

Does the sum of the parts = the whole?

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Project Overview

This project had a two pronged approach to introducing the positive benefits of Functional Mathematics:

- It investigated student opinions of Functional skills Maths in reference to the use of practical applications and learner centred teaching
- And introduced 'Joint Practice Development' promoting a collaborative teaching approach to assist the learning and engagement of learners in Further Education.

Results gained suggest that the majority of students are aware of the use of Functional Skills in a general capacity. Students were surveyed on their preference to practical sessions, the feedback suggests that practical maths was more preferable to the traditionally taught lessons. Surprisingly not all students seem to have an understanding of where maths plays a role in their own vocational area with 16% disagreeing that maths has a functional role within their main subject area.

The focus of a collaborative approach between the Vocational Staff and the Functional Skills Specialists proved to be an effective tool to reduce the resistance to change and improve team communications and future team approach to class sessions

Primary conclusions show that mathematics taught practically is more likely to engage students and that students would prefer to have more class sessions using practical based mathematics relevant to their own vocational area. Also that a collaborative approach has helped to develop supportive links with other college areas allowing for creative ideas and teaching approaches to be discussed and investigated with the aim to produce an engaging and vibrant learning environment.

Intervention Strategy

October 2012:

- Approach Director of Learning for Construction and Motor Vehicle to attain agreement for research project
- Meet with learners and gather initial views
- Design new student centred practical sessions

November 2012 :

- Invite the Motor vehicle and Construction Curriculum teams to an initial briefing

December 2012:

- Set up 'Joint Practice Development' meeting with the Motor vehicle and Construction Teams

January 2013:

- Gather feedback from learners using pre-coded questions with a final question allowing students to express their views and opinions
- Continue monitoring the development of the working teams

March 2013:

- Students to form working groups and rate their experiences

May 2013:

- Final meeting with JPD group

Key Recommendations

Joint Practice has been beneficial and worthwhile leading to positive outcomes which will impact on the curriculum with the following recommendations:

- Invest time for 'joint curriculum planning' linking Functional Skills and Vocational Curriculum teams
- Support team teaching between the Vocational Tutor and Functional Skills Specialist using the practical vocational environments as stimuli for teaching and learning
- Combine creative learner-centred teaching activities alongside traditional teaching methods to support the learning and assessment of Functional Skills Mathematics

References:

- Connolly, P (2003). Ethical Principles for Researching Vulnerable Groups. Commissioned by the Office of the First Minister and Deputy First Minister. Northern Ireland.
- Banks, P in Jaques, K. & Hyland, R. (2007). Professional Studies: Primary and Early Years. Exeter

"Yeah, loved the session as we learnt loads and it was fun!"

"Yes I liked it. It helped me with my numbers."

"It allows you to get hands on and to understand what you need for different types of skills"



"At first, lessons felt pointless but after the rest of the group became more involved the lesson improved."

"I didn't like maths at secondary school but doing maths here has given me a better understanding and more confidence in my ability."

References:

- Coffield, F. (2008). Just supposing teaching and learning became the first priority ... London, Learning and Skills Network .
- Wolf, P. A. (2013). Review-of-vocational-education-the-wolf-report. London, UK: education.gov.uk.

The questionnaire considered if the student 'Agreed' that practical elements made maths relevant and real (sample size, 60 learners) . Thirty four (59%) Strongly agreed or Agreed that practical elements made maths easier to understand, 16 (28%) neither agreed nor disagreed, with only 8 (13%) disagreeing that practical elements of teaching helped. This result suggests a trend that practical maths sessions are of benefit.

Results show:

- The collaborative team work approach is showing small proactive steps to success
- The collaborative work has improved the awareness of the content and role of the Functional Skills Maths criteria in the two curriculum areas
- The approach has helped with increased team dynamics
- Activities, resources and ideas linked to curriculum planning have opened opportunities for fun practical activities
- The plans and activities produced from the collaborative team work mirror the Functional Skills curriculum and vocational areas with the aim to inspire an enjoyable teaching and learning environment for both the lecturer and student

