# Development of interactive online resources to support and enhance numerical skills among Medical Science students

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## School of Medical Sciences

### The problem:

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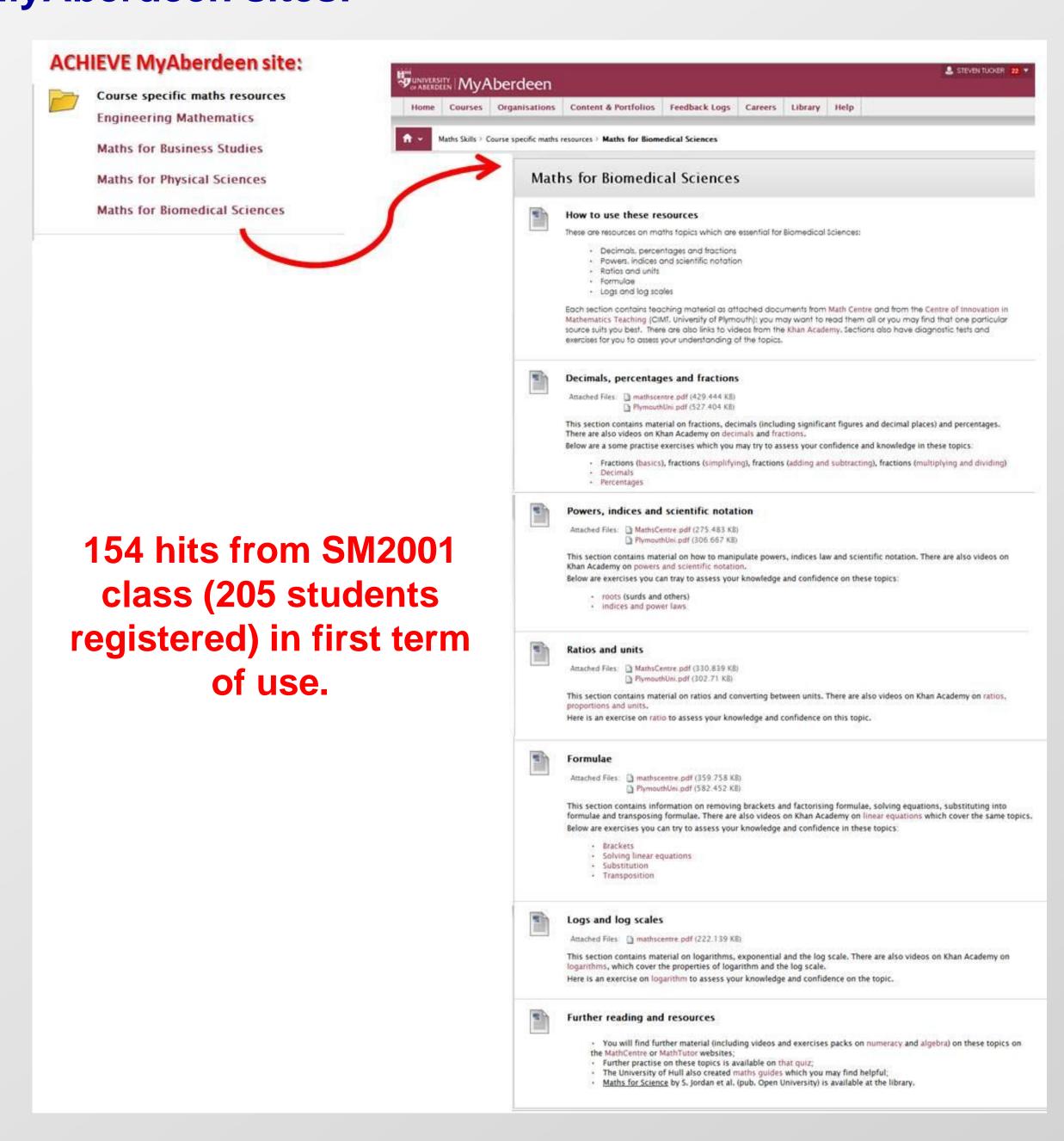
- Numerical skills are an inherent part of many science and non-science disciplines.
- Many students routinely struggle with numerical problems, often because they cannot see the link between the numbers and their discipline, but also because they have not performed numerical manipulations since school.
- Anecdotal data suggest this is particularly true of students articulating from college and also mature students.
- The Foundation Skills for Medical Sciences (SM2001) course, which is compulsory for all Medical Science students was designed to address this shortfall in generic skills and includes a numerical skills component.
- Recent feedback from students and staff teaching on the course suggests many students are still having difficulties with this aspect of the course and that further support is required.

