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## **Measuring the Impact of an On-line Maths Support System**

### **Day 1 – Parallel III (16.30-17.00)**

The ever growing gap between secondary and university level mathematics continues to be a major concern to higher education institutions. The increase in diversity of students' background in mathematics, from students who have studied the more traditional A-level programmes to students with BTEC or international qualifications and part-time students who have been out of education for long periods, means that they are often unprepared for the marked shift in levels and catering for all abilities is difficult in the normal lecture, tutorial format. Lack of sufficient mathematical knowledge not only affects students' success on courses but also leads to disengagement and thus a high drop-out rate in the first 2 years of study. Many universities now offer a maths support service in an attempt to overcome this but their success is varied.

Previously, the author presented a novel on-line approach to maths support designed and adopted by the University of Lincoln, School of Engineering and funded as part of the National HE STEM Programme, to bridge this transition gap for students, offer continued support through assessment for learning (AFL) and ultimately increase student success, engagement and retention. On-line diagnostic tests, containing levelled exam style questions, are administered after each taught topic which highlights specific support areas for each student. Support is then offered via numerous on-line resources and more traditional weekly timetabled sessions tailored to individual student needs. The system also incorporates a 'student expert' system as a way of encouraging peer-to-peer support and harnessing the knowledge of gifted and talented students. The on-line system builds on a previous system developed by Lincoln which was proven to increase student success, retention and engagement.

Since its implementation in September 2012, the new on-line system has proven to be a huge success not only in terms of monitoring the progress of students and offering targeted support but also as a way of addressing the issues surrounding poor engagement in maths support. Results show that with this system in place there is further improvement in student achievement for all students. They also show that for those students who still did not engage in the more traditional 'out of hours' support sessions, they still achieved high marks purely through the on-line system. This paper presents these results.