

Evaluation Report on the Efficacy of the University's Strategy and Resources Implemented with Regard to Promoting and Maintaining Academic Integrity

Following the success of the first implementation of the *Online Tutorial on Academic Integrity* as a compulsory requirement in the undergraduate curriculum in Semester 1, 2012/13 – a recent key project outcome first developed and piloted in 2011/12 – the Project Team was granted another round of funding for a second-year implementation and the continuation of other ongoing project provisions.

Over the 1-year project period, the Project Team has undertaken various tasks to maintain a campus culture in which academic integrity is honoured and valued. An overview is delineated as follows.

1. Revising/Refining the Online Tutorial on Academic Integrity and its support materials made available to staff and students

Taking into consideration the user feedback received and the administration experience from the previous year, a number of enhancements were made prior to the enrolment to increase the usability of the Tutorial.

They included:

- revisions to the Tutorial contents, including:
 - further breaking down the instructions into point form
 - adding more explicit instructions upon completing each module
 - simplifying the language of the contents identified by some users as difficult
- provisions of extra support materials, including:
 - PowerPoint slides on introducing the Tutorial and explaining its completion requirements for teachers to use at the commencement of the semester
 - an FAQ page about the Tutorial available within the Tutorial as well as on the EDC website
- testing of the revised Tutorial, including:
 - a usability test conducted in late August, in which 2 Year 1 students of a 4-year curriculum programme were recruited to use and provide feedback on the revised Tutorial and its support materials

2. Organising workshops for staff

An annual, open-to-all, 2-part workshop for staff on promoting students' academic integrity was organised and conducted in September 2013. The first part of the workshop series focused on understanding student plagiarism, PolyU's policy on academic integrity and holistic strategies for preventing student plagiarism; and the second part offered pedagogical implications of and hands-on experience in using *Turnitin* as a detection and learning tool to deter student plagiarism.

The second part of the workshop was re-run in January 2014.

3. Procuring/renewing a campus license of Turnitin and implementing it in the University

A campus license of *Turnitin* for students' use in 2013/14 was procured/renewed; related support and services to staff and students (e.g. handling enquiries, facilitating workshops) were jointly

provided by the Project Team and ITS.

4. *Providing pedagogical, logistical and technical assistance and support for the institutional policy on promoting academic integrity at PolyU*

In addition to the abovementioned, the Project Team:

- re-printed and disseminated a booklet entitled *About Plagiarism and How to Avoid It* to new student entrants through (i) SSRO during the Common Orientations of all Faculties and Schools in late August 2013; as well as (ii) other departments and frontline teachers;
- drafted an information section on academic integrity and relevant resources available at PolyU in a pamphlet distributed to freshmen by the SSRO in the welcome pack for new entrants;
- collected and confirmed information from and with all academic departments/units in June and July on subjects in which the Online Tutorial was made a compulsory component for the 2013/14 implementation;
- extended the availability of the Online Tutorial to all PolyU students (in the previous year, it was made available mainly to Year 1 students of the undergraduate and sub-degree programmes unless otherwise requested by individual departments or staff members that their students of other levels/years of study be enrolled in the Online Tutorial);
- sent out an email to all academic staff at the commencement of the academic year 2013/14 to inform/remind staff of the available resources for staff and students on promoting academic integrity, including PowerPoint presentations, staff website and user guides to using the Online Tutorial on Academic Integrity, *Turnitin* and *SafeAssign*;
- introduced and encouraged the use of the project provisions in teaching and learning to new teaching staff, research staff and students and teaching assistants through various short courses (e.g. CUT, BETA, BTTR) offered by the Educational Development Centre;
- sent out (i) an email to subject teachers and academic departments/units, asking them to encourage students to complete the Tutorial by Week 5 (the suggested deadline for completion) at the commencement of each semester; (ii) email reminders in Weeks 3 to 5, 14 and 15 each semester for their monitoring of students' progress on compulsory completion of the Online tutorial. Staff were advised to urge their students to complete the Tutorial had they not yet done so; and
- handled staff and student enquiries regarding the project deliverables and their use, and provided relevant support and assistance accordingly throughout the project period.

5. *Evaluating the utilisation and efficacy of the Online Tutorial on Academic Integrity and other project provisions*

Participation in/Utilisation of the project deliverables (e.g. student booklet on avoiding plagiarism, Turnitin, workshops) over the project period were reviewed. In particular, a systematic evaluation on the utilisation and efficacy of the Online Tutorial – the key project outcome – was conducted by means of analysing the data collected from (i) enrolment and completion records of the Tutorial; (ii) an online user survey on the usefulness and user-friendliness of the Tutorial (students were encouraged to take the survey on a voluntary basis upon completion of the Tutorial); results of the online user survey this year were also compared with that of the previous year.

Results and findings of the evaluation are presented in the sections that follow.

Participation in/Utilisation of project deliverables

A summary of the participation in/utilisation of the project deliverables in 2013/14 is shown in Table 1 below. A detailed report on the utilisation and efficacy of the Online Tutorial is given in the subsequent section.

