**The Gamification of Mathematics for pupils using I-GAMED: An Improved Digital Educational Game Development Methodology**

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**Abstract**

The importance of Mathematics as a foundational subject geared towards developing the Creative Technological ability of people has since been established, though this is hampered partly by the fear of the subject and archaic methods of teaching. This paper aims to develop a digital educational game (MathPal) using an adapted methodology, Improved diGital educAtional gaMe dEvelopment methoDology (I-GAMED) which would stimulate and trigger school pupils’ creative technological abilities. A mixed methods approach to research was used, with a quantitative analysis of 420 respondents and a qualitative analysis of 10 participants. The overall interest of the participants was sustained as more than 70% of the participants in the Requirement Analysis phase of the game development were willing to participate and were fully engaged in the Contextual Inquiry process. Furthermore, the participants confirmed that the software developed had fulfilled their generated requirements. Overall, our study has revealed that the developed game, MathPal can be used to aid learning and increase the technological ability of learners. In the future, the vision is to transform MathPal into a Game-as-a-Software cloud computing model, and also include Artificial intelligence (expert system) features to it.

**Keywords**: Mathematics, technological, I-GAMED, MathPal, interest.