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Quality culture in postgraduate education: student's satisfaction perspectives

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Abstract: Although there is growing interest in quality culture in higher education, it is still relatively new in the field of postgraduate education (PE for short), particularly when it comes to quality culture from the perspective of learners. This study seeks to identify and analyze the aspects of quality culture (QC for short) that influence the quality of PE in Vietnamese universities in terms of learner satisfaction. Our data from a survey of 256 postgraduate students on 5 factors of QC affecting the quality of PE at several Vietnamese universities was analyzed using SPSS 25.0, and the findings were obtained. The research findings reveal that all parts of quality culture have the same effect on graduate education, with academic variables having the greatest impact on the quality of graduate education from the learner's perspective. The research findings will contribute to the current literature on QC in postgraduate education, as well as provide advice for school leaders when developing a quality culture in PE.

Keywords: *Postgraduate education, Quality culture, Students, University, Viet Nam.*

1. Introduction

The quality of a higher education institution includes quality of teaching and learning, scientific research, and community service (Salha & Mohammad, 2010). Wanting to maintain and continuously improve the quality of higher education (HE for short), in addition to technical factors - quality management (mechanisms, policies, processes, and procedures to ensure and improve quality) cannot lack cultural elements related to quality, or in other words: Quality Culture (Jaakko Kujala & Paul Ullrank, 2004).

Graduate education is a growth area of higher education (Ryan, Y., & Zuber-Skerritt, O., 2017), in which quality literature plays an important role in the quality of graduate education. In the context of the increasing number of postgraduate students leading to concerns about the possibility of reducing the quality of education (Cloete *et al.*, 2016; Jansen, 2011), Quality culture (QC) is a decisive factor to university performance (Hilman. *et al.*, 2017). Harvey& Stensaker (2008) concluded that QC strongly determines the quality of teaching in higher education institutions. Empirically, studies have demonstrated the strong influence of QC on teaching and research quality (EUA, 2006; Kowalkiewicz, 2006; Dzimińska *et al*, 2018). Few people dare to deny the importance of QC because of its positive meanings (Bendermacher *et al.*, 2017). Therefore, QC has become a topic of interest for many scholars (Harvey & Stensaker, 2008).

QC is characterized by two distinct elements: i) the first element is a set of values, beliefs, and expectations towards quality; ii) the second element, the management/structure element has quality assurance processes and identified collaborative efforts that result in quality for an organization's operations (EUA, 2006). Bendermacher *et al.*, (2016) believe that two aspects affect QC: "hard" aspects such as quality management, strategy, and processes, and "soft" aspects such as values, beliefs, and commitment… QC can have a subtle impact on the thinking and behavior of those involved in the

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quality of postgraduate education, helping to transform from "hard management" to "soft management", from "focusing on technology", "mechanism" to "focusing on culture", from overlooking the "human" factor to focusing on "people", quality values, quality ethics, and other "soft" factors. Therefore, HE institutions need to create a culture of quality for managers, staff, lecturers, students, and managers by building quality systems and managing the post-training processes of a standardized university. When a QC is formed, it reflects the development, academic traditions, and unique identity of graduate education units.

For the graduate field, research focuses on quality issues in graduate education (Angell, 2008; Zuber-Skerritt, O., & Ryan, Y., 2017; Cloete, 2016). Research by Friedrich-Nel, H., & Mac Kinnon, J. (2017) on QC in doctoral training but from the perspective of establishing the role of the supervisor. Therefore, there is almost no research on QC in PE from the perspective of learners.

What factors does QC in postgraduate education include? How does QC in postgraduate education manifest itself from the learner's perspective? Therefore, a study that indicates which factors of QC impact the level of satisfaction of students with the quality of graduate education at the institutions they attend is urgently needed. This study aims to identify and evaluate the elements of QC that affect the quality of PE in Vietnamese universities from the perspective of learner satisfaction, as a basis for researchers to university leaders who are interested in building a culture of quality, enhancing the position and reputation of the university.

2. Literature Review

2.1. Related Concepts

The term "QC was first mentioned in North America in the early years of the twentieth century, since then many studies have been carried out in Europe, the United States, and some countries in Asia with a strong background in higher education development" (Woods, J. A., 1997; Brown, R., 2004). Most studies suggest that QC is part of organizational culture (Cameron, K., & Sine, W., 1999; Rahnuma, N., 2020). According to the value approach that QC brings to the organization. Ahmed, S. M. (2008) recognizes that QC is an organizational value system, including processes, communicate, act, and make thoughtful decisions to achieve continuous quality development for educational organizations. This perspective is similar to Cameron & Sine (1999) and Ehlers, U.-D., (2009) stating that QC includes not only the values, expectations, behavioral tendencies, and ideologies related to quality but also includes the tools, processes, or technical aspects of quality.

