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Experience Sharing on Publishing in Education Journals

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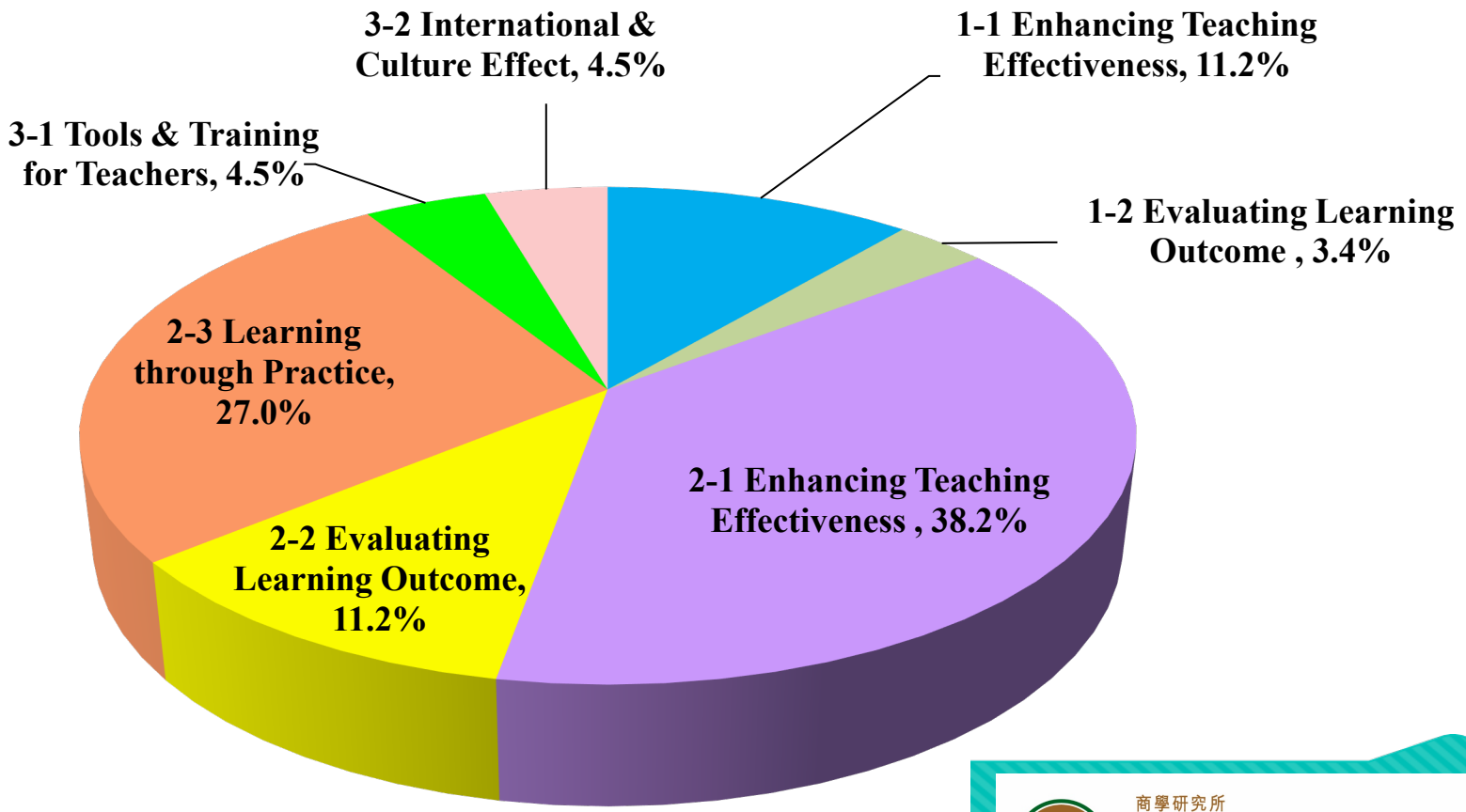
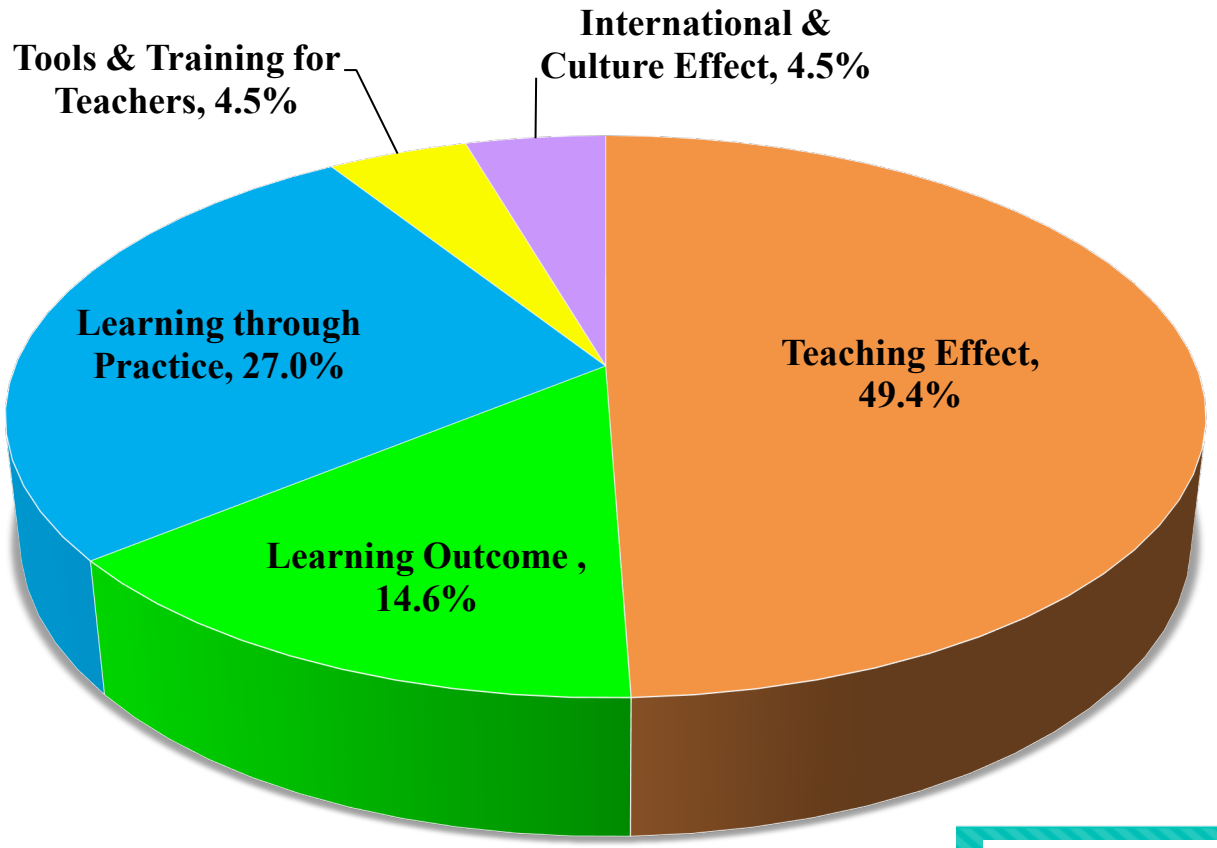
Category of Articles in Pedagogical Research

