

1086-H1-1738 **Andrew Bucki*** (ajbucki@langston.edu) and **Abebaw Tadesse**. *New Educational Program in Mathematics for STEM Majors, Part I*. Preliminary report.

For the last several years we have worked on developing the New Educational Program in Mathematics for STEM Majors. The program employs an innovative and transformative ‘more learning = less teaching, with partnership and programming’ approach to the existing system. The present educational system is based on teacher dominated relationship that is characterized by: slang mathematics, examples are almost always given by teachers, students copy or imitate to memorize, only some critical thinking, fear of mathematics, and less creativity. Our model, on the other hand, primarily addresses the more fundamental issue of motivating and preparing unmotivated and underprepared students. The fundamental difference between the existing program and our program is that our program makes students think constantly as if they were talking to a computer instead of routinely reproducing sample examples. Then it is natural to think that they should create programs to communicate with a ‘virtual computer’. They translate a definition, property, or formula into a ‘computer program’ to ‘run’ it to master the underlying mathematical concept instead of routinely repeating existing algorithms provided by a teacher. In this presentation we will briefly illustrate the main ideas of the program. (Received September 24, 2012)