

# The Development of an Academic Literacies Programme for Students in Britain and Beyond

Shuna Neilson  
*Richmond American University London, UK*

Tavis Ryan King  
*Prince of Wales Island International School Balik Pulau, Malaysia*

## Abstract

Richmond's Academic Literacies Programme (ALP) is a content-based form of instruction for university students which teaches critical reading, research skills, content synthesis, and writing and presentation skills. It is designed to empower all students to research and write effectively throughout their undergraduate studies. This article is a quantitative case study review of a British-American university's ALP, examining student feedback across academic disciplines on specific taught ALP skills and comparing their improvement from 2014 to 2022. Chi-squared goodness-of-fit tests showed students valued research, critical reading, academic writing, essay structure, understanding academic honesty, using tutor feedback, and referencing skills; however, survey development and recommendation reports were not meeting student needs in their majors and so were removed from the programme. In comparison, in a follow-up review conducted in 2022, the skill of identifying research gaps was not effectively used or applied. However, independent group testing found the usefulness of skills at the lower learning level improved from 2014 to 2022, as did the application of skills at the higher level. This study concludes that ALPs are valuable for all university students beginning higher education research, regardless of first language or degree course.

## Introduction

On a British Association of Lecturers in English for Academic Purposes (BALEAP) discussion thread, Erik Borg (2017) confirmed that Coventry University's Centre for Academic Writing was offering credit-bearing modules in academic writing that are open to all students, home and international. In response, Neil Robbie (2017) replied that within the UK universities sector, there now seemed to be a 'trend towards integration [of native speakers with non-native speakers of English within] credit-bearing modules.' Robbie's comment appears to acknowledge that, though English for Academic Purposes (EAP) and research and writing skills have conventionally been aimed at two distinctly different sets of students (non-native speakers of English and 'non-traditional' home students), current pedagogy is now not to differentiate the two, but to combine them. The integration of English-speaking and non-English-speaking students into a single academic literacies programme can be linked to the idea put forward by Bourdieu and Passeron (1994), suggesting that "academic language is [...] no one's mother tongue", illustrating that while EAP and academic literacies have traditionally been viewed as two discrete fields, current pedagogy aims to amalgamate the two within higher education (HE). Richmond's contemporary Academic Literacies Programme (ALP) is a content-based form of instruction for all students in university which teaches "higher level reading, synthesis, research, and academic/professional presentation (written and oral) skills" (Pally, 2000, p. 9). This ALP

is designed to empower all students to research and write effectively throughout their undergraduate studies and beyond. Moreover, in an attempt to create “equitable learning spaces” and “inclusive communities of practice” (Killick, 2014, p. 731), this ALP does not make a distinction between ‘home’ and ‘international’ students.

While this concept may be new to UK Higher Education (UKHE), it has been standard pedagogical practice to the American liberal arts approach to university for over twenty years (Johns & Swales, 2002). Typically known as a Freshman Composition programme, the teaching of academic writing as a first-year foundation course has been a standard of American HE pedagogical practice since 1885 (Connors, 1996, p. 43). While Freshman Composition originated in the English department and focussed on literary texts, helping those in need of improvement in writing skills (a ‘deficit model’), the subsequent opening up of US education to a broader range of students led to the formation of the Writing across the Curriculum (WAC) movement in the 1970s and 1980s. Like the more theory-based UK Academic literacies (ACLITS) movement in the 1990s, the WAC movement re-thought the deficit model of the teaching of writing and researched “the differences between student and teacher perceptions of error” (Russel et al., 1990, p. 401). For contemporary American students, learning academic literacies is a main “taskmaster” during their first-year university because Freshman Composition is now designed to support students in learning and then generalising these skills to classes they will take later when they settle into their “major” course of study (Purdy, 1986). This is important because, in the liberal arts tradition, academic literacies are a foundation that can be drawn on for any degree programme, whether it be business, social studies, humanities, science or the arts. This is in stark contrast to the UKHE system which usually offers no credit-bearing research and writing classes to its first-year students. Instead, the assumption is that academic literacies were absorbed during previous learning levels.

British universities historically have only focussed on teaching academic literacies to international students who speak English as a second language. For these students, EAP was born out of the need to supply English-language classes in conjunction with academic literacies in response to the increasing numbers of overseas students coming to Britain (Hamp-Lyons, 2011, p. 91-90). Often, these classes are packaged as part of a *Foundation Year* or an *Access to Higher Education Diploma*, and taught at Level 3 Regulated Qualification Framework (RQF; UK Government, n.d.; see Appendix A). Even within these contexts, the writing classes taught are more in keeping with study skills classes. These classes are intended to train students to produce academic work through the teaching of specific skills, such as referencing, paraphrasing and summarising academic resources to avoid plagiarism; however, these skills as they are taught do not go far enough to support students to understand how new knowledge and meaning is constructed (Wingate, 2006, p. 462). Furthermore, while these skills-based foundation year courses are well-intentioned and teach a basic level of skill building for international students, they still fall short of full effectiveness because they are often elective or required only of non-native English speakers. Thus, English-speaking students are excluded because of cultural expectations around academic literacies that may be ill-placed.

In contrast to international students, the cultural assumption for British students has been that academic literacies were adequately taught during GCSEs, and A-Levels in such a way that the writing skills would generalise to university without additional support. However, Sultan (2013) critiques this as political aspiration rather than reality. In reality, Sultan observes, the academic literacies taught during GCSEs and A-Levels are quite inconsistent across the UK. The first reason Sultan cites is because of continuing poor student attendance in secondary education which, despite Sultan’s claim being made in 2013, is still true a decade later (UK Government, 2023). The second is because of results-driven policy approaches to academy and sixth-form management that have often focussed on learning-for-assessment, rather than assessment-of-learning. This means that students in many Humanities and Science courses are taught to memorise essays to reproduce them in exams, rather than deeply understand the structure, mechanics, applications and art of writing. This consequentially relates to the third issue, that being taught to memorise essays during A-levels does not actually support academic literacies and independent thinking when students progress from post-18 education into HE. The issues Sultan highlights relates to students who have come up through the British

education system; these issues should be alarming, as they suggest that British students' command of academic literacies may be, at best, no better than that of non-native English-speaking students. Wingate and Tribble (2012, p. 418) also observed how, from a pedagogical perspective, EAP courses targeted towards "non-traditional students" have theoretically been developed to be robust enough for mainstream teaching in UKHE.

Therefore, as both international students and British students need support with academic literacies, there is good reason to suggest that ALPs are added to British and perhaps all HE first-year curriculums. An ALP would be invaluable to all students because of its potential to help everyone (Lea & Street, 1998, p. 158). Hardy and Clughen (2012, p. 25-26) assert that the transition from secondary education to university is challenging because students are attempting to become more independent in their critical thinking skills, which often involves reflecting on their own pre-conceived notions and biases when assessing the value of new ideas in academic discussions.

Given the rare intersection of UK and American HE, Richmond's ALP review could provide additional insight and value to British institutions currently attempting to design ALPs in the future. Therefore, the aim of this article is to share how AAH designed its ALP in order to achieve the aim of improved academic literacy while also receiving Quality Assurance Agency for Higher Education accreditation from the UK and the American Middle States Commission on Higher Education accreditation. To do this, this report will share how Richmond reviewed its current course offerings and feedback to its ALP in 2014 and comparatively analyse current student feedback to assess whether the new course design is helpful in developing students' academic literacies.

