

# On Students' Strategy-Preferences for Managing Difficult Course Work

Hua-Li Jian<sup>1\*</sup>, Frode Eika Sandnes<sup>2</sup>, Yo-Ping Huang<sup>3</sup>, Cai Li<sup>4</sup> and Kris Law<sup>5</sup>

<sup>1</sup>Dept. of Foreign Languages and Literature, National Cheng Kung University, Taiwan

<sup>2</sup>Oslo University College, Norway

<sup>3</sup>National Taipei University of Technology, Taiwan

<sup>4</sup>Communications University of China, PRC

<sup>5</sup>City University of Hong Kong, Hong Kong

Email: huali.jian@gmail.com

IEEE Transactions on Education, Vol. 51, No. 2, pp. 157-165, May 2008.

**W**ell-designed course work stimulates students' learning processes (learning by doing). Teachers have to carefully adjust the course work difficulty level. Students need challenges of sufficient difficulty for academic development to occur. Still, the course work must not be so difficult that it can be completed only by the upper quartile of students. Course work perceived by students to be too difficult is more likely to push students into pursuing undesirable strategies for reaching their goals, compared to course work where students perceive they are in control.



This study investigates how students respond to assignments and course work that are too difficult. In particular, which strategies do they choose for overcoming the problem? Seven strategies are studied, namely, to seek legitimate help from the teacher or teaching assistants, questionable practices such as posting questions on Internet discussion forums or collaborating with fellow students to solve the problem, and totally unacceptable practices such as copying the assignments from fellow students, dividing the workload, searching for and adopting assignments on the Internet, or unjustifiably asking for extension based on a false doctor's note. Insight into how students rank various practices for handling difficult assignments is important when one wishes to deploy countermeasures to eliminate unacceptable practices and promote ethical practices.

Furthermore, the problem is also inspected from the reverse angle – namely, how do students who have completed their course work respond to requests for help from fellow students? Six strategies for managing requests for help are studied, namely, to point the students in the right direction, let the students look at their own course work, let the students copy their course work, inform the teacher of the students, ignore the students altogether, or provide the students with erroneous advice. Insight into how students respond to requests for help from other students is, therefore, important when establishing ethical guidelines and working practices for an educational program.

Another important issue is how students rank the various stakeholders in the educational environment. Are the teacher and the university really at the top of this hierarchy, or do students have a different

perspective on who is more important? Students, just as all other people, are occasionally faced with ethical dilemmas. In particular, they may be drawn into a problematic situation where they have to make a choice. Should they take the side of the student with whom they may feel empathy or the teacher who enforces class justice and ensures overall fairness? To shed light on this issue, the final part of this study addresses how students choose sides in a situation of conflict. The five most distinctive stakeholders in the educational environment are included, namely, the students themselves, their friends, their parents, their teachers, and their institution.

Data acquired through a questionnaire issued to students were analyzed using a pair-wise comparison method. This robust method allows the overall student preferences to be ranked statistically. Data, based on the responses of 233 students, is drawn from student populations in four cultural regions across two continents, including both undergraduate and postgraduate students, to get a more global perspective. Most of the participants were engineering students. In addition, 57 humanities students were included for reference.

Table 1: Students' preferences for managing difficult course work are listed in terms of their normalized ranking coefficient with the actual rank in parenthesis. Listed is also the agreements  $U$  among the respondents, the  $\chi^2$  statistics, and the corresponding p-values (df=21). UG = undergraduates, PG = postgraduates.