- 1 Online
  - 1-1 Enhancing Teaching Effectiveness
  - 1-2 Evaluating Learning Outcome
- 2 In-Class
  - 2-1 Enhancing Teaching Effectiveness
  - 2-2 Evaluating Learning Outcome
  - 2-3 Learning through Practice
- 3 Others
  - 3-1 Tools & Training for Teachers
  - 3-2 International & Culture Effect

% Distribution by Research Topics – 7 Categories (N=89)



% Distribution by Research Topics -5 Categories (N=89)



Sharing Publication Experience

Publications

1. "The effects of Work-integrated Education and International Study Exchange experience on academic outcomes", **Louis T.W. Cheng,** C.A. Armatas, and Jacqueline Wenjie Wang, *Journal of Teaching in International Business*, forthcoming. (SJR: 0.23)

2. "The impact of diversity, prior academic achievement and goal orientation on learning performance in group capstone projects", **Louis T.W. Cheng,** C.A. Armatas, and Jacqueline Wenjie Wang, *Higher Education Research & Development*, vol. 39 (5), 2020, pp.913-925. (Impact Factor: 3.66, SJR: 1.675)

3. "Enhancing learning performance through Classroom Response Systems: The effect of knowledge type and social presence", **Louis T.W. Cheng** and Jacqueline Wenjie Wang, *The International Journal of Management Education*, vol. 17, March 2019, pp.103-118. (Impact Factor: 2.354, SJR: 1.167)

4. "Learning Effects of Student Response System (SRSs): Evidence from Hong Kong", **Louis T.W. Cheng,** Jacqueline Wenjie Wang, and Kam C. Chan, *Journal of Financial Education,* Winter 2018, pp.284-301.

5. "Enhancing Learning Performance through Classroom Response Systems: the Effect of Knowledge in Global Economic Environment", **Louis T.W. Cheng** and Jacqueline Wenjie Wang, *Journal of Teaching in International Business*, vol. 29, No. 1, 2018, pp.49-61. (SJR: 0.23)

1. Summary

- Latham and Hill (2014) argue that students' "preference for anonymity" enables CRS to improve class participation.
- We explore two additional learning dimensions that may influence the effectiveness of CRS: 1) Type of knowledge taught (qualitative vs quantitative knowledge; and 2) Social presence (students' participation level in group learning and awareness of societal issues).
- Our sample consists of over 2500 undergraduate students in Corporate Finance, International Finance and Introduction to Business Law subjects over three consecutive semesters from 2014 to 2015.
- We employ both cross-sectional and panel data models with additional control for gender, day-of-time effect (morning vs afternoon session), student origin (Mainland, local, and foreign), instructor, subject, and semester.
- Our findings indicate that the effect of CRS on learning performance is more pronounced for qualitative knowledge compared with quantitative one.
- Furthermore, learners with a higher level of social presence exhibit a stronger motivation to learn and better academic performance when CRS is used.

2. Methodology

Data

- In this study, we employ performance records from a sample of 2,574 undergraduate students in Corporate Finance, International Finance and Introduction to Business Law subjects over three consecutive semesters from 2014 to 2015 from a public university in Hong Kong.
- Among these student records, 1,505 students participated in CRS sessions and 1,069 belong to the non-CRS group.
- A total of 230 student responses (119 female and 111 male students) matched our sample.

Regression Models

$$Grade\ Performance_{i,t} = \alpha + \beta_1 CRSs_{i,t} + \beta_2 Quantitative\ Subject_{i,t} + \beta_3 CRSs_{i,t} \times Quantitative\ Subject_{i,t} + \beta_4 D1_i + \beta_5 D2_i + \beta_6 CRSs_{i,t} \times D1_i + \beta_7 CRSs_{i,t} \times D2_i + \beta_8 Gender_i + \beta_9 MorningSessions_{i,t} + \beta_{10} CRSs_{i,t} \times MorningSession_{i,t} + \beta_{11} Exchange_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$Grade\ Performance_{i,t} = \alpha + \beta_1 SocialPresence_{i,t} + \beta_2 Gender_{i,t} + \beta_3 SocialPresence_{i,t} \times Gender_{i,t} + \beta_4 D1_i + \beta_5 D2_i + \beta_6 MorningSessions_{i,t} + \beta_7 Exchange_{i,t} + \beta_8 Quantitative\ Subject_{i,t} + \varepsilon_{i,t} \quad (2)$$

3. Some Findings:

Table 3: Comparative Analysis of Learning Effect of CRS (Conceptual vs Quantitative)