## **Academic Literacies in the British International University Context**

While international students have always been present in British student populations, exceptionally high numbers of international students are a relatively new phenomenon (HESA, 2023). However, high numbers of international students have always featured at Richmond. Given Richmond's history as an American liberal arts institution within greater London, courses are designed to gain dual accreditation in the United States, as well as the UK. Thus, Richmond students have long followed the American four-year liberal arts tradition, whereby all students are required to earn 60 credit hours of research and writing classes: One at RQF Level 3 and a second at Level 4 (Appendix A). On successful completion of these courses<sup>1</sup>, students then go on to take a Level 5 research methods course specific to their degree programme.

Placement in the courses are carried out via a writing assessment taken by all degree-seeking students (unless exempted by transfer credit) the week before the term officially begins. Most students will be placed in the Level 3 research and writing course. However, students who underperform in the assessment can be placed in an English for Academic Purposes (EAP) course. The aim of the EAP course is to scaffold students' English-use for progression to the ALP Level 3 course. In contrast, students who perform exceptionally in the assessment will receive Level 3 ALP credit and advance directly to the Level 4 research and writing class (Fig. 1). These research and writing courses follow the American model of freshman composition/creative writing classes typical of their liberal arts degree. However, while US degree programmes often contain creative and descriptive writing, Richmond's degree programmes emphasise evaluation and synthesis skills in student academic writing.

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<sup>1</sup> A 'course' in an American university is equivalent to a 'module' in UKHE.

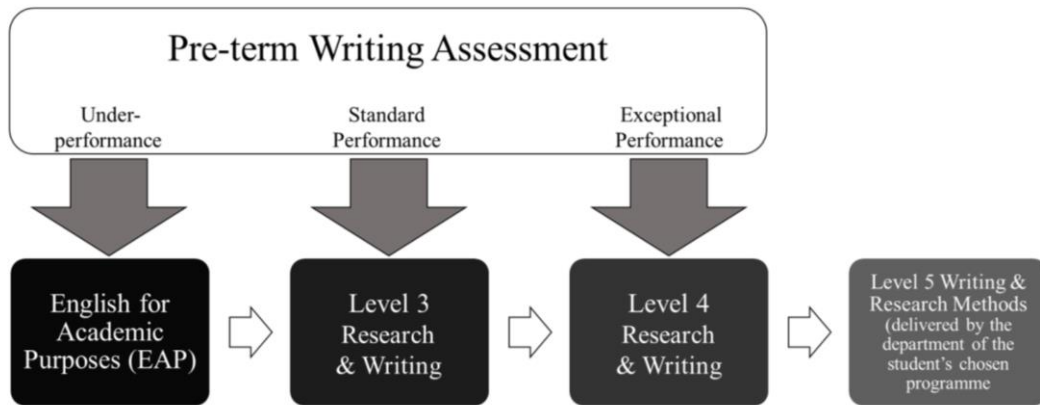


Figure 1. Student Placement Exam and Course Assignment Process.<sup>2</sup>

## Review of the Richmond ALP: Research and Rationale

In 2014, the research and writing courses were reviewed as part of a wider review into programmes as Richmond was preparing to award its own degrees in the UK. This review was conducted by the principal researcher, Shuna Neilson, Coordinator of the ALP, together with colleagues Julia Hathaway, Elizabeth Long and Dr Ana Oliveira. The Dean of the School of Liberal Arts, Prof. Mary Robert, supplied ideas and guidance throughout. Given that this was a practical review, there was no academic research question as such, but rather an organisational research question: Are the current ALP courses still necessary and fit-for-purpose? Later, when the recent research was conducted, it was considered important for professional standards to share the information with other academic literacies professionals; as such, the following analyses are *post hoc* in nature, and were compared with reflections for teaching improvement in mind rather than a hypothetico-deductivist study making any predictions.

### Study 1: The 2014 ALP Review

#### Method

#### Sample

An e-mail invitation was sent to 179 final-year university students to give feedback via survey and 69 final-year university students volunteered to participate, reflecting 38.54% participation.

#### Design

The student survey was cross-sectional in nature, as it sampled a cross-section of final year students who could reflect on when they took their Level 3/4 ALP courses and provide feedback on how the skills taught in their first and second years of study impacted their third and fourth years' course performance (Appendix A).

#### Materials

The survey was sent to graduating final-year students. These questions asked students to recall their experiences when they had taken Level 3 and/or Level 4 ALP courses. The closed question on usefulness asked, 'How useful have you found the following skills within your major?' Students answered either 'Not Useful', 'Somewhat Useful', 'Useful' or 'Very Useful'. Then students were asked 'How often did you apply the following skills in the courses within

<sup>2</sup> International Level Equivalencies can be compared in Appendix A.

your major?' and students answered either 'Hardly Ever', 'Occasionally', 'Frequently' or 'Almost Always'. Students then were asked what grades they received in the Level 3 and 4 ALP classes, as well as what their declared programme of study was (aka, their 'major').

### Procedure

The final year psychology students taking a module in experimental data analysis supported the department. The surveys were created in Microsoft Word and shared with all final-year students via e-mail from the university's Student Affairs department. Students completed the survey and returned it to the psychology department, where students coded the data into a spreadsheet for data analysis.

### Data Analysis

A chi-squared test of association – also known as the chi-squared goodness-of-fit test – was used to identify the most frequently given answer to questions about specific research and writing skills. The chi squared goodness-of-fit test is used for analysing the distribution of the population of a sample. For our purposes, this meant asking students a single question about an academic literacy, and comparing the frequencies that students answered across the four feedback categories (as outlined in the Materials). After all the students answered, we compared the frequencies of answers with the chi squared goodness-of-fit test to determine the students' favoured answer with a significance threshold alpha of .05. Therefore, what the chi-squared tests are comparing is if students gave a statistically significant majority feedback score for the academic literacy in question.

### Ethics

In 2014, the review was conducted for the university's organisational development and progression. As such, ethics for research was not required at that time. However, as the research was subsequently developed to be shared outside of the organisation with a comparative aim, an application for *post-hoc* research was made to the Richmond Research Committee. Given that the data was not personal or sensitive in nature, the ethics of the research project were approved on 28 February 2023.

### Results

A series of chi-squared goodness-of-fit tests were conducted on student answers to determine if students felt the Levels 3 skills useful and readily applied in subsequent years of study (Table 1; full chi-squared results can be found in Appendix B). For the Level 3 ALP, there was no general consensus on how the course helped students' Note Taking, Critical Reading, Oral Presentation, Understanding Academic Honesty, or Writing Structured Expository Essay skills. However, most students found the course's instruction on skills to improve Responding to Instructions, Brainstorming Strategies, Organisational Strategies, University-level Writing, Revision and Proofreading, Use of Citation, and Acting on Tutor Feedback was 'Useful' with significant effect,  $p < .05$ .

