Mikoko Development Foundation (MDF)

"Environment, Health, Agriculture, Education & Entrepreneurship"

Young Environmental Scientist (YES)

"Learning Science through Environment"

Active Learning

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INTRODUCTION

The term "active learning" is certainly not a new one. It has become increasingly common amongst college classrooms in recent years. The result has been a tremendous amount of research on the topic. Numerous studies have supported the benefits of active learning about its impact on teaching and student learning. Researchers and faculty have interpreted it in various ways. Michael Prince explains, "Active learning is generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing" (Prince, 2004). Prince's definition is drawn from foundational work done by Bonwell and Eison (Bonwell, 2000 and Eison, 2010) and has been widely accepted.

How Youth Engaged?

According to Dr. Carol Leibiger "Active learning techniques cause students to engage with the subjects rather than passively take in information. Examples of active learning activities include brainstorming, discussing, teaching, journaling, group work, focused listening, formulating questions, notetaking, annotating, and roleplaying. Lecturing is ***not*** an active learning technique!" ensuring youth and children are well supported mentally and physically Young Environmental Scientist organized series of infrastructure and materials towards helping them achieve their life dream career without having stress but building peaceful community who are nature lovers and problem solvers. Bonwell and Eison describe active learning strategies as "**instructional activities involving students in doing things and thinking about what they are doing[1]**."

Structure by Dr. Carol Leibiger

Youth are engaged in different styles including the following list below;

The Seven Learning Styles – How do youth learn?

1. **Visual (Spatial)**

   Knowledge or concept maps use visual symbols as a way to express knowledge, concepts, thoughts or ideas, and the relationships between them. These are a great tool for visual or spatial learners as you can draw connections or use color-coding to group ideas. There are plenty of materials for youth to become well engaged and inspired learning with great chance of achieving practical knowledge, skills and creative ideas at the end of each activity.

2. **Aural (Auditory-Musical)**

   Did your child or youth dislike reading? If yes, Mikoko Youth Program is here towards helping and encourage your child to keep more efforts on finding soft copybooks with audio found on our #Mikokocast that has greater opportunity to increase level of youth engagement in reading through audio-musical inspired. If you need someone to tell you something aloud to understand it, you are an auditory learner. You depend on hearing the information fully understand it, rather than just reading it from a book. Group discussions are a great way for auditory learners to grasp new ideas.

3. **Verbal (Linguistic)**

   People who find it easier to express themselves by writing or speaking can be regarded as a verbal learner. You love to write and read. You like to play on the meaning or sound of words such as tongue twisters, rhymes and so on. You are familiar with the definitions of many words and regularly make an effort to learn more meanings of new words.

4. **Physical (Kinesthetic)**

   In this style, learning happens when the learner carries out a physical activity, rather than listening to a lecture or watching a demonstration. Those who prefer kinesthetic learning are called 'do-ers' and much prefer hands on learning. Your children and youth will be well encouraged through list of explained and demonstrated hands-on activities available at Mikoko Online Library through extra curriculum projects. Kinesthetic learners are often interested in careers such as emergency services, safety representative, physical education, or entertainment (such as acting or dance).

5. **Logical (Mathematical)**

   If your child or youth like using your brain for logical and mathematical reasoning, he/she is a logical learner. He/she easily recognize patterns, and can connect seemingly meaningless concepts easily. Logical learners often lean towards classifying and grouping information to help them further understand it. They excel in numbers and are fine with doing complex calculations such as basic trigonometry off the top of your head! Logical learners could pursue careers in fields such as scientific research, accountancy, bookkeeping or computer programming (scratch coding).

6. **Social (Interpersonal)**

   Other learners prefer social or interpersonal learning. If you're at best in socializing and communicating with people, both verbally and non-verbally, this is what you are; a social learner. People often come to you to listen and ask for advice. They do because of the apparent sensitivity you have to their feelings, moods and even motivations. You listen well and empathize with what others are thinking and going through.

7. **Solitary (Intrapersonal)**

   You have a solitary style if you are more private, independent and introspective. Your concentration is at its best when you focus on your thoughts and feelings without the distraction of others. Authors and researchers often have a strong solitary learning style. However, having a good solitary grounding is evident for many top performers in a range of fields. Being able to learn introspectively works well with some of the more dominant learning style discussed above.

