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Managing Continuing Education via Distance Learning and Face-to-Face Courses for Human Resource Development in the Mekong Delta of Vietnam

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Abstract. Continuing education has increased in importance and popularity in the Mekong Delta of Vietnam as a means of ensuring a sustained and qualified workforce for the region. This research was conducted to investigate the input and output of continuing education

through distance learning and face-to-face courses at selected institutions in the Mekong Delta. Institutional strategies and capacity in managing continuing education via two-course types were examined. The two main methods employed were demographic data analyses and quantitative analyses with a questionnaire of 70 Likert items distributed to 100 teachers and 20 administrators. The findings revealed an increase in the input quantity and quality of CE and the small gap between distance learning and face-to-face output. Regulatory management, finance, and promotion were the contents identified as areas that need improvement in managing continuing education; yet the unbalanced capacities of different sectors, favoring business and management, remained.

Keywords: continuing education; distance learning; face-to-face training; human resource development

1. Introduction

Continuing education (CE) has been recognized as an effort to implement life-long learning for sustainable development. Despite being a non-formal mode in the education system, CE is becoming increasingly popular as it supports rather than competes with the mainstream mode in solving the issue of enhancing the quality and quantity of human resources (Alamgir, 1999). More importantly, it applies to tertiary education and yields the potentials for producing desirable outcomes of qualified human resources (Lege, Bonner, Frazier, & Pascucci, 2020). In many inter-governmental initiatives (Council of Europe, 2003; UNESCO International Institute for Educational Planning (IIEP), 2006; UNICEF, 1993), CE is seen to contribute to changing educational and development landscape worldwide. Dated back in the 1970s and the 1980s, a massive outburst of interest regarding non-formal education in the world emerged (King, 1982; Rogers, 2004). In the 1990s, the Massachusetts Institute of Technology (MIT) set up the first major initiative of CE, but until 2002, 50 free courses were made available through the CE initiative. One year later, MIT officially launched its CE course with 500 classes (Berti, 2018). This proves a successful model of CE and has widened the educational landscape as being accessible globally. Wickline (2013) estimates that around 263 million will be eligible for higher education in 2015 and this will require building 3 new campuses for 30,000 students every week for the next 15 years. Without CE, this number is unachievable in the face of the increasing demand for learners (Berti, 2018). For developing countries, however, the development of CE has been deemed slow and in need of better contextualization to make it more effective (Association for Development of Education in Africa (ADEA), 2012; Khurshid, 2014; Ochukut & Omwansa, 2016; Situma, 2015). The two main means of conducting CE are distance learning (or online learning) (DL) and face-to-face learning (F2F). The widespread of CE is noticeably fostered with the advent of the Internet. Particularly, educational technology has advanced to an unprecedented extent and radically changed the ways lessons are delivered, which is via virtual CE classes. Distance learning, therefore, emerged and has made irreplaceable contributions to the implementation of CE (Allen & Seaman, 2011; Shelton & Saltsman, 2005; Urueta & Ogi, 2020). Due to the convenience and efficiency of online courses, it is estimated that "education will be cyberised" in the future (Sener, 2012, p. 157).

Recognizing the benefits of CE and especially distance learning in training human resources, Vietnam has adopted CE in parallel with mainstream schooling, using both face-to-face and online mediums to cater to its increasing demand for higher quality human resources. The Higher Education Law 08/2012/QH13 demands tertiary institutions and trans-institutional programs to supply learners with CE courses that are suitable for learners' needs. Those programs aim at training human resources, increasing intellectual levels, and cultivating talented people. T. Pham (2018) finds that CE in Vietnam has provided a significantly large number of employees trained for a variety of disciplines at the tertiary level, accounting for approximately 3,000 graduates per institution per year. Recently, the Vietnamese Government has removed the classification between formal education and continuing education printed on diplomas. This has been regarded as the government's formal recognition of CE, which can encourage and promote equality in education for learners nationwide. Despite a facilitative regulatory environment for the development of CE, administrators and educational institutions in Vietnam still encounter challenges in implementing this form of training including managing budgets, infrastructure, personnel, and materials for CE courses. Research into these aspects of implementing CE has not received compatible interest and investment.

