Pre-service mathematics teachers' concerns and beliefs on implementing curricular reform

Ní Shúilleabháin, Aoibhinn; Johnson, Patrick; Prendergast, Mark; Ní Riordáin, Máire

2016-06-17

Science and Mathematics Education Conference (SMEC): STEM Teacher Education - Initial and Continuing professional development, Dublin City University, Dublin, Ireland, 16-17 June 2016

Centre for the Advancement of STEM Teaching and Learning (CASTeL), Faculty of Science and Health, Dublin City University


http://hdl.handle.net/10197/8330
service mathematics teachers’ concerns and beliefs on

incorporate students’ communication of mathem

Teachers’ personal theories about learning and teaching influence how they value and may require a transformation of teachers’ ideas on teachin

new curriculum are integral elements of the success of such initiatives. Teachers’ perceptions teachers’ concerns and beliefs before and during the implementation of a reform (Fullan &
practices. Recognising the importance of teachers’ roles in reform, from the introduction of
been expanded to suggest that teachers move through several ‘Stages of Concern’ when
porate teachers’ efficacy beliefs about implementing curriculum
on using the reform. In addition, they found that teachers’ concerns about managing the reform in
framework based on teacher interviews (or TBI), Luft and Roehrig categorised participants’

heir beliefs around teaching and learning of mathematics. ‘Traditional’ and
‘instructive’ beliefs are categorised as teacher

‘Transitional’ beliefs refer to those which involve the student, but do not merit the
importance of the students’ own experiences in the classrooms. ‘Responsive’ and ‘reform
based’ teaching refers to beliefs where the student is at the core of all teaching and le

reform in Ireland, and with the authors’ specific focus on PSTs, the TBI framework provides
additional insight into these PSTs’ attitudes and beliefs as rela

Quantitative data from the questionnaires regarding PSTs’ concerns and efficacy beliefs were

d Philippou’s (2010) research. In addition, the TBI
framework (Luft & Roehrig, 2007) was utilised in further analysing these PSTs’ concerns
average concern ratings (\(\bar{x} = 3.48\)) are relatively high, these are much lower than participants’ informational 
beliefs is likely due to participants’ lack of familiarity with teaching and learning in 
refocusing concerns are likely also due to these participants’ lack of experience 
with the revised curriculum. The same may be said for participants’ efficacy beliefs around 
Kendall’s

“I’m not aware of much of the changes but it mostly depends on how it is taught and 
examined. I think a major change did have to be made to the syllabus, but I don’t know 
agree with it yet”

graduates. Participants’ responses to the question “What do you believe the purposes of 
introducing Project Maths were?” included beliefs such as:
“Increased participation at higher level. Response to demand from third level skilled graduates”,

to get students into STEM careers.”

(incorporated within the allocation of point scores of students’ final assessments in 2012) part of curriculum, listing “a” as the changes

“Make maths more interesting for students, increase its relevance, increase higher maths uptake and integrate the primary and post primary maths.”
over time, teachers’ concerns become more focused on the

Charalambos, C., & Philippou, G. (2010). Teachers’ concerns and efficacy beliefs about