PhD Projects/Opportunities

Project Title: Immersive Applications to aid emotional regulation in Autistic Children
Full Time: 3 years
Start Date: September 2025
Application Deadline: 31 August 25

Main overview of the project
The objective of this project is to investigate the suitability of games technology as a means of intervention/ regulative therapy for autistic children.

Project Description
Emotional dysregulation is associated with social and behavioural deficits for autistic children and can result in disruption to their educational development ((Berkovits et al., 2017). (Ching Mey et al., 2015) states that Multi Sensory rooms can be used as a means of assisting autistic children to regulate and can provide educational benefits to participants. (Unwin et al., 2021) also suggests that the benefits of these can be enhanced when the layout and items in the room can be centred on the individual participant. This can be difficult with physical sensory rooms as they are expensive to construct and therefore must be designed to appeal to as many participants as possible.

To counteract this, the use of virtual sensory rooms which can be modified to adapt to participants has been trialled in works by (Ip et al., 2024; Parsons & Cobb, 2011), these studies and others used Head-Mounted Devices (HMDs) to implement the virtual environment. While this has been shown to be effective, this could lead to exclusion as some autistic children will not be comfortable wearing a HMD for long periods of time. Additionally, when the child is wearing a HMD, their teacher/ educational worker cannot see the student and vice versa, meaning that social interaction could be harder to facilitate. Finally, while the costs of HMD have reduced recently, they remain expensive to purchase in large quantities.

The research that will be carried out for this project will be in 3 steps:
1) Determine useful configurations and activities that can be incorporated into a virtual sensory room to benefit autistic children in a school environment. This will be done through desk based research and interviews of practitioners in the area of education for autistic children.
2) Develop a low-cost, mobile based application that implements these techniques and environments. Due to the flexibility of games technologies, this can be developed for mobile based applications and virtual reality devices simultaneously.
3) Explore and evaluate the potential benefit of the solution to determine its added value in comparison to A) Control group with no interventions B) Physical Sensory rooms.
The research will be carried out in collaboration between three centres based in QUB: Medialab, the Centre for Behaviour Analysis and the Centre for Technological Innovation in Mental Health and Education (TIME Centre).

Rounding out the consortium is Kids Together, a charity organisation that works with autistic children ranging in age from 4- 17 in West Belfast.

The student will have a 3 month placement in Kids Together. As part of their placement with Kids Together, the student will receive in-house focusing on understanding disabilities, autism awareness and managing challenging behaviours. This training includes workshops, mentoring sessions with experienced staff and hands-on experience. The student will work directly with children, gaining practical skills in behaviour management, communication and support strategies. Regular assessments and feedback ensure continuous learning, preparing them for future roles in disability support and research

Funding Body: DfE

Project Funding Type: Funded

Funding Information:
Applicants must hold a 2.1 Honours degree or equivalent qualification acceptable to the University. While a Master's degree (or equivalent qualification acceptable to the University) is not essential, it is desirable and applicants without this qualification will be considered on a case-by-case basis. Applicants should submit an application via the Queen's Portal.

As part of this they should also submit a 300 word supporting statement, clearly indicating this as part of their research proposal – eg what is their proposed research, and why are they the right person to do the research. An interview process will follow shortlisting. Interested candidates can contact Dr Darragh Lydon – d.lydon@qub.ac.uk about the project.

The following skills and traits are also required:-

a. A willingness/demonstrable ability to explore theoretical frameworks, such as in the fields of games technologies, behavioural analysis and emotional regulation , and apply them in a practical context.
b. An interest in working with autistic children. This may include workshop-facilitation skills, community of practice, a mindset of collaboration and respect for those who are neurodivergent.
c. An interest in / demonstrable ability in games technologies.
d. Some foundational knowledge of data and working with data is required.

To be eligible for consideration for this Department for the Economy Studentship, a candidate must satisfy all the eligibility criteria based on nationality, residency and academic qualifications. The candidate must be ordinarily resident in the UK for a full 3 year period before the first day of starting the programme to be eligible to receive a studentship covering fees and maintenance.
Further details on eligibility may be found at:

Department for the Economy Postgraduate Studentship scheme | nidirect
Tuition fees will be covered by the award, together with a yearly stipend at 25-26 rates. Please note that 25-26 rates are not yet available, the stipend for 24-25 is £18,622.