The current research was conducted aiming at providing a better insight into the administration and management of CE in the higher education sector in Vietnam. Firstly, through examining relevant policy and institutional documents, the research provides an overview of the educational input and output of CE via DL and F2F courses at a university in the Mekong Delta. Following that, the research investigates the current management of CE implementation at the specified university. The findings help the authors find out the potential for developing CE at the university under its current management scheme. For that purpose, this study aims to find answers to the following three research questions:

1. What are the differences in the input and output of CE through DL and F2F courses?
2. What are the institutional strategies in managing CE courses?
3. How effective is the current management of CE at the specified institution in catering to the human resource needs of the Mekong Delta region?

2. Literature Review

2.1. Continuing Education in human resource training

It is widely recognized that the development of human resources is the key to a country's socio-economic development and education lies at the core of the process (Gadekar, 2020). Enhancing educational quality and widening access to education enable the development of human resources and, thus, foster the development of society and economy. This lays the ground for continued support for CE alongside mainstream education.

Compared with mainstream education, CE is a relatively new phenomenon and is considered a non-formal variation of education and training. This type of education emerged following the promotion of life-long learning (Faure, 1972) and has been regarded as a social policy for lifelong learning for both children and

adults (T. Pham, 2018). CE contributes to a learning society by granting learners with wider access to education either full time or part-time. It plays four major roles in the general education system, namely replacing, continuing, supplementing, and completing (Hoppers, 2006; UNESCO, 2002; IIEP, 2006). Once connected successfully to mainstream education, CE can create a breakthrough in education and make lifelong learning feasible (UNESCO, 2002). Nonetheless, CE features several drawbacks including small-scale, short-term programs with limited funding. These disadvantages limit the impact and sustainability as well as negatively affect the quality and effectiveness of CE. It is recognized that as CE is widely perceived as inferior to formal education, CE programs may not always be aligned with broader national education and development policies or demands from the world of work in many countries (Yasunaga, 2014). On that recognition, UNESCO IIEP (2006) requires equal stimulation to be provided for CE. Hoppers (2006) also suggests implementing CE in parallel with the mainstream model in an organized way to best serve learners from different backgrounds. In the increasingly interconnected world with cutting-edge technological advances, CE should become the focus in development policies of the international community due to its capacity to satisfy multiple learning needs, particularly those who lack access to formal education or are unable to complete a full cycle of basic education (Yasunaga, 2014). Since CE can improve social cohesion and create responsible future citizens, it can contribute to building up extracurricular knowledge and skills for learners so that they can "learn to be" and "learn to live together" (Delors et al., 1996, p. 7). Individuals and societies in the world are putting higher expectations on the impact of CE on economic productivity, which can, in turn, lead to higher social productivity and economic growth (Yasunaga, 2014).

CE has been delivered mainly through two mediums, brick-and-mortar (or face-to-face) classes, and online (or distance learning) classes. There has been a debate about the quality of these CE delivery modes (Bernard et al., 2004; Jahng, Krug, & Zhang, 2007; Magagula & Ngwenya, 2004; McGuire & Castle, 2010). Several researchers (Hong, 2002; Kleinman & Entin, 2002; Phipps & Merisotis, 1999; Rovai, 2002) suggest that there is no significant difference in the quality between DL and F2F. Both are considered as being equally effective in delivering content and methodology at tertiary institutions. Bernard et al. (2004) also share similar findings when investigating students' achievement, attitudes, and retention rates of these two-course types. In contrast, several other studies support the outcomes of CE courses conducted through DL over those taught F2F. For example, when reviewing 86 studies from 1990 to 2002 that compare students' final grades in distance education with those in classroom-based education, Shachar and Neumann (2003) found that students enrolled in distance learning achieved higher grades than those in face-to-face education. Such improvement in students' performance is, according to the researchers, attributed to technological advances that allow better interaction among students and between students and teachers.