Table 1 Participation in/Utilisation of the project deliverables in the academic year 2013/14

Activities/Deliverables		13/14
Online Tutorial on Academic Integrity	No. of student users (Compulsory completion)	4,897
	No. of student users (Voluntary completion)	21,819
About Plagiarism and How to Avoid It (Booklet)	No. of copies of the booklet distributed	5,951
	No. of dept. requesting additional booklets	4
Using Turnitin as a detection and learning tool for staff and students to prevent student plagiarism	No. of academic courses using Turnitin	1046*
	No. of Turnitin assignments created	1072*
	No. of submissions to the Turnitin system	72,825*
Workshops and seminars	Open-to-all workshops for staff	No. of sessions 3
		Total no. of participants 42
Resources for Teachers (Website)	Staff	N/A
Introduction to Academic Integrity (PowerPoint slides)	Staff	N/A
~Introduction to the Online Tutorial on Academic Integrity (PowerPoint slides)	Staff	N/A
Online Tutorial on Academic Integrity: A Student Guide (e-pamphlet)	Students	N/A
~FAQ page for the Online Tutorial on Academic Integrity (Webpage)	Students	N/A
Turnitin and SafeAssign user guides	Staff	N/A
	Students	N/A

*Period covered: 1 Sept 13-14 May 14

~Introduced in 2013/14

Utilisation and efficacy of the Online Tutorial on Academic Integrity

The Tutorial has been made available to all sub-degree, undergraduates and postgraduate students this academic year, and was released to the students on 1 September 2013. As of the end date of the project

period, a total of 4,897 and 21,819 students were enrolled in the compulsory and voluntary completion stream respectively.

Of the 4,897 students who were enrolled in the compulsory completion stream in Semesters 1 and 2, 68.16% are sub-degree and undergraduate students, who are identified as the main target users of the Tutorial in the LTC Policy dated in June 2012¹.

A. Completion Rates

By Week 5 of Semester 1 (the suggested deadline²), 84.60% of the sub-degree and undergraduate students had completed the Tutorial successfully; and by Week 14 of the same semester, the percentage reached 95.30%. At the end of the funded project period, an overall completion rate of 96.14% was recorded.

On the other hand, among the 1,559 postgraduate students enrolled in the compulsory completion stream of the Tutorial, only 26.81% have completed it at the end of the funded project period. However, it should be noted that, while there is a large proportion of postgraduate students who have not completed the Tutorial in Semester 1 or 2, the deadline for completing the tutorial and the consequence of incompletion, if any, are set by individual departments/subject teachers and do not necessarily follow the implementation model for the sub-degree and undergraduate students³.

Appendix 1 shows the overall completion rates by student group and the distribution of sub-degree and undergraduate student completion by week by semester in 2013/14 as of 28 May 2014.

B. Change in students' understanding on academic integrity upon completion of the Tutorial

The Tutorial includes a pre-test and a post-test as one mechanism to assess student learning. It requires students to attempt on a pre-test prior to studying any of the Tutorial information. It consists of 10 multiple choice questions (MCQs) which are randomly drawn from the question bank. Students are asked to do it once, then move on to studying the materials, although multiple attempts on the pre-test are allowed. There is no passing score for the pre-test as it is designed to solicit students' initial understanding on academic integrity.

Upon completion of learning all the Tutorial materials, students are required to take a post-test to assess how well they have learned them. The post-test consists of 20 MCQs (also randomly drawn from the same item bank), and the passing score for the post-test is 75%. Students who fail to obtain 75% or above are advised to revisit the parts of the Tutorial that they do not understand well before re-taking the post-test – and for this reason, multiple attempts on the post-test are allowed.

¹ In this regard, this report mainly focuses on and accounts for the results and findings of the target user group.

² The Tutorial is designed to develop an understanding of academic integrity among new entrants of sub-degree and undergraduate programmes with a particular aim to equip them with the concept of plagiarism and the fundamentals of avoiding plagiarism before they do their first written assignment. As the Tutorial is implemented as a compulsory component in Freshman Seminar subjects in the undergraduate programmes, Freshman Seminar subject teachers are recommended to encourage their students to complete the Tutorial by Week 5 of Semester 1. The same recommendation is also put forward to teachers of subjects of other levels for their reference and consideration, should they choose to require students to complete the Tutorial in a subject they deemed appropriate.

³ As stipulated in the LTC policy, new entrants of undergraduate programmes are required to complete the Tutorial within their first year of study. Non-compliance may result in failing the subject of which the Tutorial is made a compulsory component.

Among the sub-degree and undergraduate users, there were altogether 4,112 and 5,838 valid attempts on the pre-test and post-tests respectively. 88.07% (n=3025) of the users passed the post test on their first attempt. On the other hand, there were 487 valid pre-test attempts and 559 valid post-test attempts made by the postgraduate students. 93.16% (n=395) of them passed the post-test on their first attempt. The statistics of the pre-test and post-test by user groups are given in Table 1, Appendix 2.

To see if there is any change in students' understanding of academic integrity after completing the Tutorial, a paired-sample t-test was performed in the two student groups using the scores of the users' *first* pre-test attempt and their *last* post-test attempt.

The results show that among the sub-degree and undergraduate users, the mean score of the post-test was found to be statistically significantly higher than that of the pre-test, with a mean difference of 12.56 (t=38.940, p<.001); similar results were observed among the postgraduate users: the mean score of the post-test was higher than that of the pre-test (86.72 versus 76.20), and the difference was statistically significant at 0.001 level (t=14.333 p<.001) – all of which lend support to a positive claim: students have gained a better understanding of academic integrity after completing the Tutorial.

