"A little muddled and in need of greater clarity": encouraging formative use of the Academic Writing Toolkit

"A little muddled and in need of greater clarity": encouraging formative use of the Academic Writing Toolkit

Irene O'Dowd
Hibernia College, Ireland
iodowd@hiberniacollege.net

Abstract

The Academic Writing Toolkit is an online resource developed for Hibernia College's blended-learning programmes in initial teacher education, to provide distance-learning students with accessible and timely guidance on improving their academic writing. Available to students and faculty via the Moodle LMS and designed for asynchronous delivery, the Toolkit provides guidance on technical writing skills such as referencing, grammar, formatting and style, as well as on specialised areas as reflective writing, assessment writing and dissertation writing. The design was informed by a chunked or bite-size ethos to encourage continuous, formative and self-motivated use throughout the academic programmes. However, an examination of user engagement patterns in the first year suggested that, contrary to expectations, there was little evidence of students returning to the Toolkit for help on key topics at crucial points in their programmes. This paper will outline how elements of the Toolkit were updated in response to findings from previous research (presented at OOFHEC2018). Findings from a study of engagement with the updated version of the Toolkit (n=334) will be presented, including comparisons of findings from learning analytics data collected from activity logs for pre- and post-redesign iterations. The results of this analysis, combined with survey feedback on students' use experience (n=41), will inform an evaluation of the impact of specific design and dissemination enhancements on Toolkit engagement. In particular, the impact of increased awareness of the Toolkit's potential among College faculty will be discussed. These findings will give practical insights into the roles of instructional design and faculty awareness in creating digital learning tools that meet the unique engagement and support needs of distance learners.

Keywords: academic writing, online, toolkit, initial teacher education, blended learning, distance learning, support, learning analytics, engagement, faculty

1. Introduction

In 2017 Hibernia College, which provides masters programmes in initial teacher education via an online-blended model, developed a new online resource – the Academic Writing Toolkit – for distance-learning students to improve their academic writing skills. It has been demonstrated that online and particularly blended-learning approaches enhance the quality of learning experiences and outcomes as compared to face-to-face learning, particularly blended learning that involved more learning time, additional instructional resources and interactive course elements (Means, Toyama, Murphy and Baki, 2013). With specific regard to writing skills, Singleton-Jackson and Colella (2012) justify the appropriateness of using technology for teaching literacy skills: "writing in all forms is, for the most part, currently performed with technological devices" (p.26). They also claim that online writing resources can provide a useful link between technology use and writing practices. Nallaya and Kehrwal (2013) suggest that online resources, including step-by-step directions and examples, support the development of academic literacies and offer both accessibility and the option to revisit content as needed. Similarly, Tuomainen (2016) highlights "convenience, flexibility and greater allowances for individual time management" as benefits of online writing resources. However,

research shows that such resources work best in the context of a wider support structure. A systematic review of research in blended-learning academic writing supports by Scott, Ribeiro, Burns *et al.* (2017) highlights the importance of careful consideration of the technologies used for delivering writing instruction online as well as the inclusion of face-to-face interactions to provide feedback and reassurance to students. In line with best practice, therefore, the Toolkit was designed not just as a useful resource aligned with well-established principles of online pedagogy, but also a component of the College's overall strategy for academic writing support alongside online module content, webinars, onsite events, orientation and tutor feedback and support. Designed for asynchronous delivery, the Toolkit comprises a collection of topic-specific units, each composed of a number of digital resources providing guidance on areas such as referencing, grammar, formatting and style, reflective writing and assessment writing. In recognition of students' need to plan their time, the design ethos favoured conciseness and practicality, with each activity given an estimated time-on-task duration for a maximum of 20 minutes' completion time per unit (see Figure 1). The Toolkit was developed in the College's Moodle LMS and released to students and faculty in 2017.

