Analysis of 'On-time' and 'Late' Assignment Submitter Students

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Abstract

Assignments can play a pivotal role for students securing higher marks. Each assignment has its due date for submission and missing this date without permission would result in a penalty for the student. Significant amounts of time and money are usually spent on processing, verifying and granting extensions. This study analyses three research questions: (1) Are the students who are seeking permission for late submission really motivated by the objective of securing higher mark?; (2) Does gender type of students play any role for late submission and for securing higher mark?; and (3) Does age group of students play any role for late submission and for securing higher marks?

On the basis of an in-depth analysis of assignments and final examination marks of on-campus students for one of the courses at one of the Australian Universities, we concluded the following. Firstly, late assignment submitters were indicator of poor students in terms of performance. Secondly, the gender type did not play any role for 'on-time' and 'late' assignment submissions and mark achievement. Thirdly, the highest percentage (66.7%) of late assignment submitters was from the age group 20-25. Surprisingly, 100 percent of the dropped-out students among the late-submitters were from this age group. This could be due to several reasons but without further investigation, we could not determine the exact reason. Finally, the age group 20-25 was marginally poor in assignment performance but in the final examination they became marginally better than other age groups as the poorest students of that age group had already been dropped-out.

Key words: assignment, on-time, late-submitter, gender, age group

Introduction

Assignments and examinations are two measures to check the educational status and to segregate the different categories of students. Assignments account for 40-60 percent weightage in most of the courses (ECO1000 Course Team, 2005; ECO2000 Course Team; 2005, MGT 2100 Course Team; 2005, MGT2102 Course Team, 2005; Pensiero and Nooriafshar, 2005 etc) at the University of Southern Queensland, Queensland, Australia and similar arrangement are in place in most of the Australian Universities. Each course has its own due-date for the submission of the assignments. If a student cannot submit his or her assignment by the specified due-date, they would get a penalty. In order to avoid the penalty, students must receive permission from the lecturer for the late submission. For this to be possible, a student must have a reasonable excuse that can satisfy the lecturer. Experience from the past few years has shown that variety of reasons such as, sickness, changing jobs, moving house, very busy with the new job, double or triple assignments have the same due date for submissions etc, could be cited. It should be noted that the ultimate goal of students for late submission could be for securing higher marks.

Like in plagiarism (see Hill, 2004 for detail), significant amount of time of the lecturers, markers, students and moderators would be spent on the process of getting and granting permission, and verifying the approval of late assignment submitter. There are several researchable issues in this area. How much amount of time value of money would it cost? Are the students who are seeking permission for late submission really motivated by the objective of securing good mark or just they are poor time manager? Does gender type play any role for late submission and for securing higher mark? Does age group of students play any role for late submission and for securing higher mark? However, to our knowledge, there is no research about these issues. The only research conducted so far is about the late and early respondents of mail questionnaire survey (for detail, see Paganini-Hill *et al.,* 1993; Linder *et al.,* 2002; Yukie *et al.,* 2004).

There are several research projects on 'why students drop-out' (Garret, 1997; Bergeson, 2003). Research shows that the Aboriginal and Torres Strait Islanders' completion rate is low compared to other Australians. Similar result was obtained with Native American students (Osborne 1985). This suggests that the success may be linked with cultural differences. In some cases behavioural tendencies of students might also play major roles on drop-out (Garret, 1997; Bergeson, 2003). However, there is no study on the above-mentioned research issues. Setting aside the issues of drop-out and behavioural tendencies of students, this research has been designed to solve all of the above-mentioned issues except the first one.

Methods

In order to address the above-mentioned issues, we selected one of the courses at one of the Australian Universities[1], which had more than 400 students in Semester-1 2005. There were two types of students, on-campus and off-campus. Since off-campus students were from different parts of the world, the transportation-time of assignment copies were different. If we had included off-campus students, the real assignment submission date could not have been verified. Therefore, we had decided to address the research issue only on the basis of analysis of 206 on-campus students. Of them, fifteen students were late and 191 students were on-time assignment submitters. However, five late-submitter and 10 on-time submitter did not attend the final examination. Because of the lower number of late-submitters, the analysis somehow is affected by small sample size. However, it is quiet enough for the analysis of trends of students.

