



EARTH's University's Educational Model

EARTH University

Guácimo, Costa Rica

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Lone Tree, Iowa



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1. Acknowledgments

1.1 Reflection

The Borlaug-Ruan Internship was nothing short of transformative, but it wasn't the highlights that made it so. It was the stepping stones I sometimes mistook as stumbling blocks, the unsuccessful efforts, and the struggles. Despite my retrospective positivity, the bigger picture was too easily skewed in difficult moments. At times it had seemed that the only option was to shut down and feign incapability. The moment I decided that my circumstances were out of my control was the moment I locked the door to my own jail cell.

Some prisons fashion unforgiving steel bars and massive concrete walls. Their corridors, full of guards and convicts, are empty and cold. A sense of unfeeling pervades the air, nearly masking the stench of dread. For some time, I was a prisoner.

I built my prison out of helplessness and perceived impotency. The heavy shackles I wore were invisible. Nevertheless, they weighed me down and prevented me from adapting to a situation where I was alone and uncomfortable. I wore a bright orange jumpsuit too, or I might as well have anyway. Eyes followed my every move; why wouldn't they? I was so different. There were days I spent hours in my cell, caught in the divide of acceptance and nonacceptance. I completed the tasks, however mundane, with indifference. I saw no way through the massive concrete walls or out of my prison. "Am I stuck here forever," I thought. Those days seemed to never end.

It was on one of those days when I called someone from home. Their words loosened my shackles and showed me a path — a way out. "Be an advocate for yourself," they said. "You didn't venture across the world to hand over the reigns." Suddenly, the massive concrete walls

became frail; the unforgiving steel bars began to rust. My life became mine again, a prison no more. I reclaimed the power to take action on the circumstances surrounding me and untangled a messy situation.

Finding the key to my jail cell was the most meaningful lesson to come from my internship. I am vigilant now. If I catch myself surrendering my power, in either thought or speech, about a situation I find myself in, what others say or do, or my life situation, I know to find the key. Surrendering is a form of nonacceptance. When you surrender, you put on the shackles. When you speak out, you are in power. Change the situation by speaking out or taking action if at all possible; leave the situation or accept it. If there is only one lesson that I am able to take from my experience, it is to not begin singing the dreadful song of a jailbird.

1.2 Credits

To the greatest extent, I would like to express my gratitude for the two men who forged this internship program: **Dr. Norman Borlaug and Dr. John Ruan**. The incredible leadership and tenacity of these two men laid the foundation for the experience I was fortunate enough to have over the summer. Your undertakings were vital to the well-being of millions around the globe and continue to serve as a lighthouse in science, business, and agriculture. Your lives continually inspire me to lead a life of purpose, honor, and compassion.

Thank you, **Ambassador Kenneth Quinn**, for investing in the next generation of leaders, scientists, and advocates for agriculture. You exemplify everything the World Food Prize represents: integrity, passion, and excellence. Your continued support of this program has ensured its success and ability to impact so many people.

To **Ms. Crystal Harris and the World Food Prize Staff**: Your devotion to the success of the program is a shining example of what it looks like to be in the fight against hunger. We often toss around those words, but your work shines a light on exactly what it means. Crystal, thank you for always being there to help me make the best of every situation and for your invariable dependence. You were somehow able to make traveling across the world alone a little less daunting with promise of your watchful eye and helpful hand.

To **Sen Sofia Montero and Mr. Ricardo Brenes**: Sofia, thank you for being a wonderful mentor during my time at EARTH. You were always willing to help make the best of my experience in any way possible. I greatly appreciate your kindness and patience as I adjusted to a new environment and a new language. Ricardo, out of zero obligation, your one person I could always rely on. Because of you, I was able to meet so many new people, escape to La Posa every once in a while, and enjoy a countless amount of laughs. I've never met someone so deeply passionate about changing the world, and I'm excited to be around the day you do. I look forward to the day I return to Costa Rica and reunite with you.