Comparisons of the mean scores between the first pre-test attempt and the last post-test attempt of the two student groups are shown in Table 2, Appendix 2.

C. *Usefulness of the Online Tutorial*

A total of 654 students responded to the user survey on the usefulness and user-friendliness of the Online Tutorial, 88.07% of whom are sub-degree and undergraduate students. Profiles of the respondents are given in Table 1 in Appendix 3.

Of the 567 valid responses from sub-degree and undergraduate students, over 94% recognised the overall usefulness of the Online Tutorial in helping them avoid plagiarism in their own work to a moderate or very great extent. In particular, over 90% of the respondents felt that the Online Tutorial, to a moderate/ great/ very great extent, has enabled them to:

- be more aware of what academic integrity involves (92.47%, n=571);
- understand what academic integrity is and why it is important to uphold it (93.89%, n=573)
- distinguish between appropriate and inappropriate academic behaviours (94.89%, n=576)
- understand what plagiarism is and why it is important to avoid it (94.94%, n=573)
- suggest possible ways to avoid plagiarism (94.55%, n=568)
- recognise the importance of citation and referencing (95.60%, n=568)
- identify PolyU's stance on academic integrity and sanctions for offences (95.81%, n=573);
- know where they can get relevant resources, help and support within PolyU regarding academic integrity and avoiding plagiarism (95.79%, n=568)

In addition, 95.25% (n=568) also expressed that they would try their best to do honest work.

On the other hand, 88.0% of the postgraduate respondents agreed that the Online Tutorial has enabled them from a moderate to a very great extent to be more aware of what academic integrity involves (n=75); 96.01% recognised the overall usefulness of the Online Tutorial in helping them avoid plagiarism in their own work (n=75); and over 90% also rated favourably in the abovementioned aspects of the usefulness of the Tutorial.

Table 3 in Appendix 3 shows the distributions of the respondents' views on the usefulness of the Online Tutorial in 2013/14.

To examine any change in the sub-degree and undergraduate respondents' view on the usefulness of the Tutorial over the last two year, the mean ratings on the usefulness of the Tutorial of 2012/13 and 2013/14 were compared and tested by a series of t-tests. The results show slight increases of 0.01 to 0.11 in all of the abovementioned areas except for item 2, the mean ratings of which remained constant. No statistical significance was found in the differences in all items except "suggest possible ways to avoid plagiarism" ($t=2.394$, $p<.05$). The results are summarised in Table 4, Appendix 3.

The increases observed may be partly attributed to an increased awareness of academic integrity among students brought about by staff. Teaching staff were encouraged to spend some time to explain to their students about academic integrity and plagiarism at the commencement of the academic year. Subject teachers were also recommended to use the Tutorial as the "zeroth" assignment to get students accustomed to the notion of academic integrity and the basics of avoiding plagiarism.

There can be no comparison of results over the last two years for the postgraduate respondents as the Tutorial was open to sub-degree and undergraduate students only in 2012/13.

D. User-friendliness of the Online Tutorial

When asked about the user-friendliness of the Online Tutorial, the majority of the sub-degree and undergraduate respondents also gave positive ratings in various aspects except for the level of language (if it is too difficult) and the amount of information provided in the tutorial (if it is too much).

About 72% and 73% respectively strongly agreed/agreed that the instructions to using the tutorial ($n=570$) and the organisation of it ($n=562$) are clear. 70.28% strongly agreed/agreed that the materials were easy to understand ($n=572$); 64.68% strongly agreed/agreed that it was easy for them to locate and access different parts of the tutorial ($n=572$); and about 58% strongly agreed/agreed that the visual presentation of the Tutorial attractive.

On the other hand, while 72.44% of them either had no strong view or did not find the level of language used in the Tutorial too difficult for them ($n=566$), 27.56% found the otherwise. In terms of the amount of information provided in the Tutorial ($n=571$), about 64% felt that the amount is just right, 1.76% found it too little in various degrees, and 34.8% found it too much.

Among the postgraduate respondents, about 84% and 88% respectively strongly agreed/agreed that the instructions to using the Tutorial ($n=73$) and the organisation of it ($n=72$) are clear; slightly over 89% strongly agreed/agreed that the materials are easy to understand ($n=73$). 84.00% did not find the language used in the Tutorial difficult or had no strong view about it; 77.33% found the amount of information provided in the Tutorial just right. As for the ease of locating and accessing different parts of the Tutorial ($n=75$), 77.33% rated "Strongly agreed" or "Agreed"; and in terms of the attractiveness of the visual presentation ($n=74$), about 73% gave positive ratings.

The distributions of ratings of the respondents' views on the user-friendliness of the Tutorial in 2013/14 are given in Table 1, Appendix 4.