	Grade		*Exam1, Exam2*	
	Cross-sectional	**Cross-sectional**	**Panel Data**	**Panel Data**
Intercept	61.388***	61.188***	60.359***	58.982***
	(90.52)	(57.01)	(71.75)	(70.94)
CRS	3.325***	3.580**	3.657***	5.412***
	(5.22)	(2.70)	(4.66)	(7.15)
Quantitative Subject	13.063***	13.567***	11.805***	15.270***
	(14.57)	(20.97)	(9.82)	(11.79)
*CRS*Quantitative Subject*		-1.729*		-11.891***
		(-1.70)		(-4.98)
D1	5.821***	5.804***	7.220***	7.101***
	(7.10)	(7.23)	(7.14)	(7.14)
D2	-4.320***	-4.76***	-3.628*	-14.009*
	(-2.69)	(-2.88)	(-1.70)	(-1.86)
*CRS*D1*	-1.402	-1.346	-2.911**	-2.52**
	(-1.48)	(-1.43)	(-2.50)	(-2.18)
*CRS*D2*	0.984	1.042	0.269	0.663
	(0.58)	(0.63)	(0.12)	(0.30)
Gender	-1.508***	-1.514***	-1.423***	-1.466***
	(3.73)	(-3.96)	(-2.81)	(-2.91)
Morning Sessions	1.491	1.534	1.572	1.678
	(1.41)	(1.58)	(1.60)	(1.54)
*CRS*Morning Sessions*	-1.493	-1.465***	-3.197***	-3.007**
	(-1.54)	(-2.17)	(-2.65)	(-2.49)
Exchange	0.005	-0.030	-1.147	-1.384
	(0.01)	(-0.02)	(-0.57)	(-0.68)
Subject Dummy	Included	Included	Included	Included
Instructor Dummy	Included	Included	Included	Included
Adj-R^2	0.3307	0.3310	0.1712	0.1773
Sample Size	2574	2574	5148	5148

Key findings

The stand alone CRS effect is positive and significant in all models, indicating that CRS is positively related to learning performance in terms of better grade.

The stand alone effect of quantitative subject dummy is also positively significant. This result suggests that students in quantitative subjects earn higher exam marks and overall grade than those in the conceptual subject

The effect of CRS on learning outcome is more pronounced if its *conceptual based* subjects instead of quantitative subjects

Our hypothesis 1 is supported by the empirical results in Table 3.

This table presents the regression results for assessing the effect of CRS on students' performance. *CRS* =1 when CRS was adopted in class or =0 otherwise. *D1* equals to 1 for mainland Chinese students; and zero otherwise. *D2* equals to 1 for foreign students; and zero otherwise. *Gender* =1 for male students, or =0 otherwise. *Morning Session* =1 for morning sessions; and =0 otherwise. *Exchange* equals to 1 if the student is an exchange student; and equals to zero otherwise. *Quantitative Subject* equals to 1 if the subject is quantitative in nature (i.e., Corporate Finance or International Finance); and equals to zero otherwise. The robust standard errors method of Petersen (2009) in two dimensions clustering was used, and the t-statistics are reported under each coefficient (two-tailed). All numbers are rounded. ***, **, and * indicates statistical significance at 1%, 5%, and 10% levels, respectively.

4. Conclusion

- Our sample covers over than 2574 undergraduate student subject records in finance and law courses for three consecutive semesters (2014 to 2015). Data for both CRS and non-CRS groups are used.

- Overall findings show that students' learning performance improve when an innovative teaching method, CRS, is used. The effect of CRS on learning performance is more pronounced when conceptual knowledge (relative to quantitative knowledge) is taught.

- Second, students with higher level social presence have a higher motivation to learn and they attain better academic performance when CRSs are used, which is consistent with view supported by Richardson and Swan (2003), Tu and McIsaac (2002), and Joksimović et al. (2015).

- These findings show that students can learn better with CRS when they engage in appropriate cognitive learning process. By using the CRS, student-instructor interaction is reinforced, leading to better understanding of the presented materials and improvement in examination performance.

- Some possible implications for instructors and universities can be considered.
  - First, instructors teaching quantitative subjects should strengthen the learning effect of their CRS usage.
  - Universities can consider to enhance the usage of social media and social participation of students as these factors may lead to stronger motivation to learn and better academic performance when CRS is used.

"The impact of diversity, prior academic achievement and goal orientation on learning performance in group capstone projects", **Louis T.W. Cheng,** C.A. Armatas, and Jacqueline Wenjie Wang, *Higher Education Research & Development*, vol. 39 (5), 2020, pp.913-925.