"A QC is nothing if the people who live in it do not own it" (Harvey & Stensaker, 2008). QC can thus become a concept that they can all identify with, regardless of their field of study (Christine Hildesheim & Karlheinz Sonntag, 2019). There is a growing consensus that an organizational culture for quality requires a more comprehensive approach, in which quality systems and tools, individual and collective competencies, and values are incorporated into an overarching concept called QC (Ehlers U. D., 2009). "There are many definitions of QC and up to now it has been difficult to find a unified definition for this concept" (Hildesheim, C., & Sonntag, K., 2019). However, "the EUA 2006 definition of QC is still the most widely used, briefly" (Figure 1).

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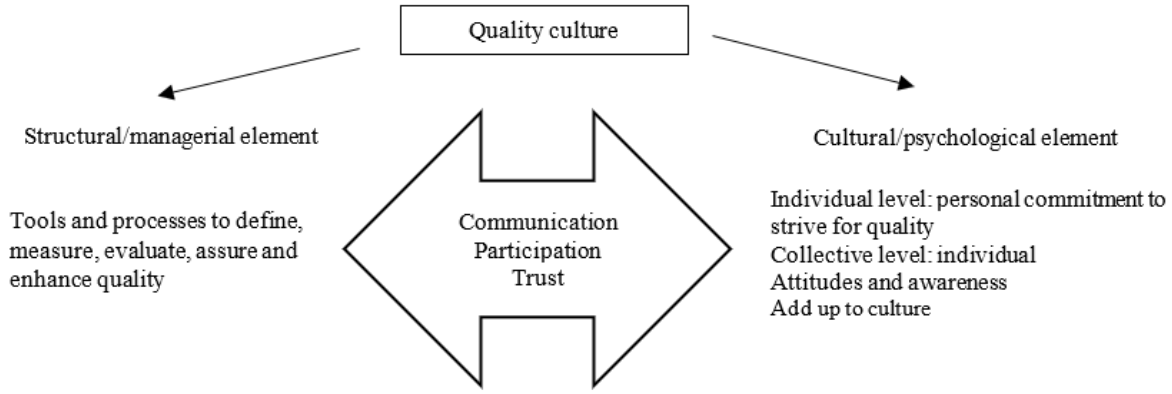

Figure 1.
Elements of a quality culture (Adapted from EUA 2010, p. 17).

Based on the QC model of EUA 2006, QC is a system of established standards, values, and beliefs, with high consensus and consensus of all members of the universities to aim for QE.

2.2. Quality of PE

PE is a form of education for students to continue studying and researching further after graduating from university, including master's training and doctoral training, but it also includes certificates and degrees that are taught to more academically demanding standards than university certificates and degrees (Postgraduate education, 2020). According to the comprehensive quality perspective, the quality of postgraduate education includes not only the quality of educational products or services but also the quality of key factors affecting quality. For example: teacher quality, research quality, course quality, infrastructure quality, and academic environment. From the perspective of the training process, the quality of postgraduate training can be divided into the quality of input resources, the quality of the training process, and the quality of output results and context (Béatrice Boufoy-Bastick, 2014).
According to Zhao (2003), "student satisfaction is satisfaction with course quality, instructor interaction and collaboration between colleagues as well as with support services. Student satisfaction has become a central university objective and is used to develop a culture of continuous quality improvement" (William, J., 2013). Therefore, the quality of PE from the perspective of learners in the article is satisfaction.

2.3. Studies Related to QC

Harvey and Stensaker (2008) posit that "the adoption of a QC in HE environments needs to be done with caution. Their main conclusion is that QC can above all be a tool for asking questions about how organizations operate, who they involve, and how they see themselves". Similarly, Lanarès (2008) proposes a way to track the development of QC through two levels: Perception (what people say) and Action (what people do) at the individual and collective level.

Yorke (2000) notes that "a QC within an organization has been created to address the needs of all stakeholders and has clear, effective mechanisms in place to support all employees of the organization". That organization strives to achieve commitment and continuous improvement in quality. Vettori et al. (2007) argue that "the QC promoted by EUA (EUA, 2006, 2005) is different from traditional quality assurance strategies in that it devotes more attention to development-oriented aspects development and value-based while noting that the historical, political, and social characteristics of a QC greatly influence the quality assurance system".

