Enhancing student wellbeing and student belonging in university through a gamification approach to rewarding and recognising extracurricular activities

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Introduction

Increasingly public health issues around poor mental wellbeing of university students is gaining international attention (Johnson & Crenna-Jennings, 2018; Baik et al., 2019), further highlighting the need for early interventions to reduce/prevent the development of mental illness in university students (Stallman, 2010, Laracombe et al. 2016, Anon, 2018; Heugh et al., 2019a). The case study example discussed here is a work in progress. Its focus is a post-92 urban institution where the student body is culturally diverse with 69% falling into the Office for Students (OfS) defined Black, Asian and Minority Ethnic (BAME) category and two-thirds of students are from lower socioeconomic backgrounds, falling into the bottom two centiles of the Indices of Multiple Deprivation (IMD) (QS, 2018). Most students are classed as living at home 'commuter students' (Bamford and Pollard, 2018,) with busy lives outside the university where many have childcare, caring and or employment commitments (QS, 2018, Heugh et al., 2019b). Therefore, students are more likely to have higher levels of psychological distress than the general population (Laracombe et al., 2016). The tendency is for students to maintain their local community links outside of university and the university learning community on campus can often appear disconnected from the students' lives and commitments (McIntosh and Shaw, 2017; Heugh et al., 2019a). Additionally, many students struggle to make the social transition to university, and there is the potential for increasing numbers of students to become unhappy and susceptible to mental health issues (AdvanceHE, 2017; Johnson and Crenna-Jennings, 2018). The case study chimes with those that underline the importance of developing student belonging and the need for managing challenges to wellbeing presented by a crisis such as Covid-19.

The case study

The case study presented here was aimed at enhancing student mental wellbeing in learning environments in order to stimulate students' motivation and engagement to develop their core knowledge, academic skills and self-efficacy. It was framed around an intervention aimed at creating social connections through a gamification approach to learning. It aimed at building relationships (i.e. students/students, student/teachers, student/local community) to develop feelings of belonging while allowing choice and flexibility for students and rewards for learning. The relevance of the intervention has become more poignant as a result of the Covid-19 crisis. The technology-based intervention gamifies the learning experience, offering new and innovative ways to engage with subject materials. Marczewski (2013) acknowledges the establishment of the term gamification in 2002 and its use in an education environment is increasing (Deterding et al., 2011; Subhash & Cudney, 2018). It has been found to aid engagement and motivate learners to enhance successful outcomes (Chou, 2017) such as increasing the possibilities for the development of transferable skills relevant to employment. Also, the benefits of using a gamification approach are acknowledged by Johnson et al. (2016) as enhancing student wellbeing. Langendahl et al. (2016) state that gamification can help create effective teaching, support learning outcomes and enrich university learning experiences through offering a fun and relatable approach, which has the potential to capture their attention and maintain and arouse their interest in their learning (Faiella and Riccardi, 2015; Subhash & Cudney, 2018). Access via the students' virtual learning environment is integral to the project appeal when a physical presence on campus, is not always achievable for any number of reasons such as caring or work-related activities prevalent among our student body and more recently the Covid-19 pandemic. The fun aspect heightens positive aspects of gamification on the emotional wellbeing of participants where engagement does not result in failure but an opportunity to try again and improve without any of the traditional consequences of failure (Johnson et al., 2016). In other words, there are opportunities for new learning and skill development in a 'safe' space, which is without threat to their degree studies. Not all activities are technology-based, so less tech-savvy students are not disadvantaged. Of course, such an approach may not appeal to all students, for example, mature students who have already been in employment and in such cases there are opportunities to gain addition degree

credits through registering for the related module assessment where the reflection on personal development and the development of transferable skills offer further learning opportunities.

