

## ESTIMATION OF THE RELATIONSHIP QUALITY BETWEEN TEACHERS AND STUDENTS

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*Received 19/7/2018, Peer-reviewed 07/9/2018, Accepted for publication 03/10/2018*

### ABSTRACT

*The Relationship Quality between teachers and students plays an important role in educational activities and also affect the emotions and behaviors among them. This article proposes a model with five levels to estimate the Relationship Quality between Teachers and Students based on two following aspects: (1) Identify the agents of the Relationship Quality; (2) The results of the Relationship Quality. In particular, the research will be performed in two phases: Qualitative research through group discussion and Quantitative research based on a survey questionnaires. Therefore, the survey data will be processed using SPSS 20.0 and Amos 20.0 software, in which there will be the participation of many students at Ho Chi Minh City University of Technology. For the effective estimation, the research model will be verified using a structure equation model. The results will show that the Relationship Quality actually affects the overall satisfaction of students, in which factors of “teaching capacity”, “interaction”, “motivation” and “syllabi” have positive effects on the relationship between teachers and students. In addition, the relationship between concepts related to the factors has a difference between groups of sex and school years.*

**Keywords:** *Relationship quality; Student satisfaction; Teachers and students; Qualitative research; Quantitative research.*

### 1. INTRODUCTION

University education is always a matter of the first top social concern in Vietnam. Therefore, in order to improve the quality of training, the university not only improves training programs, but also need to invest facilities to support teaching and studying. The university will be increasingly interested in the quality of training services and the relationship between Teachers and Students (TaS). The Relationship Quality (RQ) between TaS plays an important role for students' satisfaction [1-4] and it means that if RQ between TaS is good, the quality of teaching and learning is positive. For this reason, the heart of a classroom may be RQ, so it may bring students' satisfaction. It is obvious that the positive relationship of students to teachers will affect their grades, academic achievements and satisfaction. Inversely, the negative relationship of one teacher to students will be able to negatively

affect their job satisfaction and happiness [5]. Therefore, in this research, RQ and its model will be focused on testing students' satisfaction at Ho Chi Minh City University of Technology (HUTECH).

RQ between TaS is an important part which brings TaS funs in the educational environment. In addition, RQ between TaS at a high level is believed that it creates a good learning environment and is very beneficial for teaching and learning. To university teachers, RQ has a profound correlation to their job satisfaction and also it can reduce stress up to low levels [4-5]. For relating to students, RQ between TaS is very important because it will affect their learning process. Therefore, it will affect learning results, commitment, and satisfaction of students [6].

RQ between TaS is defined as the level of positive perception about the relationship among them. In this relationship, TaS shows the level of interest, togetherness, respect and

the happy state when talking about each other [7]. Moreover, it represents the satisfaction of the existing relationship between two sides. Thus, RQ between TaS has a positive impact on both teachers and students and it means that a good relationship to students can give the positive level of the job satisfaction and the increased happiness. A positive relationship to teachers can contribute to create positive feelings for students during the learning process as well as improving the quality of teaching and learning.

In relation in RQ, two issues need to be considered as follows: (1) Factors affecting RQ; (2) Results of RQ [8]. In practice, RQ between TaS can be affected by many factors, such as interaction, the value of the course, learning motivation, learning environment, interest to students, teaching capacity and others. In 1999, Young presented a study of RQ between TaS in the United States [9]. After analyzing data from 912 students, the research results showed that RQ between TS was positively impacted by the value of the course, learning motivation, learning environment, course organization, interaction to students and interest to them.

In 2013, the practical study of the interaction between TaS, Penning discovered that each interaction characteristic between TaS affected their relationship [10]. It is obvious that this interaction can have a negative or positive effect on the relationship and so the correlation related to this relationship tends to be the same direction. By synthesizing previous studies, Hagenauer argued that the general satisfaction of TaS is related to the achieved results of building RQ between TS [11]. In addition, Hagenauer said that the interaction was one of the most important factors that affected RQ.

In 2015, Suarman showed research about RQ between teachers and master students at Riau University [3]. The result in the research suggested that RQ between teachers and learners was influenced by teaching capacity, learning motivation, lectures and

syllabi. In practice, the result of RQ in this research made the satisfaction of students at this university.

## 2. METHOD AND MODEL

RQ and TaS plays an important role in the educational development of universities. Therefore, choosing models for estimation related to factors of RQ and TaS has attracted researchers in recent years. In particular, researchers agree that teaching capacity, interaction, learning motivation, syllabi may be positive influence on RQ between TaS. It means that if teachers have a good teaching capacity, RQ between TaS will tend to be improved. Based on the researches, one model is proposed to apply for the estimation of RQ between TaS at HUTECH.