To **my parents**: I realize that sending your 17-year-old son across the world on a venture filled with unknown was inevitably a bit unnerving. Be that as it may, you supported me in the pursuit of my dreams and throughout one of my greatest endeavors. There are simply no words to express the gratitude I have for everything you've done for me. Without your support and love, absolutely none of this would have been possible.

To my **family and friends**: thank you to everyone who has supported me on this journey. You don't know how much it means to me that you believe in me and push me to be a better person. There are too many of you to name, but you know who you are.

1.3 Dedication

For Mrs. Bridget Mahoney

Mrs. Mahoney, your dedication to your profession is a gleaming example for anyone involved in education, training and development, or any endeavor in which one human being seeks to support the growth and development of another. You walked alongside me through the hardships and the peaks, guided me, opened doors I never knew existed, and incited my passion for agriculture and leadership. Invariably, you acted as a source of wisdom and inspiration. It is with my deepest gratitude that I dedicate this report to my teacher, Mrs. Bridget Mahoney.

2. Abstract

As Nelson Mandela once said, “Education is the most powerful weapon which you can use to change the world.” In education lies the keys to many of the issues we face every day including poverty, hunger, and malnutrition. It connects all societies, but it not just confined to developing the ability to read or write. The weapon Mandela referenced comes in an infinite number of forms and its variability is limitless. In a single school building, one can walk from classroom to classroom to receive an entirely different educational experience. Regardless, every variation will have a profound impact on an individuals life. Each certainly has its weaknesses and strengths, but sometimes a unique combination can create a weapon that is more powerful than most.

EARTH University in Costa Rica has an extremely uncommon educational philosophy and model. The private, non-profit institution brings together a diverse body of students from

over 40 countries and prepares them to be the leaders of tomorrow, in the agricultural sector specifically. The university unmask students potential through the use of a student first learning approach that eliminates the hurdles some traditional universities pose. Additionally, it gives students the tools for success in a real world environment by replicating the legitimate work and hardships one might face in an agricultural field. By the time a student at EARTH graduates, he or she will be well prepared to contribute to the sustainable development of a prosperous and just society. In fact, over 2000 graduates are proof that EARTH's model works. EARTH University's unique educational model is composed of five major components: the institutional mission, the graduate profile, the educational principles, the teaching and learning processes, and the curricular structure. This paper will include a detailed analysis of each of these components.

3. Introduction

Jaxon Mullinnix spent just under two months as an intern at EARTH University in Guacimo, Costa Rica. His official title was "Pasante" (intern in english), but he was able to develop an understanding of student life on EARTH's one of a kind campus. Partaking in numerous activities and programs, Jaxon was in the capacity to do more than just observe EARTH's educational model-- he lived it. The following report is a culmination of personal experiences with students, in-depth dialogue with staff members, and analysis of EARTH University's curricular structure.

Education is a significant factor in disrupting intergenerational poverty because it plays an inherent role in reducing hunger, empowering women, and spurring economic growth. However, to address the needs of a growing population, a transformation of current higher

education programs is required. Agriculture is exponentially metamorphosing and demands new and innovative ways to be adapted into education. In 1998, esteemed educators and policymakers met in Paris to discuss the growing needs of a 21st century education. This conference produced what is known as ‘World Declaration of Higher Education for the Twenty-First Century: Vision and Action and Framework for Priority Action for Change and Development in Higher Education’ (UNESCO). This document addresses the idea that a new approach to higher education is necessary to conform to the conditions of modern agriculture and a new century (Kunkel and Skaggs). Undoubtedly, there is a urgency to adapt existing educational models to correspond with the demands of 21st century higher education. This report will serve to identify the aspects that make EARTH University’s educational model different from that of a typical college or university. EARTH’s system has the capacity to be implemented elsewhere to provide a sustainable source of education for hundreds more students each year.

