



# Using Flipped-Classroom Teaching Model to Promote College Students' Engagement in Elected Career Development Courses

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## Introduction

- The engagement perspective asserted that the more a student invests time and effort in educationally purposeful tasks, the more he/she will gain from his/her college experience (Pace, 1998).
- Career development programming has been identified as one means for positively increasing student academic engagement (Lapan, 2004).
- Taking a career development course as a university-wise elected course, college students in China are usually lack of motivation to invest their time and effort to the course assignments, which the course instructor believes are educationally purposeful tasks.
- Flipped-classroom refers to the teaching practice that removing single-sided information-transition lectures outside of class time and devoting the class time to a variety of active tasks and interactive learning activities.
- There is currently lack of evidence to support the effectiveness and efficiency of flipped-classroom approaches in promoting students' learning outcomes (DeLozier & Rhodes, 2016).
- The present study exams the effectiveness of using a flipped-classroom approach to promote college students' engagement and learning outcome in elected career development courses.

## Methods

### The Career Development Course

- The "career development and planning for college students" course was designed according to Parsons' career development model (1909) and was divided into three major sections:
  - Section1** : Learn about one's traits, values, interests, and abilities;
  - Section2** : Learn about the world of work, including lectures of how to access, evaluate, and review information, and activities that facilitates students to collect information of their interests;
  - Section3** : Focus on practical skills such as selling self in 3 minutes and preparing for interview.
- This course lasted for 16 weeks and was offered to all undergraduate students as a university-wise elected course since 2015 spring semester.

### Teaching Approaches

- Traditional teaching approach** : the instructor gave the lectures and assigned a small amount of time for activities in class. The assignments were required to complete after class.
- Flipped-classroom teaching approach** : students were required to watch the videos of lectures and to submit Mind Maps before class. In class, students discussed what they have learned from the video lectures ,did interactive activities and shared their reflection of these activities and assignments.

### Research Participants

Table1. Demographic Variables

		Traditional Classroom		Flipped Classroom	
		Frequency	Percent	Frequency	Percent
Gender	Female	15	53.60%	17	48.60%
	Male	13	46.40%	18	51.40%
Grade	Freshman	11	39.30%	12	34.30%
	Sophomore	13	46.40%	12	34.30%
	Junior	4	14.30%	11	31.40%
GPA	First 25%	12	42.90%	11	31.40%
	Middle50%	14	50.00%	18	51.40%
	Last 25%	2	7.10%	6	17.10%
Home Region	Urban Area	11	39.30%	15	42.90%
	Rural Area	17	60.70%	20	57.10%
Total		28	100%	35	100%

- The distributions of gender, grade, GPA and home region were the same across the two teaching groups.

## Measures and instruments

- The course instructor collected students' perception of learning in this course and their feedback to the course arrangement on the last week of class using a questionnaire. The questionnaire consists of four inventories, which have been used and validated in previous studies (Guo, Yang, & Shi, 2013; Guo et al., 2017; Shi & Guo, 2012).
- The questionnaire including students' learning approaches, students' course experience, students' learning engagement and qualitative data about students' learning experience. We also used a performance measure as a distal indicator of students' learning outcome.
- Table 2 shows the specific information of four measurable constructs.

Table2.The Means, Standard Deviations ,Ranges, Items and Cronbach α of Each Measure.

Constructs		Mean	STD	Ranges	Items	Cronbach α
Students' learning approaches	deep learning approach	35.05	3.55	12 ~ 48	12	0.68
	surface learning approach	15.63	2.65	8 ~ 32	8	0.60
Students' course experience	good teaching	26.57	3.13	8 ~ 32	8	0.80
	peer collaborative learning	9.83	1.50	3 ~ 12	3	0.77
	learning outcomes	37.94	4.35	12 ~ 48	12	0.89
Students' learning engagement	engagement with teacher interaction	25.81	6.56	10 ~ 50	10	0.88
	engagement with peer interaction	16.06	3.51	5 ~ 25	5	0.85
	engagement with deep learning	18.57	3.74	6 ~ 30	6	0.79
	engagement with time and effort	11.35	2.87	4 ~ 20	4	0.66
Interview performance measure		8.16	1.11	1 ~ 10	—	—

## Results

- The purpose of the evaluation was to test the effectiveness of the flipped-classroom teaching approach in comparison to the traditional teaching approach.