**Table 1. Descriptive Statistics for the "Usefulness" of First-year Level 3 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode
Note Taking	2.50 (.92)	3.00	3.00
Critical reading	2.64 (.98)	3.00	3.00
Responding to instructions	2.62 (.89)	3.00	3.00
Brainstorming strategies	2.56 (.88)	3.00	3.00
Organisational strategies	2.69 (.89)	3.00	3.00
University level writing	3.05 (.90)	3.00	3.00 & 4.00
Revision and proof reading	2.63 (.88)	3.00	3.00

Use of citation	2.94 (.98)	3.00	3.00
Oral presentation	2.39 (.97)	2.00	2.00
Survey development	2.14 (.88)	2.00	2.00
Understanding academic honesty	2.63 (1.02)	3.00	3.00
Acting on feedback from tutor	2.73 (.95)	3.00	3.00
Writing structured, expository essay	2.86 (.99)	3.00	3.00
Writing a recommendation report	2.26 (.86)	2.00	2.00

Conversely, students found that the skills taught for Survey Development and Writing a Recommendation Report were only ‘Somewhat Useful’,  $p < .05$ . When asked how often they applied those skills in later modules and assessments, there was no general consensus on how the course helped students’ skills in Note Taking, Brainstorming Strategies, Organisational Strategies, Oral Presentation and Writing a Recommendation Report. Students reported with significant effect that the skills taught to support Survey Development were applied ‘Hardly Ever’,  $p = .001$  (Table 2). However, the skills taught to support Critical Reading, Responding to Instructions, University-level writing, Revision and Proofreading, Use of Citation, Understanding Academic Honesty, Acting on Tutor Feedback and Writing Structured-expository Essays were applied ‘Frequently’ to ‘Almost Always’ with significant effect,  $p < .05$ .

**Table 2. Descriptive Statistics for the “Application” of First-year Level 3 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode
Note Taking	2.63 (.91)	3.00	3.00
Critical reading	3.06 (.88)	3.00	3.00
Responding to instructions	2.79 (.90)	3.00	4.00
Brainstorming strategies	2.43 (.91)	2.00	2.00
Organisational strategies	2.63 (1.04)	2.00	2.00
University level writing	3.26 (.77)	3.00	3.00
Revision and proof reading	3.13 (.91)	3.00	4.00
Use of citation	3.19 (.90)	3.00	4.00
Oral presentation	2.50 (1.08)	2.50	2.00 & 3.00
Survey development	1.81 (1.00)	1.00	1.00
Understanding academic honesty	3.09 (1.03)	3.00	4.00
Acting on feedback from tutor	2.90 (.96)	3.00	2.00
Writing structured, expository essay	3.01 (.97)	3.00	3.00 & 4.00
Writing a recommendation report	2.44 (1.13)	2.50	1.00 & 3.00

Similarly, chi-squared goodness-of-fit tests were utilised to assess if students felt the Level 4 skills were useful and readily applied in subsequent years of study (Table 3). For the Level 4 ALP, there was no general consensus on an answer for Organising/Designing a Paper and Reading and Note Taking and Using Academic Language. Aside from these two areas, course instruction on Using Library/Internet Resources, Constructing/Organising Arguments, Citation Use, Editing & Proofreading, Writing in Academic Style, and Critically Evaluating Texts were considered ‘Useful’ with significant effect,  $p < .05$ .

**Table 3. Descriptive Statistics for the “Usefulness” of Second-year Level 4 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode
Use of Library & Internet Resources	3.12 (.83)	3.00	3.00
Constructing and organising an argument	2.85 (.86)	3.00	3.00
Knowing how, when, where and why to use citations	3.02 (.97)	3.00	3.00
Organising research and designing a paper	2.83 (.99)	3.00	3.00
Reading and note taking of academic sources	2.55 (1.00)	3.00	3.00
Using academic language	2.72 (.99)	3.00	3.00
Editing and proof reading	2.70 (.94)	3.00	3.00
Writing introductions, conclusions and abstracts in an academic style	2.73 (.99)	3.00	3.00
Critiquing and evaluating texts for a literature review	2.85 (.95)	3.00	3.00

When students reflected on applying those skills in later courses, they reported no general consensus on applied Reading and Note Taking skills; however, all other skills were applied ‘Frequently’ or ‘Almost Always’ in subsequent classes they had taken,  $p < .05$  (Table 4).

**Table 4. Descriptive Statistics for the “Application” of Second-year Level 4 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode
Use of Library & Internet Resources	3.20 (.85)	3.00	4.00
Constructing and organising an argument	3.00 (.89)	3.00	3.00
Knowing how, when, where and why to use citations	3.26 (.91)	4.00	4.00
Organising research and designing a paper	3.02 (.98)	3.00	4.00
Reading and note-taking of academic sources	2.60 (.98)	3.00	3.00
Using academic language	3.15 (.90)	3.00	4.00
Editing and proof reading	2.87 (1.02)	3.00	3.00
Writing introductions, conclusions and abstracts in an academic style	3.05 (.89)	3.00	3.00
Critiquing and evaluating texts for a literature review	2.74 (.94)	3.00	3.00

### **Study 1 Discussion**

In general, these results support the research aim which was to review student feedback on the Levels 3 and 4 ALP. Broadly, the picture was good in that students felt many of the skills taught were useful. However, some lessons stood out as not well received by students in the classroom, and a minority were not considered to be applied again after the course was over. While survey writing was a particular skill that students reported as not ‘Useful’, the lack of consensus for any answer on skills such as note taking and oral presentation skills indicated that targeted lessons in these areas were not supporting students. However, across the two modules, many skills were noted as ‘Useful’ and readily ‘Applied’ in future academic writing.

At the end of the 2014 review, most of the skills taught were seen to be relevant and thus retained, while some changes were made to the courses with the aim of improving students' academic literacies skills via future course delivery. At level 3, the Survey and Recommendation Report requirement was removed as the results had shown these to be insufficiently relevant to some majors (e.g., arts and humanities). This also reduced the overall workload of the course in response to ongoing Student Course Evaluation requests and new University Assessment Norms. This reduction in content enabled the course to focus more on Critical Reading and Writing Structured Expository Essays, as both of these skills were frequently used in students' majors. The Oral Presentation requirement was retained but moved from a discussion of the Survey to an illustration of student research on their expository essay.

At Level 4, results highlighted no irrelevant skills, so nothing was initially removed. However, the new University Assessment Norms demanded a less heavy workload for this course – also requested via several Student Course Evaluations. This led to the removal of the argument-based paper requirement, leaving more time for the literature review element – retained at the request of the School of Business. The requirement to 'identify gaps in the research' was now specified in the literature review element to consolidate practice across the many sections of the courses. In addition, less than ideal student retention on the course illustrated a certain lack of incentive, so a Poster Presentation requirement was subsequently added to the end of the course. This had the aim of galvanising students to summarise their research to disseminate to others, as well as to widen the range of assessments and vary the pace with a (fun) task in a different format in which they could excel (Burnell, 2019, p.167).

## **Study 2: The 2022 ALP Review**

Following the changes implemented after student feedback in 2014, the courses were reviewed at the end of each semester and continuously adjusted and refined in response to tutor and student feedback. However, the coronavirus-19 pandemic created another need for a full review. Students participated in the ALP Levels 3 and 4 online. Therefore, an investigation into the effectiveness of the delivery was conducted by the principal researcher, Shuna Neilson, to assess quality, as well as to review student feedback on the current ALP course delivery.

### ***Hypothesis***

Student reviews of ALP usefulness and applicability will improve from 2014 to 2022.