Purpose of Plan

Over a decade now, the Mikoko Development Foundation had been encouraging community members to broaden their views of what the world is, and make opportunities to experience different cultures while expose youth to nature and environment and become the most valuable part in protecting nature and environment for creating green habitable environment. Youth Nature Outdoor Programs mainly helps to give unique exposure to our young adults aged between 5 and 26 main goal is to impart conservation knowledge including that of biodiversity in large extent. The program will keep developing and record events, stories, observations, pictures, videos, simple scientific methodologies and research that target to keep growing young environmental scientist through learning science through environment.

The STREAMS programs through Young Environmental Scientist (YES) is designed to introduce young adults between the ages of 5 and 26 to a multitude of activities that integrate Science, Technology, Robotics, Engineering, Arts and Mathematics with SCUBA and develop youth leadership skills in conservation. Program participants will build underwater remote operate vehicles with video recording capabilities to study the biodiversity of ecosystems, such as reef behavior. Each semester, students will complete a capstone experience where they will have an opportunity to utilize the knowledge, skills, and abilities, and display appropriate dispositions consistent with stewards of the ocean.

The Youth Nature Outdoor Project (YNOP) will provide an opportunity to the group of 20 Volunteers who are willing to volunteer their time, passion, knowledge and skills towards developing scientific materials related to STREAM projects found in mangrove ecosystem. The aim of the project is to give chance to scientist to transfer knowledge and skills to young environmentalists who we are focusing to grow them become pure scientists who are able to reason problems and find suitable solutions ***"Building Problems Solvers Generation"***

This plan will develop 12 important books contains environmental science stories, research methodologies, there will be no closed answers to a certain issues discussed but the books will show and give chance to our young adults to participate in Nature Conservation activities by resume the research gap and become part of study. Kids will have access to our Mikoko Nature Libraries and Laboratories that found at the mangrove forest in Tanga, Dar es Salaam, Lindi, Pwani and Mtwara. Other regions will benefit from having libraries and laboratories that will suit their environment. Main aim of the project it is not to show or teach kids what to think but intends to construct reasoning capacity and show them how to think and become creative at the end young adults will discover more ways to explore by themselves.
Vodacom Tanzania Foundation managed to fund creation of four books regard climate change, biodiversity and environmental conservation education, now MDF is looking and seeking program partner to support set up of animation studio and production of 3D animation or cartoons. Support Mazingira camp that will include students and their teachers to help them well understand about biodiversity and environmental conservation, support creation of science kits.

The project also seeks to support establishment of Organic Agriculture Site to support young adults understand all about self-employment through agriculture at their home. Also project seek to relay information about environmental safety through environmental club.

GOALS AND OBJECTIVES

Young Environmental Scientist Program Goals and Objectives

The goals and objectives for this project will focus on implementing the following:

- **Goal**

→ Continue efforts on using environmental education tools towards promoting science through environment.

- **Objective**

→ Contribute to Mikoko Youth Programs with valuable tools.
→ Add value to mangrove forest and existing ecology for the aim of improving conservation.
→ Design valuable environmental education tools through design of best youth activities by using comprehensive integrated STREAM, SCUBA and Environmental Science program experience.
→ Contribute to bird conservation in Tanzania through Mikoko Youth Programs.
→ Use Science Techniques in Environmental Education tools.
→ Create awareness and ownership of bird activities to young adults aged between 5 and 26.
→ Create team of volunteers who will voluntary contribute to the development of new books with improved methodology of teaching kids science through environment.
→ Create Mikoko Online School that will provide education based on digital platform that will be implemented by our local volunteers.
→ Support STEM Learning and Literacy
→ Cultivate environmental stewardship within the youth population
→ Increase self-confidence and team-building skills

Program Outcomes

1. Increase the presence and achievement of minority students engaged in STEM activities.
2. Increase the number of students who enroll in college to pursue a degree in STREAM field of study.
3. Increase the number of youth who actively engage in environmental sustainability and conservation.

