

# Empowering Student Transition and Engaging Students Using *Actionbound*: A Gamified Collaborative Community Learning Platform

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**Abstract:** Transition to University is a significant milestone for students who are embracing new experiences and challenges. It is particularly vital for international students who have to adapt to a new and different learning environment in the UK. Successful transition and sense of belonging in a new institution lay foundation for students' academic success. However, transition is a process rather than an event. Accordingly, fostering a collaborative community learning environment and facilitate peer networks and community support becomes critical. It enables social interactions and active learning by engaging students in collaborative group activities, which would in turn support students' transition to and belonging in a new learning environment. With the advancement of technology, computer-assisted and computer-supported collaborative learning flourished in 21<sup>st</sup> century. The emergence of mobile digital technology leads to the design of gamification in learning, known as game-based learning or gamified collaborative community learning in order to engage students in fun and interactive activities. 'Actionbound' is one of the versatile gamification platforms and mobile apps which can engage students in collaborative community learning with gamified activities. It enables users to create, share and participate in interactive scavenger hunts, tours, games and quizzes. It allows users to design custom challenges, incorporate multimedia content and track players' progress in real-time. It engages participants to work collaboratively to solve challenges and complete tasks. At UHBS, we have used Actionbound to support the student transition into the University' learning journey at the start of term. We used scavenger hunt game and quiz functions within Actionbound to direct students to collaborate in teams to solve the challenges and tasks. In this action research, students found Actionbound fun and loved the competitive nature with points and leaderboards. It helped them build network and form friendship. Together, they solved puzzles and tackled challenges which supported their transition and got them prepared for learning in a new environment. Moving forward, as an ongoing action research, we would like to extend the use of Actionbound to term time and in module delivery so to track students' engagement with the collaborative learning platform and investigate the impact on their academic performance.

**Keywords:** Actionbound, Gamification, University transition, Student engagement, Collaborative community learning

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## 1. Introduction

UK has been the second most popular country for international students followed by US being the first. The latest report from the HESA's (2023) Higher Education Student Statistics UK 2021/22 reports that there were 679,970 international students studying in the UK, with 120,140 being EU students and 559,824 non-EU students in 2021/22 academic year. This was a record total, the 9<sup>th</sup> consecutive new record with an increase of 37% in 3 years (184,000 students) (Bolton, Lewis and Gower, 2024). As a matter of fact, since 2020/21, the UK government has already met its target of attracting 600,000 international students studying in the UK which was meant to be achieved by 2030. That means the ambition was achieved 10 years ahead of its plan as stated in the UK Government's its International Education Strategy (Crown, 2021). It is interesting to note that majority of the international students are from Asia and Africa with the top 4 sending countries being China (151, 690), India (126,535), Nigeria (44,195) and Pakistan (23,075) (HESA, 2023), which signify a very diverse cultural, societal, and educational backgrounds. Consequently, this became a challenge for many international students when transitioning into the UK Higher Education system.

Collins (2012) states international students studying abroad face challenges of social differences, educational expectations and migration regulations. Students may feel 'fragile' and 'incapable' in their transition to higher education life and studies. As Cheng (2023) rightly stated, although each international student and their experience is different, they all seem to face similar challenges in adapting to a new culture, setting into a different institution, and interacting with a more diverse study body. What is more, Collins (2012) points out an easily neglected characteristics of international students, such as the multi-layered identities which leads to challenges of their sense of belonging and student wellbeing.

In recognition of and response to the international student challenges, most UK universities have set up student transition projects, programmes and guidance to support international students adjust to a new learning and teaching environment (Lu, 2022). Amongst many, the adoption of communication technology seems an effective

tool to help international students communicate and integrate (Collins, 2012). With technological advancement, new educational tools and mobile technology emerge in supporting students' learning and transition, therefore it would only be advantageous for universities to leverage on such tools to connect with students.

This article showcases an effective gamified collaborative learning tool called 'Actionbound' which has been used support international students' transition into university learning environment and a sense of belonging at the University of Hertfordshire Business School (UHBS). This article also demonstrates the design of Actionbound and students' feedback of Actionbound in how it helped their transition and belonging.