1. The Role of Capstone Project in Undergraduate Education

- Help students develop ***independent learning, personal management, critical thinking and problem solving skills*** (Hammer et al., 2018; Lee & Loton, 2015; Thomas, Wong & Li, 2014)
- Key design framework for Capstone:
  - ✓ To conduct research and project work under a team structure for developing teamwork skills and peer learning (Vary group size from 2 to 3 student team)
  - ✓ We monitor group composition in terms students' characteristics including gender, nationality, major, goal orientation (Performance Orientation (PO)/Mastery Orientation (MO))
  - ✓ We vary learning environment by introducing high performance group
  - ✓ We examine effect of supervisors' style through Approaches to Teaching Inventory (ATI; Prossor & Trigwell, 2006) Survey

2. About the Capstone Project

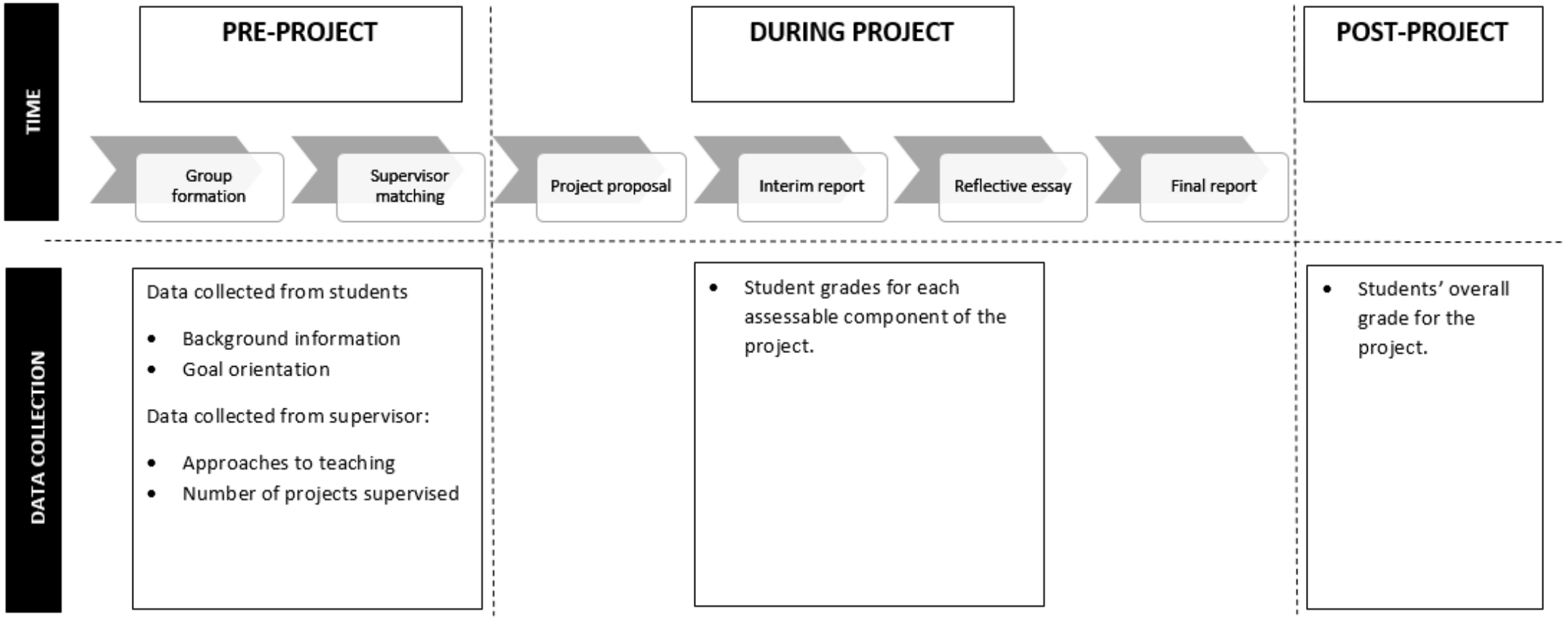


Figure 1. Data collection sequence across the duration of the capstone project in the 2016-17 academic year