Description	Engineering								Humanities	
	Hong Kong	China		Norway	Taiwan			UG	PG	
	UG+PG	UG	PG	UG+PG	UG (1yr)	UG (3-4yr)	PG	UG	PG	
Ask teacher ( $w_1$ )	0.14 (4)	0.13 (4)	0.11 (6)	0.15 (4)	0.09 (6)	0.10 (6)	0.09 (6)	0.11 (5)	0.15 (4)	
Solve problem with friend ( $w_2$ )	0.24 (1)	0.24 (1)	0.18 (2)	0.22 (1)	0.22 (1)	0.22 (1)	0.23 (1)	0.24 (1)	0.22 (2)	
Post question on Internet discussion group ( $w_3$ )	0.12 (5)	0.12 (5)	0.17 (3)	0.15 (5)	0.12 (5)	0.13 (4)	0.11 (5)	0.12 (4)	0.11 (5)	
Search for solution on the Internet ( $w_4$ )	0.20 (2)	0.20 (2)	0.24 (1)	0.22 (2)	0.20 (2)	0.22 (2)	0.23 (2)	0.20 (3)	0.24 (1)	
Copy and change friends assignment ( $w_5$ )	0.08 (6)	0.09 (6)	0.12 (5)	0.03 (6/7)	0.16 (4)	0.11 (5)	0.11 (4)	0.04 (7)	0.03 (7)	
False doctor's note ( $w_6$ )	0.03 (7)	0.03 (7)	0.02 (7)	0.03 (6/7)	0.02 (7)	0.03 (7)	0.03 (7)	0.06 (6)	0.06 (6)	
Divide the work with friends ( $w_7$ )	0.19 (3)	0.18 (3)	0.16 (4)	0.20 (3)	0.20 (3)	0.20 (3)	0.20 (3)	0.22 (2)	0.20 (3)	
Agreement $U$	0.39	0.36	0.33	0.45	0.39	0.39	0.46	0.45	0.51	
$\chi^2$ (df=21)	201.2	242.5	130.8	78	348.5	276.3	260.6	284.9	310.3	
p	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	

The students seem to have similar preferences for handling difficult course work irrespective of geographical origin, level of study, and field of study (Table 1). All groups prefer to ask a friend for help if they have difficulties ( $w_2=0.22-0.24$ , rank 1/7), with the exception of the Mainland Chinese postgraduates and the Taiwanese humanities postgraduates who prefer to search for a solution on the Internet ( $w_4=0.24$ , rank 1/7). Surprisingly, all groups prefer other alternatives than actually asking the teacher for help. Four groups rank the teacher second last ( $w_1=0.09-0.11$ , rank 6/7), and four groups rank help from the teacher in fourth place ( $w_1=0.13-0.15$ , rank 4/7). Why are the teachers ranked this low, especially as teachers' chief purpose is to supervise and guide students? Perhaps teachers' perception of their own supervisory value is overrated? Teachers often complain about the effort involved when supervising students. Usually, just a fraction of students actually seek help from the teacher. These students often demand considerable help, and the teachers may perceive from their effort that they have done their part adequately. However, what happens to all the others, i.e., the majority, who do not seek help from the teacher? Do they not have any difficulties? They may be trying other alternatives instead.

Most groups, with the exception of the humanities students and the Mainland Chinese postgraduates,

rank searching for solutions on the Internet in second place ( $w_4=0.20-0.23$ , rank 2/7). Searching for a solution on the Internet is not an acceptable strategy unless the students only seek out additional information that will help them understand the problem and consequently solve the assignment. Clearly, the Internet has greatly changed students' working habits and approach to problem solving compared to 15 years ago, since most universities then did not use the Internet for much besides e-mail and newsgroups. Teaching practices and views of the learning processes have perhaps not changed at the same pace. Many students are likely to resort to Internet search engines for any research and referencing need. Students, therefore, need to be trained in ethical Internet working practices because the Internet is also an important tool in their subsequent professional careers.

The third preference on most groups' list was to divide the work among friends ( $w_7=0.18-0.20$ , rank 3/7), undeniably an unacceptable, but common practice. Students pressed for time divide assignments among themselves so that, for instance, a student good at mathematics will do the mathematics assignment, the computer-wiz will do the programming assignments, and so on. They then share the results afterwards. Unfortunately, the students who are weak in mathematics will not gain any training and lose their chance to improve their mathematics since their assignments have been done for them. Strong pedagogical reasons exist for hitting down hard on this malpractice. Division of labor may be a common, and even essential, practice in industry; but when one receives credit for work that one has not done, then that credit is a form of plagiarism. The Mainland Chinese postgraduates and Taiwanese humanities undergraduates deviated from this pattern since the Mainland Chinese postgraduates ranked division of labor in fourth place ( $w_7=0.16$ , rank 4/7), while the Taiwanese humanities undergraduates ranked division of labor in second place ( $w_7=0.20$ , rank 2/7).