YOUNG ENVIRONMENTAL SCIENTIST GENERAL INFORMATION

Program Activities

Program will be hands on activities to youth aged between 5 and 26.
The program will include the following:

- Volunteer culture camp experience.
- A study tour at ***Mangrove*** Nature Forest.
- Observe existing ecology at the mangrove forest including animals and plants available at their local conservation sites.
- Design and publish Youth Nature Outdoor activities specifically based on bird research and observations.
- Design series and steps of research or observation guide that will help young adults become passion and interested in bird programs at his/her locality.

- Design field and bird camping programs with specific activities to be performed by youth under supervision of adults who are certified Assistant or Naturalist Leaders.
- Create badges and awards based on youth activities designed by the team of experts.
- Photography classes and best shot of birds and to be shared to the bird platforms with specific bird descriptions and profile.

ROBOTICS COMPONENT

Objective

Provide participants with a hands-on learning experience with the tools, techniques and theory that drive remote operated vehicles

Learning Outcomes

Upon successful completion of the Robotics program component, participants will be able to:

i. Explain the technology of producing, storing, controlling, transmitting and getting work from electrical energy (Electrical Technology)
ii. Explain the technology of using small amounts of electricity for controlling; detecting; and information collecting, storing, retrieving, processing and communicating (Electrical Technology).
iii. Explain the technology required to put together mechanical parts to produce, control and transmit motion (Mechanical Technology).
iv. Create and utilize design processes to build a remote operated vehicle (ROV)
v. Assemble mechanical parts and materials together to create supports, containers, shelters, connectors and functional shapes (Structural Technology).
vi. Explain and use research methodology to document laboratory testing.

SCUBA COMPONENT

Objective

Introduce participants to the fundamental techniques of SCUBA and dive theory.

Learning Outcomes:

Upon successful completion of the SCUBA program component, participants will be able to:

i. Demonstrate all basic open water dive skills at a satisfactory PADI level.
ii. Demonstrate a commitment to learning through regular participation.
iii. Demonstrate an understanding of the cognitive information required to safely dive in an open water environment.

Note: For students to be certified by PADI for open water, they must successfully demonstrate approximately 300 objectives as outlined in the instructor and student manuals.

OCEAN SCIENCE COMPONENT

Objective

Provide students with knowledge and hands-on experiences to be informed stewards of the environment.

Learning Outcomes

After successful completion of the Ocean Science program component, participants will be able to"

i. Describe the current state of human impacts including climate change, pollution, overharvesting, mineral extraction, and exotic specific introduction on marine communities and ecosystems.
ii. Identify and classify various coral reef residents and describe their contribution to the reef.
iii. Discuss the current state of marine resource extraction by humans as well as identify the challenges and obstacles to developing a more sustainable future.

Inspired Learning

At Young Environmental Scientist, our purpose and focus are summed up in two simple words: ***Inspired & Learning***. Mikoko was created to help young adults and their families get the resources they need to create meaningful, hands-on science opportunities. This allows them to inspire their kids to learn more about the world around us including nature and environment. That effort has since expanded to help meet the needs of teachers and schools. We also serve science enthusiasts or those looking to buy gifts for kids with an interest in science. Since our founding, there have been wonderful new scientific discoveries and a host of new technologies. At the same time, there has never been a greater need to teach future generations key science concepts on which they can build. That's where Young Environmental Scientist can help.

We Advocate STEAM Learning

Today's learners are tomorrow's leaders, which is why Young Environmental Scientist continues to expand our selection of tools and kits teaching STEAM principles in interesting and engaging ways. As environmental scientists Facilitators ourselves, we love to see kids become excited about understanding and applying scientific concepts in real life. We are committed to bringing the best tools to parents and teachers that help bring STEAM principles to life.

We Encourage Inspiration to Young Adults

Young Environmental Scientist program provide a unique learning structure to kids or young adults through connecting young adults with career builders these are employed or self-employed individuals who devoted to share their life experience with our young generation to allow transfer of knowledge from existing generation to the next generation this create sustainable generation. We also design books and other supporting materials including animation designs as link attached to your email (if you received this proposal through email) and CD if you received through hard copy. This program will allow science experienced individuals to share their ideas and concepts with our young adult's generation through camping or classes.