Required data, such as gender type, age, the date that the assignment and due-date, and marks achieved in that assignment and final examination were recorded by Mark Logging Section[2] of the selected university. The students who submit by due date and after due date were classified as 'on-time' and 'late-submitter' students respectively. After

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[1] For confidentiality reason, the name of the course and university is not mentioned

[2] We would like to thank Mark Logging Section of the selected university for recording and providing required data for this research

receiving all data, they were entered in Statistical Package for the Social Sciences (SPSS) and then the following five alternative hypotheses (claims) were tested by appropriate statistical tests, either Chi-Square test or Independent t-test.

(i)   The mean marks achieved by 'on-time' and 'late' assignment submitters were statistically significantly different (t-test).

(ii) There was statistically significant difference between the gender types and types of students in terms of 'on-time' and 'late' assignment submitters (Chi-Square test).

(iii) The mean marks achieved by males and females students were statistically significantly different (t-test)

(iv) There was statistically significant difference between the age groups and types of students in terms of 'on-time' and 'late' assignment submitters (Chi-Square test)

(v)   The mean marks achieved by three different age groups (less than 20 year, 20-25 year and greater than 25 year) of students were statistically significantly different (t-test).

Results and Discussions

Comparison of 'On-time' and 'Late-submitter'

Altogether 206 on-campus students submitted their Assignment in 2005 (Table 1). 'On-time' assignment submitters was around 93 percent and 'late-submitters' was only around 7 percent. The mean mark achieved in assignment by 'on-time' assignment submitters (13.25/20) was higher than the mean mark achieved by late-submitters (10.22/20). Although the difference in the mark was quite obvious, we applied the t-test for the statistical validity of the claim. The t-calculated value (3.565) was found positive and higher than t-tabulated value (±1.972) at 204 degrees of freedom and 95 percent confidence level. The 'p' value (0.000) was found much lower than 0.05. Thus, the mean

mark achieved by two types of students was statistically significantly different even at 99.9 percent confidence level.

Out of the 206 assignment submitter students, 15 students (10 male and 5 female) dropped-out or did not attend the final examination. The dropped-out rate of late assignment submitter (33.33%) was higher than on-time submitter (5.23%). We repeated the hypothesis test for assignment in the case of the final examination. The main purpose was to determine whether or not the conclusion drawn from the assignment analysis would be repeated in the final examination mark. The mean mark achieved in the final examination by 'on-time' assignment submitter (30.41/60) was higher than the mean mark achieved by late-submitters (24.20/60). The independent t-test at 95 percent confidence level showed that there was statistically significantly difference between the mean marks achieved by two types of students (t=2.002, p=0.047).

Table 1: Testing equalities of mark achieved by 'on-time' and 'late-submitter'

Types of students		N	Mean mark achieved	t-value	p-value
Assignment	On-time	191	13.25	3.565	0.000
	Late-submitter	15	10.22		
Final examination	On-time	181	30.41	2.002	0.047
	Late-submitter	10	24.20		

These analyses revealed that the two types of students were really from two different populations in terms of performance. On-time submitters are more successful students than the late assignment submitters. It would be more appropriate to treat them in two different ways, special treatment may be necessary to those who submit assignments after due date.

Analysis of Gender and Student Type in Terms of Assignment Submission Time

Out of the 206 assignment submitter students, around 56 percent was male and 46 percent was female (Table 2). In totality, around 73 percent (11/15) and 27 percent (4/15) of the late-submitters were male and female students, respectively. Over nine percent of the male students were late-submitter compared to only around four percent of the female students. Despite these differences, Chi-Square test showed that there was no significant

difference between gender types and type of students ('on-time' and 'late-submitter' of assignment) (x^2= 1.906, p-value=0.167).