The practices of copying and changing a friend's assignment and asking for an extension using a false doctor's note are for most groups ranked in second to last ( $w_5=0.03-0.09$ , rank 6/7) and last ( $w_6=0.03-0.06$ , rank 7/7) place, respectively. Both of these practices are highly unethical. The low rank is a positive sign that students view these practices as a last resort. Perhaps asking for a doctor's note is too troublesome, may incur some expense, and may not always be possible (depending on the particular patient-doctor relationship and national practices). Most teachers receive doctors' notes that they suspect are not legitimate. Furthermore, copying a friend's assignment is also humiliating for a student, especially if he or she has to ask. The only exception was the Taiwanese humanities students who ranked using a false doctor's note in second to last place ( $w_6=0.06$ , rank 6/7).

Table 2. Handling requests from fellow students.

Description	Engineering							Humanities	
	Hong Kong	China		Norway	Taiwan			UG	PG
	UG+PG	UG	PG	UG+PG	UG (1yr)	UG (3-4yr)	PG	UG	PG
Ignore the request ( $w_1$ )	0.19 (3)	0.11 (4)	0.12 (4)	0.17 (3)	0.16 (3)	0.17 (3)	0.15 (4)	0.16 (3)	0.16 (3)
Point student in the right direction ( $w_2$ )	0.32 (1)	0.29 (1)	0.29 (1)	0.32 (1)	0.29 (1)	0.30 (1)	0.29 (1)	0.32 (1)	0.32 (1)
Let student look at your course work ( $w_3$ )	0.23 (2)	0.26 (2)	0.27 (2)	0.27 (2)	0.25 (2)	0.26 (2)	0.26 (2)	0.25 (2)	0.27 (2)
Allow student to copy ( $w_4$ )	0.10 (4)	0.18 (3)	0.15 (3)	0.14 (4)	0.18 (4)	0.15 (4)	0.17 (3)	0.10 (5)	0.09 (5)
Notify the teacher about the student ( $w_5$ )	0.08 (5)	0.10 (5)	0.11 (5)	0.06 (5)	0.05 (6)	0.07 (5)	0.06 (6)	0.15 (4)	0.14 (4)
Give erroneous advice ( $w_6$ )	0.07 (6)	0.05 (6)	0.05 (6)	0.04 (6)	0.07 (5)	0.05 (6)	0.08 (5)	0.03 (6)	0.02 (6)
Agreement $U$	0.49	0.43	0.46	0.68	0.45	0.52	0.45	0.59	0.66
$\chi^2$ (df=15)	178.1	200.2	125.5	76.3	283.4	254.5	185.4	262.7	282.8
p	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

The results in Table 2 show that the different groups generally agree regarding students' preferences for

responding to other students' requests for help. All groups declared that they first would try to point the student in the right direction ( $w_2=0.29-0.32$ , rank 1/6), followed by letting the students look at their own course work ( $w_3=0.23-0.27$ , rank 2/6).

The groups seem to be divided on whether the request should be ignored or whether they should allow their course work to be copied. The students with Western traditions, i.e., the Hong Kong students, Norwegian students, and most of the Taiwanese students prefer to ignore a request ( $w_1=0.16-0.19$ , rank 3/6), while the Mainland Chinese students prefer to let their course work be copied ( $w_4=0.15-18$ , rank 3/6); and they place ignoring the student in fourth place ( $w_1=0.11-0.12$ , rank 4/6).

Most groups rank informing the teacher about the student and giving the student erroneous information second last and last, respectively. Fortunately, most students reject the practice of spreading ill advice, although this practice is understandable from the students' perspective in very competitive environments. In some countries, such as Norway, government policy states that the grades must follow the normal distribution over a given window of time, where only 10% of the students are to receive A's, etc. Consequently, the students may adopt the spreading of ill advice as a survival practice since this strategy will increase their own chances of obtaining good grades. In fact, both the Taiwanese engineering sophomore and master students indicated a preference for giving bad advice to students ( $w_6=0.07-0.08$ , rank 5/6) rather than informing the teacher ( $w_5=0.05-0.06$ , rank 6/6). Surprisingly, informing the teacher is ranked in second to last place by most students ( $w_5=0.05-0.11$ , rank 5/6).

*Copyright 2009 National Cheng Kung University*