Application for Gordon Kirk Travel Scholarship 2023

Applicant

Julie Hamilton

Senior Lecturer in Mathematics
St Mary's College, Belfast
191 Falls Road
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Qualifications
MA in Professional Education – Pass with Distinction – October 2019
PCGE – Newcastle University – June 2015
MMath – First Class Honours – Durham University – June 2013

I am currently studying for an EdD degree through the University of Glasgow.

Employment History
Senior Lecturer in Mathematics: St Mary's University College, Belfast, Sept 2020 – present
Teacher of Mathematics: Regent House Grammar School, Belfast, Sept 2019 – August 2020
Teacher of Mathematics: Emmanuel College, Gateshead, Sept 2016 – Aug 2019

Rationale

As an early career teacher educator (appointed to my current post in late 2020), I am keen to undertake research in that will help to better prepare my students for classroom practice. Coming from a background in Maths teaching, I have a particular interest in the teaching of Numeracy in the early years setting. The impact and importance of this cannot be underestimated, since research increasingly suggests that early mathematical development has a profound effect on later attainment and understanding (Duncan *et al.*, 2007). Approaches to Mathematics/Numeracy teaching at every level (including early years) vary significantly across the globe, and have been widely critiqued and examined in literature, but much less attention has been given to the effective preparation of student teachers to effectively teach Mathematics to early years learners. My research would therefore seek to investigate best practice in this area of teacher preparation, in a setting different to my own.

In an American context, the work of DREME (Development and Research in Early Mathematics Education) has highlighted the importance of getting early Maths education right. A key principle underpinning this work is the importance of high quality teacher preparation (both pre-service and in-service) if any given curricular approach (such as the Common Core Mathematics Standards) is to fulfil its potential for children's mathematical development.

With the support of the Gordon Kirk scholarship, I would propose to visit two American universities in order to investigate their approaches to preparing students teachers for effective early years Mathematics teaching. I intend to meet with faculty members, both individually and in groups, as well as examine course materials and curricula, with a view to gaining a holistic understanding of their approach to teacher preparation.

The first is James Madison University, Virginia, building on an existing partnership with my own institution (St. Mary's University College, Belfast). JMU has Mathematics educators based in both its Education and Mathematics departments, offering the valuable chance to examine this area from both an Educational and a Mathematical starting point. The second is Belmont Abbey College in Charlotte, North Carolina. The BAC teacher education programme is notable for having a strong mathematics component running throughout, even for non-specialist teachers.

Aims

1. To investigate best practice in the preparation of pre-service teachers to teach Mathematics and Numeracy in an Early Years setting
2. To investigate the characteristics of effective teacher preparation that are constant (or easily transferred) across different early years curricula, and different educational and cultural contexts.

Impact

If successful, the Gordon Kirk Scholarship would enable me to gain new knowledge and understanding of effective approaches to preparing student teachers to teach early years Mathematics. The impact of this falls into three main categories:

First, the knowledge and understanding gained would feed directly into the development of the teacher education courses which I lead in my home institution. My current role includes responsibility for teaching subject pedagogy to those primary and early years teachers who have chosen Mathematics as a specialism. Many of these students will go on to be Maths/Numeracy coordinators in Primary/Nursery settings across Northern Ireland, and as such, this course development can be seen as a strategic investment in the early years Mathematics provision of the next generation of pupils in this province.

Second, early years teaching is receiving increased attention in Northern Ireland at present; the Expert Panel on Educational Underachievement in Northern Ireland's Report 'A Fair Start' (Department of Education, 2021) names a focus on early years as one of its key recommendations, noting that this is key for both raising educational attainment, and reducing inequality. As such, this research would be well timed in order to feed in to the wider discussion about what such provision should look like.

Finally, the scholarship would allow me to strengthen partnerships between teacher education institutions in Northern Ireland and America, with a view to further collaboration. The initial publication outcomes would be a reflective overview report to UCET, but I would also intend to produce a paper based on the findings from the American context, a comparative paper on the similarities and differences between the American and NI contexts, and a set of 'best practice' recommendations for pre- and in- service teachers. It would also be my intention to present the outcomes of the research at a range of conferences, including the annual UCET Conference.

References

Department of Education (2021) *A Fair Start*, *A Fair Start*. Belfast.
Duncan, G. J. *et al.* (2007) 'School readiness and later achievement.', *Developmental psychology*, 43(6), p. 1428.

JAMES MADISON UNIVERSITY

To Whom It May Concern:

I am writing a letter to confirm that the Mathematics Education faculty in the Department of Mathematics and Statistics at James Madison University intend to meet with Julie Hamilton during Summer 2023. We share an interest and expertise in preparing pre-service teachers to teach mathematics to young learners (approximately 3-7 years old). We hope to compare and contrast approaches of preparing pre-service teachers for this important task.

Please feel free to contact me with any questions, comments, or concerns. Thank you!

Sincerely,

Alexis L. Stevens
Assistant Academic Unit Head
Associate Professor of Mathematics Education
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BELMONT ABBEY COLLEGE

THAT IN ALL THINGS GOD MAY BE GLORIFIED

March 28, 2023

To Whom It May Concern,

My name is Dr. Judith Richards McDonald and I am the STEM Educator and Director of Student Teachers for K – 6th grade pre-service teachers at Belmont Abbey College. Julie Hamilton, Senior Lecturer in Mathematics, reached out to me to see if I would meet with her over the summer to share some of the pedagogies we use for teaching our lower elementary pre-service mathematic teachers.

I will gladly meet with her to share information. If you have any questions or concerns, please contact me.

Judith Richards McDonald

Judith Richards McDonald, Ph.D.
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29 March 2023

Mr James Noble-Rogers
UCET
9-11 Endsleigh Gardens
London
WC1H 0EH

Dear James

UCET Gordon Kirk Travel Scholarship

I write to confirm that St Mary's University College Belfast supports the application of Ms Julie Hamilton, Senior Lecturer in Mathematics, for the above scholarship.

Julie has outlined her plan of work to me, which she proposes to undertake with colleagues from a university in the USA. She has a very good record at this College for research and scholarship in collaboration with other universities.

Should you require any further information, please feel free to contact me directly on this matter.

Yours sincerely

Peter B. Finn

Professor Peter Finn KSG
Principal