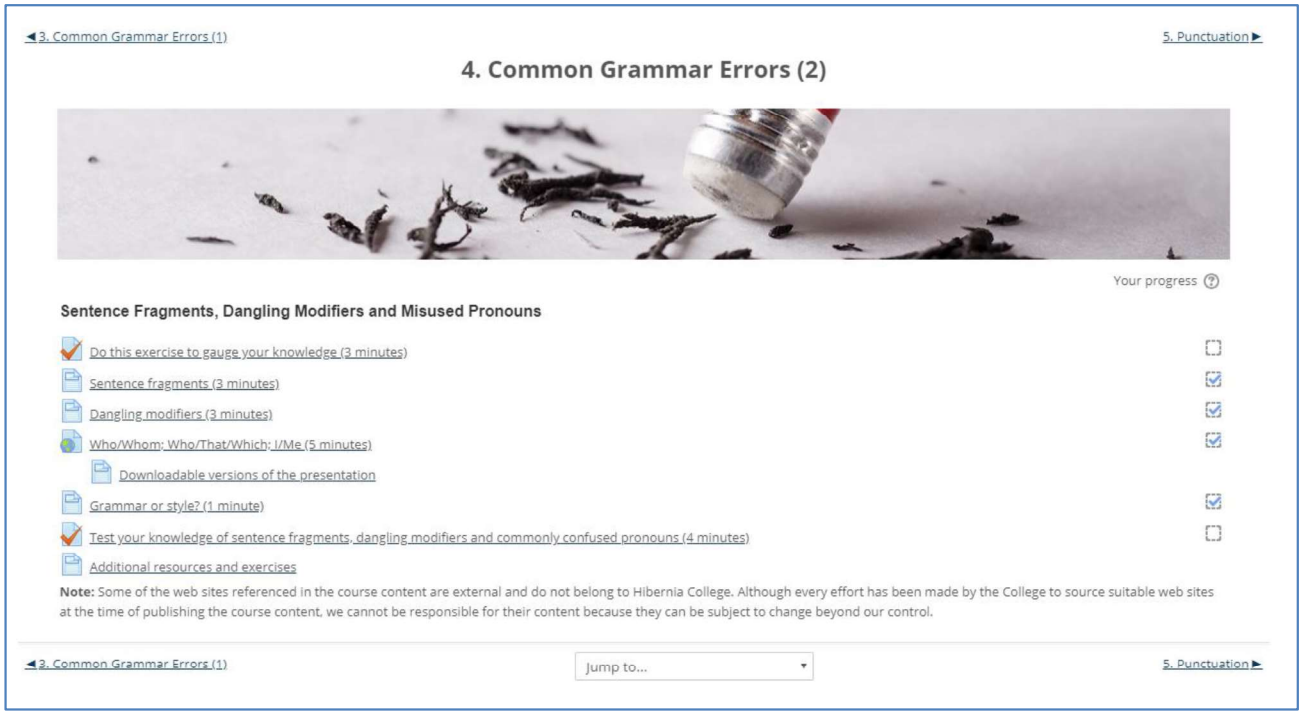

Figure 1: Example of a topic-specific unit in the Academic Writing Toolkit

1.1 Investigating engagement with the Toolkit

Some months after the release of the Toolkit's first iteration, an initial study of LMS data traces (O'Dowd, 2018) was conducted in order to investigate whether students were engaging with the resource in a formative way – that is, as a resource to be drawn on repeatedly for assistance on specific writing problems throughout their studies. Data traces studied included proxies of engagement such as numbers of logins, file downloads, activities visited, videos viewed, and quizzes attempted and/or completed. The study found very little interaction with the Toolkit after the first two weeks, a period during which the Toolkit was scheduled as a compulsory element for full completion during the students' orientation programme (O'Dowd, p. 136). As such, the peak in Toolkit use during orientation was unsurprising; however, the extremely low level of activity in the subsequent period was a cause for concern. Although students' responses in a voluntary survey in the same study were positive about the Toolkit, many respondents felt that there was too much content to cover in just two weeks, especially at a time when they were also trying to absorb a lot of other

new information at the start of their programmes. It was concluded that scheduling the completion of the Toolkit in this manner made it less likely that it would be used formatively. The hypothesised superior efficacy of formative, sustained use of the resource, as opposed to completing it once and not returning to it, is supported by Chanok, D'Cruz and Bisset (2009), which confirms that on-demand academic writing resources that can be accessed over time may be more valuable to students than similar instruction scheduled early on in their studies. The Toolkit study suggested that a new approach towards promoting engagement – whereby faculty and student-facing staff would take a proactive role in guiding students towards the Toolkit at key points – might create a more sustained level of engagement than was achieved by including it as a compulsory element of orientation. As a content review of the Toolkit was scheduled for early 2019, it was decided to combine this with a review of the positioning and scheduling of the Toolkit. The model for the Toolkit update thus combined input from digital design, faculty and students (Figure 2).

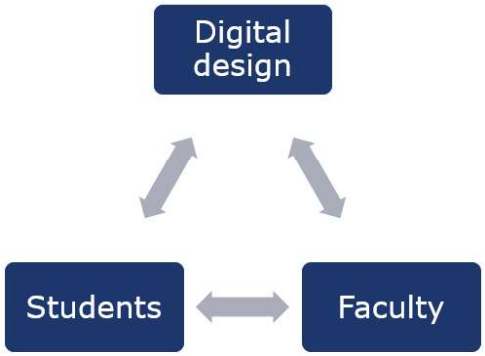

Figure 2: The Toolkit update model

Two key areas for action emerged from these reviews: faculty engagement and calendar notifications. Enhancements to these areas, along with the theoretical approaches that informed them, are discussed in the following sections.

1.2 Faculty engagement

Communications within the College suggested that there was a very low level of awareness of the Toolkit's existence among College staff and faculty. This meant, of course, that lecturers and tutors were not directing students towards it as a resource, nor were they using it themselves. Most of the College's tutors and supervisors are adjunct faculty who work remotely (the College does not have a campus), making the informal dissemination of information about new LMS tools more challenging than it would be on a physical campus. Unfortunately, it also emerged that faculty members who were aware of the Toolkit could not easily find it in the LMS, sometimes due to access restrictions based on their assigned roles. This lack of alignment between online learning design and the practices and needs of academic faculty was a key failing in the initial Toolkit rollout. It indicated a disconnect in the process of integrating the online content-based domain with the tutor-based structures of teaching and learning – an instance of blended learning not being sufficiently "blended". It is instructive to frame this effect in relation to the phenomenon that Biesta (2015) terms *learnification*. In Biesta's summation, "the point of education is that students learn something, that they learn it for a reason, and that they learn it from someone" (p. 76). Learnification occurs when the "by someone" part of the equation is unaccounted for in the provision of content directly to the learner. In blended-learning scenarios where discrete processes exist for the delivery of on-demand content and the pedagogical practice of tutors, learnification or even *designification* is an ever-present hazard. Feedback from the 2017 Toolkit study survey suggested that there had been too little emphasis on the role of faculty –

tutors, module leads and supervisors – in the positioning of the Toolkit, leading some students to believe, erroneously, that the Toolkit was the only academic writing support available to them (O'Dowd, p. 136). Conversely, without the experience of engaging with the Toolkit themselves, tutors and supervisors missed out on their students' perspective of engaging with the resource as online learners (Gallagher and Maxfield, 2018) and, crucially, on how the Toolkit might be able to help the tutors themselves to support students' academic writing. It became apparent that improved communication with faculty was needed if the Toolkit was to be accepted and integrated into academic writing instruction.

In early 2019, Toolkit developers and senior academic staff arranged to present the Toolkit at adjunct faculty orientation and training sessions in time for the new programme intake, to make faculty aware of the Toolkit's existence and show them where to find it on the LMS. Faculty and research supervisors had the opportunity to share thoughts on what they found useful and what would help them to leverage the Toolkit for their teaching. Some suggestions, such as a printed PDF page of links to each unit, highlighted the fact that each teacher or academic will have different accessibility requirements and preferences and that sometimes the simplest, least technology-driven solutions are what users want. The presence of a faculty champion at these events – that is, a tutor who was already using the Toolkit for teaching and who found it helpful – enabled critical discussion of the resource and facilitated reception of its potential as a support for teacher-led writing instruction. For example, there was discussion about the possibility of a flipped-learning model where students explored the Toolkit and then used live webinar time to discuss points on which they needed clarification.

1.3 Calendar notifications

The academic calendar in the Moodle LMS is a crucial resource for students to plan their academic schedule effectively. It provides alerts for module content releases, module assessment releases and submission deadlines, and other elements of their programmes such as webinars, on-site workshops and school placements. Calendar notifications are administered by student-facing support staff in the College. For the 2019 Toolkit update, it was decided to remove the Toolkit from student orientation and, instead, set up calendar notifications at key points of the programmes to remind students to visit particular context-sensitive units of the Toolkit. Figure 3 shows an example of such a notification as it appears to students when they click on the item in their calendar.