Unlike quality management which focuses on things or processes, QC is people-centered, focusing on instilling in people awareness and developing quality habits. Therefore, many studies have emphasized a shared attitude and personal commitment to continuous quality improvement. This is

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because QC also includes the values, beliefs, attitudes, commitments, expectations, agreements, competencies, negotiations, participation, unity, and trust of individuals, teams, and quality stakeholders (Hilman, H. *et al*., 2017; Tuan. *et al*., 2023).

2.4. Studies Related to QC Factors Affecting the Quality of PE

According to Ehlers (2017) "QC includes quality management systems and tools, individual and collective competencies and values combined together". While Ning (2008) adds components of "QC including organizational standards and goals, ethical concepts, innovation awareness, competition awareness, behavior, legal concepts, traditional concepts, organizational systems, and organizational goals". Other studies indicate factors that "influence QC include: environmental and ethical social culture (Gao *et al*., 2012), strategy, policy or mission statement of the organization (Al-Otaibi, 2015), the combination of structure and management with cultural and psychological components" (Dzimińska *et al*., 2018).

From four different QC approaches by Hofstede (1991), Schein (1992), Rüegg-Stürm (2002), Morgan (2002) and based on the European QC model (EUA, 2006), Ehlers (2009) offers a QC model consisting of four components: i) Structure (representing the organization's quality system); ii) Competency (representing individuals and groups), integrating quality mechanisms into culture); iii) QC (representing the expressions, expressions, and rituals of the organization); iv) Linking elements (linking the elements through participation, communication, and trust) and shaping some of the values of QC in the context of organizational culture.

"Many factors affect the quality of postgraduate education, including finance, academics (Bayona-Oré, 2021), entertainment, specialized transfer (Angell *et al*., 2008), translation administrative services, student service activities (El Alfy, S., & Abukari, A., 2019), admission criteria, student characteristics, teaching quality, success, and failure, contributions of students for research and the job market (Rudd, 1984), beliefs, theories, tools, training and time" (Emilsson, U. M., & Johnsson, E. (2007). Also, Hockey (1996) found that "the successful completion of a thesis/dissertation also depends heavily on the ability of the student and supervisor: emotional and psychological problems of learners; lack of knowledge, skills or experience in research methods; lack of interaction between instructors and learners; support for administrative procedures; poor infrastructure and research environment" (Alam, F., Alam, Q., & Rasul, M. G., 2013; Bayona-Oré, 2021; Daniel, 2022). "In addition, there is a constant interaction between "people" (institutions) and "parts" (structures and cultures). These factors combine to influence not only the graduate mentoring activities of the (human) supervisor but also the quality of the PhD output" (Isike, 2018).

Gardner (2010) pointed out "some factors that determine the QC of an educational institution in graduate training, including the reputation and status of that institution, available resources, student quality staff, and the quality of the supervisor". Cloete *et al.* (2015) presented "a framework with seven dimensions of the quality of graduate education including i & ii) students (at entry and exit levels); iii) doctoral program; iv) instructor; v) monitoring process; vi) thesis; and vii) publications based on the thesis". More importantly, the findings show that "these aspects are related to contributing factors to creating a QC in both the educational process and the outcomes from the perspective of the learner". Friedrich-Nel, H., & Mac Kinnon, J. (2017) identified "the doctoral supervisor as having an important role in contributing to a QC". Based on that finding, the need to nurture and develop students' personal and professional characteristics to prepare them to work in an academic environment, effectively manage the supervision process and resolve problems supervisory challenge, to promote a QC and subsequently student success was realized.

Studies have shown that many factors affect the quality of graduate education, including factors related to facilities and finance, academic factors, and field factors in social, cultural and humanistic fields. These are also the elements of QC mentioned in this study.

2.5. Factors Related to Learner Satisfaction

"When considering students as "customers," universities will adopt a more customer-centric approach instead of relying solely on their "product" to sell" (Eagle, L., & Brennan, R., 2007; Angell *et*

