Use of gamification to improve student revision of physiological and pharmacological concepts—a pilot study

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Introduction

- Gamification is a teaching methodology where learners may be motivated to engage with their learning material more effectively by applying gaming mechanics to traditional education material or lessons.

- As well as helping students learn more effectively, we hoped such a gamification approach would improve student interactions as some of our classes have highly diverse student groups, some of whom may have to join an already established class at a late stage i.e. intercalating medical students, exchange programme students, articulating students from FE colleges.

- We had already identified that some students reported they had issues with some elements of remembering specific drug names, mechanisms of action and uses, particularly if it there had been an extended periods between their last lectures on such topics.

- Upon exploring some of the easiest options available to introduce gamification, we decided to use the Quizlet application, given that it incurred no major financial outlay, and seemed to be relatively easy to use by staff and students alike.

- **This study aimed to investigate whether use of use of Quizlet could improve student engagement and perception of the Drug Mechanisms element of our Objective Structured Practical Examination in our Honours class.**
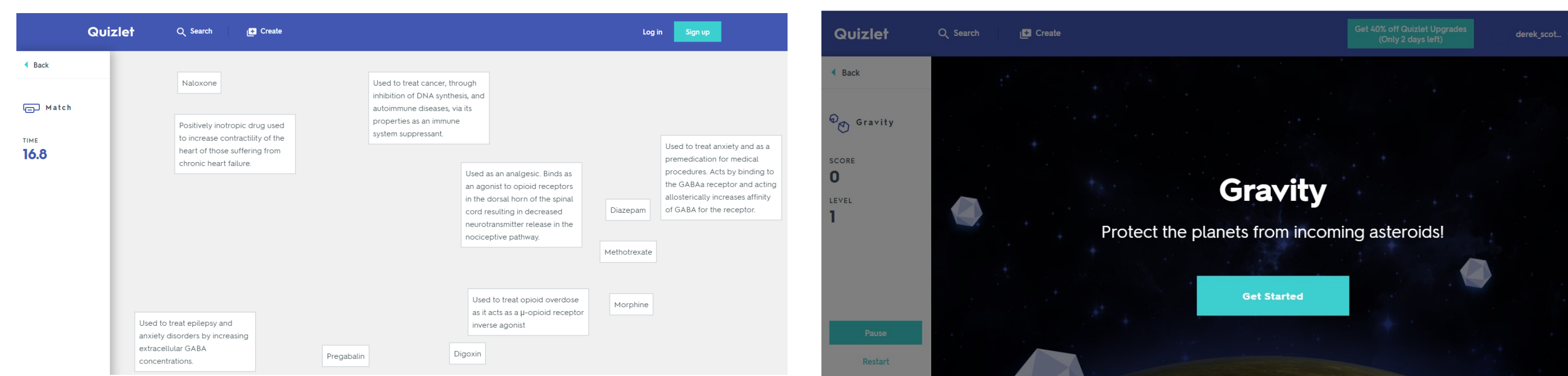
Methods
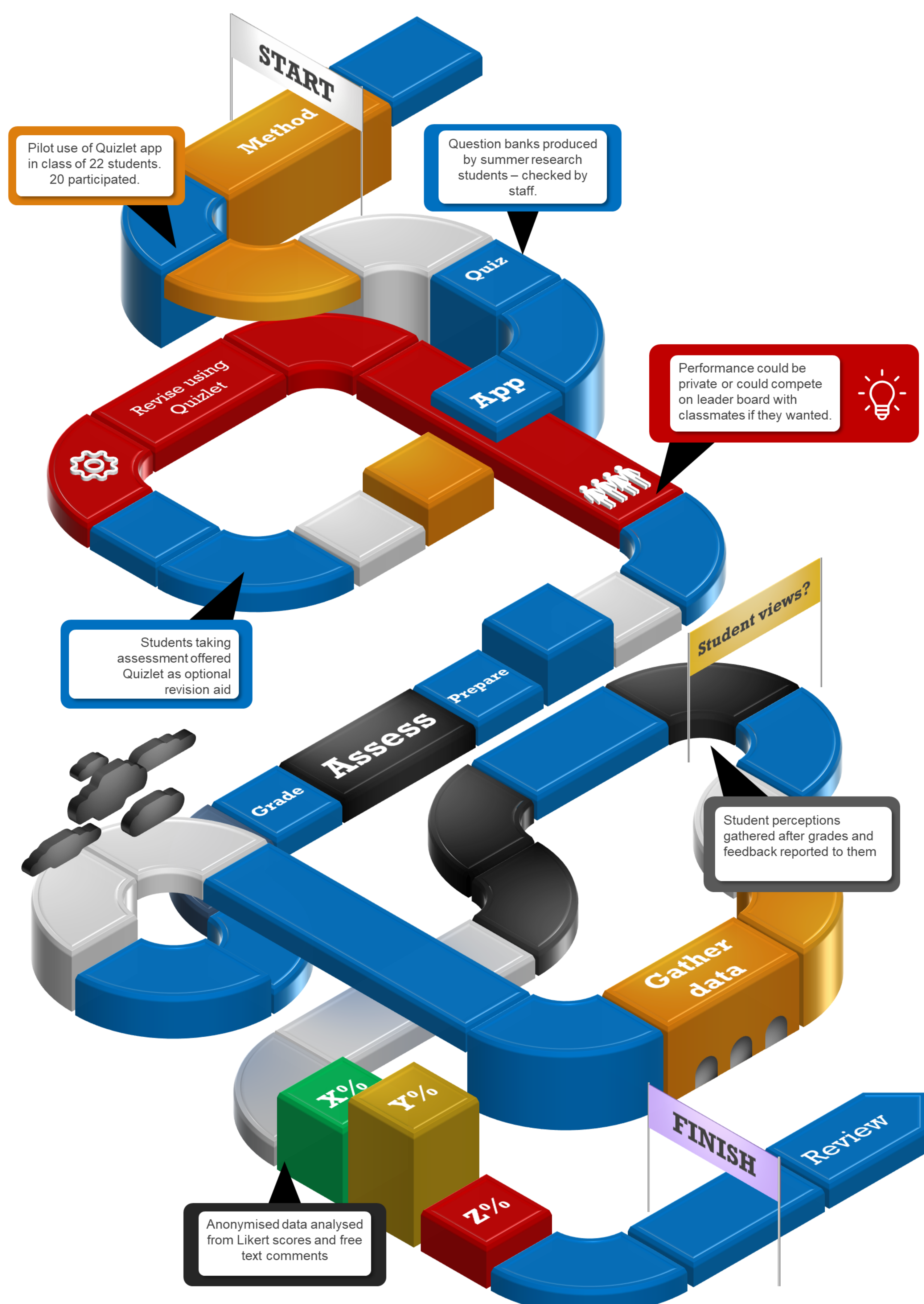
Results