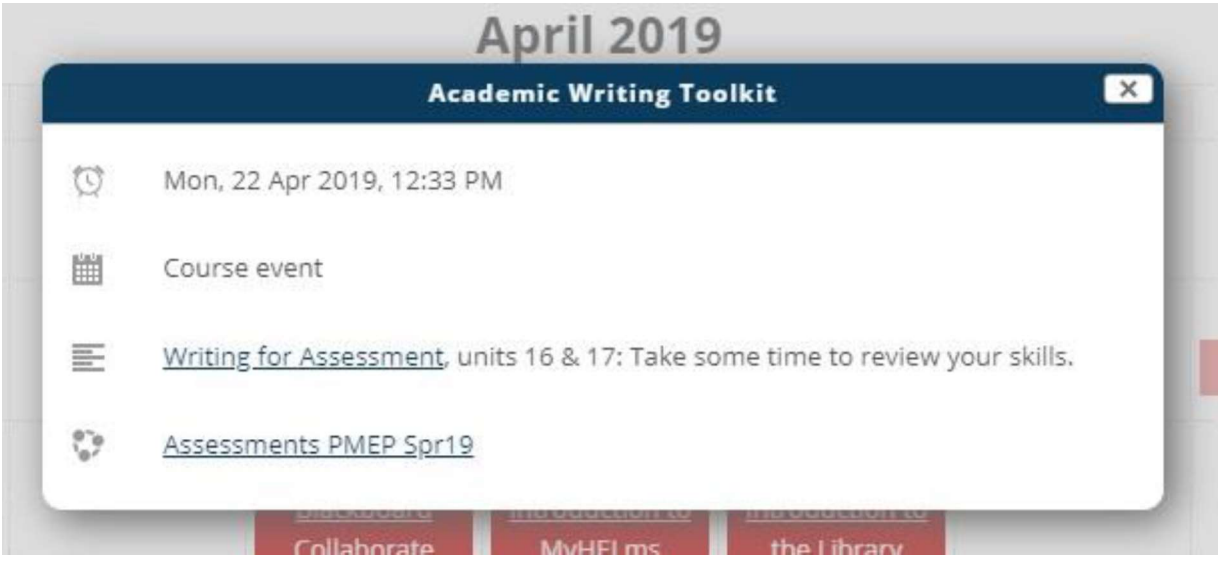

Figure 3: A calendar notification reminding students to visit the Toolkit

Setting up these notifications involved close collaboration with student support, academic and technical support teams to ensure that notifications were scheduled and released correctly, were relevant, would cause no additional anxiety for students, and would provide an optional reminder or *nudge* instead of a mandated requirement. This idea borrows from *nudge theory* (Thaler and Sunstein, 2008), which has its origins in behavioural economics but is being increasingly researched and applied in education (Damgaard and Nielsen, 2018). The concept of nudging, which is grounded in principles of cognitive behaviourism, focuses on guiding users of a resource or system towards making beneficial behaviours or choices by themselves. Applied to education, a nudge system aims to overcome cognitive-behavioural barriers to effective learning – from individual mindsets to social factors – not by coercion or compulsion but by designing learning environments that foster effective learning behaviours. This is achieved through what Thaler and Sunstein term "choice architecture" (p. 2), an example of which could be a simple automated e-mail reminder to submit an assignment or visit a discussion forum – or a calendar reminder to visit an online resource for help, as in this case. In order to ensure that the LMS calendar notifications were positioned effectively, academic input was sought on the most commonly encountered academic-writing issues. An e-mail survey was conducted with module leads, tutors and supervisors, the results of which are summarised in Table 1. Based on this information, calendar notifications reminded students to look at Toolkit units on referencing, writing for assessment, and grammar and usage upon release of module assessments. Further reminders were released two weeks before assessment submission, reminding students of the units on referencing, academic impropriety, and use of the text-matching software.

Table 1: Summary of tutor and supervisor feedback on common academic writing problems

Theme	**Specific problems**	**Sample comment**
Argument	• Narrative approach: little evidence of synthesis or critical reflection • Unsubstantiated claims; opinion as fact • Excessive didacticism or preachiness	"outlining the product of their research in a narrative manner without, at times, an effective engagement with this material"
Reading	• Narrow range of reading and resources • Citing webinars or course content instead of published peer-reviewed sources	"an overdependence on a narrow range of resources and work that does not always indicate evidence of wider reading"
Writing	• Lack of clarity in writing • Lack of cohesion and sequence • Absence of revision • Repetitive style; poor grasp of fluent academic language and expression • Carelessness: syntax, spelling, punctuation, grammar errors etc. • Referencing and citation errors; inexact or vague citation practice • Verbosity; lengthy sentences, often comma spliced • Overuse of quotations, indicating poor understanding of literature	"writing that may be, in places, a little muddled and in need of greater clarity"

In addition to the transformations mentioned, a complete review of the Toolkit content was conducted and several activities were updated. Additions to the 2019 iteration of the Toolkit that were not present in the 2017 version included two units on dissertation writing, a unit on academic impropriety, and a unit on the use of Urkund, a text-matching application that students are required to run on their assessment content before submission. A new Challenge quiz was added at the end of the Toolkit to allow students to test themselves and, if successful, earn a digital badge. In response to faculty feedback, several improvements were made to navigation links so that the Toolkit would be easier for faculty members to find in the areas of the LMS that they were most familiar with. This updated version of the Toolkit was released to a new cohort of students in April 2019.

1.4 Research questions

Having updated the Toolkit's content, reworked its scheduling, enhanced faculty engagement with the resource and released it to students, the question remained: would these redesign features have any impact on levels of student engagement? Thus, the purpose of this study was to explore how the updated Toolkit was used and experienced by students during the first five months of their programme, from April through August 2019. Specifically, the study aimed to answer the following research questions:

i. Does activity in the first five months indicate that students might return to the Toolkit over time?
ii. Is there a difference in levels of engagement compared to the 2017 study?
iii. What did students think of the Toolkit?