### ***Method***

#### ***Sample***

An e-mail invitation was sent to 96 final-year university students to give feedback via survey, and 38 responded, reflecting 39.58% participation. Importantly, these students were in their final year of studies in 2022, which means that when they took the first-year and second-year ALPs, delivery was entirely online and not face-to-face as it was in 2014.

#### ***Design***

To assess if course delivery on teaching academic literacies had improved from 2014 to 2022 an independent groups design was selected.

#### ***Materials***

Senior Student Survey. A similar survey was sent to graduating final-year students utilising the same Likert-scales as before. The Level 3 skills of Survey Development and Writing a Recommendation Report were removed as they were dropped from the ALP teaching programme and assessment. No skills were added to the Level 3 course. For the Level 4 course, the skills of Formulating Research Questions, Identifying Gaps in Research, and Poster Presentation Skills were added, while Constructing an Argument was removed.



### Procedure

The procedure was similar to the 2014 survey with the addition of questions assessing new skills added to the course.

### Data Analysis

Chi-squared goodness-of-fit tests were first used to assess student feedback consensus similar to Study 1. Following this analysis to assess improvement, composite variables for Usefulness and Application were created for Levels 3 and 4, where the skill appeared in both 2014 and 2022 courses. Independent samples *t*-tests were used when data was normally distributed; where it was not, the Mann-Whitney *U* test was employed.

## Results

### Student Feedback: Goodness-of-fit Tests

A series of chi-squared goodness-of-fit tests were conducted on student answers to determine if students felt the Level 3 skills useful and readily applied in subsequent years of study (Table 5). Unfortunately, for Responding to Instructions, Brainstorming Strategies, and Oral Presentation Skills, the assumption of Expected  $N \geq 5$  was not met, so these ALs could not be tested inferentially. For the Level 3 ALP, there was no general consensus on how the course helped students' Note Taking, Critical Reading, Organisational Strategies, Revision and Proofreading, Understanding Academic Honesty, Acting on Tutor Feedback and Writing a Structured Expository Essay skills. That said, most students found the course's instruction on skills to improve University Level Writing and Use of Citation was "Very Useful" with significant effect,  $p < .05$ .

**Table 5. Descriptive Statistics for the "Usefulness" of First-year Level 3 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Median	Mode
Note Taking	2.60 (1.10)	2.00	2.00
Critical reading	3.00 (1.05)	3.00	4.00
Responding to instructions	3.21 (.85)	3.00	3.00
Brainstorming strategies	2.79 (1.08)	3.00	3.00
Organisational strategies	2.80 (1.06)	3.00	3.00
University level writing	3.33 (1.02)	4.00	4.00
Revision and proof reading	2.76 (1.00)	3.00	2.00
Use of citation	3.33 (.97)	4.00	4.00
Oral presentation	2.94 (.83)	3.00	2.00 & 3.00
Understanding academic honesty	3.00 (1.03)	3.00	4.00
Acting on feedback from tutor	2.85 (1.04)	3.00	3.00
Writing structured, expository essay	3.00 (1.10)	3.00	4.00

Regarding Level 3 AL application, the assumption of Expected  $N \geq 5$  was not met for Note Taking, Responding to Instructions, Brainstorming Strategies, Organisational Strategies, Oral Presentation Skills, Understanding Academic Honesty and Acting on Tutor Feedback. Furthermore, there was no general consensus for Revision and Proofreading. However, the student feedback indicated that Critical Reading, University Level Writing, Use of Citation, and Writing a Structured Essay were "Always Applied" in courses after the Level 3 ALP,  $p < .05$  (Table 6).

**Table 6. Descriptive Statistics for the “Application” of First-year Level 3 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Median	Mode
Note Taking	2.68 (1.00)	3.00	2.00
Critical reading	3.25 (.85)	3.00	4.00
Responding to instructions	3.32 (.75)	3.00	4.00
Brainstorming strategies	2.74 (1.10)	3.00	4.00
Organisational strategies	3.05 (.84)	3.00	4.00
University level writing	3.50 (.61)	4.00	4.00
Revision and proof reading	2.90 (1.07)	3.00	4.00
Use of citation	3.50 (.69)	4.00	4.00
Oral presentation	2.69 (1.01)	3.00	2.00 & 3.00
Understanding academic honesty	2.89 (1.05)	3.00	4.00
Acting on feedback from tutor	3.00 (1.00)	3.00	4.00
Writing structured, expository essay	3.40 (.82)	4.00	4.00

The Level 4 skills were next inspected (Table 7). The student feedback regarding the use of Using Citations, Organising a Research paper, Using Academic Language, Editing and Proofreading, and Writing Introductions, Conclusions and Abstracts garnered no consensus. The Poster Presentation Skills item also attracted many ‘No Comment’ answers ( $n = 16$ ), which consequentially meant the assumption of Expected  $N \geq 5$  was not met. Subsequently, students did feedback that the skills of Formulating Research Questions, Using Library and Internet Resources, Reading and Note Taking, and Critiquing Texts as ‘Useful’ or ‘Very Useful’,  $p < .05$ .

**Table 7. Descriptive Statistics for the “Usefulness” of Second-year Level 4 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Median	Mode
Formulating Research Questions	3.00 (.91)	3.00	3.00
Use of Library & Internet Resources	3.31 (.87)	3.50	4.00
Knowing how, when, where and why to use citations	2.80 (1.13)	3.00	4.00
Organising research and designing a paper	2.83 (.95)	3.00	3.00
Reading and note taking of academic sources	2.83 (.86)	3.00	3.00
Using academic language	2.86 (1.09)	3.00	4.00
Editing and proof reading	2.76 (1.05)	3.00	3.00
Writing intros, conclusions & abstracts in an academic style	2.79 (1.05)	3.00	3.00
Critiquing and evaluating texts for a literature review	2.94 (.87)	3.00	3.00
Identifying Gaps in Research	2.54 (1.07)	3.00	2.00 & 3.00
Poster Presentation Skills	2.94 (1.17)	3.00	4.00

When students gave feedback on AL application after their Level 4 course, there was no general consensus on an answer for Organising/Designing a Paper and Reading and Note Taking and Using Academic Language. Aside from these two areas, course instruction on Using Library/Internet Resources, Constructing/Organising Arguments, Citation Use, Editing & Proofreading, Writing in Academic Style, and Critically Evaluating Texts were considered ‘Useful’ with significant effect,  $p < .05$ . When students reflected on applying those skills in later courses, they reported no general consensus on applied Reading and Note Taking skills; however, all other skills were applied ‘Frequently’ or ‘Almost Always’ in subsequent classes they had taken,  $p < .05$ . Regarding Level 4 ALs application, there was no consensus on how often the skills were used for Formulating Research Questions, Editing and Proofreading,