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al., 2008; Marzo Navarro *et al*., 2005). "HE institutions consider student satisfaction as one of the key factors in ensuring quality assurance and improving their programs" (O'Driscoll, F., 2012; Parahoo *et al*., 2015). "Student satisfaction plays an important role in attracting new students and retaining current students" (Douglas *et al*., 2006; Thomas, E. H., & Galambos, N., 2004) and has the potential to benefit universities in terms of overall performance and earnings, increasing student employability (Jancey, J., & Burns, S.,2013), enhances school reputation (Eagle, L., & Brennan, R., 2007) and is a commonly used measure in rankings (Gibbons, S., 2015; Wilkins, S., & Huisman, J., 2011). "The quality and effectiveness of teaching and learning are key factors in postgraduate student satisfaction and retention" (NAO, 2007; Carroll et al., 2009; Poon, J. 2019; Munteanu, C., 2010; Fernandes et al., 2013). And "Universities must consider how to support graduate students for success" (Thomas, 2002), including academic, social, and financial support (Arambewela, R., & Hall, J., 2009), "especially in relation to academic factors such as degrees grant reputation; Attractive and highly skilled teachers; access to online resources; willingness to contact scholars; and a supportive application process" (Jancey, J., & Burns, S. (2013). In the same vein, Vauterin et al. (2011) argue that "the quality of education and student satisfaction both depend on core services such as teaching, research and learning and academic services Another factor that contributes to student satisfaction is facilities" (Kärnä and Julin, 2004), (Kärnä. *et al*., 2013; Petruzzellis *et al*., 2006; Hanssen, T. S., & Solvoll, G., 2015). Additionally, "the layout, lighting, classrooms, appearance of buildings and grounds, and overall cleanliness contribute significantly to students' learning attitudes" (Douglas, J., *et al*., 2006; Nguyen, N., & LeBlanc, G., 2001). And "The final factor that creates satisfaction is support, advice and access to information" (Parahoo, S. K., 2015).

2.6. Proposed Research Model

In Vietnam, Le Duc Ngoc *et al* (2012) and Tuan *et al*., (2023) proposed a QC model in HE institutions that is closely linked to quality assurance activities, including 5 environmental components: natural environment, social environment, academic environment, cultural environment and humanistic environment. And Salmi's (2009) confirmed "The model is consistent view of the organizational environments that a higher education institution needs to create to facilitate the development of a QC". This is Vietnamese research, has inherited world research on this issue, is suitable for the Vietnamese context, following the Law on HE No. 43/2018 and the practice of PE in Viet Nam. Therefore, based on the model of Le Duc Ngoc *et al* (2012) and Tuan *et al*., (2023), the following research model is proposed (Figure 2).

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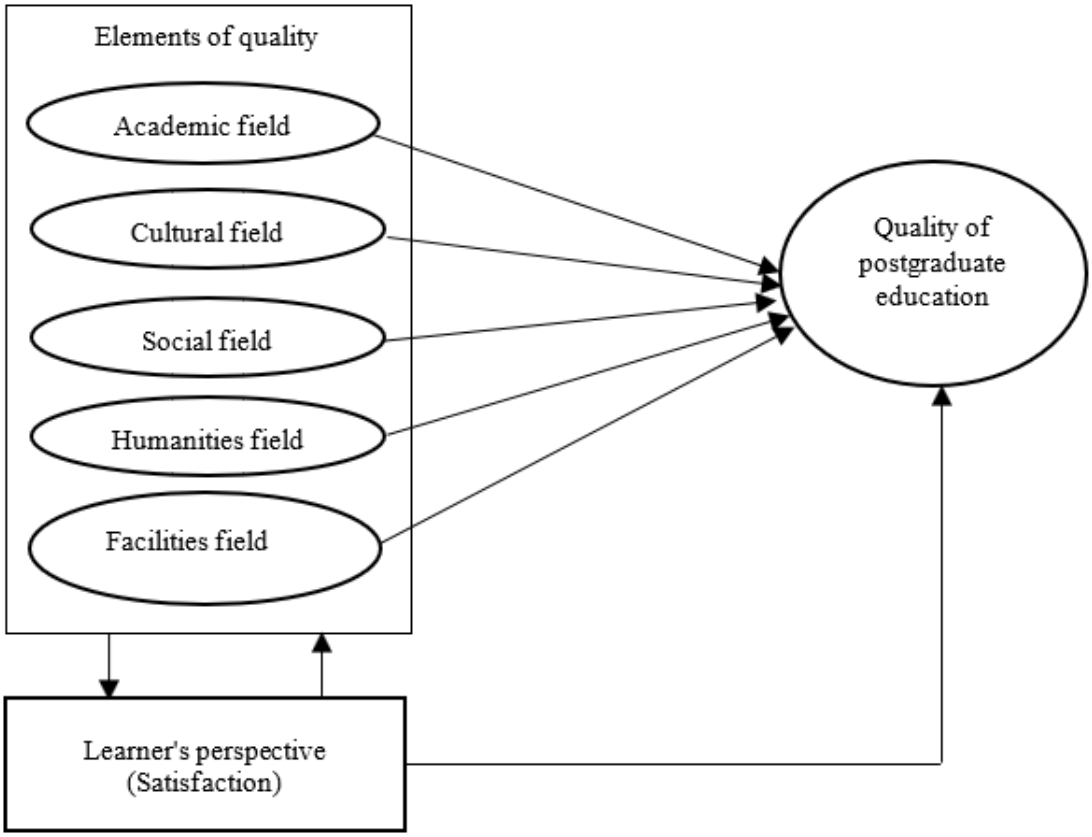

Figure 2.
Research models.