2. Study design and methods

The population for this study comprised all students enrolled in the two ITE programmes that began in the College in April 2019 (n=334). The data came from two sources: activity logs from the Moodle LMS and responses to an anonymised, voluntary post-module online survey (n=41). The LMS data was first analysed to draw some inferences from students' online interaction with the Toolkit resources over the first five months, particularly with a view to ascertaining if there is evidence of repeated, formative engagement. A systematic review of learning analytics research methods by Avella, Kebritchi, Nunn *et al.* (2016) found that analysis of "big data" can help educators to understand and improve the student learning experience. On the other hand, this application of learning analytics, although useful in some study designs, has limitations that must be considered. Lockyer, Heathcote and Dawson (2013) apply the term *checkpoint analytics* to "the snapshot data that indicate a student has met the prerequisites for learning by accessing the relevant resources of the learning design", pointing out that this type of analytics does not provide insight into learning processes such as synthesis or sense-making. Nonetheless, some insights can be obtained through the analysis of online use patterns, and these can be a valuable source of knowledge when triangulated with other data. To this end, a post-module online survey was included in the study design in order to capture information on students' subjective experiences of using the Toolkit. The responses were analysed to identify salient patterns and themes and thus provide additional insights into the learning analytics data. Another source of data was provided via the 2017 Toolkit study, which offered a comparator against which to analyse and interpret the data from the present study, particularly with regard to the second research question. Although the compared studies involved separate cohorts in different years, the validity of the comparative analysis is supported by the cohorts' similarities in size and demographics, their enrolment in the same programmes and the same online resource, and that the data collection took place over a comparable time period.

2.1 Ethics

Ethical approval for this research was obtained from the College's Research Ethics Committee, and the research was conducted within the parameters of the College's research ethics guidelines, which align with those of the British Educational Research Association (BERA, 2018). With regard to participant consent, all students enrolling on Hibernia College programmes sign a Data Protection Statement as part of their registration. As the purpose of this research was to improve the design of online content, it is covered by the College's specification of "aggregate or anonymised information gathered [and] used/published to feed back into internal academic research [...] and overall programme enhancements including programme design, content, delivery and validation" (Hibernia College, 2018). Participant consent was thus obtained for the use of secondary data through the students' signing of the form. Moodle LMS is a fully secured online learning environment that adheres to international data protection standards. All study data was fully anonymised and will be stored on a password-protected securely stored external drive in compliance with ethical and legal data-protection requirements. Students taking the survey were informed of the purpose of the data collection and were assured that the survey was completely anonymous and participation was voluntary.

3. Analysis

i. Does Toolkit activity in the first five months indicate that students might return to the Toolkit over time?

Figure 4 graphs the number of use events in the Toolkit unit as captured in the LMS logs between April and August 2019. The graph shows that there is a sustained level of activity in the Toolkit from the beginning of April until the end of June, with the number of use events staying above zero during that period except for two individual data points in April and May. There is a disproportionately high peak in Toolkit activity in mid-April, which may be explained wholly or partially by the release of an Academic Writing Quiz in the LMS during the students' orientation programme. Figure 4 also indicates, with the use of coloured dots, where module assessment release and submission dates occurred during the studied period. Most, although not all, activity peaks occur when assessments are released; these also coincide with the appearance of reminder notifications in the calendar. Unsurprisingly, a trough in activity occurs during the programmes' summer holidays, accompanied by an overall tapering of activity for the months of July and August.

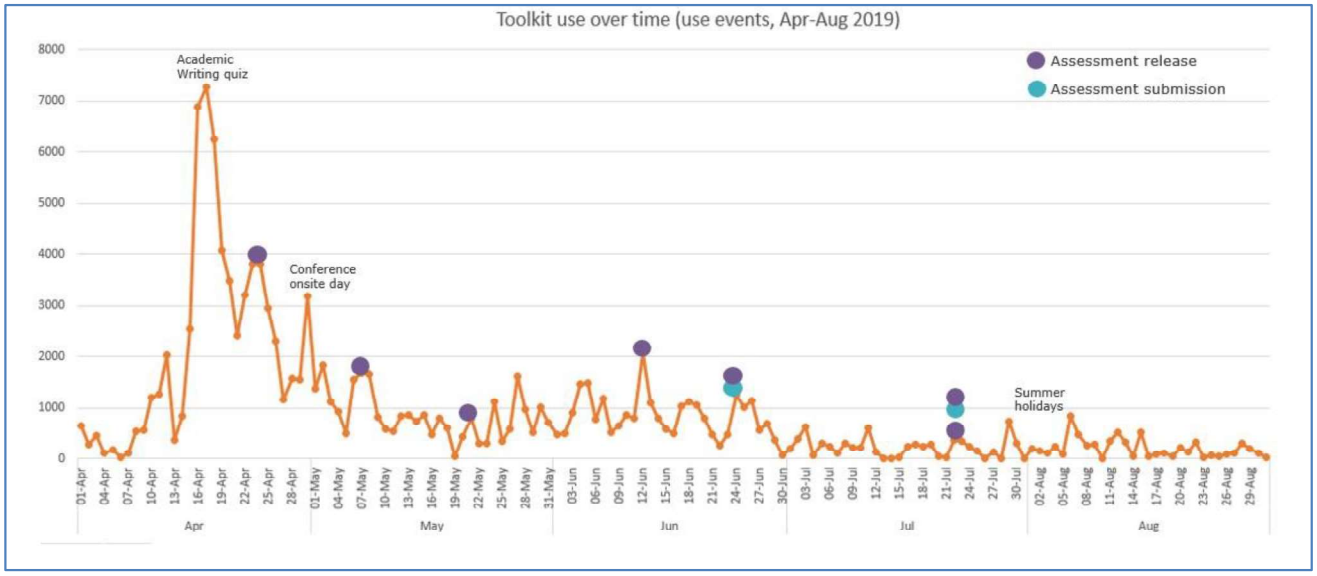

Figure 4: Toolkit use events from April through August 2019

ii. Is there a difference in levels of engagement compared to the 2017 study?

Figure 5 compares Toolkit activity by the 2017 cohort (blue) with activity for a similar period by the 2019 cohort (orange).

