

Original Paper

A Sophomore Questionnaire Research on the Innovation Learning Demands of “Principle” Course

Luo Qing¹

¹ The School of Marxism, Zhaoqing University, Zhaoqing Road, Zhaoqing City, Guangdong Province 526061, China

Received: March 25, 2020

Accepted: April 7, 2020

Online Published: May 7, 2020

doi:10.22158/jar.v4n2p44

URL: <http://dx.doi.org/10.22158/jar.v4n2p44>

Abstract

The innovation learning demands of sophomore students taking “principle” course in China are explored through questionnaire. Descriptive statistics, independent sample T-test and comparing study, are used to verify demand-side opinions about innovation education in the “principle” course. Around 94% sophomore student want the courses reformed by innovation education, to improve the innovation spirit and enhance the innovation ability, without significant gender difference. The majority sophomore students demand specific teaching resources of communist innovative model and in the form of gameplay teaching. And the “principle” innovative model education applied in curriculum, can enhance the supply-side structural reform of ideological and political courses. The Findings can be applied in the curriculum design, by furthering the combination of “principle” innovative model teaching resources with gameplay teaching form.

Keywords

innovation education, demand-side questionnaire, questionnaire analysis, “principle” course, curriculum design

1. Introduction

Intelligent period makes innovation education tremendous beneficial influences on our social life and daily work. The intellectual society takes human capital the first resource, and the human capital takes innovative quality as the first factor. The economics of technological innovation, represented by Mansfield, studied technological innovation from the aspects of technology promotion, diffusion and transfer, and the relationship between technological innovation and market structure. The market structure plays decisive role somehow in the cultivation of innovation quality. It has been manifested that structural reform can reduce inefficiency and low-end supply, and to expand the effective and

high-end supply. Supply-side structural reform has been proved of universal guiding significance. With the growing importance of supply-side structural reform, questionnaire studies of learning demands are becoming more and more urgent in higher education, especially in the reform of ideological and political curriculum. Among which, “principle” course is the most difficult one that bearing the basic principles of Marxism. And evidence has been presented that motivational strategies were a likely cause of student career success. Innovation models can be useful in motivating for student career success. Just like model education has the education function that enhance persons acculturation process, innovation model education can enhance students innovation process. What’s more, with Chinese rapid expansion of undergraduate education, curriculum design should base on demand-side survey. Sophomore students are subjects selecting “principle” course that is a compulsory ideological and political course universally in China. However, few questionnaire research or analysis was held for sophomore students’ opinions or demands. Observing the excellent model function in conquering New COVID-19 outbreak, the “principle” course may be optimized by innovative model education.

2. Questionnaire Design

“Principle” here refers to the basic principle of Marxism, which guide all the Chinese reform or transform theoretically. It is globally acknowledged that Marxism principles provide the methodology of materialist dialectics. Which takes everything as a contradictory unity combined by primary aspect and secondary aspect, and contends solving problem with its counter aspect. So the supply-side structural reform should start with demand-side questionnaire studies. The methodology applied, is specified in details as *Table 1*.

Table 1. Methodology in Details

	Curriculum resources	Survey purposes	Survey questions	Data source
Primary aspect	communist	sophomore	3 prerequisite	sophomore
	innovative models	learning demands	questions	random sampling
Secondary aspect	game	3 corresponding	2pairs of related	online
	online	expectations	optional questions	investigation
Contradictory unity	“principle” courses	education demands	questionnaire design	sophomore survey

2.1 Innovation Curriculum Resources

Marxist innovation theory divides innovation resources into subjective resources and objective ones. The subjective resources are what innovation education can manifest for students to master. The innovation education resources can also be divided into two aspects: the teaching resources from educator’s vision, and the learning resources from learner’s vision. This questionnaire is designed

particularly to explore and the teaching resources, in terms of communist innovative model, which have subjective expressions in fine art, photo or multimedia, etc.

The sophomore student questionnaire design should be held under the purpose of amplifying innovation teaching resources. In fact, Communists have brought great changes to this world. And communist innovative models provide useful teaching resources for higher education, especially for the ideological and political courses. Hence, communist innovative model education is assumed to be capable in combining innovation education and moral education, in the form of gameplay teaching, since gameplay is welcomed by all students. The gameplay teaching is a teaching method combining resource of games, mainly games online. However, whether the communist innovative model can serve proper teaching resources for “principle” course, should not be decided by teachers alone. The sophomore students’ learning demands must be carefully investigated.