In many previous research works, teaching capacity, interaction, learning motivation and syllabi positively affect on RQ between TaS. In particular, teaching capacity was investigated and it is one of the factors related to RQ between TaS [3-4].

- H1: teaching capacity has a positive impact on RQ between TaS.

In another research, authors suggested that if teachers regularly interact or facilitate students' interaction well, they will feel positively about the relationship [3-4, 10-11]. In addition, although Suarman did not mention RQ in his research, it is an important issue to be considered in the next research.

- H2: Interaction affects positively RQ between TaS.

With many different arguments, researchers said that studying motivation, that teachers created for students, is one of the important factors affecting RQ between TaS. In accordance with this, if teachers motivate students to learn more positively, RQ between TS tends to be better [3-4].

- H3: Learning motivation positively impacting on RQ between TaS.

If each course is well-designed and it will be useful for students, they will feel more interested in learning. Therefore, their

perception about the relationship to teachers during teaching and learning is better [3-4].

- H4: Syllabi positively impacting on RQ between TaS.

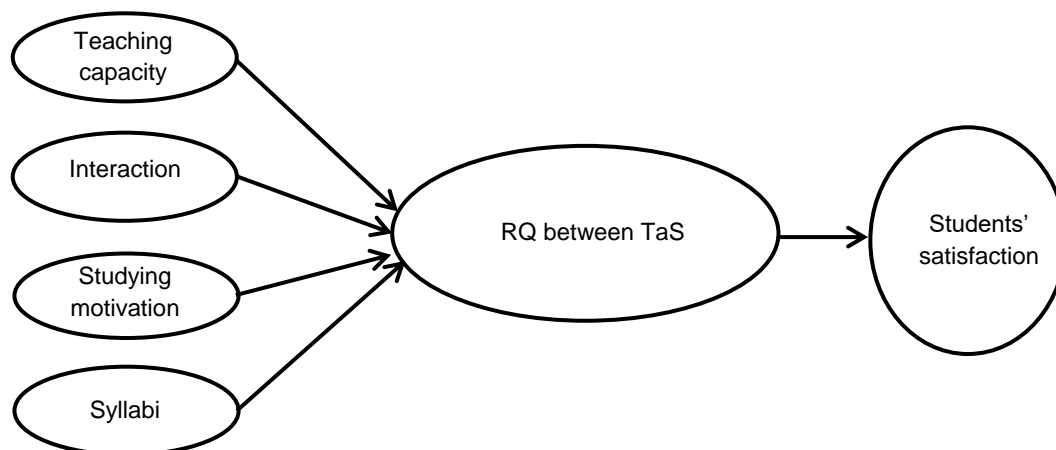
When students' satisfaction is cared, researchers always find factors that affect satisfaction. In accordance with this, in the educational environment, students' satisfaction is the result of achievement from building good relationship between TaS [3, 12-13]. If the relationship between TaS is good, students will tend to be more satisfied with their university. Thus, the relationship between TaS is the important issue which has been confirmed through many researches in recent years.

In 1999, Guolla undertook research on students' satisfaction related to RQ [12]. The research results showed that RQ between TaS is one of the factors that positively influence students' general satisfaction. Moreover, the research was performed on students' satisfaction at Malaysian private universities and it showed that RQ between TaS is one of the most influential factors for

students' satisfaction. At the same time, one research was conducted on students' satisfaction in Malaysia. Based on the results of study, the authors determined that there is a positive relationship in RQ between TaS and students' satisfaction. Thus, is the relationship of TaS is better, students will feel more satisfied about their university. Research of Siming is that it was performed on the relationship between students' satisfaction in China including the following factors [13]: (1) RQ between TaS; (2) Teachers' preparation; (3) Service and facility; (4) studying experience of students. The results were confirmed that the students' satisfaction was strongly influenced by RQ between TaS.

- H5: RQ between TaS positively affecting on students' satisfaction.

From synthesis and analysis of previous researches, the model in this paper is proposed and will be applied for estimation of RQ and TaS based on student and teacher surveys at HUTECH in Vietnam as shown in Figure 1.



**Figure 1.** Model for RQ between TaS

Scales in the research model was investigated by previous authors for estimation [15]. In particular, the author proved the relationship of the scales such as “teaching capacity”, “interaction”, “learning motivation”, “RQ between TS”. While the

scale of “syllabi” and “student satisfaction” were investigated by other authors [14, 16]. To measure for research concepts in this paper, the Likert scale with five levels will be applied for estimation, in which it is assigned from Level-1: completely disagree until Level-5: completely agree.