To examine any change in the sub-degree and undergraduate respondents' views on the user-friendliness of the Tutorial over the last two years, a series of t-tests were performed on this year and last year's mean ratings of the user-friendliness of the Tutorial. The results show that the mean ratings of the following items are slightly higher this year, although with no statistical significance:

- The instructions for using this tutorial are clear (3.85 in 2013/14 versus 3.84 in 2012/13)
- The organisation of the tutorial is clear (3.87 versus 3.85)
- The visual presentation of the tutorial is attractive to me (3.60 versus 3.55)

- The materials are easy to understand (3.83 versus 3.82)
- It is easy for me to locate and access different parts of the tutorial (3.72 versus 3.68)

Slight increases in the mean ratings were also found when asked if the level of language used in the tutorial is too difficult for them (2.87 versus 2.83), and if the amount of information is too much (3.73 versus 3.30; $t=2.158$, $p<.05$).

Comparisons of mean ratings of sub-degree and undergraduate respondents' views on the user-friendliness of the Tutorial between 2012/13 and 2013/14 are given in Table 2, Appendix 4.

The increases observed in the items about the instructions, organisation and the ease of locating and access different parts of the Tutorial may be attributed to the enhancements done to the Tutorial (e.g. further breaking down the instructions into point forms, adding more explicit instructions and an FAQ section). But despite the fact that revisions had also been made to simplify the language of the Tutorial to make the materials easier to understand, a slight increase of 0.04 in the mean rating for the language too difficult was observed, although the difference was not statistically significant. One plausible explanation is that the attempt to simplify the language used may possibly have made it denser and thus more difficult to understand. The nature of user demographics of this year may possibly bear an effect, too: new entrants of this year mainly came from the Hong Kong Diploma of Secondary Education (HKDSE) curriculum and students were, in general, a year younger when they entered university; whereas in the previous year, the users consisted of the HKAL (Hong Kong A-Levels) and the HKDSE students. The observed increase of respondents finding the amount of information provided too much may possibly be explained by the nature of the user demographics as well.

Written responses to any problems encountered when using the Tutorial

Apart from quantitative data, written feedback on whether the respondents had encountered any problems when using the Tutorial was also collected. Among the 344 written responses received from the sub-degree, undergraduate and postgraduate respondents, more than half commented that they had not encountered any problems; some even provided very positive feedback such as showing appreciation for the opportunity to know more about academic integrity and the related policy at PolyU as well as acknowledging the overall usefulness and user-friendliness of the Tutorial. Other comments and suggestions were also received and are summarised as follows.

Issues raised:

- Completing the tutorial is time-consuming
- Unable to access the pages freely
- Unable to check completion progress within the tutorial
- Unable to save typed answers in the exercises
- Fonts are too small
- The tutorial interface is not user-friendly
- Loading the tutorial contents seemed slow
- Face-to-face teaching is preferred

Suggestions:

- Be able to know the answers to the test questions
- Downloadable version of the tutorial wanted for reference
- Mobile version wanted for more convenient access
- Use/include other formats (e.g. video) to present the contents
- Chinese version wanted

It should be noted that the issues and suggestions listed above were raised by only a few respondents, but the Project Team thinks that they are worth addressing nonetheless.

In response to the first issue, that completing the tutorial is time-consuming, students are expected to spend about 2 to 2.5 hours on studying the Tutorial materials, depending on their learning pace. In the usability test conducted in August 2013, the 2 new undergraduate entrants recruited completed the Tutorial successfully under 2 hours.

Regarding the preference for face-to-face teaching/learning, the Tutorial is designed to develop a general understanding of academic integrity and equip students with the fundamentals of avoiding plagiarism. Students will learn more about that – writing and referencing skills in particular – at a much greater depth, in the compulsory academic English courses offered by the English Language Centre.

As for the current font size being too small (most of the contents are of font size 12 or above), this can be fixed by increasing the font size. On the other than, the slow loading of Tutorial contents may have to do with connection problems, which is not something the Project Team can fix.

With regard to not being able to access the Tutorial pages freely, it is the Tutorial's design to require students to go through the materials page by page to prevent students from skipping a large amount of information – at least on their first attempt on completing Tutorial. At the initial stage of the Tutorial development as well as in the subsequent rounds of enhancements, the Project Team had explored the possibility of lifting this restriction after a first attempt to no avail, as Blackboard presented many technical constraints in this regard. The closest outcome was highly undesirable as it would require students to check a box on each and every page, and missing checking any of them would affect the display of the Tutorial content in its entirety. Likewise, the possibilities of generating a progress report, saving typed answers in the interactive exercises⁴ and the interface of the Tutorial were also largely limited. With the new Blackboard service upgrade, the Project Team can only hope that these issues could be effectively addressed in due course.

In response to the suggestions made, the Project Team feels that:

- the possibilities of developing a mobile version and using more or other multimedia formats (e.g. video) to present the Tutorial material can be explored
- the fact that students can, and are encouraged to, revisit the Tutorial any time during their study at PolyU does not seem to warrant the request for a downloadable version of the Tutorial
- implementing a Chinese version of the Tutorial raises many questions as well as certain logistical issues, some of which are listed as follows:
 - Would that be a Traditional Chinese version, a Simplified Chinese version, or both?
 - In what way would the students be presented the different versions: the English version alongside with the Chinese one in the same Tutorial (which would be very lengthy and bulky)? Or would students be enrolled in the different versions of the Tutorial, which would create confusion for students?
 - Increased workload in the maintenance of different versions of the Tutorial
 - Increased administrative work for Faculties/Schools/departments
 - Possible technical issues in synchronising enrolment and completion records

⁴ Blackboard's native assignment functionality allows typed answers to be saved but the Project Team chose not to use it but to build our own using Flash on grounds of the greater flexibility, better interactiveness and visual attractiveness that it offers.