2.7. Research Hypotheses

H_1. The academic field affects the quality of graduate education
H_2. The cultural field has an impact on the quality of graduate education
H_3. The social sector has an impact on the quality of graduate education
H_4. The humanities field influences the quality of graduate education
H_5. The field of facilities affects the quality of postgraduate education

The independent variables identified are Academic field (HT), cultural field (VH), social field (XH), humanities field (NV), and facilities field (CSVC). The dependent variable is the quality of PE.

3. Methodology

The quantitative method with convenience sampling method was used here. An online survey was designed using Google Forms and sent via email to master's and PhD students of 3 universities: Viet Nam National University, Hanoi - University of Education, Hanoi University of Pedagogy No2 and Thai Nguyen University of Education, then the data was analyzed using SPSS version 25.0. The study had two main data collection phases. To minimize possible errors in the questionnaire, a pilot survey was sent to 62 trainees and PhD students in phase one, two items (financial security and dedication of the candidate) were removed and two items were revised after examining exploratory factor analysis (EFA) and reliability (Cronbach's Alpha). All trainees/doctoral students who participated in the pilot survey did not participate in the main survey. The items in the questionnaire were attached to a 5-point Likert scale ranging from 'strongly disagree', 'disagree', 'neutral', 'agree' and 'strongly agree'. The questionnaire has three main parts, the first part asks about the demographic characteristics of respondents, and the second part is built into 5 areas of quality culture: (1) academic field, (2) social field, (3) cultural field, (4) humanities field, (5) facilities field, the third part asks about the level of satisfaction

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with quality culture. 270 students and graduate students participated in the study through a Google Form link. After cleaning the ballots, 256 ballots remained that met the requirements. The total number of votes was 8.8 times the number of items, ensuring reliability (Hair, J. F., & Hair, J. F., 2010). The detailed information is in Table 1.

Table 1.
Demographic information.

Demographic information	N = 256	%
Gender		
Female	145	56.6
Male	111	43.4
Academic year		
<5 years	116	45.3
5-10 years	77	30
>10 years	63	24.7
Level		
PhD	35	13.7
MA	221	86.3

Regarding the field of study: includes students and PhDs in the following fields: Educational Management, Measurement & Evaluation in education, Subject teaching theory and methods.

Table 2.
Reliability test of measurement scales and correlation coefficient.

	Corrected item-total correlation	Cronbach's alpha if item deleted
HT1		
HT2		
HT3		
HT4		
HT5		
HT6	0.638	0.621
	0.605	0.633
	0.596	0.645
	0.559	0.656
	0.228	0.748
	0.150	0.761
		0.859
VH1	0.873	0.776
VH2	0.266	0.909
VH3	0.837	0.786
VH4	0.587	0.854
VH5	0.838	0.784
0.676		
XH1	0.116	0.746
XH2	0.627	0.529
XH3	0.595	0.553
XH4	0.605	0.543
XH5	0.280	0.696

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		0.809
NV1	0.062	0.884
NV2	0.749	0.721
NV3	0.626	0.746
NV4	0.635	0.748
NV5	0.752	0.715
NV6	0.660	0.737
		0.616
CSVC1	0.397	0.545
CSVC2	0.427	0.523
CSVC3	0.471	0.487
CSVC4	0.293	0.617
		0.762
HL1	0.568	0.715
HL2	0.587	0.688
HL3	0.630	0.641

3.1. Reliability Test of Measurement Scales and Correlation Coefficient

The results presented in Table 2 show that: 6 variables were eliminated (HT5, HT6, VH2, XH1, NV1, CSVC4) due to having a total variable correlation coefficient less than 0.3, the remaining scales all had Cronbach's alpha coefficient ranges from over 0.6 to over 0.8 > 0.6, so it can be concluded that the scales are built quite well. These scales will bring reliability to the model and help the influence model be accurately determined. In addition, the smallest total variable correlation coefficient is 0.340 > 0.3, so it meets the requirements to perform further quantitative analysis.

3.2. EFA exploratory Factor Analysis

This study uses the factor extraction method as the principal component with Varimax rotation and eliminates variables with factor loadings less than 0.5.

Table 3.
Rotated Component Matrix[a].