The importance of developing a sense of belonging

Findings from previous research have indicated the importance of developing a sense of belonging and community to aid in encouraging student engagement and the need for institutions to build resilience amongst the student body with resilience being identified an essential characteristic linked to student wellbeing (Bamford et al., 2015). While the focus for this paper is not building resilience, the importance of this construct is acknowledged, particularly if we consider resilience as the ability to survive in the face of adversity or the ability to spring back and adapt. The team considered the make-up of the student body and how we might go about enhancing wellbeing – a concept that may appear nebulous when considering university-wide targeted interventions. The question was how to introduce a university-wide intervention that would achieve a measurable outcome? The findings from the previous work identified that a university-wide intervention was required in order to not only encourage notions of community and cosmopolitanism but to understand differences. While providing students with opportunities to build the skills they need to traverse different communities and become employable global citizens, the intervention would additionally promote wellbeing through the building of resilience and belonging. Thomas (2012) and Thomas and Jones (2017) highlighted that developing student belonging and enhancing the social context of higher education has been critically important in the process to improve engagement and the overall student experience. Our students have indicated the importance of this social context and initiatives that promote it (Heugh et al., 2019b). Student belonging is a significant contributory factor for a positive experience for students from disadvantaged groups in higher education, through building their sense of community (Mountford-Zimdars, et al. 2015). The team considered that the intervention outlined in this paper would offer a 'safe space' for the development of this sense of belonging.

Developing a team approach to address wellbeing and belonging

We, therefore, hope to offer the reader some insights into an initiative developed by a university-wide project team, with the aims of enhancing student wellbeing and belonging and developing transferable skills. The project team consists of undergraduate students, academic and professional services staff, who were involved in the initial consultation and design process. The team felt they needed to consider a multi-layered approach offered at various points in the students' learning journey through university to address both the external and internal factors that contribute to building resilience and wellbeing. We felt that these contributions could be recognised or formalised to reward their achievements in some way. It was felt that if we framed this as a game that the fun element would encourage participation.

As a consequence of initial meetings and research, a structured innovative intervention was designed within a gamified framework and accessible to students through the university Virtual Learning Environment (VLE). The VLE platform was used to provide a mechanism that would ensure 24/7 accessibility. The team viewed the gamification of activities as critical to encouraging and improving engagement and opportunity amongst university undergraduate students. The technology-based intervention was innovative in its gamification of extracurricular activity. The team were aware from focus groups with students that such extracurricular activities are attractive to the student body, optimising the likelihood of high rates of uptake across the university learning community (Heugh et al., 2019b).

The intervention and game

A gamification element was introduced to promote enjoyment (Welbers et al., 2019) through engaging with missions designed for participation in three stages with rewards for each stage completed. It was considered that the recognition of achievements with electronic badges or something equivalent (Subhash and Cudney, 2018) would contribute to a 'Passport' that could be awarded at graduation on completion of all three stages. The team developed a potential strategy to encourage uptake, which focused on 'missions' at each level of study structure into

three tracks, one focusing on continuing professional development, a second focusing on engagement in the community and the third on learning.

Some of the missions are quizzes, recognising Harvard referencing skills or virtual learning environment skills, for example. Students are also awarded badges for peer mentoring, volunteering, participation in a community project as well as acting as Student Reps or Welcome Ambassadors. For some missions, badges can be awarded automatically on participation, and for others, evidence needs to be supplied. The missions support and encourage students to engage with the project. Missions provide a progressive accumulation of recognition for achievements. Thus, students compete for packages to support graduation and other rewards for stages one and two of the game. A reward system is a recognised gaming tool, which incentivises participation. Our student partners felt that this was important. The vehicle for the intervention, as identified above, is the students VLE. A guiding 'caricature' was created in order to embed the gamified approach and remove any form of tutor-led context. A competition was held to name the caricature guide who leads students through the stages of the game. Each stage allows for the award of a certificate and the final level offer and award of a passport. A completed passport entitles the students to enter into a prize draw with the prize of graduation costs. There are three streams, each with stages that consist of several activities with five points awarded for each activity. The streams offer different foci; continuing professional development, civic and community engagement, and learning. Students can pick from any stream to achieve a total number of 25 points for each stage.

Focus group feedback

This approach emulates a 'game mentality' where engagement in the game results in a reward (Subhash and Cudney, 2018; Welbers et al., 2019). The students outlined that the activities focus on their improvement, along with what is needed to achieve this. For them building a community was not seen as a top priority. The university has therefore invested in a reward scheme linked to supporting students' graduation costs which acknowledges the need to offer an incentive but at a low cost. Providing an incentive for participation fits with concepts of gamification outlined by those such as Faiella and Ricciardi (2015) and encourages engagement

by students. By encouraging employability skills, recognising citizenship and community volunteering participation and the improvement of academic literacies, an anticipated additional tangible outcome would be the enhancement of student wellbeing through fun activities in a safe environment.