The fact that the University is an EMI institute and most of the assignments require students to write in English also does not seem to justify the request.

In addition, the tutorial already has a glossary of academic integrity terms with translations into traditional and simplified Chinese.

- showing the answers of the test questions is not preferable due to the limited number of test questions in the Tutorial's item bank – there are only 76 of them, and the Pre-test and Post-test randomly draw 10 and 20 items each time.

Conclusion

The wide use of project provisions and the largely positive results of the evaluation on the efficacy of the Online Tutorial – particularly the increase in students' knowledge and understanding of academic integrity and plagiarism after completing the Tutorial – reported above have evidently validated the Project Team's work in successfully maintaining the momentum and impact of the ongoing efforts in promoting and educating students about academic integrity and avoiding plagiarism via a holistic approach. However, the evaluation results also reveal possible enhancements of the Online Tutorial and perhaps a need for further promotion of the project provisions as well.

Undoubtedly, there is a continual need to sustain the efforts and achievements established over the last ten years in maintaining a fair and honest learning environment where academic integrity is valued and upheld among students and staff. As the funded project period has already ended, the Project Team would like to put forward the following recommendations for LTC's deliberation.

Recommendations

Academic integrity continues to be a vital aspect of tertiary education, and as this project has reached its completion, it is necessary to urgently plan the future implementation of academic integrity education at the PolyU, starting with preparations for the 2014/5 academic year. The project team therefore makes the following recommendations.

1. As the project work in promoting academic integrity at PolyU has now come to a steady state, there is no point in continuing the project, and it may be appropriate that the Project Team be dissolved and the established work in promoting students' academic integrity be undertaken and sustained by academic departments and relevant units.

With the project provisions already well-established and ready to hand, the academic departments and relevant parties can undertake the work in sustaining the established initiatives and impact.

2. A steering committee comprising relevant parties with appropriate expertise and experience should be set up to steer and oversee the work in promoting students' academic integrity:

In relation to (1), a University committee may need to be set up to steer and oversee the work in sustaining the momentum and impact of the established initiatives in promoting students' academic integrity. The steering committee may comprise representatives from academic departments and other relevant units, such as EDC, ITS, SAO and the Library.

3. Departments need to be informed of the administrative work that they need to do on academic integrity by mid-July 2014 at the latest, for example so that they can inform ITS of which students to enrol into the compulsory and optional versions of the Tutorial.

4. Given the recent upgrade to Blackboard Service Pack 13, the Tutorial websites need to be tested to ensure their functionality. In addition, it may now be possible to overcome the user interface problems caused by limitations imposed by the old service pack, and this needs to be investigated and solutions devised and tested before the start of the new academic year.
5. In order to carry out this work, there is an urgent need for funding. In addition, a recurrent budget needs to be set up for resourcing the ongoing provision of project deliverables. The work of promoting students' academic integrity at PolyU is long-term and requires recurrent manpower and resources. The University should resource relevant departments/units for sustaining the project deliverables.

In view of the above, the Project Team has outlined the manpower and resources required to maintain the current provisions in Appendix 5 for LTC's reference.

Acknowledgements

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Appendix 1

Table 1 Overall completion rates by student group in 2013/14 as of 28 May 2014

	Sub-degree and undergraduate students (n = 3338)	Postgraduate students (n = 1559)
Completed	96.14%	26.81%
Incomplete	3.86%	73.19%

Table 2 Distribution of sub-degree and undergraduate student completion by week by semester in 2013/14 (n=3338)

	Semester 1		Semester 2	
Week	Percentage	Cumulative percentage	Percentage	Cumulative percentage
1	13.45	13.45	0.03%	95.57
2	12.58	26.03	0.03%	95.60
3	17.29	43.32	0.06%	95.66
4	19.71	63.03	0.12%	95.78
5 (suggested deadline)	21.57	84.60	0.18%	95.96
6	5.51	90.11	0.15%	96.11
7	1.44	91.55	0.00%	96.11
8	1.44	92.99	0.00%	96.11
9	0.39	93.38	0.00%	96.11
10	1.02	94.40	0.00%	96.11
11	0.15	94.55	0.00%	96.11
12	0.42	94.97	0.00%	96.11
13	0.15	95.12	0.03%	96.14
14	0.18	95.30	0.00%	96.14
Exam period	0.24	95.54	0.00%	96.14

Appendix 2

Table 1 *Pre-test and post-test statistics*

	Sub-degree and Undergraduate users		Postgraduate users	
	Pre-test	Post-test	Pre-test	Post-test
No. of students	3257	3025	431	395
No. of attempts	4112	5838	487	559
No. (%) of students passed on first attempt	*N/A	2664 (88.07%)	*N/A	368 (93.16%)

**No pass mark for pre-test*

Table 2 *Comparison of scores between the first pre-test attempt and the last post-test attempt*

