Effective use of digital skills in adult mathematics teaching- a practitioner's view

Naeem Nisar

Redbridge Institute of Adult Education, London , UK

Naeem.Nisar@redbridge-iae.ac.uk naemnis@gmail.com

I believe by using effective digital skills in the adult mathematics classroom, tutors can deliver teaching based on a more learner' -centred approach, where they can use multidimensional activities and resources based on digital technology: watching topic- based maths videos; maths quizzes; online discussion through Google Stream and so on, which can cater well for spiky profiles (mixed ability groups) to enhance learning and encourage autonomy. As a practitioner and curriculum manager for Mathematics, I will share my findings and analyse both challenges and benefits of using digital skills in and outside the classroom and the overall impact.

Introduction

I work in the ACL (Adult Community Learning) Sector in London, and teach mathematics to adult learners at different levels, according to the National Qualification Framework of the UK: maths level 1 (equivalent to lower secondary school maths in most countries); maths level 2 / GCSE (General Certificate of Secondary Education). After IA (Initial Assessment) learners are placed according to the Adult Numeracy Core Curriculum into three levels: Entry Level, Level 1 and Level 2 /GCSE. Entry Level is further divided into three sub-levels: Entry 1, Entry 2 and Entry 3. Entry level has been set out in this way to describe in detail the small steps required for adults to make progress.

Our learners are diverse in ethnicity, gender, age etc., and some of them have not learnt mathematics in the UK but have studied maths in their country at primary and secondary school level. Most of them learnt maths in a traditional way and they did not have the experience of learning through digital technology. Therefore, mathematics epistemology in the digital age can be measured through the sources of digital skills methodology and methods used in a classroom.

Method

I believe that, by using effective digital technology such as computer applications, tablets and smartphones, websites and online platforms, tutors can deliver meaningful teaching: moving from dependency (learners relying on tutors) to independence (learning maths independently). They can also create an active learning environment: learners will work independently in and outside the classroom, where they can learn new concepts, discuss mathematical misconceptions with other learners and assess their learning independently. Hence, we can give ownership to the adult maths learners.

Contrary to the traditional maths classroom—dominated by a teacher-centered approach, I will discuss how adult learning takes place in a technology-enabled world of internet networks, websites and mobile devices in and out of the classroom. I will present a practitioner's view on using multidimensional activities; for example, watching topic-based maths videos; maths quizzes; online discussion through Google Stream and other resources based on digital technology, which cater well for spiky profiles (mixed ability groups) to enhance learning and encourage autonomy. Learners receive effective feedback. S Lawrence (201) expressed the same views: "the growing digital tools which are upgraded and updated constantly such as apps and online subscription sites, which give immediate feedback and learning/improvement tools".

Findings/Expected findings

I will report on working with two groups of learners, they are from many different national and ethnic origins. The learners are at the UK level of adult education: functional skills maths level 1 and GCSE in maths. I and the learners will share our experience of using Skillsforward— an e-assessment tool for maths for initial and diagnostic assessments, helping to identify their numeracy level along with the areas for improvement within the adult numeracy curriculum level. We will also express our views about using Mathswatch (online maths videos and interactive questions website) and how it helps to track learners' progress in mathematics. GCSE maths learners will share their experience using Google classroom—a virtual learning platform, helped to remove mathematical misconception by using Google stream.

As a practitioner and curriculum manager for Mathematics at Redbridge Institute of Adult Education, I will share my findings in terms of tracking learners' progress, formative assessment, and learners' areas for improvement, intervention and exam results. I will analyse both challenges and benefits of using digital skills in and outside the classroom and the overall impact.

References

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Mathematics epistemology in the digital age