Variables	Component				
	1	2	3	4	5
NV2	0.874				
NV5	0.864				
NV3	0.789				
NV6	0.773				
NV4	0.768				
VH3		0.895			
VH1		0.870			
VH5		0.864			
VH4		0.708			
HT1			0.823		
HT3			0.788		
HT4			0.775		
HT2			0.762		
XH4				0.899	

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XH2				0.883	
XH3				0.838	
CSVC3					0.785
CSVC1					0.719
CSVC2					0.689

EFA test results show that: the KMO coefficient is 0.791 (0.5<KMO<1); Bartlett's test is less than 0.05; Factor Loading is greater than 0.5 and the Eigenvalue of all 5 factors is greater than 1, showing the convergence of the factors. Thus, factor analysis is accepted with the research data set. This shows that there is no need to adjust the proposed research model.

After testing the overall reliability of the instrument, the items were grouped measuring the same construct into the same group, and an average score was calculated for each construct. Specifically, each factor is grouped as follows: HT1, HT3, HT4, and HT2 measure the same construct, grouped into the Academic domain (HTtb). NV2, NV5, NV3, NV6, NV4 are grouped into the field of Humanities (NVtb). XH2, XH3, and XH4 are grouped into the social field (XHtb). VH1, VH3, VH5, VH4 are grouped into the field of Culture (VHtb). CSVC3, CSVC1, CSVC2 are grouped into the Material sector (CSVCtb). The results of EFA analysis in this study show five groups of factors belonging to the independent variable of QC (NV, VH, HT, XH and CSVC), similar to the results in the study of Tuan et al., (2023).

The total variance extracted is 70.99%, greater than 50%, showing that the factor analysis model is appropriate. This result shows that the above 5 factors explain 70.99% of the variation in the data. Analyzing Cronbach's Alpha test results, all components of the scale meet the requirements with Cronbach's Alpha coefficients above 0.6, proving that the scale is appropriate.

4. Findings

4.1. Correlation Analysis

Correlation coefficients were used to examine the relationship between graduate and student satisfaction levels of quality culture in graduate education. All variables have sig values < 0.05, proving that there is a linear relationship between these independent variables and the dependent variable. In which the VH variable has the largest correlation coefficient of 0.649 and the variable with the lowest correlation coefficient is CSVC 0.468.

Table 4.
Descriptive statistics: mean, standard deviations, correlations of the constructs.

	Mean	**SD**	**1**	**2**	**3**	**4**	**5**	**6**
VHCLtb	3.7	0.848	1					
HTtb	3.4	1.076	0.649**	1				
NVtb	4.3	0.709	0.399**	0.200**	1			
XHtb	4.0	0.728	0.251**	0.045	-0.035	1		
VHtb	3.8	1.057	0.574**	0.448**	0.284**	0.158*	1	
CSVCtb	3.6	0.743	0.325**	0.286**	0.134*	0.099	0.196**	1

4.2. Linear Regression Analysis

Linear regression model analysis of least squares estimation was used to determine the impact of QC factors on the quality of graduate education. The standardized coefficient in the regression model is used to determine the contribution rate of each QC factor to satisfaction with the quality of postgraduate education. Detailed results of regression model analysis and calculation of the importance of each factor are presented in Table 5 respectively.

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Table 5.
Anova and coefficients[a].

Anova			Standardized coefficients	Sig.	Collinearity statistics	
F		Sig.	Beta			
78.675	0.000[b]	(Constant)		0.011	Tolerance	VIF
		HTtb	0.452	0.000	0.754	1.327
		NVtb	0.228	0.000	0.901	1.109
		XHtb	0.189	0.000	0.961	1.041
		VHtb	0.258	0.000	0.737	1.357
		CSVCtb	0.096	0.022	0.902	1.109

Multivariate regression is used to explain the factors of quality culture that impact quality culture from the perspective of learners. R2 coefficient = 0.604 > 0.5, which means that about 60.4% of the variance in learner satisfaction is explained by independent variables. F = 78.675 and Value Sig. < 0.05 shows that the multiple linear regression model is suitable for the research model, in which the variables HT, NV, society, culture, and facilities all have an impact on quality culture, no variable has a Sig coefficient. < 0.05. In addition, all variables have VIF coefficients < 2, so multicollinearity does not occur.

The largest contribution is related to the Academic field (β = 0.452), followed by cultural factors (β = 0.258) and the smallest contribution is related to the CSVC field (β = 0.022). The standardized regression coefficient is as follows:

$$Y = 0.452*HTtb + 0.258*VHtb + 0.228*NVtb + 0.189*XHtb + 0.022*CSVCtb + \varepsilon$$

4.3. Hypothesis Testing

From the results of multivariate regression analysis, the research hypotheses are concluded as follows:

Table 6.
Hypothesis testing.