The pilot phase – Focus Groups

To date, the intervention is in its pilot phase, but initial indications have produced positive responses and engagement in activities by students. Three out of six Schools have undertaken a trial launch with various levels of participation; for one School this has been across three years of undergraduate study, for another the final year only. The variation in the intervention piloting allows for comparison to be made concerning engagement across years and subjects. The interventions are being evaluated and adapted through a series of focus groups held in each School. The aim of the pilot has been to trial gamification and to embed an individualised and connected approach, which students would find relevant and engaging. The game allows for the raising of aspirations and removing potential barriers to success by encouraging participation in activities that create a sense of belonging, as well as enhancing students' employability and soft skills development. Initial feedback from the focus groups has indicated a very positive response from students; additionally, students who are considered to fall into a 'risk' category whom the university wishes to ensure they have access to support have already benefited from participation in the project. An example is offered by single parents who have childcare responsibilities, employment commitments and have to juggle their studies with their life commitments. They claim credits and a possible reward from participation in the scheme enhancing both their positive mental state and to some extent relieving anxiety around commuting to the university environment (especially during Covid-19 times).

What we are hoping to achieve by the intervention

Figure 1 below illustrates the network of relationships that support student wellbeing and how the intervention links with overall university support mechanisms.

 Figure 1

(insert Figure 1 here)

The challenges encountered and next steps

The challenges encountered to date have primarily been around the technical complexity of the scheme and ensuring that the gamified approach was deliverable. Research reveals a link between the use of technology, flexible learning spaces and improving student wellbeing as they encourage a greater motivation to learn (Langendahl et al*.,* 2016; Kariippanone et al*.,* 2018). By combining these approaches, we sought to enhance the attractiveness of our intervention with a gamification approach which the team recognised was ambitious. The initial launch has revealed that automated tasks and quizzes are popular amongst students, and the inclusion of more such tasks will undoubtedly reduce the need for manual management of the scheme.

Further development and expansion of the tasks will be undertaken. In the post-pilot phase, additional focus groups will be held, following the initial award of incentives to participating students and as further tasks are developed. A final analysis will be undertaken of the impact on student achievement and wellbeing, before a full roll out across the university. The initial feedback from students, however, has produced some very positive results with indications of an encouraging impact on student wellbeing. It has provided a sense of community and belonging for participants, increasing their connectedness with each other and the institution and reducing feelings of isolation, especially with the move to emergency online teaching due to Covid-19.

Conclusion

The intervention offers students the possibility for achieving additional degree credit points, a portfolio of transferable skills, the opportunity of developing and enhancing their CV and offer

students a financial contribution towards graduation costs upon award of the passport. It aims to develop and build civic responsibility; enhance career prospects; develop skills additional to subject knowledge; establish a method of recognition and reward for students who have increased partnerships between the university and local communities. Through achieving these objectives, the intervention will result in an overall improvement in the wellbeing of the student body and the creation of an active learning community that draws on and enhances students' local communities and encourages volunteering and the development of soft skills. Students benefit from the activities, which include confidence development, resilience skills, agility, persistence, flexibility, adaptivity and reflexivity.

References

AdvanceHE (2017) *Transitions* https://www.lfhe.ac.uk/en/governance-new/resource-bank/Governance_News.cfm/Transitions%20and%20mental%20health Accessed 10th January 2020.

Anon (2018) *A framework for promoting student mental wellbeing in universities* https://resiliencetoolkit.org.uk/wp-content/uploads/2018/01/a-framework-for-promoting-student-mental-wellbeing-in-universities.pdf. *Unistudentwellbeing.edu.au* Accessed 14th January 2020.

Baik, C., Larcombe, W., and Brooker, A. (2019) How universities can enhance student mental wellbeing: the student perspective, *Higher Education Research & Development*, 38(4), 674-687.

Bamford, J., Djebbour, D., and Pollard, L. (2015) "I choose to do this, because I want to do it! And I'll do it no matter if I have to fight the world …": the need for resilience in culturally diverse urban higher education learning environments. *Journal of Multicultural Education*, 9 (3), 140-158.

Bamford, J. and Pollard, L. (2018) 'Developing relationality and student belonging: The need for building cosmopolitan engagement in undergraduate communities'. *London Review of Education,* 16 (2),214–227.

Chou, Y. (2017) A comprehensive list of 90+ gamification studies with ROI stats [Blog post]. http://yukaichou.com/gamification-examples/gamification-stats-figures/ Accessed 25 February 2020.

