oxygen.

Natural materials: Wood, clothes and clothing, paper & rubber, Make up and perfume.

Shutter building: from wood, grass, & sticks. Wood: for furniture, heat, & cooking.

Cotton: for cloths. Latex: milky from rubber tree tyres, gloves, & toys.

Flowers, for make-up and cosmetics, Parfums.

Plants for medicine.

Types of plants.

We could not live without plants.

Drawing plant or trees whatever the children should express what they understand or need.

Drawing also open the door to know the idea which was learned. The coach should discuss every drawing with the kids and gather opinions of other kids. This is a cooperative and collective thinking method, to be sure that the child understands that the benefit of this activity is for all the society or the community.

Second issue five questions mark for sustainable elementary education.

1.2.1.2 Second issue of elementary school learning bees source of diversity.

Bees perform about 80% of all pollination worldwide.

Bees keep the planet's precious ecosystems growing and thriving.

90% of the world's nutrition are pollinated by bees greenpeace.

Bees produce honey.

Bees produce wax.

Why we need bees? The main reason because is a source of pollination.

Bees pollinate around 75-80% of food crops around the world. Without bees to spread pollen between flowers, plants would not be able to reproduce and would suddenly be a lot fewer plants in the world. Fewer plants mean less food, clothing, and medicine.

During teaching about bee's teacher should "combines innovative approaches and entrepreneurial thinking with varied learning experiences to guide students of all ages to problem-solve and discover pragmatic solutions to real-world problems."

How we keep bees alive? In practice Childs plant by himself accompanied with a coach.

Build a bug hotel in green area in school.

Building a bee or bug hotel will attract bees to your garden and give them a safe place to live. If you have a lot of space this pallet bug hotel is amazing.

Let the children be a part of this to share and see how we build it.

Save the bees:

- Build a bee box.
- Cut the chemicals. Pesticides.
- Plant something.
- Register.
- Buy local honey.
- Protect bees in your community.

Global warming kill bees:

Pesticides Kill bees:

Where can we find bees? In practice the Childs visit an agriculture farm and the farmer explain the process. So, the child receives the information not only from his tutor but from a special farmer.

Pollination and fertilization in plants.

What we need to grow bees? Flower, trees, vegetables with simple explanation, trees absorb the waste and clean the air.

To whom we keep bees alive? For the next generations, building a Childs care about the society and community. Caring about other Childs in future

*It helps the environment: critical to agriculture and growing food. 90% of wild plants rely on pollinators like bees to survive and thrive. Gather nectar and pollen from miles around, spreading diversity and sustainability throughout the ecosystem.

*It helps the economy: over \$15 billion worth of crops are pollinated by bees each year. The honey that bees produce in the US alone is worth about \$150 million annually

*It's a fascinating subject to study. *It passes on great lessons to kids. *You might get a tax break.

*It can provide a great sense of community. *It's relaxing and can calm stress.

*Improves pollination of garden crops and flowers. *Bees can fit anywhere.

*You get to dress like an Astronaut. *Bees produce a bunch of goods.

*Honey has health benefits. *They earn their keep. *Bees do not cost very much.

Third issue of elementary school learning

1.2.1.3 Second issue of elementary school learning recycle, reuse, reduce 3R's Saves natural resources and minimize waste to zero.

Five questions mark for sustainable elementary education

Why Recycling at school?

Starting this activity in school will be more effective.

- Recycling can conserve energy for future generation.
- Recycling can reduce the pollution, the waste, and the diseases.
- Recycling and reuse can save rare raw material from exhaust.
- Recycling paper and wood saves trees and forests.

How recycle at school?

The coach or teacher can discuss about all the materials and things exist with kids. Such as foods the orange peel, banana peel and explain that we can decompose this waste and transfer it from waste to benefit. The decomposed food waste could help to fertilize the land.

The teacher can discuss about the plastic bottle of water with kids and explain that the plastic did not decompose, and the plastic waste could generate a lot of pollution. So, the coach could open a discussion and ask how we can profit from the plastic bottles, and he can give an example to use the plastic bottle as a plant pot or recipient.