We Research, Create and Offer Only High-Quality Services

In growing young environmental scientists, we recognize that families and educators have many options available when it comes to train young adults towards achieve the best option of his/her career. What sets Young Environmental Scientist apart is our proven commitment to offering only high-quality, top-rated services that have been thoroughly reviewed and tested by our team of science educators. That way you have peace of mind when it comes to teaching hands-on learning with the products you received from us. It's also important you know that the investment you make with us meets—or exceeds—your expectations.

The team of experts from Ministry of Natural Resources and Tourism, Vice President's Office Ministry of Environment and Union Matters, Ministry of Education, Science and Technology, Commission for Science and Technology, Mikoko Development Foundation Team – (Department of Training &

Education, Department of Community Services & Partnership, Department of Public Health & Environment), Tanzania Forest Services (TFS) Agency, Ardhi University, Tanzania Institute of Education and Book/Article/Story Author.

Our Products Are Well Tested, and Kids Satisfaction is Guaranteed

We want young adults' parents, classroom teachers, and schools to have absolute confidence in the quality of the service they receive from us. All of our services undergo a thorough quality control inspection before being carefully released for the target group of clients, so it performs as expected the moment you order a service from us. Also, your satisfaction is so important to us; we offer a 35 hours of service to your school with 100% satisfaction guarantee.

We Love Answering Questions

Having questions is a normal part of learning and teaching science at home or in the classroom. That's why when you need us, our knowledgeable customer support team is here to provide answers about every service we offer and can even help you choose the right ones for you and your kids. You can reach our members support team through emailing info@mikoko.or.tz or giving us a call at +255(0) 757 599 666/787 283 759.

Course Components

Young Environmental Scientist has the following basic components of Test + Assignment + Simple Scientific Experiments and Research + Career Class and Outdoor Programs (Adventure)

Learning Environment

This course is delivered completely in class, outdoor, online and includes assigned readings, videos, and online lectures. Students are responsible for the course material covered in class. Nature Course Coordinator will be employed to make most course-related communication, syllabus, online lectures, and assignments available to students. In addition, students will be utilizing Open Course Blog to post some completed assignments. In case of lack of familiarity with the Mikoko Open Course system, please obtain immediate training through course coordinator.

BADGES BY YOUNG ENVIRONMENTAL SCIENTIST

S/N	Badge Name	Scores	Grade Award
1	Member's Badge	140 Points (with Best Score in a project Award)	Impala Award
2	Community Badge	250 Points (With Best Score in Project Award & Best Fundraising Campaign)	Mikoko Badge
3	Adventure Badge	360 Points (With Best Adventure Project Award)	Elephant Award
4	Junior Adventure Badge	470 Points (With Best Adventure Project Award & Local Community Donation Project)	Lion Award
5	Senior Adventure Badge	570 Points (With Best Adventure Group Award)	Kilimanjaro Badge
6	Leader Adventure Badge	660 Points (With Best Adventure Group Award + 1 Map of the trip)	Giraffe Award
7	Naturalist Badge	750 Points (With Best Three International Trip Awards)	Rhino Award

8	Senior Naturalist Badge	840 Points (With Best Three International Nature Sites for 1. Marine, Terrestrial and Wildlife Ecology Award)	Chimpanzee Award
9	Naturalist Leader Badge	840 Points + Young Environmental Scientist & Naturalist Course	Naturalist Award
NB: Students will learn from the series of activities that listed within Adult and Youth Outdoor Programs			

PROJECT PARTNER

Mikoko Development Foundation is working closely with its partners to ensure security of ecosystem including marine and terrestrial including its biodiversity to become well conserved and protected according to National Policies.

Mikoko Development Foundation is collaborating with Vodacom Tanzania Foundation, Ministry of Health, Community Development, Gender, Elders and Children, Presidents Office Regional Administration and Local Governments and Vice President's Office Ministry of Union Matters and Environment and WWF - Tanzania to ensure the security of lives to the coast living organisms as well as the future of mother earth.

View our partners visit http://mikoko.or.tz/partner.html