While F2F has remained more preferable than DL courses, DL is gaining greater popularity in the tertiary education sector. Among advocates of F2F learning, Bernard et al. (2004) and Shachar and Neumann (2003) contend that online education is incapable of transferring personal knowledge as it ignores the

interaction between teachers and students, and therefore fails to fulfill the function of socialization. Similarly, in the same ground, Berg and Seeber (2016) further argue that online courses better serve as a promotion and awareness-raising tool rather than a proper means of educating learners in intellectual terms. However, the ample benefits that DL brings to learners have been widely recognized. For one thing, content and instruction delivered through DL are renowned for being highly flexible and accessible to learners (McGuire & Castle, 2010). This creates an advantage for learners who have difficulty in accessing formal education due to geographical or time barriers. In this way, DL is capable of widening access to further education to a wider learning community and enhancing the educational level. Other benefits of DL are in terms of cost-effectiveness and its ability to provide up-to-date content materials, stimulate self-paced learning, and facilitate customized courses (Magagula & Ngwenya, 2004; Puthe, 2008).

As a developing country, Vietnam is in great need of a qualified labor force that can help the country achieve its goals of sustainable development. CE has been implemented in Vietnam with the recognition of its potential in quickly expanding the quantity while ensuring the quality of education to less advantaged students (Vietnamese Government, 2011). Incorporating CE in tertiary education and recognizing its role has been considered a timely and effective resolution to fulfill the requirement of enhancing human resources for the country's social and economic development (Dang & Nguyen, 2004). Several universities all over Vietnam have claimed success with CE in helping thousands of undergraduate and graduate students to receive a quality education. In 2017-2018, the number of students enrolled in CE courses was reported to account for over 20% of the total enrollments in tertiary education institutions (289,939). The figure for the academic year 2018-2019 was lower but nontrivially stood at 13% (180,494) (Ministry of Education and Training (MOET), 2019b). The statistics indicate the popularity of CE as well as its contribution to the human resource enhancement for Vietnam. In a word, CE has been playing an indispensable role in raising the educational level of human resources in the education and training landscape of Vietnam, which highlights the significance of investigating the extent to which institutions can be better supported in their implementation of CE.

2.2. Human resource needs of the Mekong Delta

The Mekong Delta is located in the South of Vietnam and consists of 13 provinces. Despite playing a vital role in the economy of the South, the region's education and training at the tertiary level are often a point of criticism for being unable to meet the region's needs for human sources. As reported in the workforce and employment survey conducted in 2016 by the General Statistics Office of Vietnam, as of 2016, the percentage of trained workforce of Vietnam was 20.9% whereas that of the Mekong Delta was 12.2%. The region was ranked the lowest among the surveyed regions (Statistics Directorate, 2016). The fact that the majority of the human resource in the Mekong Delta (87.8%) are unqualified for the region's demands for the labor force makes it a concern for policymakers and institutions alike (Figure 1).

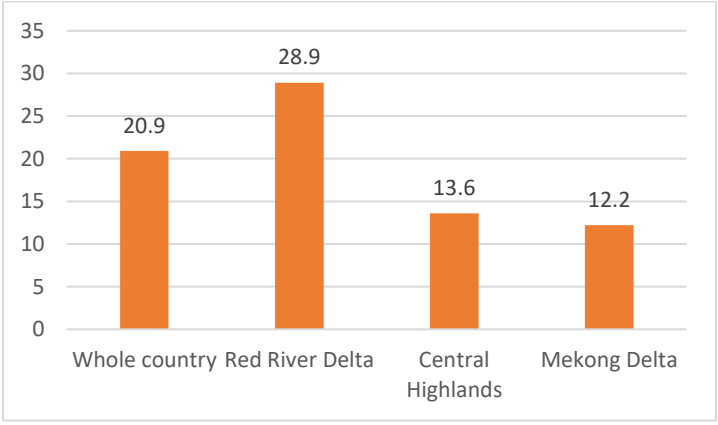

Figure 1: Proportion of trained workforce by region in 2016 (Statistics Directorate, 2016)