Out of the 15 dropped-out students before the final examination, ten (66.7%) were male and five were (33.3%) female (Table 2). However, all five dropped-out female students were from on-time submitter not from late-submitter category. Therefore, 100 percent of dropped-out students from the late-submitter category were male. As in the case of the assignment, while analysing the final examination performance there was no significant difference between gender type and type of students ('on-time' and 'late-submitter') (x^2= 0.087, p-value=0.769).

Table 2: Gender types and types of students in terms of assignment submission-time

	Gender	Types of students		Total	Statistical test
		on-time	late-submitter		
Assignment	M	105 (90.5%)	11 (9.5%)	116	x^2= 1.906,
	F	86 (95.6%)	4 (4.4%)	90	p-value=0.167
Final	M	100 (94.3%)	6 (5.7%)	106	x^2=0.087,
examination	F	81 (95.3)	4 (5.2%)	85	p-value=0.769

We also applied the independent t-test to determine whether or not the mean marks obtained by male and female students were statistically significantly different (Table 3). The mean mark of female students (13.13/20) in the Assignment was marginally higher than the mean mark of male students (12.96/20) (Table 2). The t-calculated value (-0.387) was found within the range of t-tabulated value ($\pm$1.972) at 204 degrees of freedom and 95 percent confidence level, and the 'p' value (0.699) was found much higher than 0.05. Therefore, the test showed that there was no statistically significant difference in mean marks obtained by male and female students.

Likewise, in the final examination also, the mean mark achieved by male (29.86/60) and female (24.20/60) students was not statistically significantly different (t-value -0.366 and p=0.715). These findings indicated that the male and female students were equally talented and the minor difference in mean marks was due to random error. Hence, on the basis of Chi-Square test and t-test we concluded that the gender type did not play any role for on-time and late assignment submissions and mark achievement in Assignment.

Table 3: Testing equalities of mark achieved by gender types

	Gender of students	N	Mean mark achieved	t-value	p-value
Assignment	Male	116	12.96	-0.387	0.699
	Female	90	13.13		
Final examination	Male	106	29.86	-0.366	0.715
	Female	85	24.20		

Analysis of Age-groups and Student Type with Reference to Assignment Submission-time

Most of the students were less than 20 years in age (49.5%) followed by 20-25 year age group (36.4%). Only around 14 percent of students was over 25 year in age (Table 4). Out of the total students of their respective age group only two percent was late-submitter in 'less than 20' age group compared to 13.3 percent in age group 20-25 and 10.3 percent in age group greater than 25. Of the total late-submitter students (15), only around 13 percent students were from less than 20 year age group. Significant percentage (66.7%) of the late-submitters was 20-25 year age group. Although the result was quite obvious, we applied the Chi-Square test and found that there was significant difference between the type of students and the age group (x^2= 8.749, p-value=0.013). The higher percentage of late-submitter students in age group 20-25 could be due to several reasons. They may have many social obligations and financial commitments but without further investigation we could not state the valid reason.

Table 4: Age groups and types of students in terms of assignment submission-time

	Age group (year)	Types of students On-time	Late-submitter	Total	Statistical test
Assignment	<20	100 (98%)	2 (2%)	102	x^2= 8.749,
	20-25	65 (86.7%)	10 (13.3%)	75	p-value=0.013
	>25	26 (89.7%)	3 (10.3%)	29	
Final examination	<20	95 (97.9%)	2 (2.1%)	97	x^2=4.518,
	20-25	62 (92.5%)	5 (7.5%)	67	p-value=0.104
	>25	24 (88.9%)	3 (11.1%)	27	

Before the final examination, around 7.3 percent of students dropped-out. This figure is less than national figure of most of Australia's 38 public universities which have drop-

out rates of between 15 and 30 percent (West, 2003). In some cases, students do not necessarily leave the university but may change the courses. Research so far has shown that students leave or change the courses because of interplay of factors that cover institutional, personal and social reasons (West, 2003).