4. Methods

4.1 Institutional Mission

Officially, EARTH University’s mission is: ‘Prepare leaders with ethical values to contribute to the sustainable development of the humid tropics and to construct a prosperous and just society’ (brochure). In order to accomplish its mission, the institution has developed an educational model that provides a generalist, holistic, humanistic, and social education. These components are essential to providing students with the tools to be successful in all personal and professional endeavors. EARTH University recognizes that all competencies carry equal importance in life and therefore, must carry equal weight in the educational model. Throughout

their time at EARTH, students will develop technical competencies in agriculture and natural resources, as well as skills in leadership and entrepreneurship. The balance of the technical and non-technical aspects of education is fundamental.

EARTH University prepares students to promote positive change in their communities by equipping them with the abilities to enact change and make a positive influence in the world. The university emphasizes that leadership plays an integral role in professional success and agricultural innovation. The ethical values inherent to authentic leadership are incorporated into the daily lives of students and thus, graduates. The foundation of EARTH's educational environment is based on intrinsic motivation and the mutual respect needed to support the understanding of obligations imposed on one another.

Graduates of EARTH University's four-year program receive a single degree called *Licenciatura* in Agriculture Sciences. This degree reflects students education in another fundamental area of EARTH University's institutional mission: graduates will pursue the sustainable development of the tropics. Costa Rica, specifically, is an extremely volatile region in terms of its tropical climate; therefore, it requires intensive measures to maintain adequate levels of agricultural productivity. The technical aspects of EARTH's educational model allow students to address these pressing issues. This component of EARTH's mission is the backbone to many of the projects and student-led initiatives on campus.

4.2 Formative Areas

Social and environmental awareness and commitment: Contrary to many existing educational models, EARTH gives special importance to the development of social and

environmental consciousness. EARTH believes that students' wills to promote positive change are dependent on their understanding of the world around them (EARTH University). This avenue of education takes place inside and outside of the classroom utilizing experiential learning as a primary component of delivery. Community development projects also play a large role in the development of these attitudes and supports a symbiotic relationship between the University and surrounding Costa Rican communities.

Technical and scientific knowledge: This area of study corresponds with the traditional education a student may receive in an institution other than EARTH. The area comprises the formal plan of studies that gives students the knowledge and technical competence required for proficiency in the agricultural sector. The competencies drive students work with natural resource management. The development of this area occurs primarily within formal coursework.

Personal development of attitudes and values: This area deals with the non-technical aspects of EARTH's educational model. It involves the development of interpersonal skills that gives students the resources to be ethical leaders in their home communities. The objective is to transform students into effective change makers that are proficient in a variety of competencies that include self-awareness, empathy, respect, tolerance, teamwork skills, effective communication, and becoming an autonomous, lifelong learner. These goals are executed through activities designed to inspire introspection and dialogue. EARTH University's multicultural atmosphere reinforces these objectives.

Ethical entrepreneurship: This area embodies the successful management of enterprises and the entrepreneurial spirit. EARTH University utilizes a signature project in which students assume risks, are forced to work as a team in decision making, and implement a business plan

just as an agriculturalist would realistically. Students are given a loan by the University to kickstart their project and motivate them to invest in the opportunity. Many successful enterprises have been created as a result of this project. Additionally, EARTH's staff are mindful in their actions as they serve as a way of developing the students' professional and personal skills.

4.3 Educational Principles

Students at EARTH University receive an education manifested on two primary principles: Student-Centered Learning and Experiential Learning. These approaches are cemented around the idea that students gain valuable hands on experience that resembles practical situations in agriculture systems. This allows for the students to think innovatively and anticipate unforeseen occurrences to gain a better understanding of concepts. Individually and in groups, students take the reins of their own learning by utilizing their curiosity and motivation to fuel their learning process.

Student Centered Learning: This process requires students to play active roles in the learning process instead of merely acting as passive receptors. The student has the responsibility of determining the strategies that are going to be most effective to receive and interpret knowledge. Thus, every student is immersed completely in what type of learning suits them best as they adapt to the shared environment. Throughout, critical reasoning abilities are fostered through the development of judgements and conclusions. The professor facilitates by designing an ideal process that students can play an active role in their learning. The professor serves to facilitate, enable, and guide, not to simply transfer information as in traditional learning models.