Hypothesis	β	Conclude	The level
H1	0.452	Accept	1
H2	0.189	Accept	4
H3	0.228	Accept	3
H4	0.258	Accept	2
H5	0.96	Accept	5

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Table 7.
Independent samples test.

		Levene's test for equality of variances		T-test for equality of means						
									95% confidence interval of the difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	Lower	Upper
VHCLtb (Gender)	Equal variances assumed	0.977	0.324	0.656	254	0.512	0.07029	0.10710	-0.14063	0.28122
	Equal variances not assumed.			0.663	244.898	0.508	0.07029	0.10602	-0.13854	0.27912
VHCLtb (Education level)	Equal variances assumed	11.429	0.001	1.407	254	0.161	0.21676	0.15403	-0.08657	0.52010
	Equal variances not assumed.			1.122	39.933	0.269	0.21676	0.19317	-0.17368	0.60720

Edelweiss Applied Science and Technology
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4.4. Testing Differences by Education Level, Work Experience and Gender

Testing for differences in educational level (Table 7) shows: Sig. of Levene's Test is 0.001 < 0.05 so use the sig T-Test value in Equal variances not assumed. Specifically, Sig. = 0.269 > 0.05 proves that there is no difference in satisfaction in the perspective of quality culture affecting the post-training quality of trainees and graduate students. Similarly, in testing gender differences, the value Sig. of Levene's Test is 0.324 > 0.05 and Sig. The T-test is 0.58 > 0.05, proving that there is no difference in satisfaction between genders in the perspective of quality culture affecting the graduate quality of students and graduate students. In other words, whether a learner is male or female, a master's degree student or a graduate student, they all have the same tendency to assess their level of satisfaction with the elements of QC that affect the quality of education after university.

The One-way ANOVA test in Table 8 shows that the seniority variable gives the value Sig. Levene's Test is 0.171 > 0.05, proving that the variance of these groups of values is homogeneous. Sig value. in Anova is 0.004 < 0.05, showing that there is an average difference: the more senior the students are in the profession, the more satisfied they are with quality culture in university education (the corresponding Mean value is 3.52 in the lower group); 5 years, is 3.84 in the group from 5-10 years and 3.89 in the group over 10 years.

Table 8.
One-way Anova testing.

	N	Mean	Std. deviation	Sig. (Levene)	Sig. (Anova)
< 5 years	116	3.5201	0.83670	0.171	0.004
5-10 years	77	3.8485	0.89760		
>10 years	63	3.8942	0.74011		
Total	256	3.7109	0.84829		

Table 9.
The level of satisfaction with QC affects the quality of PE from the learner's perspective.

	Mean	SD	1	2	3	4	5
HL1	3.84	0.924	0.8	9.8	17.6	48.0	23.8
HL2	3.73	1.000	0.8	13.7	21.5	40.2	23.8
HL3	3.56	1.065	1.2	19.5	22.3	35.9	21.1
Total	3.71	.99	0.93	14.3	20.4	41.3	22.9

4.5. Level of Satisfaction with the Impact of QC on the Quality of PE

The questionnaire was used to explore the extent to which each element of QC influences the quality of graduate education from the perspective of the learner. The results of this assessment are presented in Table 9 shows that 22.9% of respondents believe that QC has a great impact on the quality of graduate education at the school they attend while 41.3% and 20.4% of them rated its impact to a large and very large extent, respectively. An average of 14.3% said that QC hardly has any impact on the quality of graduate education and 0.93% said that it has no impact at all. The average assessment of the level of impact is quite large, 3.71/5.0 points. In other words, most people are satisfied with the QC at the university they study and research. In this study, the majority of learners were satisfied with the quality of higher education. Thus, this result is similar to the research results of Alam et al (2013) However, the level of satisfaction of the observed variables in the dependent variable is different.

5. Discussion

The present study investigated the elements of QC that influence the quality of graduate education from the learner's perspective. This study provides several important findings:

First, this result supports the findings about elements of QC that influence graduate quality such as academic factors (Jancey, J., & Burns, S., 2013), especially the role of the instructor (Friedrich-Nel, H., & Mac Kinnon, J.,2017; Cloete *et al.*, 2015) and socio-cultural factors (Gao *et al.*, 2012). In addition is support, advice and access to information for learners (Thomas, 2002; Parahoo, S. K., 2015).