	Sub-degree and Undergraduate users (n=3205)		Postgraduate users (n=395)	
	Pre-test (first attempt)	Post-test (last attempt)	Pre-test (first attempt)	Post-test (last attempt)
Mean	71.74	84.06	76.20	86.72
Std. Deviation	17.43	9.98	14.06	8.14
Paired-sample t-test	t=42.300, p<.001		t=14.333, p<.001	

Appendix 3

Table 1: Profile of respondents in 2013/14

Faculty/School	FAST	FB	FCE	FENG	FH	FHSS	SD	SHTM	Valid N
HD & UG	12.57%	14.49%	18.50%	23.04%	4.19%	19.55%	2.79%	4.89%	573
PG	13.70%	4.11%	16.44%	20.55%	5.48%	20.55%	1.37%	17.81%	73
Level & Year of Study	Sub-degree		Undergraduate			Postgraduate			Valid N
	Year 1	Year 2 or above	Year 1	Year 2	Year 3 or above	Taught Postgraduate	Research Postgraduate		
	15.03%	0.46%	69.02%	3.22%	0.61%	2.91%	8.74%	652	

Table 2: Profile of sub-degree and undergraduate respondents in 2012/13

Faculty/School	FAST	FB	FCE	FENG	FH	FHSS	SD	SHTM	Valid N
HD & UG	8.92%	13.42%	23.70%	21.41%	2.12%	19.54%	4.25%	6.63%	1177
Level & Year of Study	Sub-degree			Undergraduate					Valid N
	Year 1	Year 2 or above	Year 1	Year 2	Year 3 or above				
	23.27%	0.34%	73.69%	1.61%	1.10%		1182		

Appendix 3

Table 3 Distributions of ratings of respondents' views on the usefulness of the Online Tutorial in 2013/14

			A very great extent	A great extent	Moderate extent	Some extent	Small extent	Valid N	Sig.	
To what extent do you think the tutorial has enabled you to	1. Be more aware of what academic integrity involves.	UG	23.29%	47.11%	22.07%	4.90%	2.63%	571	$\chi^2 = 3.582$, p>.05	
		PG	20.00%	50.67%	17.33%	9.33%	2.67%	75		
	2. Understand what academic integrity is and why it is important to uphold it.	UG	23.91%	51.48%	18.50%	4.01%	2.09%	573	$\chi^2 = 4.844$, p>.05	
		PG	33.78%	45.95%	12.16%	5.41%	2.70%	74		
	3. Distinguish between appropriate and inappropriate academic behaviours.	UG	23.28%	49.21%	22.40%	3.00%	2.12%	576	$\chi^2 = 6.145$, p>.05	
		PG	31.08%	48.65%	12.16%	5.41%	2.70%	74		
	4. Understand what plagiarism is and why it is important to avoid it.	UG	29.84%	46.60%	18.50%	3.49%	1.57%	573	$\chi^2 = 6.672$, p>.05	
		PG	33.78%	52.70%	6.76%	4.05%	2.70%	74		
	5. Suggest possible ways to avoid plagiarism.	UG	25.00%	47.01%	22.54%	3.52%	1.94%	568	$\chi^2 = 7.659$, p>.05	
		PG	35.62%	41.10%	13.70%	6.85%	2.74%	73		
	6. Recognise the importance of citation and referencing.	UG	29.23%	46.30%	20.07%	2.64%	1.76%	568	$\chi^2 = 4.875$, p>.05	
		PG	37.84%	45.95%	10.81%	2.70%	2.70%	74		
	7. Identify PolyU's stance on academic integrity and sanctions for offences.	UG	30.54%	43.98%	21.29%	2.44%	1.75%	573	$\chi^2 = 6.330$, p>.05	
		PG	42.67%	42.67%	12.00%	1.33%	1.33%	75		
	8. Know where I can get relevant resources, help and support within PolyU regarding academic integrity and avoiding plagiarism.	UG	17.54%	50.00%	28.25%	2.63%	1.58%	570	$\chi^2 = 12.871$, p<.05	
		PG	32.43%	48.65%	14.86%	1.35%	2.70%	74		
	9. Try my best to do honest work.	UG	41.55%	38.03%	15.67%	2.99%	1.76%	568	$\chi^2 = 11.110$, p<.05	
		PG	55.41%	33.78%	4.05%	2.70%	4.05%	74		
			Very useful	Useful	Neutral	Not very useful	Not useful at all	Valid N	Sig.	
10. Overall usefulness of the online tutorial in helping you avoid plagiarism in your own work			UG	24.69%	45.86%	24.34%	2.65%	2.47%	567	$\chi^2 = 13.401$, p<.01
			PG	34.67%	54.67%	6.67%	1.33%	2.67%	75	

Appendix 3

Table 4 Comparison of means and distributions of ratings of sub-degree and undergraduate respondents' views on the usefulness of the Online Tutorial in 2012/13 and 2013/14