2.2 Survey Purposes Design

Outcome-Based Education requires curriculum design focus on what students should be able to do at the end of course. According to Spady (1994), the outcomes should be set as the goals of curriculum design. Curriculum design goals and expectations unit as education demands, which set purpose guiding learning and teaching. By the materialist dialectics methodology, within education demands, the goals reflect mainly learner’s demands, in light of learning; meanwhile the expectations reflect mainly educator’s demands, in light of teaching. In terms of the supply-side structural reform of the “principle” course, the sophomore students’ learning demands is in the first place to be specified clearly. Then through demands analyzing, the curriculum design can obtain specific goals for the “principle” course reform. And then, combined with educator’s expectations, the education demands can be manifested for curriculum design.

Individual interview with outstanding sophomore students, proves that innovative models are needed to enhance practical ability, but proper example is found absent for them to learn, though they score high, and know the importance of innovation model as well. In the academy of innovation education, there are all sort researches of product innovative models, but little ones of communist innovative models. From the prospective of supply-side curriculum structural reform, the ideological and political courses can be divided into two classes: theoretical class and practical class, the practical ones being basement structure is the primary aspect. Among them, the “principle” course belongs to theoretical class, can amplify practical curriculum resources by the teaching resources of communist innovative models. To manifest communist innovative model resources for “principle” course innovation, a demand-side questionnaire is required to gather information for analysis.

“Talents with applied abilities” have become the key word of innovative talents. Talents are all required to have creative abilities to meet the demands of intellectual society. Since the above high score sophomore students interested in innovation has little idea of communist innovative model, demand-side investigation should be held among them concerning age, gender and experience, etc., to make sure that they want to improve innovation quality and ability, and to make clear specific learning

demands. Meanwhile, innovation education requires an evaluation system to provide assessment standards for the supply-side structural reform. The necessary data is collected as follows.

To meet these purposes above, the effective questionnaires collected are there to be processed by multiple factor analysis for 3 groups, that are the gender group (male or female), the innovator group (those want innovative model or want not), and the game group (those game-like or game-dislike innovators). The term “innovators” here refers to innovative students in the innovator group, who want cultivating innovation quality and improving innovation ability. Thus, sufficient survey data can be collected to verify the following expectations: ① All sophomore students want “principle” course be reformed by innovation education, without significant gender difference; ② The female innovators are less willing to reform the homework by game; ③ The majority sophomore students are game-like innovators, without significant gender difference.

2.3 Survey Questions Design

To meet the supply-side structural reform, the survey questions were constructed student-centered. Targeting the expectations, 3 corresponding prerequisite questions are designed in the questionnaire for sophomore students to answer. ① What is your gender? Because the “principle” courses are designed for all undergraduates, related curriculum reform cannot carry out if significant gender difference were proved. ② Do you want to reform “principle” course according to the requirement of cultivating innovation quality and improving innovation ability? Because the curriculum goal is to enhance students’ innovation quality and innovation ability; ③ Have you ever tried to do “principle” homework in the form of a game? Because only can you have a say after tried. For example, when the database of network game is replaced by homework questions, a gameplay homework can be created. The investigation is then carried out online, by choosing sophomore students at random.

Besides the above prerequisite questions concerning student basic information, there are also optional questions designed for the sophomore students chosen by random sampling to fulfill, so that sufficient information can be gathered to test the former survey assumptions. When the prerequisite questions concerning gender are combined with the optional ones, the questionnaire data analysis may be able to verify the expectation ③, that is, “the majority sophomore student are game-like innovators, without significant gender difference”. Then with expectation ① proved true, we can conclude that the sophomore students demand teaching resources presented in the form of game, and the communist innovative model is required to combine gameplay teaching in the curriculum design.

In this survey, the rule for qualified questionnaire to analyze is strict. If any prerequisite or optional questions were avoided by subjects to answer, the questionnaire gathered is considered unqualified, and is then rejected to enter the next analysis process. Each optional question in the questionnaire is a variable factor, and contents 5 values for subjects to tick. Numeric type is used here to get conformity scaling from 1 to 5: by 1 means no consistence, 2 means little consistence, 3 means half consistence, 4 means main consistence, 5 means complete consistence. In each investigated factor, the values ticked are expected to be in uniform distribution, with the number 3 is middle value.