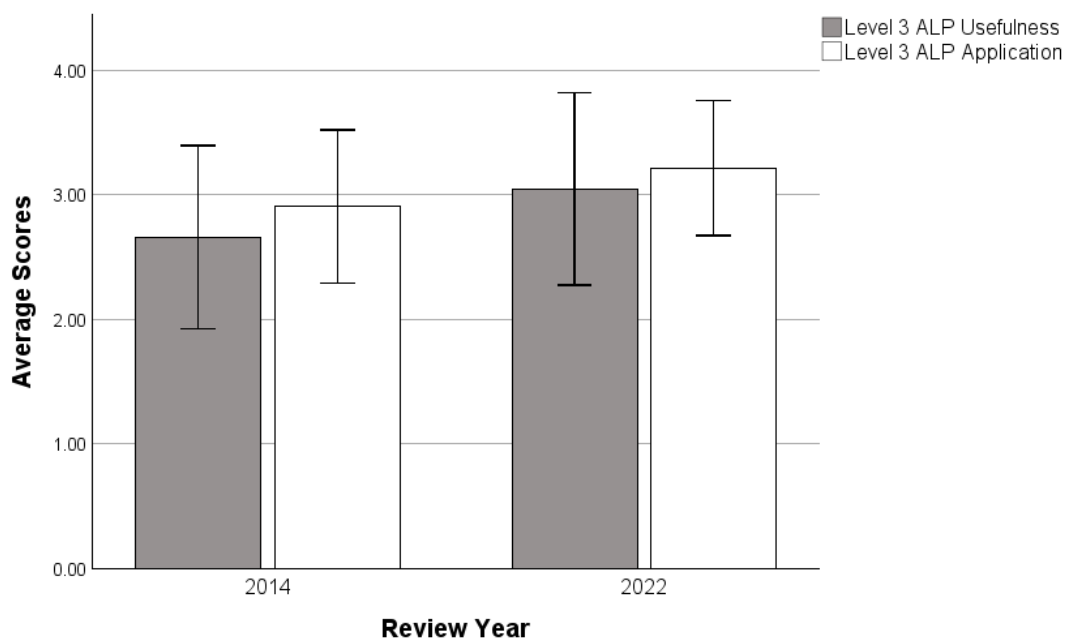
Identifying Gaps in Research and Poster Presentation Skills. However, students reported that Use of Library and Internet Resources, Using Citations, Organising and Designing a Paper, Reading and Note Taking, Using Academic Language, Writing Introductions, Conclusions and Abstracts, and Critiquing Texts were used 'Frequently' or 'Almost Always',  $p < .05$  (Table 8).

**Table 8. Descriptive Statistics for the "Application" of Second-year Level 4 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Median	Mode
Formulating Research Questions	2.83 (.98)	3.00	3.00
Use of Library & Internet Resources	3.37 (.77)	4.00	4.00
Knowing how, when, where and why to use citations	3.50 (.62)	4.00	4.00
Organising research and designing a paper	3.09 (.82)	3.00	3.00
Reading and note taking of academic sources	3.38 (.65)	3.00	3.00 & 4.00
Using academic language	3.54 (.66)	4.00	4.00
Editing and proof reading	3.21 (.77)	3.00	4.00
Writing intros, conclusions & abstracts in an academic style	3.43 (.61)	3.00	4.00
Critiquing and evaluating texts for a literature review	2.94 (.87)	3.00	3.00
Identifying Gaps in Research	2.69 (.96)	3.00	3.00
Poster Presentation Skills	2.50 (1.10)	2.00	2.00

#### Student Feedback: Course Improvement

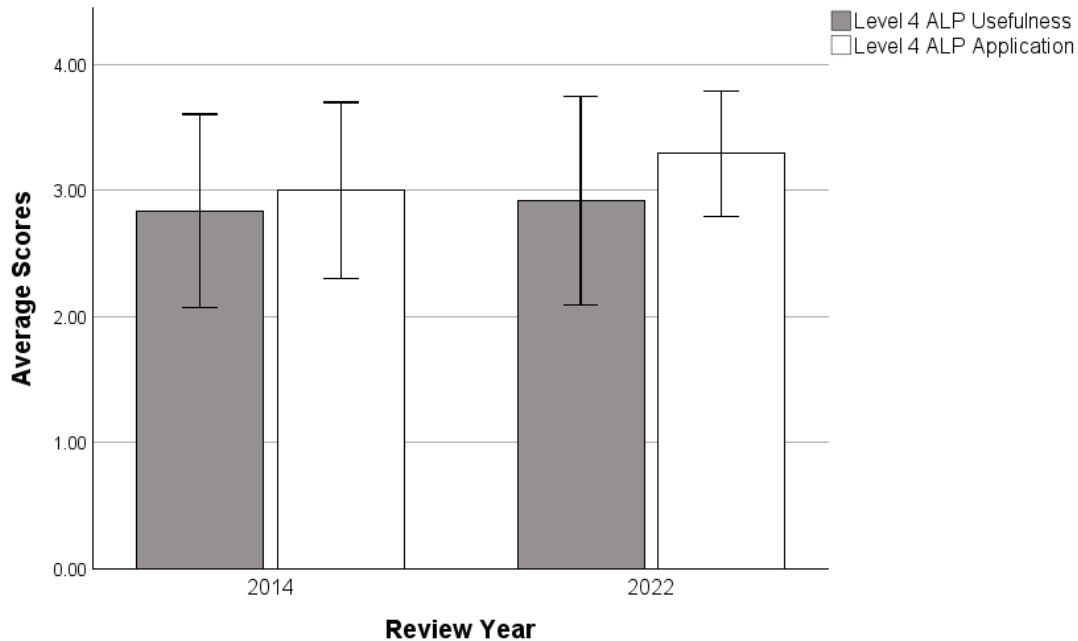
For the Level 3 ALP assessment, the data for the Usefulness variable was normally distributed, while the data for the Applied variable was not. The  $t$ -test showed that students found the use of skills in the taught programme for Level 3 significantly improved from 2014 ( $M = 2.67$ ,  $SD = .67$ ,  $n = 34$ ) to 2022 ( $M = 3.09$ ,  $SD = .74$ ,  $n = 14$ ),  $t(46) = -1.90$ ,  $p = .03$ ,  $r = .26$ . However, they also reported that the frequency they applied the Level 3 skills in future courses did not change. Results of the Mann-Whitney  $U$ -test showed that applied skills did not change from 2014 ( $Med = 2.83$ ,  $IQR = .50$ ) to 2022 ( $Med = 3.17$ ,  $IQR = 1.02$ ),  $U = 252.50$ ,  $Z = .87$ ,  $p = .19$  (Fig. 2).



Note: Error bars represent 1 standard deviation.

**Figure 2. Level 3 Academic Literacy Programme Student Feedback on Usefulness and Application**

For the Level 4 APL assessment, the student feedback comparison revealed that average AL usefulness scores did not increase from 2014 ( $M = 2.82$ ,  $SD = .76$ ,  $n = 59$ ) to 2022 ( $M = 2.92$ ,  $SD = .80$ ,  $n = 33$ ),  $t(30) = -.52$ ,  $p = .30$ . However, AL application did significantly change,  $U = 1,269.00$ ,  $Z = 2.08$ ,  $p = .02$ ,  $r = .21$ . Students feedback that application of ALs increased from 2014 ( $Med = 3.13$ ,  $IQR = 1.03$ ) to 2022 ( $Med = 3.25$ ,  $IQR = .88$ ; Fig. 3). These results partially supported the hypotheses.



Note: Error bars represent 1 standard deviation.