			Valid N	5	4	3	2	1	Sig.	Mean	SD	Sig.
To what extent do you think the tutorial has enabled you to	1. Be more aware of what academic integrity involves.	2012/13	1171	22.54%	46.54%	23.74%	5.89%	1.28%	$\chi^2 = 5.296$, p>.05	3.83	.887	t=.079, p>.05
		2013/14	571	23.29%	47.11%	22.07%	4.90%	2.63%		3.84	.928	
	2. Understand what academic integrity is and why it is important to uphold it.	2012/13	1173	23.96%	49.10%	21.82%	3.84%	1.28%	$\chi^2 = 4.177$, p>.05	3.91	.847	t=.109, p>.05
		2013/14	573	23.91%	51.48%	18.50%	4.01%	2.09%		3.91	.876	
	3. Distinguish between appropriate and inappropriate academic behaviours.	2012/13	1171	22.89%	46.88%	25.11%	4.18%	0.94%	$\chi^2 = 7.030$, p>.05	3.87	.845	t=.445, p<.05
		2013/14	567	23.28%	49.21%	22.40%	3.00%	2.12%		3.89	.869	
	4. Understand what plagiarism is and why it is important to avoid it.	2012/13	1173	26.26%	47.57%	21.65%	3.58%	0.94%	$\chi^2 = 5.094$, p>.05	3.95	.839	t=1.158, p>.05
		2013/14	573	29.84%	46.60%	18.50%	3.49%	1.57%		4.00	.875	
	5. Suggest possible ways to avoid plagiarism.	2012/13	1171	19.47%	47.22%	27.41%	4.70%	1.20%	$\chi^2 = 11.711$, p<.05	3.79	.849	t=2.394, p<.05
		2013/14	568	25.00%	47.01%	22.54%	3.52%	1.94%		3.90	.884	
	6. Recognise the importance of citation and referencing.	2012/13	1168	23.54%	48.63%	23.97%	3.25%	0.60%	$\chi^2 = 13.583$, p<.01	3.91	.808	t=1.728, p>.05
		2013/14	568	29.23%	46.30%	20.07%	2.64%	1.76%		3.99	.871	
	7. Identify PolyU's stance on academic integrity and sanctions for offences.	2012/13	1175	27.32%	45.45%	23.23%	3.32%	0.68%	$\chi^2 = 7.449$, p>.05	3.95	.835	t=.859, p>.05
		2013/14	573	30.54%	43.98%	21.29%	2.44%	1.75%		3.99	.880	
	8. Know where I can get relevant resources, help and support within PolyU regarding academic integrity and avoiding plagiarism.	2012/13	1172	13.25%	52.14%	30.34%	3.33%	0.94%	$\chi^2 = 7.704$, p>.05	3.73	.764	t=.460, p>.05
		2013/14	570	17.54%	50.00%	28.25%	2.63%	1.58%		3.79	.815	
	9. Try my best to do honest work.	2012/13	1170	38.23%	39.76%	19.03%	2.22%	0.77%	$\chi^2 = 8.156$, p>.05	4.12	.846	t=.141, p>.05
		2013/14	568	41.55%	38.03%	15.67%	2.99%	1.76%		4.15	.911	

*5=A very great extent, 4=A great extent, 3=A moderate extent, 2=some extent, 1=A small extent

		Valid N	5	4	3	2	1	Sig.	Mean	SD	Sig.
10. Overall usefulness of the online tutorial in helping you avoid plagiarism in your own work	2012/13	1169	19.33%	50.98%	24.72%	4.11%	0.86%	$\chi^2 = 16.696$, p<.01	3.84	.810	t=.056, p>.05
	2013/14	567	24.69%	45.86%	24.34%	2.65%	2.47%		3.88	.897	

*5=Very useful, 4=Useful, 3=Neutral, 2=Not very useful, 1=Not useful at all

Appendix 4

Table 1 Distributions of ratings of respondents' views on the user-friendliness of the Online Tutorial in 2013/14

		SA	A	N	D	SD	Valid N	Sig.
The instructions for using this tutorial are clear.	UG	19.30%	52.63%	24.04%	2.11%	1.93%	570	$\chi^2 = 6.306$, p>.05
	PG	26.03%	57.53%	13.70%	2.74%	0.00%	73	
The organisation of the tutorial is clear.	UG	19.57%	53.74%	22.60%	2.49%	1.60%	562	$\chi^2 = 7.807$, p>.05
	PG	25.00%	62.50%	12.50%	0.00%	0.00%	72	
The visual presentation of the tutorial is attractive to me.	UG	13.84%	43.96%	32.57%	7.71%	1.93%	571	$\chi^2 = 7.629$, p>.05
	PG	21.62%	51.35%	18.92%	6.76%	1.35%	74	
The materials are easy to understand.	UG	18.53%	51.75%	25.17%	3.15%	1.40%	572	$\chi^2 = 12.123$, p<.05
	PG	21.92%	67.12%	10.96%	0.00%	0.00%	73	
The level of language used in the tutorial is too difficult for me.	UG	7.95%	19.61%	33.04%	30.57%	8.83%	566	$\chi^2 = 19.890$, p=.001
	PG	1.33%	14.67%	18.67%	49.33%	16.00%	75	
It is easy for me to locate and access different parts of the tutorial.	UG	14.16%	50.52%	29.90%	4.37%	1.05%	572	$\chi^2 = 5.872$, p>.05
	PG	20.00%	57.33%	17.33%	4.00%	1.33%	75	

SA=Strongly Agree; A=Agree; N=Neutral; D=Disagree; SD=Strongly Disagree

		Far too much	Somewhat too much	About right	Somewhat little	Far too little	Valid N	Sig.
The amount of information in the tutorial is	UG	4.90%	29.77%	63.57%	0.88%	0.88%	571	$\chi^2 = 6.978$, p>.05
	PG	1.33%	18.67%	77.33%	1.33%	1.33%	75	