The factors designed to confirm prerequisite questions ② are in the following pair of optional questions: ① The “principle” courses improved my ability and spirit of innovation; ② I want very much to know how the Communists innovate. If students chosen 5 that is complete consistence for the question ①, then it confirms they really want to reform “principle” courses according to the requirement of cultivating innovation quality and improving innovation ability. If one students chosen 1 that means no consistence, then the survey result related ② shows his or her unwillingness to reform the courses according to the requirement of cultivating innovation quality and improving innovation ability. It can also be tested whether it is a serious answer. If these answers contradict each other, it indicates that the questionnaire data gathered is not reliable, and the questionnaire should be counted ineffective. On the other hand, if these answers support each other, or explain each other, it indicates that the questionnaire data gathered is quite reliable, and high quality questionnaire will breed quality analysis.

Other complementary factors to analyze are in the following pair of optional questions: ① Learning communist innovative model gave me the sense, the will and the method of innovation; ② Learning communist innovative model benefits our innovation and entrepreneurship. When the complementary data analysis shows details for the dominant majority demands communist innovative model, then the expectation ③ is to be verified. That is, the majority sophomore students are not only game-like innovators, but also learners of communist innovative models. What’s more, these questions can prove there is little significant gender difference, which means practical use for the supply-side structural reform of the courses.

3. Research Process

3.1 Sophomore Survey Process

To make sure of the survey result is countable. Subjects are all restricted in sophomore students taking my “principle” course, and the survey questionnaire is delivered to every student as an exercise, though by random sampling. Among my almost 500 random, more than 300 students finished the questionnaire. The survey is conducted online, makes use of the free function offered by Questionnaire Star platform, to gather data. Then, the survey questionnaire is displayed to each sophomore student formally on the website “<https://www.wjx.cn/jq/21954310.aspx>”, which is 24 hours available freely for all target subjects to answer. And then the software IBM SPSS is applied to find data-driven decision, considering that the IBM SPSS (Statistical Product and Service Solutions) is not required to explain its formulation or algorithm.

At the end of survey, 364 effective questionnaires have been gathered, with 100% questionnaire’s response rate, counting out the ones missed any prerequisite or optional questions. In light of questionnaire effectiveness is affected mainly by subject’s attitude answering the questions, the lest time consumed questionnaires are rejected, and then build a questionnaire database of 300 samples by means of random sampling. These rejected ones are all fulfilled in no more than 90 seconds, and some of them are found out ticked the same number, without careful consideration of the question options in

questionnaire online.

3.2 Survey Data Analysis

The data analysis is mainly via the methods of descriptive statistics, independent sample T-test and comparing, focusing on 3 groups: the gender group, the innovator group and the game group to be analyzed respectively.

3.2.1 Gender Group Survey Data Analysis

By descriptive statistics, among the gender group there are 130 female subjects, 43.3%, and 170 male subjects, 56.7%, processed by CROSSTABS tool provided by the IBM SPSS software, we get data calculated as “Table 2” bellow.

It shows clearly: in the male group, those want to cultivate innovation quality and improve innovation ability are 158 among 170 male freshmen, makes 93%; and in the female group, 124 among 130 female freshmen (95%). Both gender freshmen want to cultivate innovation quality and improve innovation ability are 281 among 300 students that is 94%, which makes no significant difference to 93% or 95%. So the gender group survey data analysis obviously proves the expectation ① All sophomore students want “principle” course be reformed by innovation education, without significant gender difference. Though not all, but we can conclude that the majority of sophomore student, that is more than 90%, want the “principle” course be reformed by innovation education, which means improve the innovation spirit and enhance the innovation ability. This is confirmed by the fact that 20% students chose half consistence, 48.3% chose main consistence and 26.7% chose complete consistence to “I want very much to know how the Communists innovate”. It is obvious that the “principle” course is all about Communists, namely their practice and theory, “principle” itself is the innovation fruit of Communists. So Communist innovative models are logically in line with sophomore students’ learning demands. And “principle” innovative models are all Communist innovative models, because “principle” itself is co-created by Communists in the revolutionary history. Here we can contend that the “principle” innovative models hence, should become teaching resources through the supply-side structural reform.