Figure 3. Level 4 Academic Literacy Programme Student Feedback on Usefulness and Application

### General Discussion

Broadly speaking, the student feedback indicated that the ALP course provision for Levels 3 and 4 improved from 2014 to 2022 (Appendix A). The independent groups tests revealed that for Level 3, the improvements were primarily in students' perception that the skills were useful, whereas at Level 4, students perceived the skills as readily applied after the course was over and they had progressed onto Level 5 and 6 courses. This analysis provides some evidence about what ALP skills work and do not work at different levels of academic difficulty. That said, there are some limitations that indicate caution is required when interpreting these results.

A contribution that this study makes to the ALP literature is that it provides an initial guide as to which skills should be taught, and at which level. At Level 3 in 2022, though the low number of responses meant that some questions received too few responses to be significant, the vast majority of the skills taught received 3.00 or 4.00 as the response given most often – both for 'Usefulness' and 'Application'. Help with University Level Writing skills and Use of Citation are clearly seen to be essential (a significant 4.00 for both responses in Study 2) as is Writing Structured Expository Essay and Critical Reading in terms of 'Application'. One area that appears to need re-examination is Note Taking. Though many tutors regard it as essential, its importance does not always appear to be valued by students (Morehead et al., 2019); the Mode response to this skill in both 'Usefulness' and 'Application' has actually gone down between 2014 and 2022. Previous research investigating online note-taking among higher education students has found that students who study online and are provided with a note-taking template retain more information compared to students who do not take notes (Watkins et al., 2015). This ALP did not give students a template for taking notes online given the critical and

temporary nature of online learning during the Covid-19 pandemic, however, note-taking templates could be another useful ALP resource incorporated into future lessons should they take place online again. This would also respond to the request from subject-based faculty for students to improve their note-taking – as expressed in faculty interviews during the 2014 review.

At Level 4, Use of Library and Internet Resources is clearly regarded as essential. Interestingly, Reading and Note-taking of Academic Sources is regarded as both 'Useful' and 'Applied'. However, it is unclear from the wording of this category whether students regard both Reading and Note-taking as equally significant. One area that requires further examination is Poster Presentation Skills. As this task was added later than the others, some students did not complete it – and responded 'No comment'. The task itself also changed: From in-person oral presentation before Covid lockdown to an online presentation and written discussion. Previous research has indicated that students can improve academic literacy skills from online poster presentations; Prichard and Ferreira (2014) suggest that assertive discussions around presentation anxiety, and structured in-class presentation rehearsals with peer and formative feedback is highly valued by students. Finally, Identifying Gaps in Research (an ALP skill added for Study 2) had insufficient data for nominal interpretation, but the mode and low levels of student responses suggests that this skill may not be appropriate for the learning level. Some students at Level 4 quickly understood how to do this but some did not. Reflection on this feedback led the programme review to consider deferring the teaching of Identifying Gaps in Research to Level 5. This strategy would be in keeping with academic skills identified in the RQF where the "use [of] relevant research or development to inform actions" is positioned as a Level 5 skill (Office of Qualifications and Examinations Regulation, 2023).

Methodologically, there are limitations to this review. The small sample sizes and the naturalistic experimental design makes it difficult to argue for cause-and-effect between course planning, delivery, and student feedback. The small sample size could be explained by "survey fatigue", as students are asked to complete many surveys about their student experience at the end of term (Fass-Holmes, 2022). It is possible that the students who did participate were overly-keen and those who did not were likely exhausted by frequent end of term course review requests. Moreover, the dependent variable in this study was feedback, which is prone to student bias (Boring et al., 2016). Despite these misgivings, surveys remain one of the few efficient methods course leaders can receive feedback from students in order to improve course delivery.

Future ALP educators should find this research useful when they plan their curriculums because it shows that university students do benefit from semester-long credit-bearing academic literacies courses which help them to learn, understand, and use the skills which they will need at university. As these courses are open to all students, it ensures that they are seen as "developmental not remedial" (Hathaway, 2015, p.16). Though the US Liberal Arts system has greater flexibility to incorporate such courses as a requirement of a four-year degree, Wingate (2015) argues that the three-year UK system should also include academic literacies for all within the disciplines.

In conclusion, both studies have confirmed that the current ALP courses are still necessary and that they are, to a great extent, fit-for-purpose. Improvements have been made, and continue to be made, on a regular basis in response to student feedback and performance and to tutor input. Further changes will need to be made in response to the rapid advances of AI, where a thorough understanding of specific academic requirements and an expertise in critical reading and thinking are likely to be more important to students than ever. Having shared how Richmond designed and reviewed its ALP in order to achieve the aim of improved academic literacy for all, it is hoped that the reader has gained additional insight into the value of attempting to design ALPs in British institutions to help students successfully acculturate into their university courses.

## **Acknowledgements**

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## Appendix A

Regulated Qualification Framework (RQF) Levels & Framework for Higher Education (FHEQ) Levels (England & Wales)	FHEQ Qualifications (Exit Awards)	Knowledge Descriptor*	Skill Descriptor*	American Accreditation Levels & Associated Qualifications†	European Qualification Framework (EQF) & Associated Qualifications‡
<b>Level 3</b>	<ul style="list-style-type: none"> <li>University Access to Higher Education Diploma</li> </ul>	<ul style="list-style-type: none"> <li>Has factual, procedural and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that while well-defined, may be complex and non-routine.</li> <li>Can interpret and evaluate relevant information and ideas.</li> <li>Is aware of the nature of the area of study or work.</li> <li>Is aware of different perspectives or approaches within the area of study or work.</li> </ul>	<ul style="list-style-type: none"> <li>Identify, select and use appropriate cognitive and practical skills, methods and procedures to address problems that while well-defined, may be complex and non-routine.</li> <li>Use appropriate investigation to inform actions.</li> <li>Review how effective methods and actions have been.</li> </ul>	100-Level	Level 4
<b>Level 4</b>	<ul style="list-style-type: none"> <li>Higher National Certificate</li> <li>Certificate of Higher Education</li> </ul>	<ul style="list-style-type: none"> <li>Has practical, theoretical or technical knowledge and understanding of a subject or field of work to address problems that are well defined but complex and non-routine.</li> <li>Can analyse, interpret and evaluate relevant information and ideas.</li> <li>Is aware of the nature of approximate scope of the area of study or work.</li> <li>Has an informed awareness of different perspectives or approaches within the area of study or work.</li> </ul>	<ul style="list-style-type: none"> <li>Identify, adapt and use appropriate cognitive and practical skills to inform actions and address problems that are complex and non-routine while normally fairly well-defined.</li> <li>Review the effectiveness and appropriateness of methods, actions and results.</li> </ul>	200-Level <ul style="list-style-type: none"> <li>Associate's Degree</li> </ul>	Level 5
<b>Level 5</b>	<ul style="list-style-type: none"> <li>Higher National Diploma</li> <li>Diploma of Higher Education</li> <li>Foundation Degree</li> </ul>	<ul style="list-style-type: none"> <li>Has practical, theoretical or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined, complex contexts.</li> <li>Can analyse, interpret and evaluate relevant information, concepts and ideas.</li> <li>Is aware of the nature and scope of the area of study or work.</li> <li>Understands different perspectives, approaches or schools of thought and the reasoning behind them</li> </ul>	<ul style="list-style-type: none"> <li>Determine, adapt and use appropriate methods, cognitive and practical skills to address broadly defined, complex problems.</li> <li>Use relevant research or development to inform actions.</li> <li>Evaluate actions, methods and results.</li> </ul>	300-Level	