## **2. University Transition and Student Belonging**

Studying in the UK presents greater challenge for international students who are alone and coming from a very different cultural and educational background, with lack of familiarity of the campus layout, academic programmes, and the difficulty of making new friendship. All the challenges might lead to feelings of loneliness and anxiety, which prolongs their transition into their academic studies and life, and their continuation and progression with the course. Barriers of belonging may include the quality of interactions between students and academic and support staff, feedback processes, quality of advice about matters related to the course of study and the university policy and procedures.

Montgomery & McDowell (2009) states the values of 'being, belonging and becoming' becomes particularly important at the start of the student learning journey especially for international students. International students who are new to UK higher education system and the academic journey can find it overwhelming. It becomes more critical when it is a first-time experience for them, particularly single-travelling students studying abroad and being away from their home for a long time. Similarly, Meehan and Howells (2019) also highlight the concept of 'belonging' and the importance of fostering a supportive learning environment. That indicates, when students' transition experiences are crafted well, it allows them to quickly and more confidently develop a strong sense of belonging. Ultimately, understanding the multifaceted nature of international students' transitions and the role of belonging within their university experience is crucial. These insights not only inform strategies to better support international students but also emphasise the importance of fostering inclusive academic environments that acknowledge and cater to the unique challenges these students face (Foster and Ecochard, 2017).

However, it is interesting to note the sense of belonging and positive learning experience can be attributed by the supportive community amongst international students rather than integration with home students. With robust support system and guidance, the international student communities can build networks and create engaged academic and social experience (Montgomery and McDowell, 2009; Meehan and Howells, 2019).

In addition, Dost and Smith (2023) highlight that transition into Higher Education is a process rather than an 'event'. It becomes more significant where there is a diverse body of students from different cultures and backgrounds. Therefore, besides a single induction event, engaging students in a wide range of academic, social and cultural events would facilitate the transition and sense of belonging. In addressing the challenges of students' transition to university and sense of belonging, Peacock and Cowan (2019 cited in Dost and Smith, 2023) suggest that active learning environments in higher education facilitate collaboration and social interactions, and any forms of formal and informal interactions amongst new students would help students to settle into the university and feel connected with sense of belonging.

## **3. Gamified Collaborative Community Learning**

Collaborative community learning supports students' transition and belonging because it forms a learning community for new students with peer learning and support. Collaborative community learning is rooted in theories of constructivism and links to social constructionist theories (Bruffee, 1999). The concept of social learning was firstly proposed by Lev Vygotsky (1962), a Russian teacher and psychologist, who stated learning is taking place through communications and interactions with others, such as peers, teachings and other stakeholders. He acknowledges the role of social environments influences the learning process and advises educators to create a learning environment that maximizes the learner's ability to interact with each other through collaboration, discussion and feedback. Meanwhile, Vygotsky (1962) argues that culture is the fundamental factor for learning and knowledge construction. It is the culture which shapes rules, skills and abilities of each individual who are interacting with and learning from one another.

Similarly, in Yang's (2023) historical view of collaborative learning, he highlights the role of collaboration in learning and emphasises knowledge is gained in the process of social interaction among communities of

knowledgeable peers. In collaborative learning environment, students learn from each other through conversations and negotiations of individual cultures and boundaries. It focuses on problem-solving and interactive learning activities. Similarly, Bruffee (1999) considers knowledge is constructed amongst people, and education is a process of re-acculturation which challenges the concept of power and authority.