Table 2. Gender Group Survey Data

①What is your gender?			②Do you want to cultivate innovation quality and improve innovation ability?		Total
			Yes	No	
Male	③Have you ever tried the game?	Yes	75	4	79
		No	83	8	91
Total			158	12	170
Female	③Have you ever tried the game?	Yes	45	1	46
		No	79	5	84
Total			124	6	130
Both gender	③Have you ever tried the game?	Yes	120	5	125
		No	162	13	175
Total			281	18	300

By contrast, quite less than half students, that is only 12.7%, chose complete consistence to “The ‘principle’ course improved my ability and spirit of innovation”. This indicates apparently that so far the absence of Communist innovate models reduces the effectiveness of innovation education in the “principle” course. These answers from two aspects don’t contradict, but explain for each other.

3.2.2 Innovator Group Survey Data Analysis

Bar Figure 1 as follows, exemplifies that among the innovator group, the answers of main consistence or complete consistence to “Learning communist innovative model gave me the sense, the will and the method of innovation” are in high consistence with “Learning communist innovative model benefits our innovation and entrepreneurship”. This means that the majority of sophomore students approve “Learning communist innovative model benefits our innovation and entrepreneurship”, and probably require the curriculum design emphasize the sense, the will and the method of innovation.

What’s more, this complements the reliability of the survey result that the Communist innovative models should become the teaching resources of innovation. Here we can conclude: the innovation learning demands of sophomore student are displayed quite clear, that is applying the will, sense and method of communist innovative model to serve the education of innovation and entrepreneurship. This innovation learning demands is of the sophomore students’ most concern, since almost all sophomore students obviously want the “principle” course be reformed by combining innovation education. So here a conclusion can be drawn about the innovator group survey data analysis: the complementary data analysis manifests apparently that the dominant majority innovators of sophomore students have the learning demand for the communist innovative model. The communist innovative model education would be the indispensable choice of teaching resources in the curriculum design of “principle” course, considering the major learning demand.

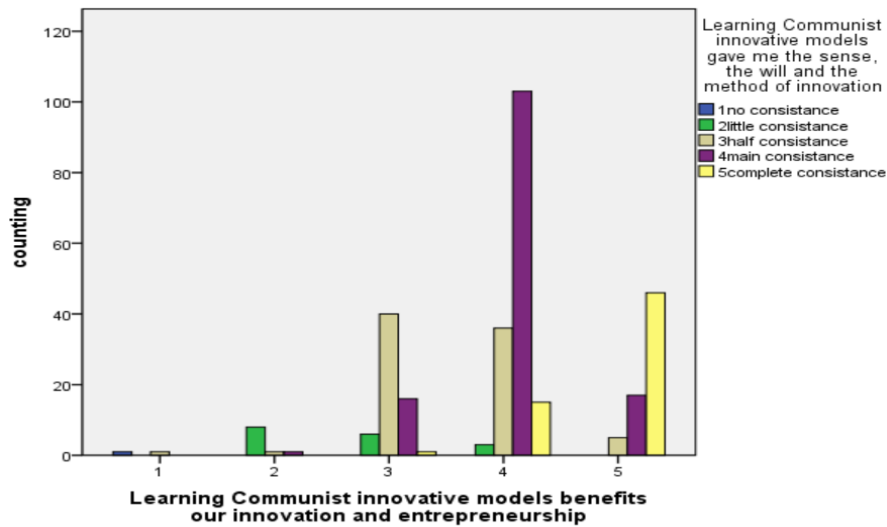


Figure 1. Innovator Group Survey Data

Innovation education emphasizes the cultivation of innovative will, sense and method. In the light of the supply-side structural reform of ideological and political courses, the communist innovative models of “principle” course must be involved in the teaching resources for students to learn. Speaking from the educator’s aspect, students must be demanded to master the innovative will, sense and method of communist innovative model. Since “students will understand what is expected of them during the course”. As to the students interested in innovation, meanwhile are expected to do their own learning of the communist innovative models, so that they can improve innovative ability and entrepreneurship by combining personal demands. Because the communist innovative models have their respective characteristics concerning all kinds of innovation, can then get learners involved deeply. And increased student involvement nurtures them to feel responsible for their own learning and innovation, and then they may be more willing to make use of what learned.

3.2.3 Game Group Survey Data Analysis

It is easily observed in above “Table 2”, that the group of male innovators have 75 out of 158 tried the game (47%), and the group of female innovators have 45 out of 124 tried the game (36%). Although the rates of 47% and of 36% are both unexpectedly low, 36% is obviously less than 47%, proves partly the expectation ②. The female innovators are more likely game-untried, and may be less willing to reform the homework by game. But this happens in lack of communist innovative model.