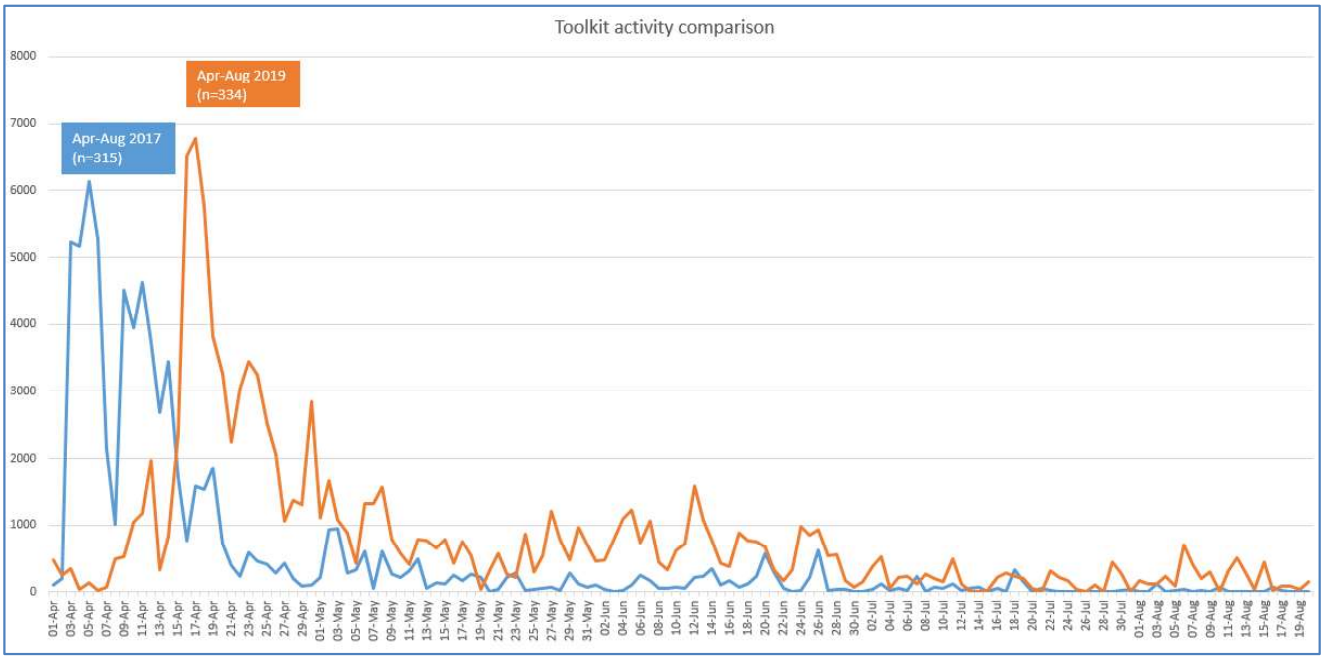

Figure 5: Toolkit activity comparison, April through August (2017 and 2019 cohorts), common units only

To facilitate a valid comparison, the 2019 data in this graph excludes any activity recorded for the new units added in the update, as these units were not available to the 2017 cohort. On an initial examination of the graph, the 2019 data series shows a higher and more sustained pattern of activity throughout the period. The number of use events in 2017 never reached above 1000 following student orientation in April (when completion of the Toolkit was compulsory), whereas this threshold was reached or exceeded several times in 2019 until the end of June. Even in the tailing-off phase during the summer, which was common to both populations, more activity events were evident in 2019 than in the same period in 2017, the latter showing as almost completely flat in August. The histograms in Figure 6 show that the 2017 cohort featured a much higher number of students with low activity levels, whereas there is evidence of more sustained activity over time in 2019.

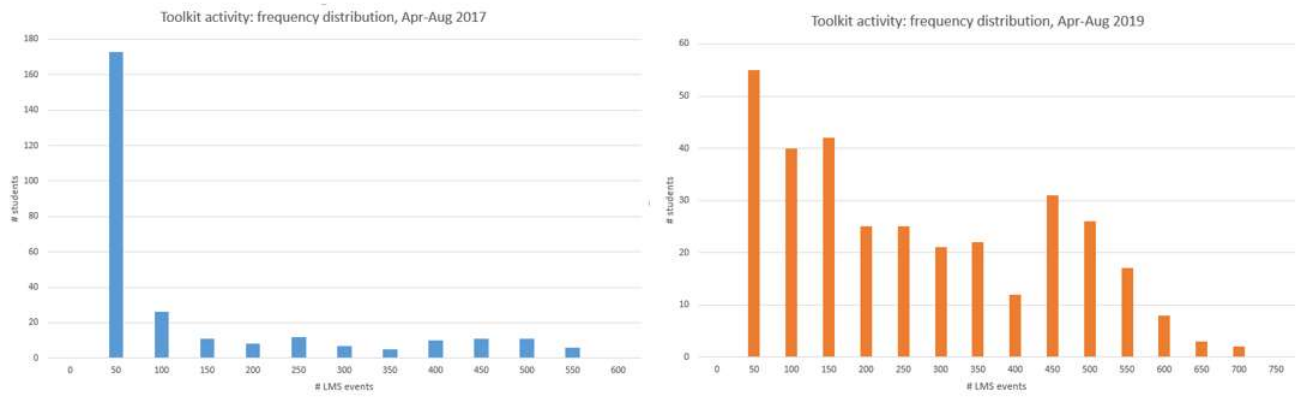

Figure 6: Histograms showing frequency distributions of Toolkit activity data for 2017 and 2019 cohorts

A statistical test was conducted in order to establish whether, and to what extent, the differences in mean activity levels between the two cohorts were statistically significant. Given that the distributions in both populations are skewed positively (see Figure 6), a Mann-Whitney U test was used in preference to a parametric t-test. Table 2 summarises the descriptive statistics for both populations.

Table 2: Descriptive statistics for both populations (median and interquartile range)

	Min.	Max.	Median	Interquartile range
Toolkit activity, 2017 cohort	0	315	18	161
Toolkit activity, 2019 cohort	0	334	209	327.5

The results of the statistical test (Table 3) showed that the mean rank of the 2019 group was higher than that of the 2017 group. This confirms that, overall, the 2019 group had the highest mean number of use events.

Table 3: Statistical test output: mean rank and sum of ranks

	N	Mean rank	Sum of ranks
Number of use events, 2017 cohort	315	224.22	63005.50
Number of use events, 2019 cohort	334	377.78	125799.50

Table 4 shows the results of the test for statistical significance. From this, it can be concluded that Toolkit activity was statistically significantly higher in the 2019 cohort ($p < 0.001$, Mann-Whitney U = 23384.50).

Table 4: Mann-Whitney U and statistical significance test output

	Number of use events
Mann-Whitney U	23384.50
Z	-10.692
Asymp. Sig. (2-tailed)	.000

In terms of effect size, the *r* value was calculated from Z as 0.4315. This indicates that there is a moderately strong probability that any single value from one cohort will be greater than a value from the other cohort.

iii. What did students think of the Toolkit?