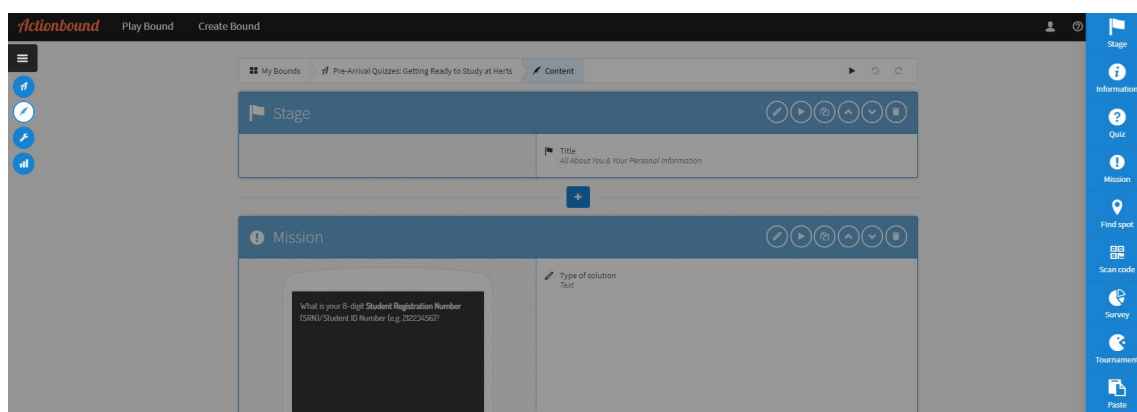
Jean Piaget and Lenard Vygotsky consider playing forms a critical role in knowledge construction and learners' cognitive development (Piaget, 1962 and Vygotsky, 1962 cited in AdvanceHE, 2020). As a matter of fact, the importance of learning and playing can be traced back to thousands of years ago when puzzle games, board games and other types of physical board games were employed in education inside and outside classroom setting. With the development of technology and the wide use of computers and internet, collaborative learning has evolved into 'computer-assisted collaborative learning' (Johnson & Johnson, 1983 cited in Yang, 2023) with the emergence of 'Computer-Support Collaborative Learning (CSCL)' and a flourish of research in CSCL in the 21<sup>st</sup> century (Dillenbourg, et al., 1996 cited in Yang, 2023).

However, collaborative learning can be challenging to implement as there is no single approach. The advancement of digital technology makes gaming a mobile and social activity which enables players to participate from all over the world with no physical constraints. This links to a more recent concept of 'gamification' and 'game-based learning', which is considered fun, motivating, and engaging. It also provides a form of 'edutainment' and an opportunity to change behaviour and learning engagement (Advance HE, 2020). In particular, the competitive feature of games also serves a powerful motivator of engagement and enjoyment. While many HEIs exploring and re-evaluating the use of gamification as part of learning and teaching pedagogy (Niman, 2014 in AdvanceHE 2020), this article will focus on the gamification tool and its use to support international students' transition into UK university life within a collaborative learning environment.

#### **4. The Gamification Platform: Actionbound**

Actionbound is a versatile gamification platform and mobile app that enables users to design, share and participate in interactive scavenger hunts, tours, games and quizzes, called 'bounds'. It is a self-explanatory and easy to operate platform. It is easy to design bounds by clicking the + (add) button on the Content page, and different tabs would appear on the right-hand banner, see the design screen in Figure 1:

- The flag sign named 'Stages' creates different parts or sections which serves as section headings,
- The 'Information' sign is to add instructions and guidance,
- The question mark refers to 'Quiz' is to design quiz type of questions, e.g. multiple choice questions,
- The exclamation sign named 'Mission' is to design missions like taking a photo, video and audio,
- A location sign refers to 'Find spots' is to design scavenger hunt with built-in GPS co-ordinate points,
- 'Scan codes' works for pre-designed QR codes which are normally placed at different places,
- The pie chart is to design 'Surveys' and identify the proportion percentage of a population,
- 'Tournament' is for questions that allows players to play against each other at random.



**Figure 1: Actionbound Content Page**

As described above, Actionbound allows users to design custom challenges, incorporate multimedia content and track participants' progress in real-time. It augments the reality by enhancing peoples' real-life interaction whilst using their smartphones and tablets (Actionbound, 2021). In addition, it engages participants to work individually or collaboratively to solve challenges and complete tasks in a fun and competitive setting.

Actionbound is often used in educational settings to engage students in active social community learning and gamified activities both inside and outside classroom to enhance learning experience. It has been widely applied in different learning and teaching settings amongst a diverse subject and across different countries. To name a few, English language studies in Croatia (Svalina and Truck-Biljan, 2020), construction and building utilities subject in Greece (Rosdiana, et al. 2020), Veterinary Neurology in Germany (Nessler, et al. 2021), history studies in Indonesia (Skaraki and Kolokotronis, 2022) and Chemistry studies in UK (Spencer-Briggs and Rourke, 2023). Moreover, Actionbound has been adopted by many UK universities; however, there is limited research exploring the use of Actionbound in facilitating and supporting international students' transition into UK University study and life.

