

## Education Project I

### Project Summary

The broad goal of this project is to investigate the possibility of expanding science education to include knowledge of time and place. Knowledge on time and place are referred to as ‘local knowledge’ or what is stated in some of the previous literature as ‘Indigenous knowledge’ (i.e. Hewson & Ogunniyi, 2011). The study is an attempt to utilize education for sustainable development and link it to the concept of ‘local knowledge’ through embedding concepts identified by the local communities in the science curricula in what is known as the ‘Third Space’. Power dynamics related to gender and socio-cultural issues will be explored as a means of explaining how gender equality is represented in local communities in Egypt and other countries of the MENA region.

### Introduction

In the emerging global knowledge economy, a country’s ability to build and mobilize knowledge capital, is equally essential for sustainable development as the availability of physical and financial capital (World Bank, 1997). The basic component of any country’s knowledge system is its indigenous knowledge or what could be called ‘local knowledge’. This encompasses the skills, experiences and insights of people, applied to maintain or improve their livelihood. According to Wasonga et al. (2010), Indigenous people have a wide knowledge of the ecosystem they live in and generally have ways to ensure that natural resources are used sustainably. Therefore, Indigenous knowledge (IK) has potential value for sustainable development. According to the World Bank (2001), IK is relevant on 3 levels for the development process: 1) the local community, 2) development agencies such as NGOs 3) IK forms part of the global knowledge. With that in mind participating students in the GSE Tomorrow’s Leaders initiative will engage in research to determine 1) ways of improving quality of, in, and through education; and 2) determine the nature of discourse intersections of professional communities throughout the MENA region 3) meeting the needs and challenges found in local and global communities through educationally customized curricula by giving these communities a voice. Economic growth and civic involvement depend, in large part, on the capacity of citizens and employees to understand the discourses of the disciplines (e.g., disciplinary literacy; Wolsey et al., 2012; 2016), and the strategies of improving quality in education delivery.

### Problem Statement

Throughout Egypt and MENA, youth increasingly find themselves in a state of NEET; that is “not in education, employment, or training.” Gender disparity in employment presents significant challenges female university graduates face. Because the Ministries of Education and Higher Education, are currently investing heavily in initiatives to improve quality, relevance, and equity in education, and the government is supporting these innovative initiatives, the present proposal is situated to make an additional impact on the problem of youths’ and women’s unemployment.

### Background

The Graduate School of Education at AUC is well suited to address these topics. Dr. EL-Deghaidy brings a wealth of experience in gender inequalities, sustainable development, and professional discourses to the project. The faculty of the academic unit is diverse with backgrounds in literacy, gender studies, and international education and they come from the United States, Lebanon, Egypt, and Ethiopia with experience in many regions of the world including Africa, China, Central America, and the Middle East. Research has led us to findings that indicate while the breadth and depth of knowledge of specific disciplines are extensive (see

Wolsey, 2010), there is little practical knowledge indicating the impact on secondary education and higher education or the intersections of disciplines across professions.

### **Significance**

Understanding the discourses used and the intersections among the foci areas of this project adds value for curricula developers and responds to the various calls to address local needs in formal education. At the completion of this initiative, there will be a better understanding of (1) the nature of disciplinary intersections among professional communities, (2) the synergistic effects of language and gender within the disciplines, and (3) analysis and authentication of high impact practices that improve student movement toward success. Participants will deliver scholarly and practical deliverables that address disciplinary literacy, greater access regardless of gender, and improved education quality.

### **Project description**

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### **The Advancement of Scientific Knowledge and Broader Impact**

In addition to the development of the instruments described above and the research conducted through the thesis process, successful applicants will participate in international conference presentations, prepare a themed issue for a selected journal, and write for other top-tier publications. The Graduate School of Education will sponsor a conference on the combined topics of all successful applicants at AUC’s Tahrir campus with invited participants and plenary speakers from throughout the Egyptian and MENA business and education communities. Finally, applicants will produce and maintain a blog and open access library that makes their work available to those around the region.

### **Biographical Sketches**

Heba EL-Deghaidy teaches graduate and undergraduate courses in education. Her research focuses on Teacher development, science education, sustainable development and interdisciplinary learning in STEM/STEAM. She is currently chair of the Department of International and Comparative Education at the Graduate School of Education. Her doctoral degree in science education comes from the University of Birmingham, UK. She was the PI of the bilingual STEAM education project funded by British Gas. EL-Deghaidy is the co-PI for an Erasmus funded project called School and University Partnership for Peer Communities of Learners (SUP4PCL).

### **Leveraging Resources**

The Graduate School of Education is the home to the Middle East Institute of Higher Education. MEIHE's influence and connections to rural schools and to the Supreme Council for Higher Education. The GSE Centennial Lab project provides additional capacity to the unit through its digital content development component that reaches out to school teacher leaders throughout the country. Partners in the professional educator diploma program, ERASMUS+ offer additional resources for conducting this research.

### **Deliverables**

Deliverables include a master thesis deposited at the Digital Archive and Research (DAR) Repository of the American University in Cairo, publically accessible. In addition, the results of the research project will be disseminated through recognized venues in the field, such as international conferences and/or journals. Furthermore, they include an open access repository for Gender Discourse and Professional Literacies in MENA with accompanying blog, as well as the development of assessment instruments to be used in instruction in basic and higher education and in business applications. These would be subject to copyright and/or patent.

### **Professional Development and Mentoring Plan**

The Co-I will act as the thesis supervisor of the student providing guidance for the development of the research plan, and through close supervision of the thesis work conducted would support the student in completing the work and disseminating the findings. Furthermore, the student will participate in 360-degree evaluations that help build an understanding of their strengths and build their ability to use such tools in the market place or public sector.

### **References**

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