Experiential Learning: EARTH recognizes that learning tends to be more meaningful when students are able to engage in an experience designed to facilitate their learning. This specific approach to education allows students to take the knowledge and skills learned and immediately be able to correlate and justify their relevance. Throughout experiential learning, students are able to immerse in communications about their findings with their colleagues and classmates. Students are encouraged to search for unique solutions and persevere through difficult times, which will give them the dexterity needed to face circumstances in an agricultural life.

4.4 The Process

EARTH University's perspective of learning and teaching is a dynamic process is central to its educational model. Knowledge is not viewed as a commodity existing to be transferred from a professor to a student. Instead, it is the purpose of the professors to incite a process of knowledge discovery, which reflects the view that learning is a dynamic process. As a result, students are given the opportunity to develop their own understanding of the surrounding world. Independently, a student can decipher their social, political, and physical environment in all of its richness and complexity. Students are not subject to the opinions or attitudes of their professors reinforcing autonomous learning.

Moreover, the dynamic process of learning is best cultivated in a social environment. The natural and organic nature of this environment stimulates learning as an active process of continually constructing perspectives and mental models of the surrounding world. Learning is a process in which a student builds and tears down; each contribution a student makes is

meaningful and has value. This process, or experience, is where learning occurs. It is a part of the process and works to form the greater whole.

Conclusively, learning is both an individual and social process in which students must use introspection to develop values, attain knowledge, and acquire various skills and abilities. Professors at EARTH Universities are merely facilitators of this process and promote the students to discover this knowledge autonomously. The ultimate goal of a teacher is to generate learning. Therefore, the idea that education is solely the transfer of knowledge from one individual to the next is transcended and repaid of its variability. The process is formed by EARTH University's three defined perspectives on knowledge, learning, and teaching.

4.5 Curricular Structure

EARTH University's curriculum is essentially the implementation of its educational model. It is here that the institutional mission is integrated with the educational principles and the learning and teaching processes. The curriculum is the final touch that creates EARTH University's unique educational experience. At EARTH, curriculum contains an array of formal study plans and all the activities a student will be involved in. Something that defines EARTH University's curriculum is that it is a reverse of traditional models. First, students develop a holistic view of the agricultural system and then proceed to concentrate on specific areas. The thought process behind this 'upside down' curriculum is that students begin with a context for the construction of knowledge.

First year students studies focus on developing a broad view of the agricultural industry. They will gain a global vision of agriculture and understand the role humans play in the complex

system. Simultaneously, students are forced to participate in work experience which contributes to the development of positive attitude and skills relating to field work. Second and third year students share similar objectives. Coursework related to concentrated efforts on technical competencies, specialized skills, and the construction of relevant knowledge. These students are exposed to surrounding communities and are allowed to work directly with local farmers and organizations. In the third year specifically, students partake on an internship in a foreign country. This relates specifically to their future area of study and gives them the opportunity to apply what they have learned at EARTH in a real-world setting while still having the ability to communicate with professors. Fourth years students gain a degree of responsibility and independence as they receive leadership roles and are expected to demonstrate knowledge synthesis. The final year of study circles back around to the global vision of agriculture and the role students will play as professionals.

4.6 The Admission Process

To support EARTH University's Educational Model, EARTH operates with an intensive admission process. To address inequalities in the availability of education, EARTH's faculty members travel to remote regions of the world to seek out promising youth with a passion for making a difference and working with agriculture. By doing this, EARTH University is able to access human potential that was otherwise untapped. The rural regions of the Americas, the Caribbean, and Africa are human to a seemingly infinite number of individuals looking for every conceivable opportunity to improve the situation in their home community. These prospective

candidates must demonstrate a commitment to positively impacting their region after graduation and a vocation for natural resource management.