In this article, the combination of two following methods will be employed for estimation of RQ and TaS: (1) Qualitative Research (QliR) and (2) Quantitative Research (QtiR). In particular, QliR is worked out through the group discussions with 15 undergraduate students at HUTECH, in which words for observational variables are adjusted to be suitable for HUTECH students. Therefore, QliR aims to correct scales by adding or taking away observational variables to be suitable for the educational environment with not only at HUTECH, but also at other universities in Vietnam. While QtiR is conducted by direct interview techniques using questionnaires. In particular, the questionnaires consisted of 31 observational variables related to 6 following concepts: teaching capacity (4 variables), interaction (5 variables), learning motivation (6 variables), syllabi (7 variables), RQ between TaS (5 variables) and general satisfaction of students (4 variables). In order to perform these questionnaires, subjects were students in all four school years and the questionnaires were designed using the convenient method. In accordance with this, 500 questionnaires were distributed to students and 434 valid questionnaires were obtained.

Scales in this model are estimated for high reliability, analysis of discoverable factors, and analysis of assertive factors. Therefore, the research model is validated by the Structural Equation Model (SEM). In addition, the multi-dimensional analysis is applied to test the difference between sex and school years.

### 3. RESULTS AND DISCUSSIONS

After estimating the reliability of the scales, the exploring factor analysis showed that five observational variables were excluded due to being inadequate for scale reliability and validity. After eliminating these variables, the remaining scales met conditions and Cronbach's alpha coefficients and they are greater than 0.7. Therefore, the observational variables are valid for factor

analysis and the analysis results are described as in Table 1.

**Table 1. Results of analyzed factors**

Observational variable	Factors					
	1	2	3	4	5	6
MH7	0.774					0.239
MH4	0.745			0.230		
MH6	0.742		0.224			
MH5	0.725				0.257	
MH1	0.662					
MH2	0.652					
DL6		0.815				
DL4		0.797			0.202	
DL5		0.775				
DL1		0.766				
NL1			0.793		0.200	
NL2			0.759			
NL3			0.738		0.201	
NL4			0.694		0.212	0.248
TT5				0.791		
TT2				0.768		
TT3			0.216	0.753		
TT1				0.742		
HL1					0.819	
HL2		0.237			0.725	
HL3			0.243		0.722	
HL4					0.717	
CL1						0.778
CL3			0.208			0.753
CL2		0.207				0.734
CL4			0.206	0.239		0.676
<b>Eigenvalue</b>	8.049	2.552	2.054	1.661	1.483	1.245
<b>Total variance</b>	12.905	23.634	34.341	44.821	55.289	65.552

The results of the CFA analysis in this research showed that Chi-square/df = 1.811 (<2), GFI = 0.914 (> 0.9), TLI = 0.947 (> 0.9), CFI = 0.954, RMSEA = 0.043 (< 0.08). Therefore, it can be asserted that the model achieved in this case and may be the compatibility to the market data.

The reliability of the synthesis and the total variance from six concepts is greater than 0.5, as shown in Table 2. In addition, the Cronbach's Alpha coefficients are greater than 0.7 as in Table 1. Thus, the concepts of research are credible and assure the intrinsic consistency of the observed set of observations.

In this research, the result of the model analysis with the SEM shows that data as shown in Figure 2 is suitable. This figure shows variables and parameters which is obtained by running the program.

Table 2. Estimation of scale reliability of the concepts in the model

Scale	Synthesis reliability ( $p_c$ )	Variance sum ( $p_{vc}$ )	reliability ( $\alpha$ )
Teaching capacity	0.845	0.557	0.844
Interaction	0.832	0.553	0.831
Studying motivation	0.843	0.575	0.838
Syllabi	0.819	0.602	0.830
RQ between TS	0.836	0.563	0.831
Satisfaction of students	0.832	0.554	0.830

Chi-square= 572.470; df= 288 ; P= .000;  
 Chi-square/df = 1.988;  
 GFI= .907; TLI = .936; CFI = .943;  
 RMSEA= .048