Appendix 4

Table 2 Comparison of means and distributions of ratings of sub-degree and undergraduate respondents' views on the user-friendliness of the Online Tutorial in 2012/13 and 2013/14

		Valid N	5	4	3	2	1	Sig.	Mean	SD	Sig.
1. The instructions for using this tutorial are clear.	2012/13	1175	17.45%	54.21%	24.09%	3.23%	1.02%	$\chi^2 = 5.018$, p>.05	3.84	.782	t=.527, p>.05
	2013/14	570	19.30%	52.63%	24.04%	2.11%	1.93%		3.85	.819	
2. The organisation of the tutorial is clear.	2012/13	1172	17.24%	55.38%	23.21%	3.41%	0.77%	$\chi^2 = 4.980$, p>.05	3.85	.767	t=.577, p>.05
	2013/14	562	19.57%	53.74%	22.60%	2.49%	1.60%		3.87	.806	
3. The visual presentation of the tutorial is attractive to me.	2012/13	1179	12.64%	39.78%	39.44%	6.62%	1.53%	$\chi^2 = 7.957$, p>.05	3.55	.851	t=.454, p>.05
	2013/14	571	13.84%	43.96%	32.57%	7.71%	1.93%		3.60	.887	
4. The materials are easy to understand.	2012/13	1174	15.93%	54.77%	25.72%	2.81%	0.77%	$\chi^2 = 3.978$, p>.05	3.82	.753	t=.101, p>.05
	2013/14	572	18.53%	51.75%	25.17%	3.15%	1.40%		3.83	.813	
5. The level of language used in the tutorial is too difficult for me.	2012/13	1173	5.97%	17.90%	36.49%	32.23%	7.42%	$\chi^2 = 5.463$, p>.05	2.83	1.004	t=.057, p>.05
	2013/14	566	7.95%	19.61%	33.04%	30.57%	8.83%		2.87	1.077	
6. It is easy for me to locate and access different parts of the tutorial.	2012/13	1171	12.64%	50.13%	31.43%	4.61%	1.20%	$\chi^2 = 1.102$, p>.05	3.68	.796	t=.708, p>.05
	2013/14	572	14.16%	50.52%	29.90%	4.37%	1.05%		3.72	.797	

5=Strongly Agree; 4=Agree; 3=Neutral; 2=Disagree; 1=Strongly Disagree

		Valid N	5	4	3	2	1	Sig.	Mean	SD	Sig.
7. The amount of information in the tutorial is	2012/13	1173	2.73%	27.62%	67.09%	2.22%	0.34%	$\chi^2 = 12.645$, p<.05	3.30	.575	t=2.158, p<.05
	2013/14	571	4.90%	29.77%	63.57%	0.88%	0.88%		3.37	.634	

5=Far too much, 4= Somewhat too much, 3= About right, 2= Somewhat little, 1= Far too little

Appendix 5

Table 1 Provisions requiring recurrent budget

Provision		Resources required	Budget
Publications	<ul style="list-style-type: none"> Printing of booklets (8000 copies) 		\$6,000 (as of 2014)
Software	<ul style="list-style-type: none"> Turnitin license 		\$624,000 (USD 80000) (quotation as of 2014) + 10% increase each year
Maintenance of project provisions	<ul style="list-style-type: none"> Revising Tutorial contents and other support materials inc. booklet, user guides, webpages 	15 man-days/year at band 7 or A2 (\$62000/month x 15 days)	\$43,000
	<ul style="list-style-type: none"> Updating and subsequent checking of Tutorial contents, and other support materials inc. booklet, user guides, webpages 	15 man-days/year (assuming minor changes) at band 5 or 6 (\$43000/month x 15 days)	\$29,500
	<ul style="list-style-type: none"> minor system enhancement 	15 man-days/year at band 5 or 6 (\$43000/month x 15 days)	\$29,500
Liaison/Coordination/Administration	<ul style="list-style-type: none"> Collecting, collating and confirming subject information with all academic departments for Tutorial enrolment 	20 man-days/year at band 5 or 6 (\$43000/month x 20 days)	\$39,000
	<ul style="list-style-type: none"> Following up on enrolment with ITS 	5 man-days/year at band 5 or 6 (\$43000/month x 3 days)	\$9,800
	<ul style="list-style-type: none"> Drafting and sending email to all academic staff on the implementation of the Tutorial and the available resources at PolyU 	1 man-day/year at band 7 or A2 (\$62000/month x 1 day)	\$2,800
	<ul style="list-style-type: none"> Coordination of printing and dissemination of the booklet 	2 man-days/year at band 5 or 6 (\$43000/month x 2 days)	\$3,900
Support	<ul style="list-style-type: none"> Handling student and staff enquiries on project deliverables inc. Tutorial, Turnitin, SafeAssign 	20 man-days/year at band 5 or 6 (\$43000/month x 20 days)	\$39,000
	<ul style="list-style-type: none"> Technical support on the Online Tutorial, Turnitin and SafeAssign 	15 man-days/year at band 5 or 6 (\$43000/month x 15 days)	\$29,500
Total			\$856,000