Table3. The Means, Standard Deviations, and Independent-Samples T-Test Statistics for Both Groups

Variables	Traditional Classroom (n=28)		Flipped Classroom (n=35)		t-test for Group difference (df=61)
	M	SD	M	SD	
Deep Learning Approach	35.25	4.23	34.89	2.95	0.40
Surface Learning Approach	15.29	2.40	15.91	2.83	-0.94
Engagement Teacher Interaction	23.93	6.81	27.31	6.04	-2.09*
Engagement Peer Interaction	14.43	3.17	17.37	3.24	-3.62**
Engagement Deep Learning	17.07	3.34	19.77	3.64	-3.03**
Engagement Time Effort	10.75	2.37	11.83	3.18	-1.49
Course Experience Outcome	38.43	4.74	37.54	4.04	0.80
Course Experience Peer Collaboration	9.57	1.32	10.03	1.62	-1.21
Course Experience Good Teaching	27.00	3.19	26.23	3.09	0.97
Mock Interview Result	7.71	1.15	8.52	0.95	-3.03**

\*P<.05 \*\*P<0.01

- Independent-samples t-test statistics indicate significant group differences on the interview performance measure and on a series of learning engagement measures, including engagement with teacher interaction, engagement with peer interaction and engagement with deep learning.

Table4.Frequence Data

Questions	options	Traditional Classroom		Flipped Classroom	
		Frequency	Percent	Frequency	Percent
What is the challenge level (from 1 to 10) of this course to you?	1	0	0%	0	0%
	2	2	7.1%	0	0%
	3	0	0%	0	0%
	4	0	0%	2	5.7%
	5	0	0%	6	17.1%
	6	2	7.1%	7	20.0%
	7	12	42.9%	6	17.1%
	8	8	28.6%	8	22.9%
	9	2	7.1%	2	5.7%
	10	2	7.1%	4	11.4%
Would you recommend this course to your fellows and why?	definitely yes	8	28.6%	9	25.7%
	probably yes	18	64.3%	21	60.0%
	probably not	2	7.1%	3	8.6%
	definitely not	0	0%	2	5.7%
Total		28	100%	35	100%

- Mann-Whitney nonparametric tests also indicate the distribution of course challenge level and the distribution of willingness to recommend the course is the same across the two groups.

Table5.Hierarchical Regression Analysis of Learning Outcomes

Model	Predictor	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Change Statistics			Standardized Coefficients		
						R Square Change	F	Change	df1	df2	Beta
Model 1	Group	0.36	0.13	0.12	1.04	0.13	9.20*	1	61	0.36	9.20*
Model 2	Engagement deep learning	0.44	0.20	0.17	1.01	0.07	4.84*	1	60	0.26	7.31*

Note. Dependent Variable: mock interview result  
 \*P<.05

- Hierarchical regression was used to investigate what variables might predict the students' learning outcomes. We used interview performance measure as the outcome variable.
- Model 1 demonstrates the group variable is a significant predictor (p < .01) for interview performance, which accounts for 13% of the variance. In Model 2, using the stepwise method only engagement with deep learning was retained as a significant predictor for interview performance, which contributes another 7% of accounted variance in addition to the group variable.

## Discussion

- By removing lectures out of class and devoting class time to interactive activities and discussion, the flipped-classroom teaching approach significantly facilitate students' more engagement in deep learning tasks as well as engagement in teacher and peer interaction.
- By engaging more in deep learning tasks, students who were in the flipped classroom, compared to those in the traditional classroom, gained more successful performances in the final mock interview.
- The present study's finding confirms DeLozier and Rhodes's (2016) argument that students' perceptions of learning outcomes are not tantamount to objective measures of learning performance. Although the performance measure used in the present study was somewhat subjective based on the two interviewers' judgment, both interviewers were blinded to the grouping of students.

## Limitations

- The present study did not include measures of students' ability in career exploration and career decision. These measures could be added as indicators of learning outcomes in future research concerning flipped-classroom approaches.
- The students in the flipped classroom might also benefit from the professional growth of the instructor after two years of teaching in this career development course.