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Second, highlight the role and position of elements of QC that affect the quality of PE. First of all, with instructors, quality standards and habits of belief towards quality. The research results show that the role of the instructor (Cloete *et al*., 2015), the issue of autonomy and quality accountability (Tuan, 2024), support and advice for learners in writing these, dissertations and publishing research products are very important (Cloete *et al*., 2015). This research also shows the need to promote the role of supportive learning environments: QC promote respectful and collaborative learning environments. Students feel valued and supported when instructors are approachable, interactive, and willing to assist them (Friedrich-Nel, H., & Mac Kinnon, J.,2017). When learners receive effective feedback from instructors, it helps them know their strengths and weaknesses, thereby creating motivation for them to actively research. Not only that, that learning environment also creates a culture of open communication, encouraging learners to be willing to cooperate and share not only with instructors but also with their peers in the same research group.

Third, the research results provide insight for leaders and quality managers of graduate education about the importance of QC and its impact on the quality of graduate education (Bendermacher *et al*., 2017). It also provides empirical evidence for research related to the theory of satisfaction related to quality culture and establishes a feedback and smooth exchange mechanism with teachers, students, and staffs, school members, enhancing interaction and coordination between parties, and balancing administrative power and academic power in the direction of increasing the empowerment of lecturers and staff to contribute to improving the quality of the school. In addition, in strategic management, it is necessary to build a clear, specific quality culture development strategy that is consistent with the school's mission, vision and goals (Isike, 2018). This strategy should identify core values, quality goals, improvement initiatives and the resources needed to implement them. Finally, cultural management requires building and maintaining a culture of respect, cooperation, learning and innovation. This culture should encourage every member of the community to commit to quality and continuous improvement (Duarte *et al*., 2010).

Forth, research has identified factors of quality culture in the context of university autonomy. This also shows that: This research was conducted in the context that Vietnamese universities are on the path to being granted autonomy associated with accountability to society and stakeholders. This policy implication is similar to the research of Trang (2024) when she said: Universities need to be academically autonomous and proactively build brand and reputation through improving quality. quality of teaching, scientific research and community service, investment in purchasing facilities. In addition, this policy implication is similar to the research of Tuan (2024) when he said: Universities need to proactively improve their competitiveness through developing training capacity, scientific research and community service; brand building.

6. Conclusion

This study analyzes the results of a survey conducted at three Vietnamese universities to investigate the effects of QC on the quality of graduate education from the perspective of learners. The research results show that the elements of QC all impact in the same direction on graduate education, in which academic factors have the strongest impact on the quality of graduate education from the perspective of the learner. From the perspective of learners, a QC in PE will create the necessary learning and research environment, bringing success to learners. Developing a QC is a long-term process, so it is necessary to maintain implementation to achieve quality standards throughout the graduate education process. Therefore, universities need to focus on building and maintaining a culture of quality to attract students, improve the quality of education and create a strong brand for themselves.

6.1. Future Implications

This study also has some limitations such as the sample size is not large and it was only surveyed at three Vietnamese universities. Future research should be conducted in many different school environments to investigate the influence of each element of QC on the quality of graduate education. Although the number of surveyed samples is large enough to ensure the reliability of the scale, it is necessary to further increase the number of surveyed universities and the sample size to be sufficiently

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representative of university groups. different, which are very specific in Vietnam (universities managed by the Military and Police; public universities; private universities; universities with foreign elements). The diversity and richness of the research sample will help the author compare and contrast the differences between groups.

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Appendix 1.

Variables	Construct
NV2	The university exercises comprehensive democracy in management and interaction with stakeholders
NV5	Support and advice for students in studying, researching, writing dissertations and publishing products are complete and timely
NV3	The quality and capacity of instructors are emphasized and carefully reviewed

NV6	Students have regular access to instructors (via email, social networks, face-to-face meetings)
NV4	The dedication of members (Lecturers, learners, support staff, managers...) is respected and recognized
VH3	Members have a deep and positive belief in implementing established organizational cultural values
VH1	Rules of conduct and sharing are emphasized
VH5	Cultural exchange, cooperation and integration activities with domestic and foreign communities
VH4	Good traditions and brand of the university in postgraduate education
HT1	The academic research environment at the school creates positive motivation for students
HT3	The spirit of cooperation, sharing of scientific research results, guidance and teaching is encouraged.
HT4	Lecturers and students are free to be creative in teaching and scientific research activities.
HT2	Honesty and integrity in research, writing theses and dissertations and publishing scientific products are emphasized.
XH4	The functions, tasks, responsibilities and authorities of lecturers, instructors, students and related parties are clearly defined.
XH2	The university's vision, mission and core values are widely promoted and disseminated
XH3	The functions, tasks, responsibilities and authorities of lecturers, instructors, students and related parties are clearly defined.
CSVC3	Facilities fully meet the needs of teaching, research and publishing
CSVC1	The university's landscape is guaranteed to be clean, beautiful and harmonious
CSVC2	Facilities for living and entertainment are guaranteed

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