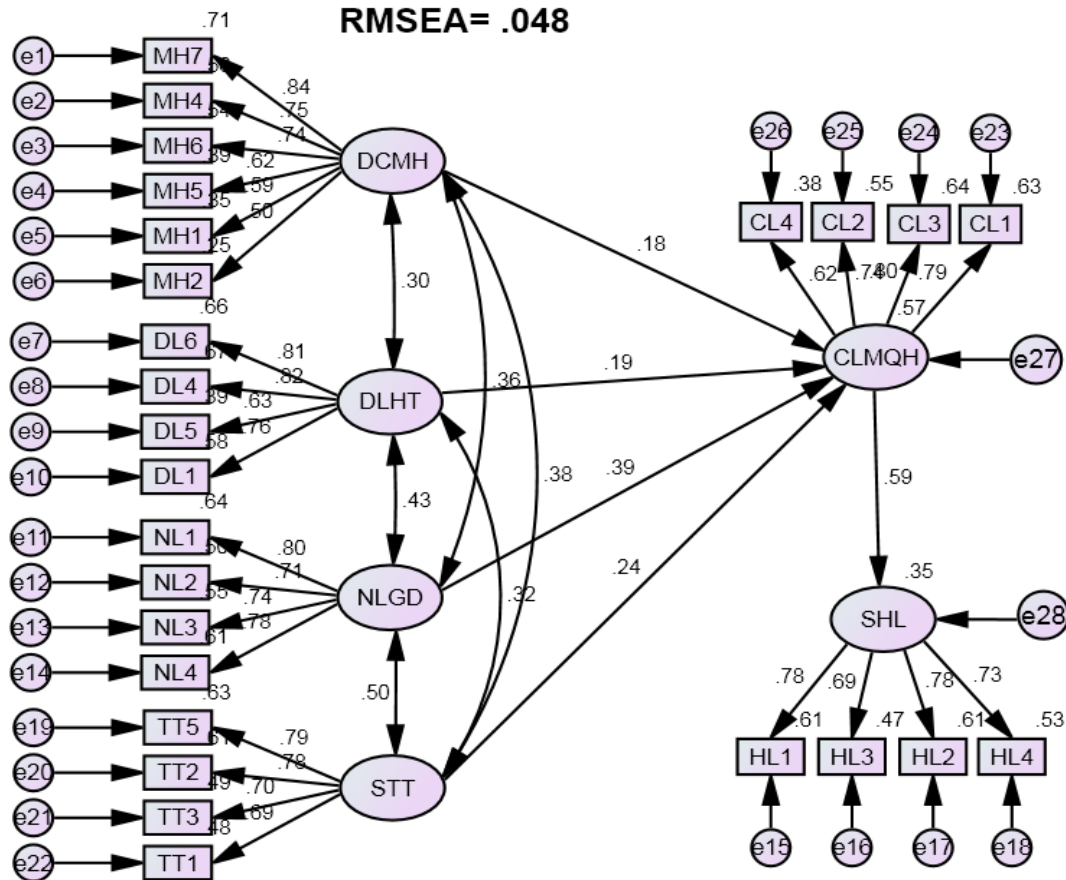


Figure 2. Structural equation model of RQ between TaS obtained from the simulation result

The research results confirm that all four factors such as teaching capacity, interaction, learning motivation and syllabi affect RQ between TaS in HUTECH. It means that the positive relationship between RQ and TS and students' satisfaction at HUTECH is actually significant in statistic research as shown in Table 3.

**Table 3.** *Weights are not normalized in the model yet*

Relationship		Est.	S.E	C.R	P-value
RQ	← Teaching capacity	0.161	0.043	3.793	0.000
RQ	← Interaction	0.165	0.044	3.749	0.000
RQ	← Studying motivation	0.341	0.052	6.584	0.000
RQ	← Syllabi	0.236	0.054	4.343	0.000
Satisfaction	← RQ and TaS	0.527	0.052	10.197	0.000

In addition, the results of the SEM analysis as described in Figure 2 show that in

**Table 4.** *The difference between invariable and variable models of sex*

Mode	Chi-square	df	p	Chi-square/df	GFI	TLI	CFI	RMSEA
Invariable	912.587	581	0.000	1.571	0.863	0.926	0.934	0.036
Variable	899.728	576	0.000	1.562	0.865	0.927	0.936	0.036
Difference	12.859	5	0.000	0.009	0.002	0.001	0.002	0.000
Chidist	0.025							

When considering the difference in the school years, the results of the multiple-group analysis show different. In particular, students in the first and second years do not think that the syllabi will affect RQ between them and teachers. While, for students in the third and fourth years, RQ between them and teachers is influenced by four above factors.

**Table 5.** *The difference between invariable and variable models of school years*

Mode	Chi-square	Df	p	Chi-square/df	GFI	TLI	CFI	RMSEA
Invariable	907.874	581	0.000	1.563	0.864	0.929	0.936	0.036
Variable	892.963	576	0.000	1.550	0.865	0.930	0.938	0.036
Difference	14.911	5	0.000	0.013	0.001	0.001	0.002	0.000
Chidist	0.011							

four factors affecting RQ between TaS in HUTECH, teaching capacity most strongly affects RQ and TaS, next to the factors in order are interaction, learning motivation and syllabi.