As of 2015, the Mekong Delta region has 17 universities and 26 colleges (Ministry of Education and Training (MOET), 2019a). These institutions host around 192,213 students, accounting for 8.13% of the total student population of the country. Reflecting on the current issue of the higher education sector in Vietnam, the Mekong Delta is experiencing difficulties in meeting the training needs of students who have graduated from high school and are ready for higher education. Due to the limited training capacity of regional universities and colleges, only 22.2% of high-school graduates have been offered places in training programs by local colleges and universities. The establishment of new universities in the region still has not been able to accommodate demands (Ministry of Education and Training (MOET), 2019b).

Another issue facing training institutions in the Mekong Delta concerns the training of a qualified labor force that can meet the region's needs. Almost all the sectors in the region have reported a lack of qualified human resources (Hong, 2015). It has been estimated that, by 2025, the Mekong Delta will need up to 500,000 trained laborers to fully satisfy the requirement of trained human resources in all sectors, especially in the fields of aquaculture, technology, engineering, business, and agriculture (Ministry of Education and Training (MOET), 2019b). What this means for the region is that over 300,000 graduates (or three-fifths of the total figure) will have to be trained to fill in the gap in the next 5 years. For healthcare, currently, only 60% of health centers have active nurses while the region aims for 90% coverage. Similarly, the tourism sector presently has only 100,000 qualified laborers while the targeted figure for 2020 is 236,000. With the currently low training capacity of universities and colleges in the Mekong Delta, MOET (2019b) contends that the region will remain short of a qualified human resource in the long run and accordingly fails to meet the increasing investments being poured into the region. According to a report by the Vietnam Chamber of Commerce and Industry (VCCI), as of June 2019, the Mekong Delta has attracted 1,609 foreign direct investments with the registered capital totaling 22.3 billion US dollars (Ho, 2019). This entails an increase in employment from companies and entrepreneurs for a qualified human resource that can acquire not only a compatible insight into the theoretical bases but also a mastery of related skills.

To provide a sufficient and sustained source of qualified labor for the region, higher education institutions in the Mekong Delta needs to consider mobilizing resources to launch courses more efficiently. CE should be included in institutional initiatives for that purpose. Presently, out of 43 institutions in the region, only three have implemented CE for a total of 18 disciplines (P. Pham, 2017). At these three institutions, seven disciplines that have not taken enrolments for online CE training are crop science, industrial management, information technology, veterinary medicine, tourism, literature, and environmental and resource management. CE in the Mekong Delta region needs both urgent and on-going improvement and completion in the management schemes since the gap in figures of graduates who need training is even higher than the current available. This task is more daunting when the needs for employment are increasing for qualified graduates with the mushrooming of foreign projects and companies. Markedly, education in the Mekong Delta region requires more investment in terms of appropriate policies and finance made by the authorities and educational managers from tertiary educational institutions.

2.3. The desired outcomes of continuing education in the Mekong Delta

In the context of numerous shortages in terms of funds, cutting-edge programs, materials, infrastructures, and legal systems that continuing education in the Mekong Delta is faced with, CE still undertakes the role of a reliable provider of human resources for society. The graduated laborers are, thus, expected to be sufficiently qualified to contribute to the social and economic development of the Mekong Delta region (Duong, 2015; P.T. Pham, 2017; Vietnamese Government, 2011). In other words, students graduating from CE courses should be recognized and efficiently employed in society. That does not mean any students holding a diploma can meet the requirements. Indeed, those students must not only be fully equipped with good theoretical knowledge but also with sound practical skills related to their majors to be effective workers in their future jobs. On top of that, a professional human source that can adapt to and keep pace with the international level and advancement is highly expected to be produced by continuing educational institutions (Duong, 2015; Vietnamese Government, 2011).