**Figure 1. Typical screenshots from a Quizlet gaming activity.**

Student summer research students used Quizlet to develop a large question bank to help their peers prepare for assessment activities during term-time.

Students may choose different ways of testing themselves using the material in the question banks. The most popular options within our student cohort appeared to be 'Gravity' and 'Match'.

How much did you use the Quizlet app to practice for the station where you had to match drugs, with targets and mechanisms? 1 = not at all, 5 = a huge amount
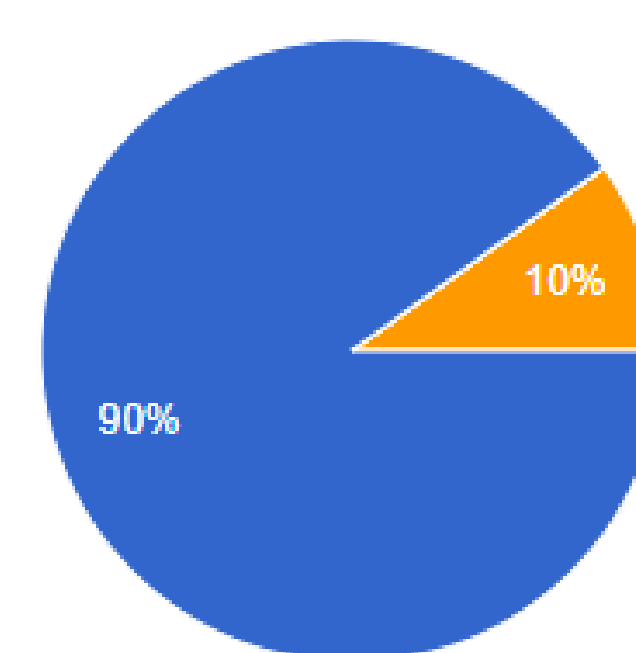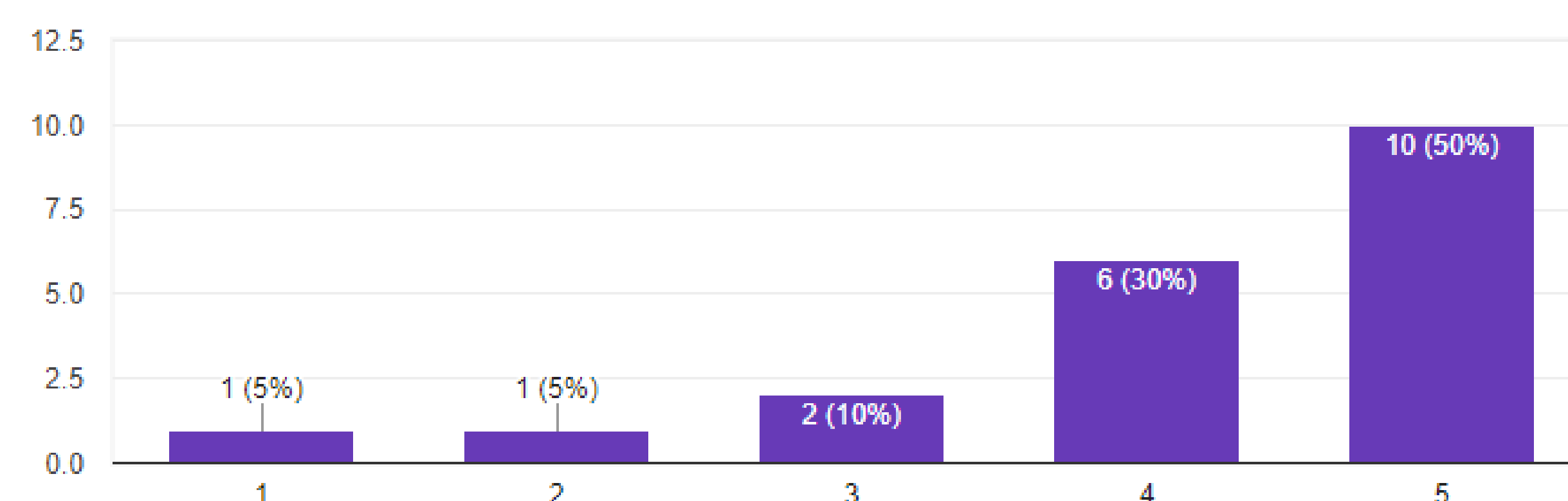
Do you think that apps like Quizlet that try to 'gamify' revision are useful?
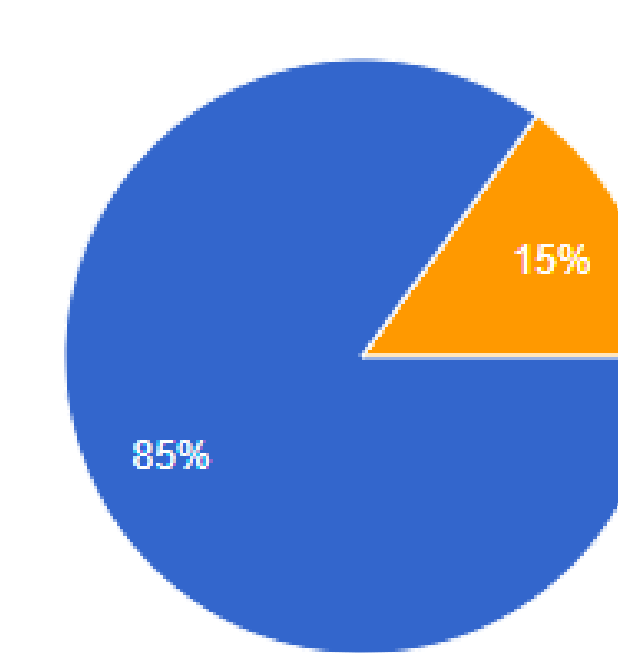
Do you think that we should try to use apps like Quizlet to encourage revision/study throughout other classes in your degree?
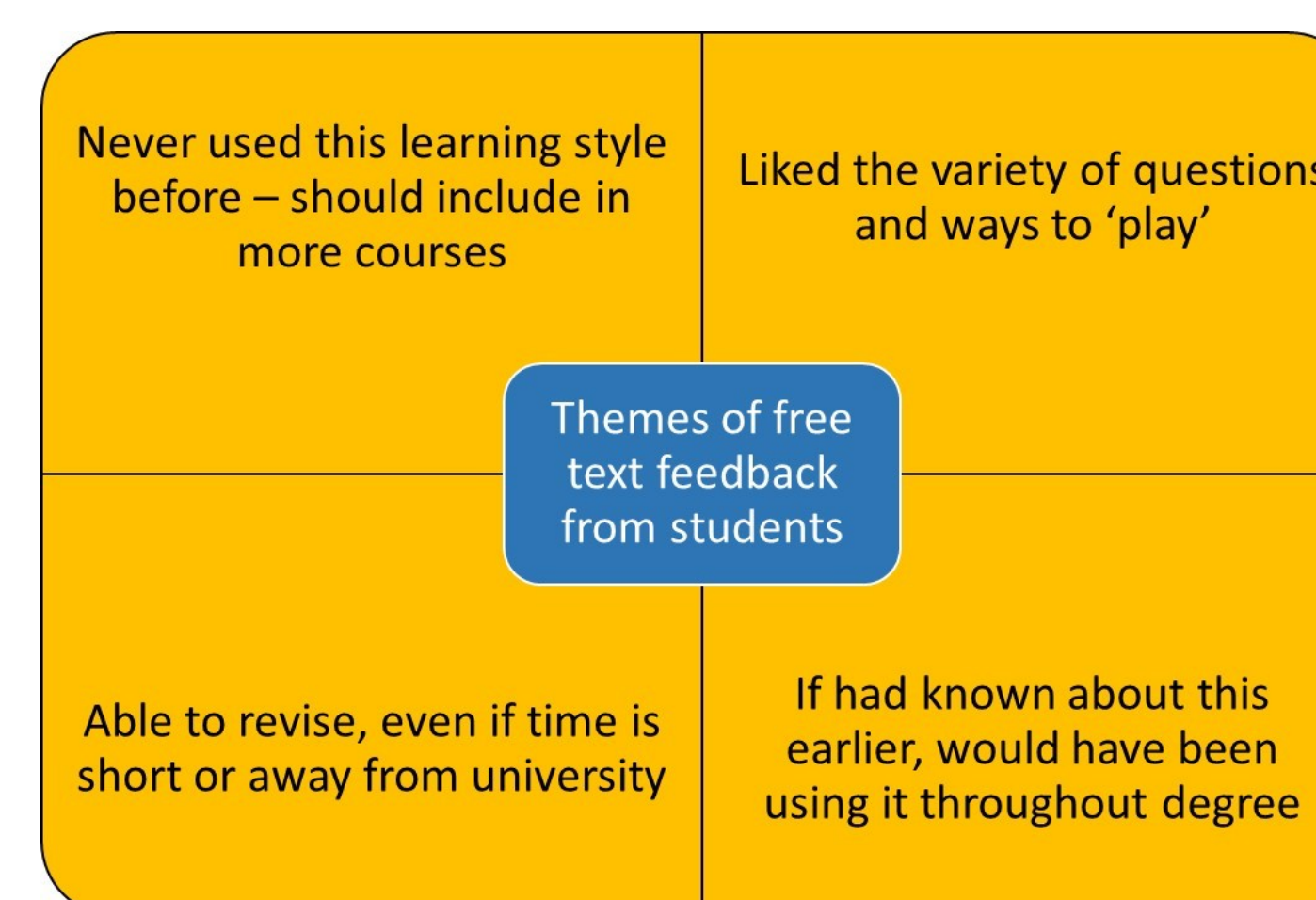

Figure 2. Themes derived from free text comments in annual anonymous student feedback questionnaires.

Discussion

- Student-led generation of questions led to the development of a far wider question bank than staff would have been able to develop on their own.

- Use of Quizlet has now started to spread amongst students for their own private revision purposes at our university, and staff have begun to experiment with it and other platforms to investigate whether such approaches could be used to improve student experiences and outcomes. The student authors expanded the question bank to cover areas of pharmacology and physiology in other parts of the curriculum to help their peers even more.

- Users seemed to appreciate the fact that they could keep preparing for their assessment in their own time , regardless of location, particularly if they used the free Quizlet app.

- The variety of different testing/gaming activities seemed to appeal to different users, who each had their own preferences regarding which game within Quizlet was most useful for their own learning style.

- This small study has encouraged us to increase use of gamification applications such as Quizlet, and explore further ways in which gamification could be introduced into our teaching and learning activities.