## Level 6

<ul style="list-style-type: none"> <li>• Bachelor's Degrees</li> <li>• Bachelor's Degrees with Honours</li> <li>• Graduate Diplomas &amp; Certificates</li> </ul>	<ul style="list-style-type: none"> <li>• Has advanced practical, conceptual or technological knowledge and understanding of a subject or field of work to create ways forward in contexts where there are many interacting factors.</li> <li>• Understands different perspectives, approaches or schools of thought and the theories that underpin them.</li> <li>• Can critically analyse, interpret and evaluate complex information, concepts and ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine, refine, adapt and use appropriate methods and advanced cognitive and practical skills to address problems that have limited definition and involve many interacting factors.</li> <li>• Use and, where appropriate, design relevant research and development to inform actions.</li> <li>• Evaluate actions, methods and results and their implications.</li> </ul>	<p>400-Level</p> <ul style="list-style-type: none"> <li>• Bachelor's Degree</li> </ul>	<p>Level 6</p> <ul style="list-style-type: none"> <li>• Bachelor's Degree</li> </ul>
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*Note.* \* Knowledge and Skill descriptors taken from Ofqual 2023. † American course numbering systems can vary across states and institutions. The conventional method shown here is an example taken from University of Oregon (2023). ‡ EQF equivalencies explained in Ofqual, CEA Regulation & QAA (2019, p. 7)

**Figure 5. Learning level equivalencies across the Regulated Qualification Framework (England & Wales), Framework for Higher Education, Conventional American accreditation levels, and the European Qualification Framework.**

## Appendix B

**Table 1. Descriptive and Chi-Squared Goodness-of-Fit Statistics for First-year Level 3 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode	$\chi^2$ Goodness-of-fit
<b>Usefulness of First-year Level 3 Academic Literacy Programme (ALP)</b>				
Note Taking	2.50 (.92)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 7.26, p = .06$
Critical reading	2.64 (.98)	3.00	3.00	$\chi^2 (df = 3, n = 37) = 6.78, p = .08$
Responding to instructions	2.62 (.89)	3.00	3.00	$\chi^2 (df = 3, n = 37) = 8.51, p = .04^*$
Brainstorming strategies	2.56 (.88)	3.00	3.00	$\chi^2 (df = 3, n = 36) = 9.11, p = .03^*$
Organisational strategies	2.69 (.89)	3.00	3.00	$\chi^2 (df = 3, n = 36) = 8.22, p = .05^*$
University level writing	3.05 (.90)	3.00	3.00 & 4.00	$\chi^2 (df = 3, n = 38) = 10.42, p = .02^*$
Revision and proof reading	2.63 (.88)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 9.58, p = .02^*$
Use of citation	2.94 (.98)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 11.90, p = .01^*$
Oral presentation	2.39 (.97)	2.00	2.00	$\chi^2 (df = 3, n = 38) = 5.16, p = .16$
Survey development	2.14 (.88)	2.00	2.00	$\chi^2 (df = 3, n = 35) = 8.54, p = .04^*$
Understanding academic honesty	2.63 (1.02)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 4.32, p = .23$
Acting on feedback from tutor	2.73 (.95)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 15.68, p = .001^*$
Writing structured, expository essay	2.86 (.99)	3.00	3.00	$\chi^2 (df = 3, n = 38) = 5.16, p = .16$
Writing a recommendation report	2.26 (.86)	2.00	2.00	$\chi^2 (df = 3, n = 38) = 11.26, p = .01^*$
<b>Application Frequency of Academic Literacies after the First-year Level 3 ALP in subsequent classes</b>				
Note Taking	2.63 (.91)	3.00	3.00	$\chi^2 (df = 3, n = 32) = 7.75, p = .05$
Critical reading	3.06 (.88)	3.00	3.00	$\chi^2 (df = 3, n = 32) = 11.25, p = .01^*$
Responding to instructions	2.79 (.90)	3.00	4.00	$\chi^2 (df = 3, n = 32) = 8.25, p = .04^*$
Brainstorming strategies	2.43 (.91)	2.00	2.00	$\chi^2 (df = 3, n = 32) = 6.25, p = .10$
Organisational strategies	2.63 (1.04)	2.00	2.00	$\chi^2 (df = 3, n = 32) = 5.75, p = .12$
University level writing	3.26 (.77)	3.00	3.00	$\chi^2 (df = 3, n = 31) = 17.39, p < .001^*$
Revision and proof reading	3.13 (.91)	3.00	4.00	$\chi^2 (df = 3, n = 32) = 10.75, p = .01^*$
Use of citation	3.19 (.90)	3.00	4.00	$\chi^2 (df = 3, n = 32) = 13.00, p = .01^*$
Oral presentation	2.50 (1.08)	2.50	2.00 & 3.00	$\chi^2 (df = 3, n = 32) = .50, p = .92$
Survey development	1.81 (1.00)	1.00	1.00	$\chi^2 (df = 3, n = 32) = 15.25, p = .001^*$
Understanding academic honesty	3.09 (1.03)	3.00	4.00	$\chi^2 (df = 3, n = 32) = 9.75, p = .02^*$
Acting on feedback from tutor	2.90 (.96)	3.00	2.00	$\chi^2 (df = 3, n = 32) = 11.75, p = .01^*$
Writing structured, expository essay	3.01 (.97)	3.00	3.00 & 4.00	$\chi^2 (df = 3, n = 32) = 8.25, p = .04^*$

Writing a recommendation report 2.44 (1.13) 2.50 1.00 & 3.00  $\chi^2 (df = 3, n = 32) = .50, p = .92$

**Table 2. Descriptive and Chi-Squared Goodness-of-Fit Statistics for Second-year Level 4 Academic Literacies in 2014**

Item	Mean (Standard Deviation)	Median	Mode	$\chi^2$ Goodness-of-fit
<b>Usefulness of Second-year Level 4 Academic Literacy Programme (ALP)</b>				
Use of Library & Internet Resources	3.12 (.83)	3.00	3.00	$\chi^2 (df = 3, n = 59) = 21.34, p < .001^*$
Constructing and organising an argument	2.85 (.86)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 22.53, p < .001^*$
Knowing how, when, where and why to use citations	3.02 (.97)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 15.33, p = .002^*$
Organising research and designing a paper	2.83 (.99)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 7.33, p = .06$
Reading and note taking of academic sources	2.55 (1.00)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 5.47, p = .14$
Using academic language	2.72 (.99)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 5.73, p = .13$
Editing and proof reading	2.70 (.94)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 9.07, p = .03^*$
Writing introductions, conclusions and abstracts in an academic style	2.73 (.99)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 9.73, p = .02^*$
Critiquing and evaluating texts for a literature review	2.85 (.95)	3.00	3.00	$\chi^2 (df = 3, n = 60) = 10.00, p = .02^*$
<b>Application of Academic Literacies after the Second-year Level 4 ALP in subsequent classes</b>				
Use of Library & Internet Resources	3.20 (.85)	3.00	4.00	$\chi^2 (df = 3, n = 61) = 23.92, p < .001^*$
Constructing and organising an argument	3.00 (.89)	3.00	3.00	$\chi^2 (df = 3, n = 62) = 15.68, p = .001^*$
Knowing how, when, where and why to use citations	3.26 (.91)	4.00	4.00	$\chi^2 (df = 3, n = 62) = 29.74, p < .001^*$
Organising research and designing a paper	3.02 (.98)	3.00	4.00	$\chi^2 (df = 3, n = 62) = 13.48, p = .004^*$
Reading and note-taking of academic sources	2.60 (.98)	3.00	3.00	$\chi^2 (df = 3, n = 62) = 6.52, p = .09$
Using academic language	3.15 (.90)	3.00	4.00	$\chi^2 (df = 3, n = 62) = 22.00, p < .001^*$
Editing and proof reading	2.87 (1.02)	3.00	3.00	$\chi^2 (df = 3, n = 62) = 8.45, p = .04^*$
Writing introductions, conclusions and abstracts in an academic style	3.05 (.89)	3.00	3.00	$\chi^2 (df = 3, n = 62) = 18.39, p < .001^*$
Critiquing and evaluating texts for a literature review	2.74 (.94)	3.00	3.00	$\chi^2 (df = 3, n = 62) = 1.65, p = .01^*$

