

**PGCE Primary Mathematics
Pathway Programme 2019-20**

Welcome to the Mathematics pathway element of your Primary PGCE course at Exeter University.

I am looking forward to you joining me in September for what I hope will prove to be an exciting and rewarding year. On the first day you will be given a Mathematics Pathway Study Guide and find out more about the content of the course. In the meantime you might like to do some preparatory reading.

Within this pack you will also have received information about the curriculum studies mathematics programme that all students undertake and the required preparation for this. As a mathematics pathway trainee you should spend time preparing in more depth and start to consider questions such as: 'What is mathematics?', 'How do we learn mathematics?', 'What are the common difficulties children experience in mathematics?' Do start from the new National Curriculum descriptions: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239129/PRIMARY_national_curriculum_-_Mathematics.pdf

Also, my personal views of the teaching and learning of mathematics can be found from: Fujita, T., & Hyde, R. (2013). Approaches to learning mathematics. *Mentoring in Mathematics Education: Supporting and Inspiring Pre-service and Newly Qualified Teachers*, 42-58. <https://books.google.co.uk/books?hl=ja&lr=&id=TUn7AAAAQBAJ&oi=fnd&pg=PA42&dq=Fujita+Hyde+learning+mathematics&ots=DAqdRa77ad&sig=uDIFabzrPsKwr-ZErUxnIUVGKs8#v=onepage&q&f=false>

There are a wide range of suitable books - here are a few suggestions to get you started on this.

Acheson, D. (2002) *1089 and all that: A journey into mathematics* ISBN 9780198516231

Barmby, P. et al (2014) *Understanding and enriching problem solving in primary mathematics*. Critical Publishing. ISBN 978-1-909330-69-6

Enzensberger, H.M & Heim, M.H. (2006) *The Number Devil: A mathematical adventure* ISBN 1862078289

Hansen, A. (2011) *Children's Errors in Mathematics: Understanding Common Misconceptions in Primary Schools 2nd Edition* ISBN 1844456129

Haylock, D. & Thangata, F. (2007) *Key Concepts in Teaching Primary Mathematics* ISBN 9781412934107

Paulos, J.A (2001) *Innumeracy: Mathematical illiteracy and its consequences* ISBN 0809058405

Do not feel you have to read them all. Choose one or two that appeal, or suitable alternatives. The most important thing is to refresh your view of mathematics and enjoy your reading. The Hansen text, or a similar title focusing on misconceptions, will be valuable throughout your years in teaching.

You will find it useful to begin to research current ideas and issues in relation to primary mathematics education. You are asked to register with the National Centre for Excellence in Teaching Mathematics www.ncetm.org.uk and look at the Maths mastery page (<https://www.ncetm.org.uk/resources/47230>). Also access the Mathemapedia web pages (<https://www.ncetm.org.uk/mathemapedia/>). Also watch videos of maths lessons available from this website. You should select one topic of interest from the Mathemapedia and be prepared to talk informally and share ideas about the topic in small groups in your first pathway session in September.

Ofsted published a report 'Good practice in primary mathematics: evidence from 20 schools'. We will critique this during the course and you are encouraged to read this in advance – see <http://www.ofsted.gov.uk/resources/good-practice-primary-mathematics-evidence-20-successful-schools>

Finally you are encouraged to browse the Nrich website <http://nrich.maths.org/public/index.php>. This website contains a wealth of problem solving activities for all ages. Please select and explore an activity for pupils in Stage 1, 2 or 3 that interests you. Bring this along to the first maths pathway session to share in small groups.

With very best wishes

Dr Taro Fujita
PGCE Mathematics Pathway Leader