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A preliminary study exploring the impact of learner resilience under enforced online delivery during the COVID-19 pandemic

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ABSTRACT

This poster presents the preliminary findings from a research project exploring the impact of the COVID-19 pandemic on learner resilience from the shift to online delivery of learning and teaching amidst national social “lockdown” measures. This exploration of resilience was undertaken as part of the delivery of the first-year undergraduate computer science degree programme in a UK university. Resilience was measured by the Nicholson McBride Resilience Questionnaire (NMRQ) and three open-ended questions exploring what has supported their study most during the COVID-19 pandemic, what had been the greatest challenge, and how that challenge was resolved.

The preliminary results of this survey (N=103) illustrate how learner responses differed to the delivery depending upon their measured resilience level. Additionally, the results provide valuable insight into learners’ perceptions of the challenges of online learning, teaching and assessment. Given the continued impact on educational settings from COVID-19, online/blended learning is likely to remain a significant feature of future delivery; hence the insights offered from this UK institutional study can inform future sector practice.

CCS CONCEPTS

• **Social and professional topics** → **Computing education**; • **Applied computing** → *Psychology*.

KEYWORDS

Resilience, effective learning, undergraduates, COVID-19

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Recent work has explored learner psychology in computer science, including how a growth-mindset promotes success in introductory programming [5] and how resilience is promotes effective learning for first-year undergraduate computer science students [4]. The

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COVID-19 global pandemic resulting impact on educational settings has presented significant challenges and opportunities for education, especially for computer science practitioners [2, 3]. It is uncertain which innovations and adaptations from this period will continue in any post-pandemic “new (ab)normal”.

The learners were requested to complete the NMRQ [1] as part of online classes in January 2021 of their first year studies. Resilience was defined as “the ability bounce back from tough times or even triumph in the face of adversity; to display tenacity, but not at the expense of reason” [1, p.1], which is directly pertinent to the demands imposed on learners by the pandemic. This project received ethical approval through relevant institutional process; each learner was asked for their explicit informed consent to take part in the study. After completing the questionnaire, generic approaches for growing resilience in the context of first-year study were discussed and further offered. After the session, learners were informed of their individual NMRQ scores, the interpretations, and further support was offered. Open coding analysis was employed to analyse the results for the three open questions. The relative distributions of the codes was then analysed by resilience bands.

What has helped learners most during the pandemic was framed around work-study-life balance: the online delivery mode itself (with learners expressing positive impressions for an entirely online/blended approach); efforts made to facilitate online learning; and how individual learners were able to configure their own learning environment. The biggest challenges were seen to be: maintaining motivation and focus; managing mental health issues; lack of social contact and isolation; missing the opportunity for face-to-face learning; and on some occasions simply not enjoying online learning. Resolving the issues included: improving willpower and determination; making a study schedule; maintaining contact with friends and family; and accessing academic/pastoral support. The distribution of the issues appears to vary at different resilience levels. The outcomes from this preliminary institutional study provides a firm foundation for further research in this area.

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