## **5. Actionbound in Action: The Design and Application**

At University of Hertfordshire Business School (UHBS), we have adopted Actionbound to engage students in an active, fun and gamified setting by taking advantage of the active and experiential learning features of Actionbound so to overcome the challenges that international students facing when they start their UK university learning journey. It is worth noting that Actionbound requires licence and offers institutional licence at a very reasonable cost. An appointed super user can set up 'unlimited' co-users. Users can design their own bound games with their individual account for different purposes with different types of questions. Designed bounds can also be easily copied or shared by one person to another, so they do not have to create it from scratch but to adopt and adapt. At UHBS, we set up each Programme Leader as a co-user who leads their own programme induction. Instead of each Programme Leader designing their own bound from scratch, the Student Experience Team designed the template and shared it with others to edit and update.

### **5.1 The Bound Content**

We started using Actionbound at the Start of Term (SOT) during Programme Induction session with the aim to engage students and support their transition into the University. As demonstrated in Figure 1 above, in the design, we started with a 'Stage' named 'the Starting Line' which features an 'Information' question giving students the instruction about how to use the Actionbound. The second 'Stage' is a 'mission' asking students to take a group photo showing their positive energy. This is followed by the third Stage of basic and essential questions students need to know; they include:

- a 'find spot' question about where 'Ask Herts' information point is,
- a 'mission' question to take a photo of their student ID to show its working when put against a card reader so to ensure their attendance is logged (which shows green),
- a 'survey' question indicating they can see their Timetable,
- a 'quiz' about the purpose of Student Status Letter with options of the wide range of questions

Then it moves to Stage 4 'All about Your Programme' where each individual PL would design their programme related questions. Stage 5 links to general school-wide support services that students are expected to engage throughout of their learning journey, such as academic, pastoral and careers support. Questions are mostly 'find spot', 'mission' and 'quiz' ones so students have to go and visit the respective office, take a photo with the advisers / the timetable. For instance, one of the questions is to visit the library, use the book loan system/machine to find a book and then read a particular page so to answer a quiz question. Moving from School level, Stage 6 is about university-wide information, such as the Student Union, Canteen, Sports Village, Common Rooms, Vice Chancellor Award opportunity for students. The activities are finished with a 'Bonus Questions' Stage which include some tricky questions about a statue and a quotation located across the campus and require attention to details, observation and run-around the campus. The last Stage is 'The Finishing Line' saying congratulations with what's next.

### **5.2 The Bound Setting**

Besides the design of the bound activity questions, the staff can go to 'Setting' section to set up the Bound 'profile' with bound images, description, playing time. In addition, staff can define the Bound 'characteristics' of the play model being a 'single player' or 'multi player'; bound visibility and bound results for being 'public' and 'secret'. In addition, staff can set 'switches' so to enable staff to design questions lead to different streams/categories, for instance, male students switch to stream A while female students switch to stream B questions. Considering the number of students visiting offices for 'find spot' types of questions while playing the bound and also to avoid 'collusion' between teams, there is a 'Sequence of stages' option to set the flow of the Stages/sections of the questions for being 'fixed', 'selectable' or 'random'.

For the start of term bound, we set the bound as 1-hour's 'multiplayer bound' with the idea to get students to know each other and work in team. For the GDPR purposes, we set the bound as 'secret' with results 'hidden'. We also set the sequence being 'random' so to divert the traffic and flow of students playing the bound game. See the Setting screenshot of our 'Semester A Start of Term' bound template in Figure 2.