Around 4.9 percent (5/102) of the total dropped-out students was from age < 20 group, 10.67 percent (8/75) from age 20-25 group and 6.9 percent from age > 25 group. The higher percentage dropped-out rate of the 20-25 age group students further verified that this is the most vulnerable group and need special treatment. As the unemployment rates of 20-24 years olds are twice those of adults 25-64 (for detail see Australian Bureau of Statistics, 2004), once they got job they would leave the university. There may be several other reasons other than discussed earlier. They could be due to more social and family commitments than other age groups, but without further investigation the exact reason could not be identified.

The percentage of the late-submitter in the final examination in the age group 20-25 dropped down from 67% (10/15) to 50% (5/10), as 100 percent of the drooped-out among the late-submitters was from this group (Table 4). Because of this dropped out the earlier conclusion is revoked. In the final examination, we did not found any statistical significant relationship between the types of students and the age group (x^2=4.518, p-value=0.104).

We tested the hypothesis (claim), 'the mean mark obtained by three groups of students in assignment and final examination was statistically significantly different', by independent t-test. In the assignment, the mean mark achieved by first age group (<20 yr) was found slightly higher (13.16/20) than the mark obtained by second age group (12.86/20) and third age group (13.12) (Table 5). However, the t-test between three different combinations (1 & 2, 2 & 3 and 1 & 3) showed that there was no statistically significant difference in the mean mark obtained by the three different age groups. This suggests that all age groups of students were equally satisfactory for securing marks in assignment.

In the final examination, the mean mark achieved by age group 20-25 students (32.54/60) was statistically significantly higher than age group 'less than 20' (t-value= -3.119, p=0.002) but was not statistically different with 'greater than 25' age group (t=0.369, p=0.693) (Table 6). While comparing this result with assignment result it was proved that the dropped-out students were really the poor students. Once they left, the result improved marginally.

Table 5: Testing equalities of assignment mark achieved by three age groups

Age groups (yr)		N	Mean mark achieved	t-value	p-value
1 & 2	<20	102	13.16	0.670	0.504
	20-25	75	12.83		
2 & 3	20-25	75	12.83	-0.423	0.673
	>25	29	13.12		
1 & 3	<20	102	13.16	0.059	0.953
	>25	29	13.12		

Table 6: Testing equalities of final examination mark achieved by three age groups

Age groups (yr)		N	Mean mark achieved	t-value	p-value
1 & 2	<20	97	27.95	-3.119	0.002
	20-25	67	32.54		
2 & 3	20-25	67	32.54	0.396	0.693
	>25	27	31.65		
1 & 3	<20	97	27.95	-1.837	0.069
	>25	27	31.65		

On the basis of Chi-square and t tests it was concluded that although the age has statistically significant influence on time of assignment submission, it had play no role for securing different marks in assignment. However, as the poor late-submitter students dropped-out, the performance of 20-25 age group seemed marginally better than other age groups in the final examination.

Conclusion

An in-depth analysis of the above discussion has led us to make the following conclusions.

Firstly, the late submission of assignment is an indication of poor quality students in terms of performance. Their drop-out rate (33.33%) is higher than on-time submitters (5.23%). They request for an extension on their assignments due date is, most probably, attributed to their poor time management rather than desire to improve performance. Secondly, the gender type did not play any role for 'on-time' and 'late' assignment submissions and for marks achievement in the assignment and the final examination Thirdly, the highest percentage (66.7%) of late assignment submitters was from age group 20-25; and 100% dropped-out students among the late-submitters was also from this group. This age group was found marginally poorer than others in assignment in terms of mean mark achievement, but since the poorer students dropped-out, the result was marginally better than other age groups in the final examination. Although this group does not seem poorer than other age groups statistically but is the most vulnerable age group and thus need special treatment. Lastly, since on-time and late assignment submitters are two different populations, they need different treatments as in mail questionnaire survey. In mail questionnaire survey, late-responders and early-responders are supposed to come from two different populations and therefore are analysed separately.

For further validation of the research issues, this study urges further extensive research covering several universities and subjects with larger sample size of early and late assignment submitters.

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