Deterding, S., Dixon, D., Khaled, R. and Nacke,L. (2011) From game design elements to gamefulness: defining gamification. In: *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, Tampere, Finland, 28–30 September 2011, 9–15. New York: ACM.

Faiella, F., and Ricciardi, M. (2015) Gamification and learning: a review of issues and research. *Journal of e-Learning and Knowledge Society*, 11(3). https://www.learntechlib.org/p/151920/ Accessed 3 March 2020

Heugh, S., Anderson, S., Birad, J., Cambridge, R., Milette, J. and Page, N. (2019a) Strategies to enhance student engagement; challenges facing two modern urban London universities. *International Students as Partners Institute Conference, Adelaide.*

Heugh, S., Anderson, S., Birad, J., Cambridge, R., Milette, J., and Page, N. (2019b) Outside the classroom; creating inclusive communities and supporting good mental health. *Transforming Futures, International Research-Based Education Conference, Adelaide.*

Johnson, D., Deterding, S., Kuhn, K-A., Staneva, A., Stoyanov, S andHides, L. (2016) Gamification for health and wellbeing: A systematic review of the literature, *Internet Interventions*, 6: 89-106, ISSN 2214-7829, https://www.sciencedirect.com/science/article/pii/S2214782916300380?via%3Dihub Accessed 23 March 2020.

Johnson, J. and Crenna-Jennings, W. (2018) Prevalence of mental health issues within the student-aged population. *Education Policy Institute* https://epi.org.uk/publications-and-

research/prevalence-of-mental-health-issues-within-the-student-aged-population/#_ftn12Accessed 10 January 2020.

Kariippanon, K. E., Cliff, D. P., Lancaster, S. L., Okely, A. D. and Parrish, A. M. (2018) Perceived interplay between flexible learning spaces and teaching, learning and student wellbeing. *Learning Environments Research*, 21(3), 301-320.

Langendahl, P-A., Cook, M. and Mark-Herbert, C. (2016) Gamification in higher education. Toward a pedagogy to engage and motivate. Working Paper series 2016:6 ISSN 1401-4068 online publication in Epsilon.

Marczewski, A. (2013). *Gamification: a simple introduction*. Andrzej Marczewski.

Larcombe, W., Finch, S., Sore, R., Murray, C.M., Kentish, S., Mulder, R.A., Lee-Stecum, P., Baik, C., Tokatlidis O. and Williams, D.A. (2016) Prevalence and socio-demographic correlates of psychological distress among students at an Australian university, *Studies in Higher Education,* 41(6),1074-1091, https://www.tandfonline.com/doi/full/10.1080/03075079.2014.966072 ccessed 23 March 2020.

McIntosh, E. and Shaw, J. (2017) Student resilience, exploring the positive case for resilience. *Unite students.* http://www.unite-group.co.uk/sites/default/files/2017-05/student-resilience.pdf Accessed 12 January 2020.

Mountford-Zimdars, A. K., Sanders, J., Jones, S., Sabri, D. & Moore, J. (2015) Causes of differences in student outcomes. *Higher Education Funding Council for England,* United Kingdom.

Stallman, H. (2010) Psychological distress in university students: A comparison with general population data. *Australian Psychologist*. 45(4), 249-257.

Subhash, S. and Cudney, E.A. (2018) Gamified learning in higher education: A systematic review of the literature. Computers in Human Behavior. 87, 192-206.

https://www.sciencedirect.com/science/article/pii/S0747563218302541?via%3Dihub Accessed 23 March 2020.

Thomas, L. (2012) What works? Student retention and success. *Higher Education Academy*. York, UK.

Thomas, L. and Jones, R. (2017) Student engagement in the context of commuter students. *London: The Student Engagement Partnership (TSEP).* https://lizthomasassociates.co.uk/projects/2018/Commuter%20student%20engagement.pdf. Accessed December 4th 2019

Quacquarelli Symonds (QS) (2018) UK Domestic Student Survey, an action plan for domestic recruitment in 2019. https://www.qs.com/portfolio-items/uk_domestic_student_survey_2019/ Accessed28 March 2019.

Welbers, K., Konijn, E. A., Burgers, C., de Vaate, A. B., Eden, A. and Brugman, B. C. (2019) Gamification as a tool for engaging student learning: A field experiment with a gamified app. *E-Learning and Digital Media,* 16(2), 92–109. https://journals.sagepub.com/doi/10.1177/2042753018818342 Accessed 23 March 2020.