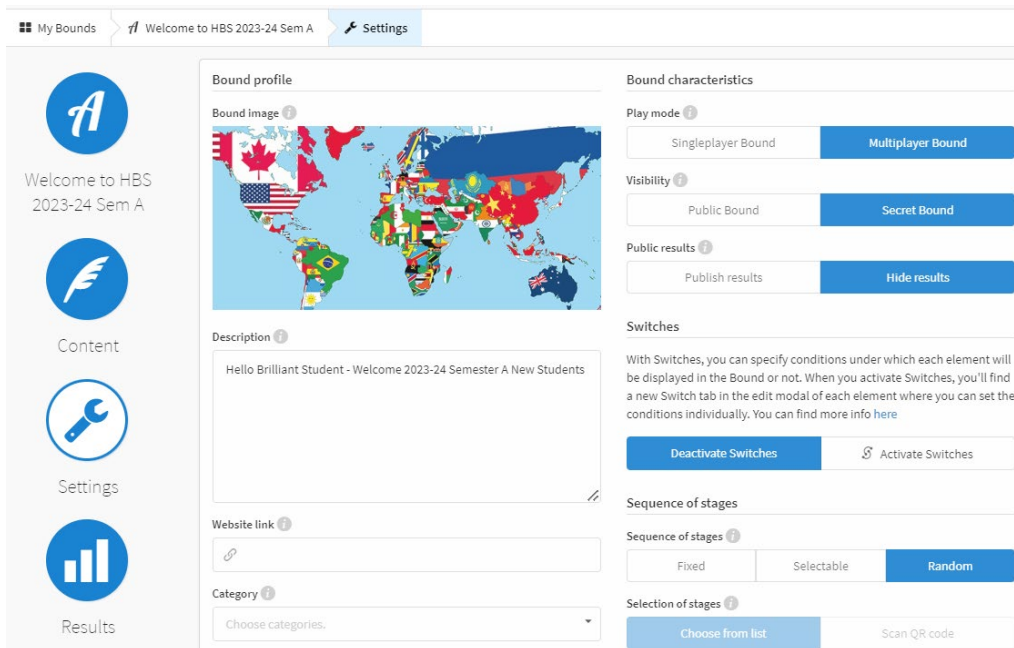


Figure 2: Actionbound Setting Page

### 5.3 The Bound Test and Publish

Upon completion of the questions, the 'Home' page of the Bound has a 'test' function which enables staff members to test the bound prior to publish. By clicking 'Test', a QR code will be generated which enables staff to run through the test bound using their own mobile phone so to ensure the information and timing is appropriate. Once the test proven to be successful, staff can then 'publish' the bound and make it online for students/users to engage. Then, staff can share the Bound's web page URL or the QR code with their students, supplemented by an instruction page and a QR code download option available to be given to students as demonstrated in Figure 3.