Fortunately, an education at EARTH is not prevented by lack of money or a standardized entrance exam. An astonishing 70% of EARTH students receive full scholarships. However, to attain that candidates must go through an intense, multifaceted interview process. Although, the process yields great results; 86% percent of first year students will graduate at the end of their final year. That 86% return home to make an incredible impact on their home communities and carries with them the experiences they had at EARTH (Roberts).

5. Conclusions

EARTH University's educational methodology sets it apart from other academic institutions. EARTH believes that students should be allowed to construct their learning process and develop their abilities through experience (EARTH University). In addition, this model impacts how professors interact with students. Professors play an active role in the lives of the students as they live on campus and often times eat meals with the students, something extremely uncommon at most institutions. "Professors are not concerned about their own publications, rankings, or academic career," Nico Evers, Professor of Internships and the Director of the International Academic Relations Office at EARTH, explained. "Student success is the first priority."

When Jaxon first came to campus, he wondered why classrooms often sat empty, but clearly, it did not take long to find the answer. He quickly discovered that education at EARTH looks very different from the way he learned in the past. EARTH students are able to take

advantage of the expansive 8,340-acre campus and put themselves at the center of their education through projects, work experience, and creating and maintaining their own business. Students approached Jaxon with eagerness, urging him to purchase their product for their business.

One of those overwhelmingly passionate individuals was David Maduri. Maduri was a fourth-year student who came to EARTH in 2014 from his home in Kenya. Before EARTH, Maduri studied civil engineering but did not finish his degree. “Feeling I needed to do something for myself and my community, I took a leap of faith and applied for the MasterCard Scholarship at EARTH,” he recounted. Fortunately, Maduri was selected and found himself studying in Costa Rica not long after. Initially attracted to social change and poverty elimination, agriculture was somewhat of a new subject for Maduri. This change required adaptation, but as Maduri related, “Friendships made EARTH welcoming, and I began to feel at home despite being thousands of miles away from my family.” Moreover, Maduri expressed his gratitude in EARTH which has allowed him to build upon his previous interests by providing him with the tools to channel his abilities and interests. “You graduate as a well-rounded person who has applicable knowledge in agronomy, social justice, and much more at EARTH,” he gushed.

Highly motivated and decidedly prepared, Maduri founded a nonprofit organization during his studies at EARTH. His nonprofit, EducationHOPE.org, is aimed at providing low-income students with scholarships. Otherwise unable to attend school, these students are able to study entrepreneurship not only to gather knowledge but apply it. “EARTH provided me with the space to interact with different people and share my vision. It provided me with a formidable network to create a nonprofit,” said Maduri.

Currently, Maduri is focused on finishing out his time at EARTH, but of course, he is full of plans for the future. He has begun to lay the groundwork for a startup intended to access untapped human potential and give refugees and displaced people the resources to solve their problems. “Handouts cultivate dependency,” insisted Maduri. “ I am creating a financial ecosystem built on blockchain technology that connects marginalized communities to the global economy through business. Anyone around the world will be able to buy products from refugees and displaced people.”

After numerous conversations with students like David, it was clear that EARTH’s educational model was inspiring a new generation of leaders in agriculture. In the face of pressing agricultural challenges, it is time for universities to adopt EARTH’s approaches and views on education. However, there is already a growing number of institutions that are looking to EARTH University’s model for guidance and inspiration. It is commonplace for representatives from universities to visit EARTH and learn about the innovative ways agriculture is being taught. If EARTH’s methods are adapted into the conditions of other locations, there will be an undeniable shift towards sustainable development.

Students just like David are bringing sustainable development back to their communities after studying at EARTH University. These students continually redefine the meaning of agriculture and transform communities. The capacity for EARTH to impact the transformation of higher education is immense. Today’s universities have the responsibility of preparing their students for a future in modern agriculture, but must adapt to its demands in order to do so. This relates to not only what universities are teaching but how they teach it. There is no better time to reflect on how today’s universities are preparing future leaders than this moment. EARTH

University's educational model has showed the potential all institutions have for establishing a sustainable system for equipping tomorrow's leaders with the abilities to enact change.

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