Teacher and learner behaviour in an online EFL workbook

Krzysztof Jedrzejewski
krysztof.jedrzejewski@pearson.com

Mikolaj Bogucki
mikolaj.bogucki@pearson.com

Mikolaj Olszewski
mikolaj.olszewski@pearson.com

Jan Zwolinski
jan.zwolinski@pearson.com

Kacper Lodzikowski
kacper.lodzikowski@pearson.com

All authors work for Pearson IOKI, Dabrowskiego 77, Poznan.

ABSTRACT
In this paper, we present selected findings from our usage analysis of an online English Language Teaching (ELT) workbook. We focus on how teachers assign activities and how learners complete them.

Keywords
ELT, network analysis, time on task

1. BACKGROUND
MyEnglishLab for Speakout Pre-intermediate is an ELT workbook that accompanies a paper textbook. The aim of the product is for the teacher to assign auto-graded homework. On average, about 10 practice activities are assigned by the teachers within a week, with a 30% chance of assigning more than the average. Speakout consists of twelve units that cover 90–120 hours of teaching. Each unit contains about thirty assignable activities centred around grammar, vocabulary, listening, reading and writing. This paper is an exploratory study about how teachers assign such activities and how learners complete them.

2. TEACHER PROGRESSION
2.1 Method
To analyse how teachers progress through units within Speakout, we wanted to show which pairs of units were assigned together. By assigning a unit we mean assigning at least one activity from that unit. In Figure 1 (created using Gephi [1]), a node represents teachers who assigned at least one activity in a given unit. The edges represent those teachers that, having assigned some activities in one unit, moved to another unit. A thicker edge means two units were assigned together more frequently (by more teachers). For example, 185 teachers assigned both Unit 1 and Unit 2. The thickness and length of each edge refers to normalised co-appearance (geometric mean) calculated after Newman [2] as:

\[
\frac{n(u_i,u_j)}{\sqrt{n(u_i)\cdot n(u_j)}}
\]

where \( n(\ldots) \) is the number of teachers that assigned activities in all listed units, and \( u_i \) is the \( i \)-th unit. Different unit types were highlighted for better readability, namely the regular Units 1-6 (U1-U6) and Units 7-12 (U7-U12) are shown separately from Review and Check 1-4 (R&CH1-R&CH4). The role of the former units is to enable regular day-to-day homework practice, while the role of the latter is to allow the learner to review a larger portion of the material from the three previous units before a test.

2.2 Results
Figure 1 shows that there is no prominent community structure. Teachers tend to focus on smaller chunks of material, especially Units 1-3 and Units 7-9. Figure 2 shows that teachers assign either the regular Units or just the Review and Check units, rarely both. There are more connections between the Review and Check units themselves than between the regular Units. For example, more teachers assign Review & Check 3 together with Review & Check 4 than they assign Units 10-12 together with Review & Check 4.

Figure 1. Network graph of relations between units in Speakout Pre-intermediate with edge as a normalised value (geometric mean)
3. QUESTION TYPE AND TIME SPENT

When it comes to learners, we wanted to analyse the time needed for completing a language-learning activity. Speakout contains 15 main question types. Figure 3 (created using RStudio [3]) shows that for most of them the average time spent on the first submission of an activity is of the order of 3 minutes. Learners spend the least time on multiple choice activities (about 1.5 minutes), and most time on jumble words activities (over 4 minutes). We stress that these times do not necessarily correspond to the optimal duration it takes a learner to complete all the questions within such an activity, which needs future exploration.

Due to space constraints, we present only one figure that presents a question type in more detail, namely fill-in (gap completion).

Figure 3. Geometric average of time spent on completing an activity of a given type, with 95% confidence intervals.

4. FUTURE WORK

Regarding teacher usage, our next step is to segment teachers according to course types and institutions. Regarding learner usage, we will investigate if activities consisting of many questions that are completed within a very short time need to be further analysed to identify whether their format encourages guessing or copying.

5. ACKNOWLEDGMENTS

Our thanks to Rasil Warnakulasooriya for his comments on the early drafts of this work and to the Pearson English MyEnglishLab Team.

6. REFERENCES