In past, the female innovators did not try the game, but in the future, with providing communist innovative models as the teaching resources, they may become more and more game-like. It is also possible for the communist innovative models to make the female innovators become more game-like than the male group. In terms of the game group, we get statistics targeting the most popular form providing communist innovative models shown as **Figure 2**.

YOUR GENDER:		N	Mean	Std. Deviation	Std. Error Mean
Gameplay teaching is most popular with students	Male	170	3.66	.917	.070
	Female	130	3.72	.828	.073

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Gameplay teaching is most popular with students	Equal variances assumed	3.900	.049	-.552	298	.582	-.057	.103	-.258	.145
	Equal variances not assumed			-.559	289.860	.576	-.057	.101	-.256	.142

Figure 2. Gamer Group Survey Data

Figure 2 displays that the majority have no significant difference in demanding gameplay teaching, between male and female innovators, because the Sig. Data 0.582 is bigger than 0.05 at 95% Confidence Interval of the Difference. The above expectation ③ is then tested true. That is the majority sophomore students are game-like innovators without significant gender difference, under the condition of providing “communist innovative model”. And because “Learning communist innovative model gave me the sense, the will and the method of innovation” are of high coincidence, complement survey reliability. Here the innovation learning demands are displayed quite clear, that is applying the will, sense and method of communist innovative model as teaching resources, especially in the form of gameplay teaching.

Just like American youth patterned his life upon Benjamin Franklin, we Chinese youth can have pilgrims of communist innovative model, to master the will, sense and method of innovation. However till now, the absence of Communist innovate models in “principle” course reduces the education effectiveness of the ideological and political courses.

4. Discussion

Observed clearly is that these questionnaire answers don’t contradict each other but support each other, proves the survey’s reliability. Based on the above analysis, the 3 expectations are all verified. Conclusion can be drawn that in terms of the sophomore students’ learning demands for the “principle” courses, the majority sophomore students under survey obviously demand communist innovative model presented in the form of gameplay teaching. The data exemplifies that there was no significant difference between male and female sophomore students in demanding the teaching resource of communist innovative model or in demanding the teaching form of gameplay. The Communist innovative model education in the form of gameplay is an answer to sophomore students’ learning demands, by combining innovation education and gameplay teaching. Because the majority sophomore students are game-like innovators without significant gender difference, and the majority sophomore students demand communist innovative model teaching resources presented in the form of gameplay teaching. Hence, in our class mixed with male and female, the communist innovative model teaching

resources are doomed to be quite welcomed by sophomore students, while provided in gameplay teaching form. Besides, the game-trying ones are found the minority, this reduces the effectiveness of innovation education. This makes it urgent to combine the communist innovative model teaching resources with the gameplay teaching form. If the “principle” innovative model resources were to be involved more in the curriculum, further factors can be analyzed specifically, such as factors concerning innovation methods, innovation spirit and will. Then a curriculum of theoretical courses based on practical ones might be constructed with systematic contents to meet the sophomore students’ innovation learning demands of the “principle” course.

Acknowledgment

Thanks to Zhaoqing University. This project was supported by National Education Science Program Project: “Principle” Innovative Model Five Dimensions Teaching Mode Pre- and Post- test Multiple Quasi- Experiments.

References

- Freeman, C. (2006). The Relationship Between Creativity and Technology. *Research Policy*, 23(5), 60.
- IBM SPSS. (2020). *Statistical Product and Service Solutions, 2020-2-20* [EB/OL]. Retrieved from <https://baike.baidu.com/item/spss/2351375>
- Luo, Q. (2018). On the Systematic Functions of Innovation Knowledge in Marxist Innovation Education. In *A Conference: 2017 2nd International Seminar on Education Innovation and Economic Management (SEIEM2017) January 2018*. <https://doi.org/10.2991/seiem-17.2018.14>
- Steven, B. (2019). Oppenheimer, Motivating College Students: Evidence from 20 Years of Anonymous Student Evaluations. *Higher Education Research*, 4(2), 42-45. <https://doi.org/10.11648/j.her.20190402.14>
- Tam, M. (2014). Outcomes-based approach to quality assessment and curriculum improvement in higher education. *Quality Assurance in Education*, 22(2), 158-168. <https://doi.org/10.1108/QAE-09-2011-0059>