3. Using Learner Data to Inform Capstone Delivery

Design	2015/16	2016/17	2017/18
Group Size	(2) • A small team allows students to participant more in a group project	(3) • Bigger team would benefit students by allowing project undertaken to better reflect real-world problems and could contribute to better learning outcomes	(3) • Bigger team would benefit students by allowing project undertaken to better reflect real-world problems and could contribute to better learning outcomes
Supervisor number	(16) • Allow management efficiency for each academic staff by supervising more groups • Enable grade moderation using STD and median marks	(16) • Allow management efficiency for each academic staff by supervising more groups • Enable grade moderation using STD and median marks	(66) • Staff can put in more effort in supervising students by handling 1-2 groups only • More diversity and talents available in supervision by including more academic staff
High Performance Group	(27 groups)	• Canceled	• Canceled
	• Hoped that higher performing students could ***maximise the benefits*** of better resources: research-oriented supervisors and advice from executives		

4. Some Findings:

Table 1. Details of Capstone Projects

DESCRIPTION	2015-2016	2016-2017	2017-2018
No. of Students per Group	2	3	3
Total No. of Students	369	392	404
Total No. of Groups	185	133	137
Total No. of Supervisors	16	16	66
High Performance Groups	Yes (54 students)	No	No
Group Capstone Project (% contribution to final mark)	85%	90%	90%
Individual Self-reflective Essay (% contribution to final mark)	15%	10%	10%
Final Capstone Report mark (/100)			
Mean (SD)	73.7 (6.5) →	76.2 (8.7)	
		76.2 (8.7) →	84.0(7.2)

Table 3. Summary statistics for measures of academic (*N*=346)

Grade	Findings	Regression 1	Regression 2
Intercept		66.793***	62.180***
		(16.93)	(14.30)
PO_avg	Ego-oriented students (High PO) → poorer grade		-1.154***
			(-4.15)
MO_avg	Task-oriented students (High MO) → better grade		1.567***
			(3.92)
GPA_Before_taking		2.384**	2.323**
		(2.22)	(2.24)
Gender	Females perform better	-1.877***	-1.622***
		(-3.27)	(-2.98)
D1		2.397*	1.612
		(1.95)	(1.38)
D2		-0.049	-0.241
		(-0.04)	(-0.16)
Supervisor Dummy		Included	Included
Adj-R^2		0.341	0.402
Sample Size		346	346

This table presents the regression results on students' performance. *Grade* is the final grade in % for Capstone Project (AF4912). *GPA_After_taking* is cumulative GPA after taking Capstone Project. *PO_avg* is average score from survey results of questions in terms of "Ego Orientation (PO)". *MO_avg* is average score from survey results of questions in terms of "Task Orientation (MO)". ". *D1* equals to 1 for mainland Chinese students; and zero otherwise. *D2* equals to 1 for foreign students; and zero otherwise. *Avg_SFQ* is average score from student feedback questionnaire on supervisor. *GPA_Before_taking* is cumulative GPA before taking Capstone Project. *Gender* =1 for male students, or =0 otherwise. *Acc_major* =1 for students major in Accoutancy or major in Accounting & Finance. *GP_GenderComplexity* =1 if the group has both male and female students as group members; and zero otherwise. *GP_GPAComplexity* = 1 if the group members' standard deviation in their GPAs is above its sample median; and zero otherwise. *GP_NationalityComplexity* = 1 if the group members have heterogeneous nationalities; and zero otherwise. *GP_ProgrammeComplexity* = 1 if the group members have heterogeneousness in terms of their major; and zero otherwise. *TIS_Teacher_AVG* is the mean of teaching inventory scores on Teacher-focused items. *TIS_Student_AVG* is the mean of teaching inventory scores on Student-focused items. The robust standard errors method of Petersen (2009) in one dimension clustering was used, and the t-statistics are reported under each coefficient (two-tailed). All numbers are rounded. ***, **, and * indicates statistical significance at 1%, 5%, and 10% levels, respectively.

5. Conclusion

- Using objective data of students' characteristics and performance in conjunction with survey data on students' goal orientation (PO/MO) and supervisors' teaching approach (ATI), we examine the relations between group complexity and learning outcome.
- Results show that diversity in respect to the nationalities in the group was related to poorer performance.
- In contrast, having a group with a diversified mix of GPAs can result in higher grades on the project.
- Furthermore, the more student-focused the group supervisor's approach was, the better the grade achieved for the project.
- Ego-oriented students (High PO) experience poorer grade while task-oriented students (High MO) enjoy better grade.

~Thank You~

Q&A