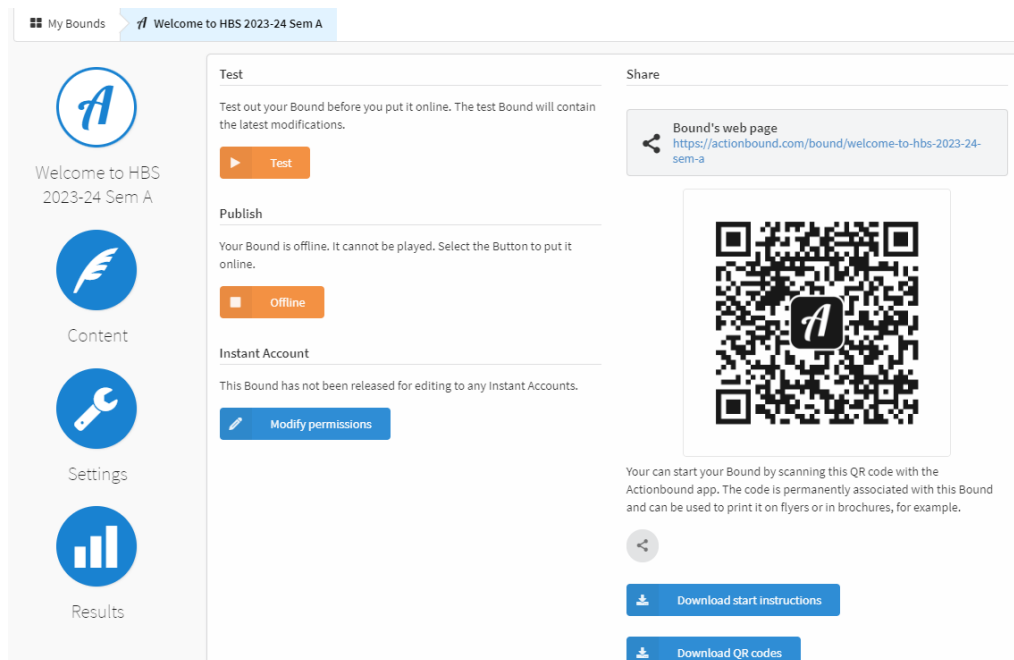


Figure 3: Actionbound Home Page

In UHBS, the QR code of pre-designed multiplayer Actionbound was circulated to students at the end of each Programme’s Induction session. Students were asked to form teams of 4-6 member and nominate a team leader who would operate the mobile application that can be downloaded from the Apple Store or Google Playstore. Though the game is set for multi players, it was managed by each team leader rather than all members as this will counter the purpose for collaboration and teamwork. Working as team, while the team leader operating the mobile app, other members were supporting to find answers, clues and solutions to the Actionbound challenges, i.e. quizzes, spots, surveys and missions. To start the game, each team were asked to name their team, put each team member’s name and take a team photo as evidence of collaboration. The bound lasts 1 hour and students were told to return back to the Induction room for prizes based on their teamwork performance.

### 5.4 The Bound Results

Once students complete the bound or the playing time finishes, staff members will be able to review the results and show students under the Results page. Below Figure 4 demonstrates the ‘Results’ which gives an overview of the bounds including the number of ‘finished bounds’, total number of players/ ‘participants’, the date of playing in ‘last time played’, ‘average playing time’ and ‘average score’. In addition, answers to different types of questions are also categorised into ‘quizzes’, ‘survey’, ‘images’, ‘video’, ‘audios’ based on the design in the first place. Staff members can show students the answers by the categories. What is more, each team’s final result and performance are also available team by team.

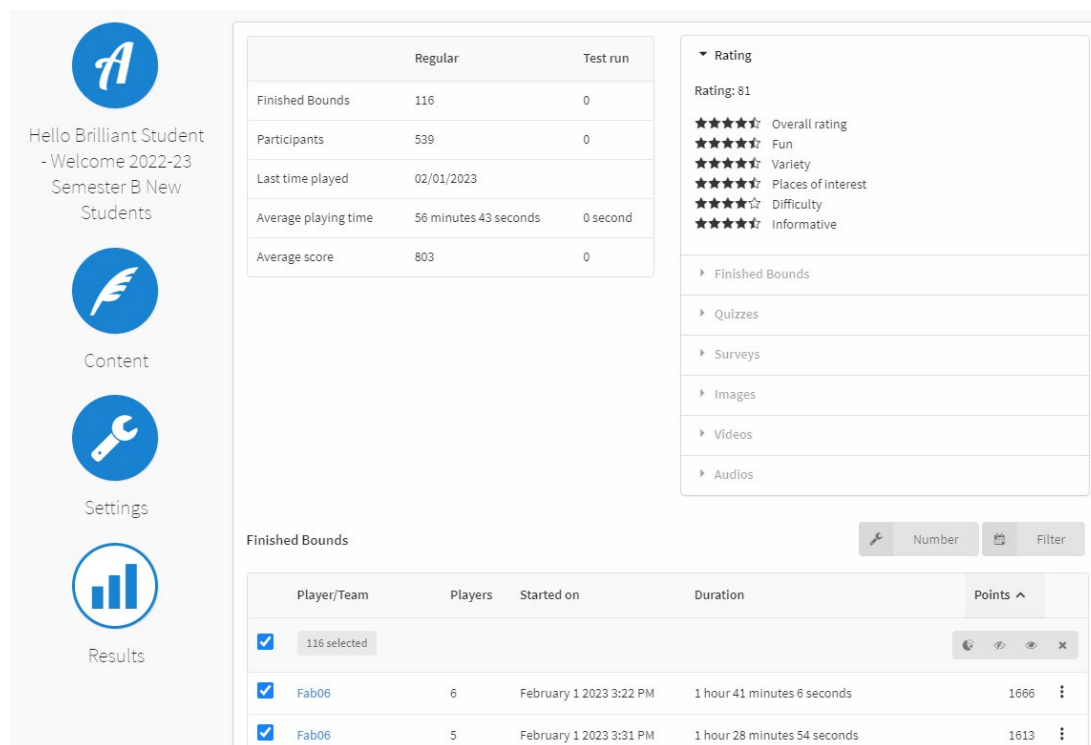


Figure 4: Actionbound Results Page

In UHBS, we showed students the ‘images’ of their team photo and asked students to vote for the ‘best team photo’ for a prize. What is more, we have chosen the best team who win the highest score and rewarded them with certificates. It is worth noting that in the Results page, an overall rating of the bound/game is also captured in terms of the ‘overall rating’, ‘fun’ element of the game, ‘variety’ of the questions, ‘places of interest’ they have visited, ‘difficulty’ of the questions, and ‘informative’ nature of the game.