#### The aim and methodology:

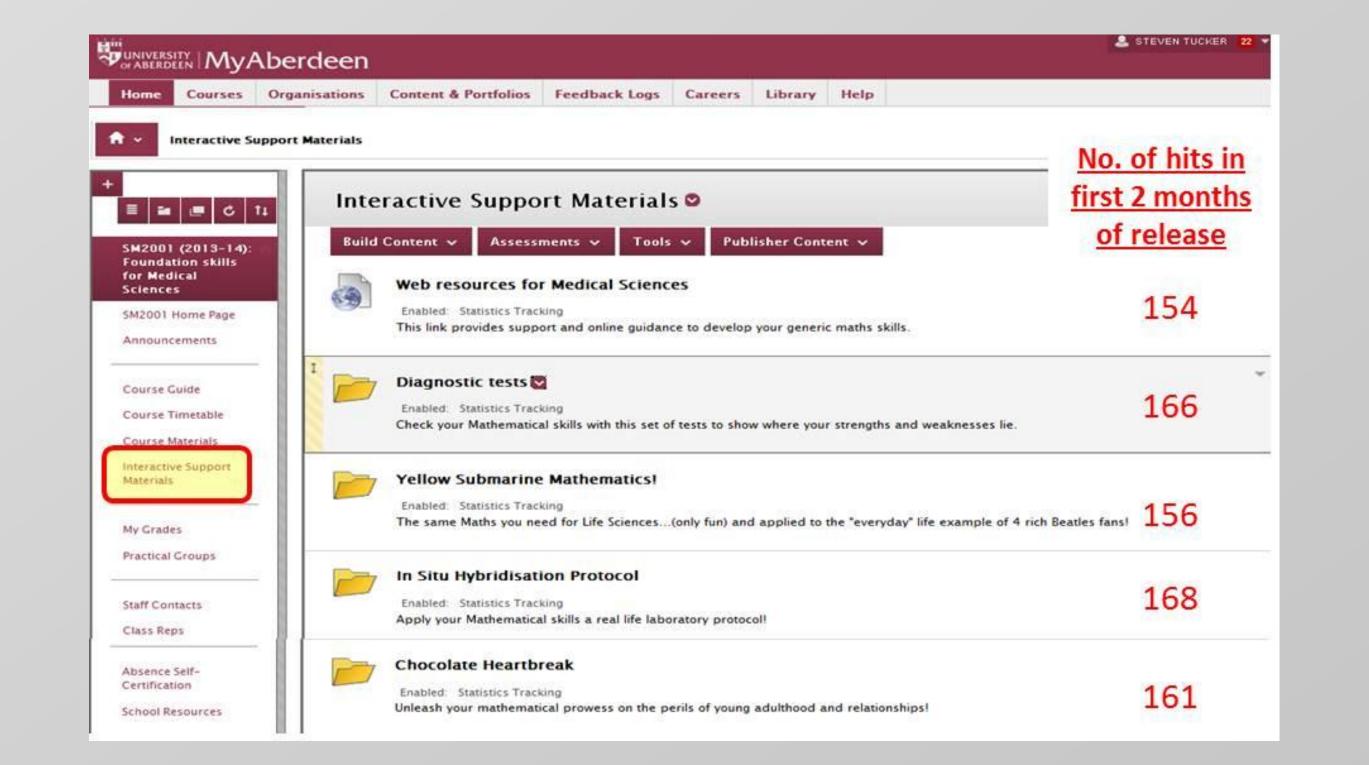
- Financial support was obtained from the QAA enhancement theme "developing and supporting the curriculum" fund and was used to employ a student intern (V.S Psalmon) for 7 weeks.
- The aim was to design a variety of online resources that would support students in revising and developing their numerical skills and to build confidence in this area.
- These would be available initially to the 205 students on the SM2001 course, with a view to becoming more widely available for all levels in the School and potentially to prospective students to help their transition to HE.
- Use of these exercises was non-compulsory.
- Design would involve use of Questionmark (an online assessment tool) to develop resources and MyAberdeen (the Institutional virtual learning platform) to provide access to the resources database.

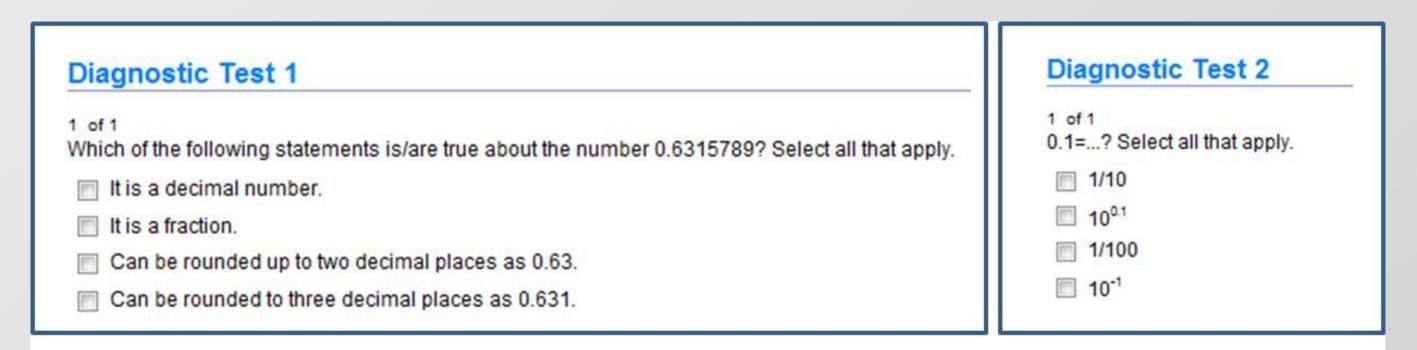
#### The resources:

1. Catalogue of text and web-based resources for revising mathematical skills, theory and practice available through the ACHIEVE and SM2001 MyAberdeen sites:

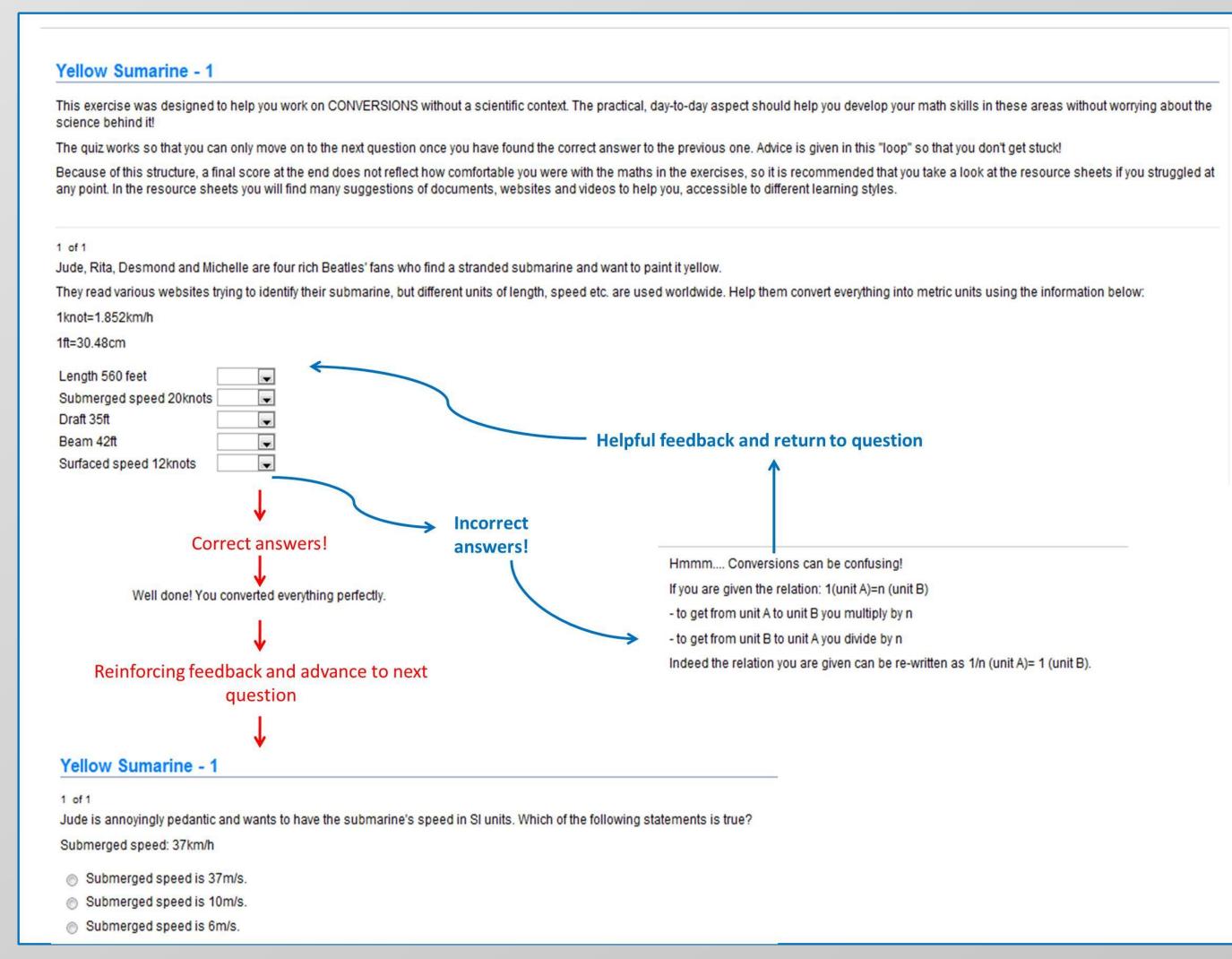


2. Variety of discipline specific interactive Questionmark exercises available through the SM2001 MyAberdeen site with the number of hits in the first 2 months from the SM2001 class (205 students total):





• Diagnostic tests are designed to probe key areas of student numerical skills with results determining whether further work is required.



- Some of the exercises (Yellow Submarine) take numerical manipulations out of a scientific context to help students grasp core principles without added scientific complexity.
- Chocolate dilemma and *in situ* hybridisation exercises involve scientific context.
- The structure of the yellow submarine, in situ hybridisation and chocolate dilemma exercises in feedback loops (see above) drives experiential and independent student learning.

#### The outcome:

- A varied and interactive set of resources, which has seen significant usage in its first 2 months, supporting student driven learning and self help.
- This approach is broadly applicable across many disciplines, which involve any type of numerical skills.