He discussed about the paper that the waste of paper could be recycled again to produce paper but will be with less carbon footprint and economize a lot of energy.

Employment and economic development. Global warming.

Where recycle, reuse, and reduce?

To explain this, point the coach could make a lot of trips with kids to show them some examples of reusing tires for example in garden. The industry to recycle clothes.

What recycle?

Paper and card from textbooks, workbooks, letters, printed and photocopied paper. Food: food waste from pupils' lunch boxes and lunch provided by the catering facilities on site if applicable.

Packaging: food packaging, new supplies packaging, plastic bottles, and drinks cans. Waste Electrical and Electronic Equipment (WEEE) Computers, tablets, interactive boards etc. Plastic. Furniture. Glass. Ink and toner cartridges. Batteries. Shoes, uniforms, and textiles.

Whom will benefit from the recycling?

The society, the next generation.

Recycling means innovation and creation of new post and business areas.

Reuse cut the climate crisis and reduce warming.

Recycling creates sustainable life.

1.2 The sustainable education

Awareness about the environment and earth problems.

Awareness about the problems which we face today and the problems which the next generations will face.

The author point of view is integrating it through the awareness, producing films, animation movies, cartoon movies. These films and movies financed partly by the governorate and partly by the school or the ministry of education.

More practical take videos for the child during planting trees and flowers to be as a material of awareness.

Obligatory one book of history to be essential yearly.

Including sustainability in all related material; like chemist, physics, nature, sciences, and others.

1.3.1 How to integrate it in the school from the enfant (elementary) study?

It should be a formal and obligatory material of education.

The best way of education to learn about the earth and environment is the drawing and impressive colour.

After explaining each issue, give the children 15 minutes to express his feeling towards the information through drawing, painting, colouring. Give him some second to present his drawing and his feeling.

Every school should have a small part of fertilize land to learn children how to cultivate by themselves. Ask children during the weekend to call his neighbours and encourage them to plant in

front of their building. Or in their class. Ask them to take photos of their corporate and voluntary work. The teacher could take photos and stick them on the board in the class to show all child's that he is proud of the work which was done by the students during the summer. This process will encourage other students to do a volunteer activity to protect the earth and take photos to be recognized and awarded in the school. Also, these photos could be posted on the website of the school under the title "Volunteer summer activities to protect the earth". Recognized and award the students is an important step to keep continuous and innovative activities.

1.3.2 Project containing ideas of sustainable activity during summer school

Give each child a project to do during the summer school teaching him/her what does mean voluntary work to be awarded the next year (the year after).

Give him some ideas like this:

- Cooperate with family to clean the beach from plastics dust, cans, pouch, bags, plastic straw, and others.
- Cooperate with neighbours to plant tree and flowers in front of the building, on the terrace.
- Cooperate with his mother in the kitchen to create three bins and drawing on each bin:
- one for organic waste (vegetable and foods)
- one bin for glasses,
- Third bins for paper and cartons, and one bag for plastic bags and bottles.

1.4 Results

The voluntary projects will contribute to build a positive behaviour towards the society. Do not be selfish and thinking about the next generation. Do not be egoist, he/she should participate, cooperate as a team to build the community and the economy. For this reason, I focus on the idea of a coach (like the football coach) train (DiVanno, 2019) a sustainable team to win. Do not be stingy, he/she should be a giver to other (give service, information, spread awareness).

1.5 Conclusions

Further to the UNESCO education sector, the sustainable Development means "We hold the future in our hands. Together, we must ensure that our grandchildren will not have to ask why we failed to do the right thing and let them suffer the consequences." So, let us start action of implementation in any school and anywhere and with the existing and available budget.

The real quality of infant education in preparing a sustainable receptor brain (Anon., 2021). This receptor sustainable brain will be the foundation of building a sustainable personality at all levels of education in cascading from kindergarten, elementary, secondary, high school and post-secondary education at colleges and universities.

The elementary sustainable education has a positive indirect impact on preparing the sustainable labour capital (Kocourek, 2016).

Sustainable labour capital has a direct impact on the sustainable economic Growth and development (Gerd Michelsen, 2017).

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