**Table 3. Descriptive and Chi-Squared Goodness-of-Fit Statistics for First-year Level 3 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Med- ian	Mode	$\chi^2$ Goodness-of-fit
Usefulness of First-year Level 3 Academic Literacy Programme (ALP)				
Note Taking	2.60 (1.10)	2.00	2.00	$\chi^2 (df = 3, n = 20) = 3.60, p = .31$
Critical reading	3.00 (1.05)	3.00	4.00	$\chi^2 (df = 3, n = 21) = 4.71, p = .19$
Responding to instructions	3.21 (.85)	3.00	3.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Brainstorming strategies	2.79 (1.08)	3.00	3.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Organisational strategies	2.80 (1.06)	3.00	3.00	$\chi^2 (df = 3, n = 20) = 2.00, p = .57$
University level writing	3.33 (1.02)	4.00	4.00	$\chi^2 (df = 3, n = 21) = 15.76, p = .001^*$
Revision and proof reading	2.76 (1.00)	3.00	2.00	$\chi^2 (df = 3, n = 21) = 2.81, p = .42$
Use of citation	3.33 (.97)	4.00	4.00	$\chi^2 (df = 3, n = 21) = 14.24, p = .003^*$
Oral presentation	2.94 (.83)	3.00	2.00 & 3.00	Expected <i>N</i> assumption not met; <i>n</i> = 17
Understanding academic honesty	3.00 (1.03)	3.00	4.00	$\chi^2 (df = 3, n = 20) = 4.00, p = .26$
Acting on feedback from tutor	2.85 (1.04)	3.00	3.00	$\chi^2 (df = 3, n = 20) = 3.60, p = .31$
Writing structured, expository essay	3.00 (1.10)	3.00	4.00	$\chi^2 (df = 3, n = 21) = 4.71, p = .19$
Application Frequency of Academic Literacies after the First-year Level 3 ALP in subsequent classes				
Note Taking	2.68 (1.00)	3.00	2.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Critical reading	3.25 (.85)	3.00	4.00	$\chi^2 (df = 3, n = 20) = 10.00, p = .02^*$
Responding to instructions	3.32 (.75)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Brainstorming strategies	2.74 (1.10)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Organisational strategies	3.05 (.84)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
University level writing	3.50 (.61)	4.00	4.00	$\chi^2 (df = 3, n = 20) = 7.90, p = .02^*$
Revision and proof reading	2.90 (1.07)	3.00	4.00	$\chi^2 (df = 3, n = 20) = 4.00, p = .26$
Use of citation	3.50 (.69)	4.00	4.00	$\chi^2 (df = 3, n = 20) = 7.60, p = .02^*$
Oral presentation	2.69 (1.01)	3.00	2.00 & 3.00	Expected <i>N</i> assumption not met; <i>n</i> = 16
Understanding academic honesty	2.89 (1.05)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Acting on feedback from tutor	3.00 (1.00)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Writing structured, expository essay	3.40 (.82)	4.00	4.00	$\chi^2 (df = 3, n = 20) = 14.40, p = .002^*$

**Table 4. Descriptive and Chi-Squared Goodness-of-Fit Statistics for Second-year Level 4 Academic Literacies in 2022**

Item	Mean (Standard Deviation)	Med- ian	Mode	$\chi^2$ Goodness-of-fit
Usefulness of Second-year Level 4 Academic Literacy Programme (ALP)				

Formulating Research Questions	3.00 (.91)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 8.54, p = .04^*$
Use of Library & Internet Resources	3.31 (.87)	3.50	4.00	$\chi^2 (df = 3, n = 35) = 19.97, p < .001^*$
Knowing how, when, where and why to use citations	2.80 (1.13)	3.00	4.00	$\chi^2 (df = 3, n = 35) = 3.74, p = .29$
Organising research and designing a paper	2.83 (.95)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 5.34, p = .15$
Reading and note taking of academic sources	2.83 (.86)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 9.91, p = .02^*$
Using academic language	2.86 (1.09)	3.00	4.00	$\chi^2 (df = 3, n = 35) = 9.74, p = .29$
Editing and proof reading	2.76 (1.05)	3.00	3.00	$\chi^2 (df = 3, n = 34) = 2.47, p = .48$
Writing introductions, conclusions and abstracts in an academic style	2.79 (1.05)	3.00	3.00	$\chi^2 (df = 3, n = 33) = 2.76, p = .43$
Critiquing and evaluating texts for a literature review	2.94 (.87)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 9.23, p = .03^*$
Identifying Gaps in Research	2.54 (1.07)	3.00	2.00 & 3.00	$\chi^2 (df = 3, n = 35) = .77, p = .86$
Poster Presentation Skills	2.94 (1.17)	3.00	4.00	Expected <i>N</i> assumption not met; <i>n</i> = 19
Application of Academic Literacies after the Second-year Level 4 ALP in subsequent classes				
Formulating Research Questions	2.83 (.98)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 4.89, p = .18$
Use of Library & Internet Resources	3.37 (.77)	4.00	4.00	$\chi^2 (df = 3, n = 35) = 7.60, p = .02^*$
Knowing how, when, where and why to use citations	3.50 (.62)	4.00	4.00	$\chi^2 (df = 3, n = 34) = 13.12, p = .001^*$
Organising research and designing a paper	3.09 (.82)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 12.89, p = .005^*$
Reading and note taking of academic sources	3.38 (.65)	3.00	3.00 & 4.00	$\chi^2 (df = 3, n = 35) = 9.66, p = .008^*$
Using academic language	3.54 (.66)	4.00	4.00	$\chi^2 (df = 3, n = 35) = 15.83, p < .001^*$
Editing and proof reading	3.21 (.77)	3.00	4.00	$\chi^2 (df = 3, n = 34) = 2.53, p = .28$
Writing introductions, conclusions and abstracts in an academic style	3.43 (.61)	3.00	4.00	$\chi^2 (df = 3, n = 35) = 12.06, p = .002^*$
Critiquing and evaluating texts for a literature review	2.94 (.87)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 15.17, p = .002^*$
Identifying Gaps in Research	2.69 (.96)	3.00	3.00	$\chi^2 (df = 3, n = 35) = 6.49, p = .09$
Poster Presentation Skills	2.50 (1.10)	2.00	2.00	$\chi^2 (df = 3, n = 20) = 1.20, p = .75$