As results of the analysis with many different groups as described in Table 4, there is difference in the relationship between concepts of sex group. In particular, for female students, all four factors affect RQ between TaS and they actually affect the general satisfaction of the female students. Meanwhile, for male students, in four factors considered about RQ between the teachers and the male students, learning motivation and syllabi are not affected much. In addition, while the female students think that teaching capacity is the strongest effect factor to RQ between TaS, the male students mean that the interaction between TaS is the strongest effect one to RQ between TaS.

When considering the level of impacts, students in the first and second years mean that teaching capacity is the strongest influence on RQ between TaS. Meanwhile, interaction is the strongest influence factor on RQ between TaS in the third and fourth years.

This research shows that results were performed to estimate the main agents and results of RQ between TaS at HUTECH. In practice, the research results show that RQ between TaS actually affects students' satisfaction. In addition, four factors have been confirmed to positively affect RQ between TaS as follows: (1) teacher capacity, (2) interaction, (3) learning motivation and (4) syllabi. Therefore, to enhance the general satisfaction of students, the managers of HUTECH should pay attention and support teachers in building positive relationships to students. Moreover, the agents should be impacted positively so that RQ between TaS is enhanced better.

In relation with building and developing the relationship between TaS, the relationship is the impact of not only TaS, but also university. In the teaching process, teachers do not have much time to support students when they need help. Therefore, the university can arrange locations and schedules so that each teacher can meet students for help on working time for each week. Thus, when students need advice or support, they can go to the fixed locations and time to be able to discuss teachers. On the other hand, for meeting friendly, exchanging comfortably and support enthusiastically between TaS, working time of teachers should be considered as teaching time. In addition, the university should create a comfortable working environment to be able to reduce tension and this can help teachers feel comfortably, peace of mind to perform their teaching well.

In improving teaching capacity, teachers need to always improve and update their knowledge. In addition, teachers need to carefully prepare lectures and it is important that the effective communication of their knowledge to students must be actually focused on and centralized in any class. Teaching capacity is only recognized when students well understand what their teacher teaches and then they can apply that knowledge in practice. It means that a well-

rounded knowledge and communication to easily understand will make students feel more enjoyable.

In regular and effective interaction, activities in the classroom are essential for both teachers and students. Therefore, for these activities to be effective, teachers need to focus on the number of interactions in each lesson and the quality of each interaction. In addition, teachers should regularly hold discussions, encourage students to participate in the interaction as well as have care and share to them. For these interactive activities with quality worked out regularly, it is required managers to create favorable conditions for teachers. University managers need to arrange the number of students for each class suitably so that the interaction can be better. In addition, the university needs to invest appropriate facilities, moderate classrooms with full equipment such as projectors, good furniture and cool classrooms and others. This investigation will be good a support for TaS during teaching and learning related to interactive activities such as presentations, group discussions, etc.

In encouraging students to actively study, teachers can create motivation by showing a suitable assessment method for each subject to stimulate learning. In particular, the assessment has an attractive bonus for students with enthusiastic participation and is fair. Moreover, it is important that teachers need to introduce interesting and the important problems of the subject related to career to students so that they understand the importance of learning.

In the design of syllabi, syllabus of one course will help the teacher in the orientation of contents related to teaching and students can determine which contents need to be learned. Therefore, the course syllabus should be designed so that lessons or lectures are reasonable and also this avoids overload due to too many contents which teachers are difficult to convey to students with fixed plans. In addition, the syllabus of the course

should be public so that students can easily identify the contents for preparing in advance and make sure that the contents will be taught in class and they are correct with the approved syllabus.

#### **4. CONCLUSION**

The goal of this research is to estimate RQ between TaS based on agents and the obtained results at HUTECH. This model with five levels and HUTECH database in this research showed to illustrate that the results of RQ between TaS play an important role in creating students' general satisfaction and the students' satisfaction may decide their learning results as well as jobs. For improvement of these issues, university managers should need to support teachers in building, nurturing and developing the relationship between TaS better and better. In

addition to building and developing this relationship, it is possible to impact factors that actually affect RQ between TaS such as teaching capacity, the interaction between TaS, learning motivation for students and syllabi. RQ between TaS affects not only TaS, but also the reputation and revenue of HUTECH. Therefore, attention and cultivation for the relationship is not only the teacher's job, but also the mission of the university. Finally, the attention to RQ between TS, as well as the strongest impacts on RQ between TS will help managers to have effective ways for improving student satisfaction.

#### **ACKNOWLEDGMENT**

We would like to thank to HUTECH, Vietnam and students and teachers who supported us during this research.

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