There were 41 respondents to the online survey. The bar chart in Figure 7 shows the main themes in the free-text responses on the most useful aspects of the Toolkit. Referencing was cited as being the most useful aspect of the Toolkit, which reflects the 2017 cohort's responses. The new unit on dissertation writing was also mentioned specifically by some students, but no other strong preferences were evident. A higher number of students in 2019 than in 2017 said that they found everything in the Toolkit useful.

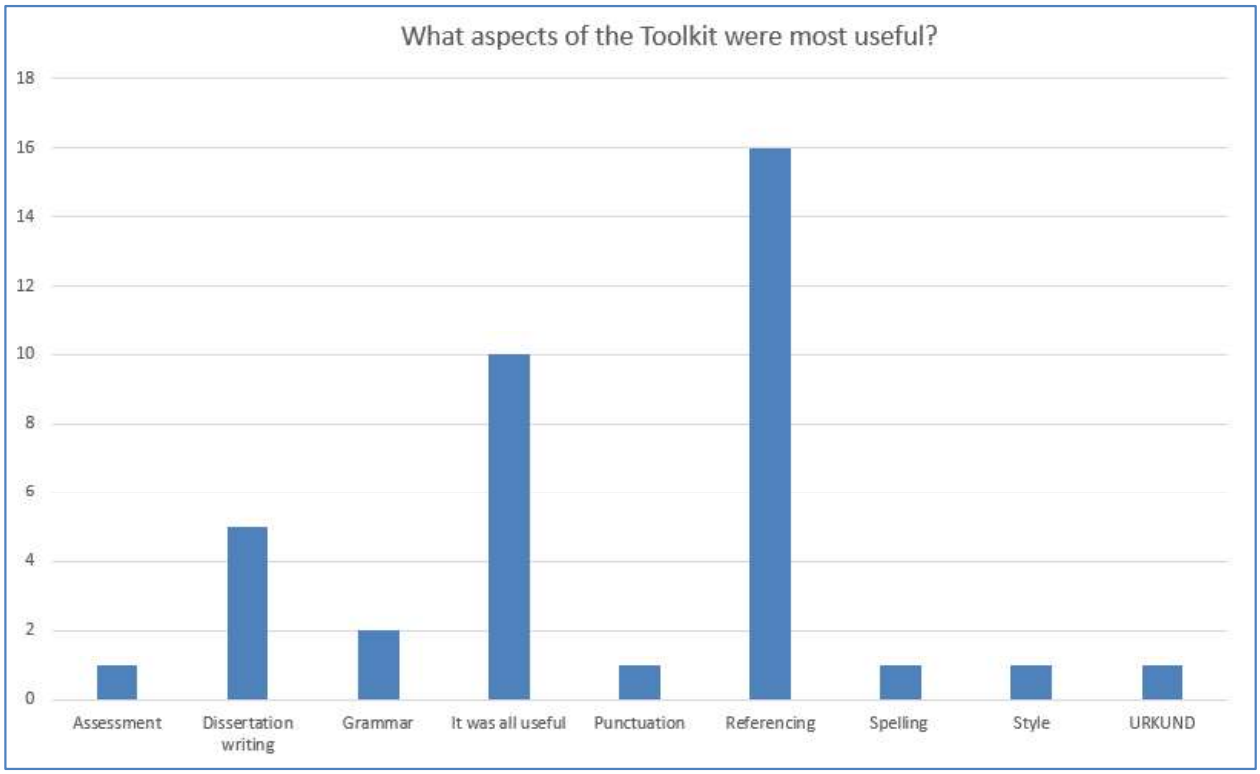

Figure 7: Most useful aspects of the Toolkit as expressed in free-text responses

A similar analysis of free-text responses was conducted on answers to the question "How would you improve the Toolkit?" and the results are graphed in Figure 8.

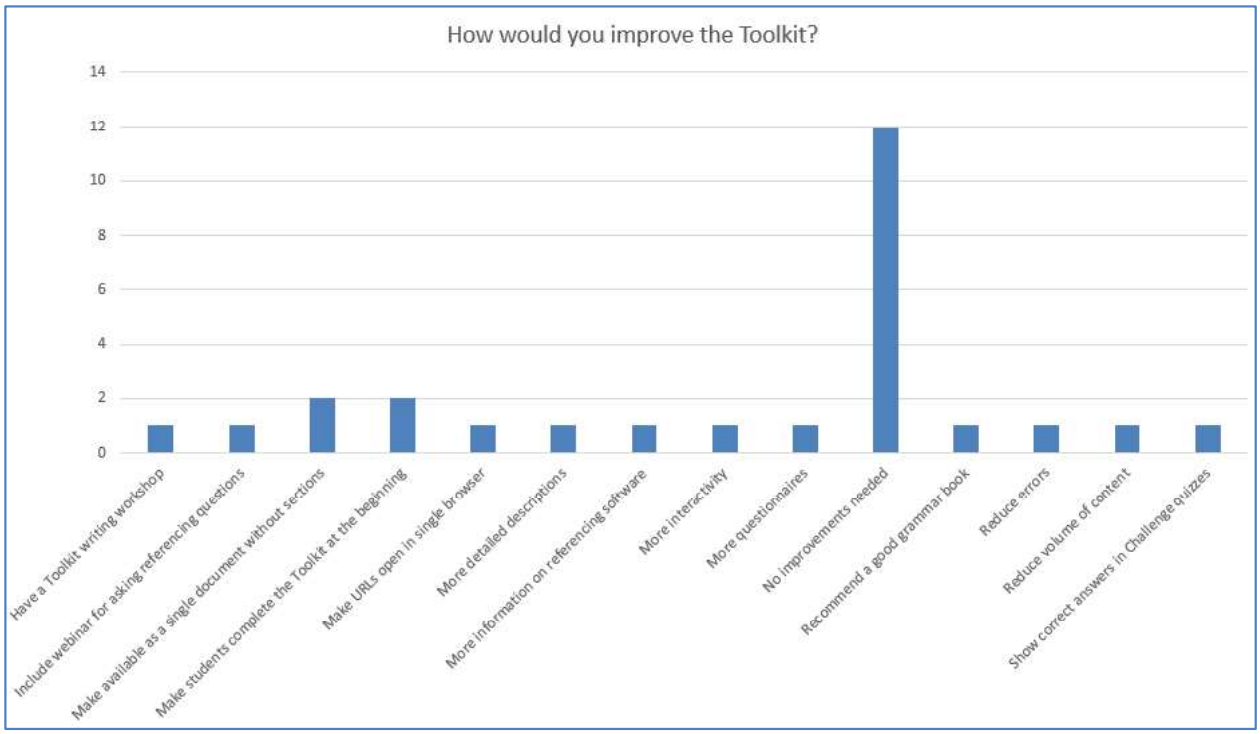

Figure 8: Suggestions for improvement of the Toolkit as expressed in free-text responses

As can be seen, by far the most frequent response was that no improvements were needed. Interestingly, the nudge-based scheduling model did not appear to have been universally liked, with two students expressing a wish that the College "make students complete the Toolkit at the beginning" – the very approach that had proved quite unpopular with students in the 2017 cohort.