## 6. User Experience of Actionbound

Actionbound has been the biggest highlight of our Induction. Both students and staff members found Actionbound being useful and effective in engaging and inducting students and supporting their transition into the programme of study learning. Some qualitative feedback of the student and staff experience were collected from the January 2023 intake’s Induction, when 539 students from 116 teams participated in the Actionbound game on 02/01/2023. Students have had a good exposure to Actionbound with average playing time of 56 minutes and 43 seconds, and the average score of 803 with the highest team won 1666 points.

## 6.1 The Student Experience

Students found the Actionbound game being interesting and fun and the game questions being informative. This has been demonstrated in the students' feedback captured by Actionbound's platform with an 'overall rating' of 81%, featured by 4.5/5 for 'fun', 'variety', 'places of interest' and 'informative', and 4/5 for 'difficulty'. Overall, students found the game was fun with a wide variety of questions which are informative and direct them to different places across the campus, and they do not find as difficult to explore.

Speaking to students after the Induction prize giving session, it was noted that students expressed a heightened sense of ease and self-assurance when it came to navigating the campus and engaging with their peers. Students found it an interesting approach to introducing facilities and services available on campus as they were asked to mobilise around the campus and explore. For instance, students were required to connect and engage with support services team, find where and who is at academic skills support team and to capture a photo of their support timetable or with a staff member. Rohit commented that *"It was so much fun to visit the campus and offices and explore the support services with a group of friends. We get to learn so many things by playing the game."*

By working in teams, it helped students to make friends on their first days on campus. In the Actionbound game, it required the team to come up a team name, input each team member's name, so even the most introvert student needed to communicate and support the team to complete the mission/challenge. In turn, this activity facilitated initial social interaction and fostered the development of strong relationships within the team. This is evidenced by students' praises of teamwork and friendship formation, such as *"I am so excited that I made friends on my first day on campus"* (Usam). *"I learnt a lot from my group on how to find information and use the app"* (Rishi). *"It was so good to work together with my team members and visit different offices and meet academic staff together. I don't think I would be able to do that myself at the start of my studies"* (Haq). It is hoped that the establishment of friendship and network would support their holistic well-being and academic achievement later on.

In addition, with the competitive nature of the Actionbound which features a limited time frame and prize rewards, students seemed to be more collaborative with a strong team spirit. Setting up a time limit was part of the rationale to enhance motivation and engagement, students have to work around the time set up for the questions. Students developed problem solving and time-bound decision-making skills as the challenge are set with a time constrained completion. Upon completion of the game, the winning teams would be rewarded by Amazon vouchers and school merchandises. The prizes not only enhanced the game's competitiveness and enjoyment, but also served as an extra motivation for students to actively participate in the activities. Suvash excitedly cited that *"What a great start of learning journey in the UK, I couldn't be believe that I won prizes on the first day of my university. This motivates me to do my best in the future.... Of course, congratulations to my team members as well. Hope we remain the friendship moving forward."*

Alongside the excitement of the activities, it is worth noting that the use of mobile technology was also a great introduction to the student transition into their learning and teaching the UK where many more technological tools such as Zoom, Teams, Menti and Padlet would be utilised alongside the student learning journey in the UK. This coins to Sian's comment *"Using mobile phone to learn new things is eye opening. We never did it back home because we always learn from books. I am really looking forward to what else the studies will bring."* Actionbound has definitely introduced them to the digital-based active based experiential learning experience at the start of term and highlights the importance of digital skills in the time to come.

Above all, entertainment and enjoyment appear to be the main experience of Actionbound which was also the intention of the adoption of Actionbound. The gamified setting of Actionbound introduces a factor of amusement to the educational process, rendering it a more enjoyable and less stressful experience. This is because it can be an overwhelming experience for most of the students studying abroad for the first time and travelling from afar. Featuring the Induction Day with fun activities using Actionbound, beyond sitting back and listening to talks, has made a real difference to students' start of term experience. Phrases like 'fun', 'lovely', 'interesting', 'great' seem to be the mostly referred terms. Wasil concluded *"...love the game and it was so much fun... Actionbound is the best part of the Induction."* Actionbound also introduces students to the UK academic learning expectations which require independent active learning and teamwork.

