

A 2 Page Summary of What I Learned at the EAO & How I will Apply That Knowledge in My Scholarship

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I joined the EAO workshop with a limited understanding about the theme, sustainability. In my discipline, the field of language, literacy, and multi-cultural/-lingual education, I have used the concept of sustainability in sustained professional development (PD) in improving teaching and research as well as in culturally sustaining pedagogy (Paris, 2012) that has an emphasis on helping students sustain multilingual, multiliterate, and multicultural competence in pluralistic society.

In my EAO application letter, I also hoped that my increased understanding about sustainability as used in different disciplines (such as science and economy) would help me better bridge various content areas with language and literacy education. After all, as a TESOL educator and scholar, an important part of my work involves preparing content area and general education teachers to effectively teach linguistically and culturally diverse students. I hoped that this newly gained knowledge on sustainability would become instrumental in collaborating with colleagues and better connecting with my students in those disciplines.

I learned a great deal of knowledge about sustainability related to the environment as well as human, social, and cultural aspects of development at the EAO. A lot of what I learned validated my way of living that is environmentally-friendly and sustainable due part to my upbringing in South Korea where environmental issues are taken more seriously by politicians and general public compared to the U.S. As a better informed consumer, citizen, and educator, I now feel much more responsible to educate others about ocean life affected by micro plastic that is found in cosmetics, the excessive use of plastic bottles and straws, alternative energy sources, and etc.

My intellectual curiosity fueled by the seminars at the EAO led me to conduct literature review on sustainability being applied in my own discipline. I have so far identified two areas that could potentially lead to a future research project, literacy, multicultural education, and sustainability. In both areas, I have learned that place-based pedagogy, environmental literacy, and ecopedagogy are important theoretical concepts related to sustainability.

In addition, as a result of my participation in this interdisciplinary workshop for faculty, I have been able to begin a collaborative research project with a few other faculty members whose disciplines I used to consider starkly different from mine. After recognizing that educating the public about sustainability must start from children and teachers in the public K-12 context, my colleagues and I have completed a white paper to be submitted to a NSF officer for extra

funding. In this collaborative project entitled, “A K-12 Teacher’s STEM Workshop for Multilingual Children: How Technologies Tackle Global Sustainability Issues” we aim to provide effective curriculum and pedagogy regarding sustainability to children who speak English as an additional language. Once we conduct this workshop for K-12 teachers, we plan to expand the research project to K-12 students and college students/instructors.

Below is an excerpt of a draft of the ongoing collaborative project:

A K-12 Teacher’s STEM Workshop for Multilingual Children: How Technologies Tackle Global Sustainability Issues

Synopsis. During recent years, sustainability has become a crucial issue for the continued prosperity of current and future generations and thus is receiving much attention from academia, industry, and government. The significance of sustainability issues is well-recognized by the leaders of the world, such that in September of 2015, the United Nations established *The 17 Sustainable Development Goals (SDGs)* with specific targets to achieve within the next 15 years to end poverty, protect the planet and ensure prosperity for all [1]. The general public is also increasingly accepting sustainability as an important issue, and this is changing the ways companies produce their products and provide their services in more sustainable ways. For instance, a recent report revealed that 86% of US consumers expect companies to act on social and environmental issues [2]. Consequently, having a good understanding of the sustainability issues around the globe and corresponding solutions would be highly beneficial for K-12 students, who will be eventually pursuing their career in the public and/or private sectors.

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This project aims to initiate the very first movement in the state of Georgia to address this crucial issue and to provide much-needed opportunity to learn about the potential of STEM technologies to resolve the sustainability issues to multilingual K-12 children through a one-day STEM workshop for K-12 teachers. Due to the highly dense population of target student group as well as the proximity to the PIs’ institutions, Kennesaw State University (KSU) and Georgia Gwinnett College (GGC), we plan to organize the workshop in the Metro Atlanta area. Through this workshop, participating teachers will learn to infuse sustainability in their respective STEM content areas. They will particularly learn to instruct the content to K-12 multilingual students by utilizing translanguaging [6] and culturally sustaining pedagogies [7].

The immediate outcome of this proposed workshop will be sustainability-focused STEM materials that teachers will use in the K-12 context. In this project, the faculty members, whose expertise are in Computing Science, Data Science, Electrical Engineering, Information Technology, and Inclusive Education, from both KSU and GGC, will make a team to develop materials spanning over 4 different subject areas. We will collect the responses of the participating teachers through semi-structured interviews and pre-and post-survey. In addition, after the one-day workshop is completed, the participating teachers will apply what they learned to their K-12 classes. The teachers’ responses about the workshop as well as issues that arise when implementing the sustainability issues in their STEM classes to multilingual students will be collected and analyzed to identify the points of further improvement, enhancement, and development of the materials. The

findings will be presented at pertinent conferences and published in academic journals. Given the deficiency of such sustainability materials in K-12, we plan to submit another proposal to support our continuous effort to address this important issue.