The survey results also indicated that 65.9% of respondents intended to revisit the Toolkit throughout their programme (see Figure 9). The response scale ranged from 1 (Not likely at all) to 5 (Extremely likely).

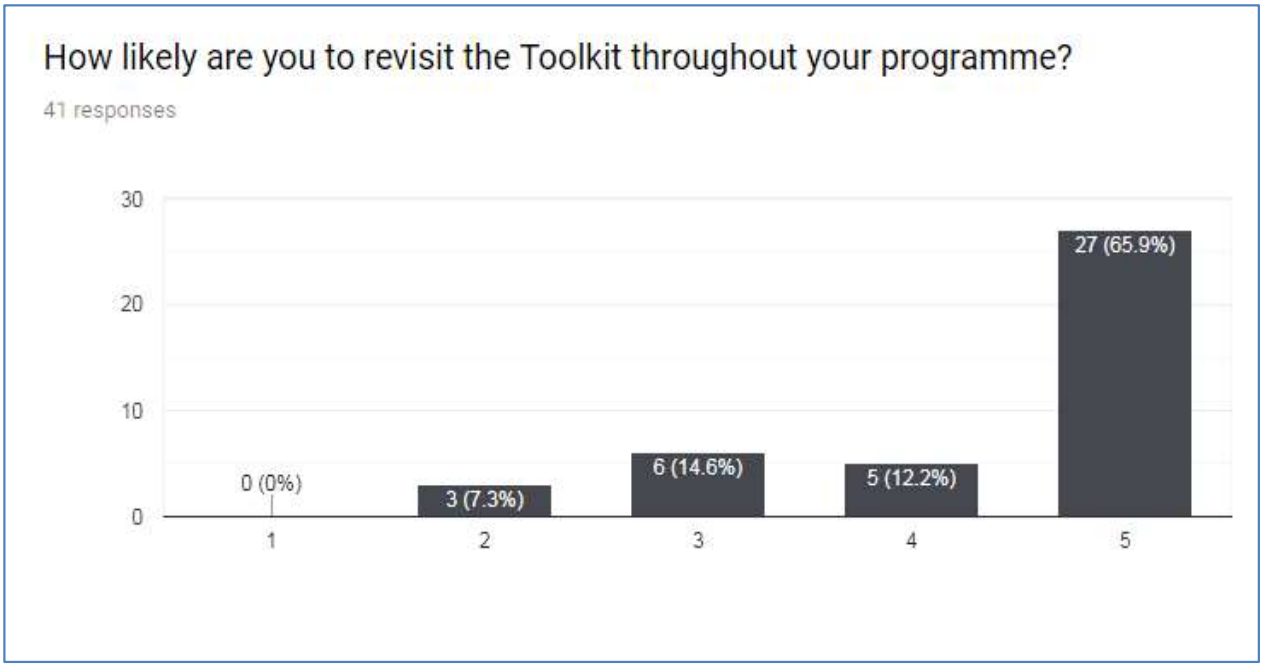

Figure 9: Responses to question regarding likelihood of revisiting the Toolkit

4. Discussion

This study was conducted over a short period at the start of the cohort programmes. Therefore, any inferences drawn from the data analysis should be assessed with this limitation in mind. It is also important, when drawing inferences from learning analytics data, to be cognisant of its limitations and recognise what such data does not capture. The first research question concerned students' revisiting of the Toolkit as a resource over time. Without longitudinal analysis it is not possible to draw a firm conclusion regarding the nature of students' engagement; the study cannot confirm, for example, whether the intention to revisit the Toolkit as expressed in the survey is indicative of students' actual use patterns over time. However, within the parameters of the available data, it is clear that activity levels in the Toolkit for the initial five-month period suggested a reasonable level of sustained engagement up until the summer months, when a reduction in activity is to be expected due to summer holidays. This is supported by the findings of the data analysis and comparison for the second research question, on whether there is a difference in levels of engagement compared to the 2017 study. The comparative analysis of activity data for the two cohorts demonstrates a higher and more sustained level of engagement in the 2019 group than in the 2017 study. It is not possible for this study to conclude with certainty whether, or to what extent, this improvement is due to Toolkit changes such as increased faculty involvement, LMS calendar notifications or the Toolkit's removal from the student orientation programme. However, given the similarity of the two groups and the other conditions of the study, it would appear to be a plausible hypothesis – particularly in light of the confirmed statistical significance of the finding and the strong effect size of the differences between the cohorts.

Further research, possibly including multivariate regression methods to control for other variables, could lend further weight to this hypothesis and enable a more detailed interrogation of the results.

The findings confirm the role of collaborative, iterative learning design in the enhancement of online engagement with learning materials. There is scope for further exploration of these areas with future cohorts. A combination of learning analytics and qualitative data could enable detailed analysis of students' online behaviours in relation to specific content formats in the Toolkit. A potentially interesting avenue of exploration is indicated by the finding was that not everyone who responded to the survey did the Challenge quiz, although they all completed almost every other unit. The LMS logs show that only 50 Challenge completion badges were assigned for the whole cohort, and the completion levels for the Challenge quizzes were lower than in other quizzes in the Toolkit. This could indicate that students conceptualise the quizzes in the Toolkit as formative learning tools rather than a reward-based summative test. This hypothesis is supported, albeit anecdotally, by a suggestion in the survey that detailed feedback should have been provided in the Challenge quiz. To focus more explicitly on academic writing, an area that warrants further research is the complex role of technology in facilitating and shaping students' writing (Coffin and Goodman, 2003; Singleton-Jackson and Colella, 2012). This could feasibly be a focus for future research and would facilitate inquiry into whether resources such as the Toolkit are enhancing writing quality and writing practices among students, or whether other technologies are exerting a stronger influence in these areas.