## 6.2 The Staff Experience

Similarly, it has been a very enjoyable and rewarding experience for staff members who designed and run the Actionbound activities. The super user of Actionbound, Suzie commented that *"designing Actionbound can be*

*very addictive as you always feel there are so much more you can do with it... Personally, I have been running around the campus myself to take the latest photos to be embedded in Actionbound so they resemble the scene when students come to play with it... You can hardly finish with the design of Actionbound because there are always times that you come across with something, and then you think it would be good to add to Actionbound."* The MBA Programme Leader Ghayda who adapted and adopted Actionbound said *"it was much easier to design and use than I thought... well the pre-designed template has definitely helped as I only needed to add the part (Stage) about my programme. Also, the QR code and downloadable instruction was super easy to embed in my Induction slides"*. The Deputy Programme Leader of MSc Management Bobby said *"I love the final part of the Induction when I show students the Actionbound results, going through some of the photos and videos with the students; it brought smiles into everyone's face. It was so funny to see they are laughing and teasing each other for funny moments captures in the photos.... Letting students vote for the 'best team photo' was so interesting, because every team wants to win.... Hahahaha... I absolutely love giving prizes and certificates out... what a great way to finish their first day on campus."*

Moreover, University colleagues who witnessed students playing Actionbound also spoke very highly about it, in particular as they notice the active collaborative learning nature of it. Staff members in the Academic Skills team found themselves very popular for being visited, requested to take photos with and asked interesting questions. Mary, the Head of Academic Skills commented: *"previously, we have always been part of the new students' Induction and into their Induction sessions to introduce our support services to students. However, there was hardly any students follow us up or ask questions. The Actionbound has made a real difference. After the Induction, they came to find out us in our office, spoke to us to ask for photos and enquired whether our timetable would change so they can fit around their own timetable."* Likewise, the Library staff was surprised to see so many students came to the library to use the book loan machine, find books on the self, read, and make notes on their first day on campus. *"I really loved the energy and enthusiasm of the new students, and their passion for learning..."* said the Head of Library and Computing Services. A Campus Security staff who was patrolling commented *"it was so nice to see student groups running around the campus, laughing and talking to each other. Their presence, smiles and laughter made a real difference to campus."*

## **7. Discussion and Conclusion**

In conclusion, this action research demonstrates the design and use Actionbound and the role of it in engaging them in their start of term activities and supporting their transition into UK university life. As explained, start of term is a crucial period for students as they navigate a new academic and social environment. For many students, particularly first-generation and international students, getting settled and feeling a sense of belonging can be challenging due to unfamiliarity with the educational system and cultural differences. In contrast to the conventional induction techniques which normally include informational workshops and campus tours, gamified collaborative community learning tools like Actionbound offer an alternative approach to creating a more advanced engaging and dynamic induction and transition experience.

The gamified active and collaborative learning nature of Actionbound has revolutionised the traditional induction. It was easy to use, fun and engaging; it helped students to form friendships, communicate to each other, collaboratively solve problems and find answers together. Actionbound has also acted as an effective ice-breaker tool for students, who are culturally and/or individually shy from socialising and served as an efficient tool to tackle all the challenges for new students settling into a different learning environment. It introduced students to digital technology and gamification and engaged students to foster the essential sense of belonging for integration into the university community.

As students reported that the experience was fun and engaging, active and practical, with several noting that they appreciated the opportunity to interact with their peers in a less formal setting and learnt a lot from their peers. While the student feedback is subjective, it aligns with the growing body of literature which suggests gamified collaborative community learning support communication and interaction, enhance engagement and motivation. However, it is worth noting that this article is not an empirical research paper but rather a report on the use of Actionbound and the author(s) observations and users' feedback.

Moving forward, the study of Actionbound will be developed further through ongoing action research. Future research will explore the use of Actionbound throughout the student learning journey and examine its impact of the gamified collaborative community learning tool on students' engagement and academic performance.

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