Data-driven approaches in higher education, including nudging, are becoming more commonplace (Desouza and Smith, 2016). In conducting such research, it is important to consider the ethical justification for implementing such approaches and think critically about the assumptions that often accompany data-driven solutions (Lockyer et al., 2013; Knox, Williamson and Bayne, 2019). Academic staff involved in teaching are quite justifiably sceptical about technology-based tools being promoted as a 'magic bullet' for the problems they encounter. They understand that the teaching of academic writing is not an isolated event but occurs in the broader context of teaching and learning (Scott et al., 2017). As this study demonstrates, teacher input and acceptance are essential for the successful integration of digital resources in blended education; a key factor in achieving these is the building of trust in the tool. Support at senior management and academic levels was crucial for the positioning of the Toolkit; the dissemination of prior peer-reviewed research on the resource played an important role in enhancing its credibility among senior staff and faculty and confirming that it had been designed to pedagogically sound specifications. Having gained experience of the Toolkit and received endorsements of its utility from their peers, faculty members were happy to promote it at student-facing webinars and onsite events. This exemplifies the cyclical, multidirectional nature of the conceptual model adopted for the Toolkit update (Figure 2): designers working with faculty, faculty working with students and, importantly feedback being gathered from faculty and students that will improve the Toolkit design in future iterations. Further qualitative research could explore teachers', students' and designers' experiences of this process and its impact on the teaching and learning of academic writing.

5. Conclusion

Gauging the effectiveness of online pedagogical tools delivered to a dispersed student body is just one among many challenges facing educators working in online and blended learning environments. This study aimed to add to the existing body of knowledge on student online engagement and academic writing support mechanisms in blended-learning and distance education. The study considered three research questions relating to student and faculty engagement with the Academic Writing Toolkit: whether the engagement observed in the first five months indicate that students might return to the Toolkit over time; whether there was a statistically significant increase in students' engagement with the Toolkit following the redesign of its

scheduling and positioning; and what students' experience of using the Toolkit was. Online activity data analysis found that engagement with the Toolkit decreased after the first month, but evidence of sustained activity levels for most of the period suggested that students were revisiting the resource. There was a statistically significant increase in activity levels compared to a similar period in 2017, and this effect was moderately strong. The study drew no conclusions regarding the impact of updates and enhancements on Toolkit engagement and recommended further research to evaluate this. Based on survey responses, students' experience of the Toolkit was positive, with few requests for improvement and a high level of intention to revisit the Toolkit for support throughout their programmes.

6. References

Avella, J.T., Kebritchi, M., Nunn, S.G. & Kanai, T. (2016). Learning Analytics Methods, Benefits, and Challenges in Higher Education: A Systematic Literature Review. *Online Learning*, 20(2), 13-29.

Biesta, G. (2015) What is Education For? On Good Education, Teacher Judgement, and Educational Professionalism. *European Journal of Education*, 50(1). DOI: 10.1111/ejed.12109

British Educational Research Association (BERA) (2018). *Ethical Guidelines for Educational Research, fourth edition*. London. Retrieved from https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018

Chanock, K., D'Cruz, C., & Bisset D. (2009). Would you like grammar with that? *Journal of Academic Language & Learning, 3*(2), 1-12.

Coffin, C.J. & Goodman, S. (2003). Academic writing in an electronic environment. In Coffin, C., Curry, M.J., Goodman, S., Hewings, A., Lillis, T. & Swann, J. (eds.), *Teaching Academic Writing: A Toolkit for Higher Education*. London: Routledge, 130-156.

Damgaard, M.T. & Nielsen, H.S. (2018). Nudging in Education. *Economics of Education Review*, 64, 313-342. DOI: 10.1016/j.econedurev.2018.03.008

Desouza, K., & Smith, K. (2016). Predictive analytics: nudging, shoving, and smacking behaviors in higher education. *EDUCAUSE review*, 51, 10-20.

Gallagher, D. & Maxfield, A. (2018). Learning Online to Tutor Online: How We Teach Writing Tutors. *WLN Journal of Writing Centre Scholarship*, Chapter 16 (online). Retrieved from https://wlnjournal.org/digitaleditedcollection1/GallagherMaxfield.html

Hibernia College (2018). *Privacy Policy*. Retrieved from https://hiberniacollege.com/privacy-policy/

Knox, J., Williamson, B. & Bayne, S. (2019). Machine behaviourism: future visions of 'learnification' and 'datafication' across humans and digital technologies. Learning, Media and Technology, DOI: 10.1080/17439884.2019.1623251

Lockyer, L., Heathcote, E. & Dawson, S. (2013). Informing Pedagogical Action: Aligning Learning Analytics with Learning Design. *American Behavioral Scientist*, 57(10), 1439-1459. DOI: 10.1177/0002764213479367

O'Dowd, I. (2018). Examining engagement with an online toolkit for academic writing in blended-learning initial teacher education programmes. In Ubachs, G. & Joosten-Adriaanse, F. (eds.), *Blended and Online Learning: 'Changing the Educational Landscape' - Overview of papers on Higher Education for the Future as presented during the Online, Open and Flexible Higher Education Conference in Aarhus, October 2018* (pp. 128-138). Maastricht, The Netherlands: EADTU.

Means, B., Toyama, Y., Murphy, R. & Baki, M. (2013). The Effectiveness of Online and Blended Learning: A Meta-Analysis. *Teachers College Record*, 115(3), 1-47.

Nallaya, S., & Kehrwald, J. (2013). Supporting academic literacies in an online environment. *Journal of Academic Language & Learning, 7*(2), A79-A94.

Scott, D., Ribeiro, J., Burns, A., Danyluk, P., & Bodnaresko, S. (2017). *A review of the literature on academic writing supports and instructional design approaches within blended and online learning environments*. Calgary: University of Calgary. Retrieved from http://hdl.handle.net/1880/51960

Scott, P. & Mouza, C. (2009). The Impact of Professional Development on Teacher Learning, Practice and Leadership Skills: A Study on the Integration of Technology in the Teaching of Writing. *Journal of Educational Computing Research*, 37(3), 229-266.

Singleton-Jackson, J.A. & Colella, J.A. (2012). An Online Odyssey: A Case Study of Creating and Delivering an Online Writing Course for Undergraduate Students. *MERLOT Journal of Online Learning and Teaching*, 8(1), 24-33.

Thaler R.H. & Sunstein, C.R. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven: Yale University Press.

Tuomainen, S. (2016). A blended learning approach to academic writing and presentation skills. *International Journal on Language, Literature and Culture in Education, 3*(2), 33-55. DOI:10.1515/llce-2016-0009