To assess the outcomes of continuing education, Griscti and Jacono (2006) and Barriball, While and Norman (1992) find little evidence about tools to measure the effectiveness or frequency of CE. However, several criteria for assessment have been put forward (Brennan, 1997; Duong, 2015; Romi & Schmida, 2009). The major ones include enrolment, completion rates, output performance, access to disadvantaged, cost recovery, the motivation of students, acceptance of the program by the society, and social and economic benefits to the country (Welsh & Dey, 2002).

To achieve the desired outcomes, CE management must always be prioritized. Edirisingha (1999) highlights the combination of managing in the input, the output, and the influential elements of management that are core to the development of CE. Rumble (1997) suggests the four main contents as the influential factors to the implementation of CE, including material, logistical, learning process, and regulatory management. Material condition is the management of the design, publication, and delivery of course books. The

logistical condition involves management in personnel, funding, and promotion. The learning process is managed through media, tutoring, and assessment. Regulatory management is focused on institutional structure, management structure, and collaboration with other institutions.

Edirisingha (1999) also emphasizes the importance of the management combining the conditions above with the input and output of the whole CE system to bring about the most desirable outcomes. The Mekong Delta is a developing region of Vietnam, which requires a large amount of workforce who can live up to society's and entrepreneurs' expectations. Thus, managing a CE system that can attract higher-level input and encourage the activeness of each condition to produce the desired output is both a must and a challenge to administrators of education in the Mekong Delta. For the purpose of sustainable development of the whole country, the achievements that the Mekong Delta has achieved and will achieve in CE education will play a pivotal role in boosting the social and economic chain of the whole country to develop.

3. Research methodology

3.1. Research instrument

This study employed a mixed methodology with document analysis and a quantitative research method to find answers to the three research questions. As far as the first research question is concerned, what are the differences in the input and output of continuing education through DL and F2F courses, demographic information based on the statistical data recorded by a university in the Mekong Delta was analyzed. The five indicators of the effectiveness of an educational program introduced by Welsh and Dey (2002) were utilized in the research. They include admitted enrolment (AE), average admission score (AAS), graduation (G), the average final score (AFS), and employment after graduation (EAG). These five aspects were investigated in two modes, face-to-face (F2F) and distance (DL) in eleven majors of the university which had enrolment for CE in both F2F and DL courses, namely law, veterinary medicine, accountancy, TESOL, resources and environment management, business management, construction engineering, vegetation protection, food technology, seafood processing management, and information technology. Drawing on those preliminary results, a questionnaire for 100 teachers and 20 administrators from the university was employed. The teachers and administrators selected were those having experiences in teaching and managing both DL and F2F courses in CE at the university.

The questionnaire included 75 Likert items, which served to explore the priority in management that each content received and the current situation of CE. A score of 1 represented the least significant condition (the lowest level of agreement or satisfaction) and a score of 5 represented the most significant one (the highest level of agreement or satisfaction). Three more questions asking about explanations for their answers were also added. The core factors surveyed were based on those suggested by Rumble (1997), which were synthesized into four major conditions that need supervision to ensure the implementation of CE. They were material, logistical, learning process, and regulatory conditions each of which contained three elements that are coded in Table 1.

Table 1. Coding of management contents and sub-contents

Content	Sub-content	Details of each content	Code
Material (M)	Instruction	Coursebook design	M1
	Production	Coursebook publication	M2
	Distribution	Coursebooks' delivery	M3
Logistical (L)	Personnel	Teacher, officers, and administrators	L1
	Finance	Funding	L2
	Marketing	Promotion (upgrade the image)	L3
Learning process (LP)	Media	Tools used for delivering lessons	LP1
	Tutoring	Teacher-student interactions	LP2
	Assessment	Grade point average (GPA) based	LP3
Regulatory (R)	Planning	Governance, administrative structure, institutional status	R1
	Managing	Management structure	R2
	Decision making	Collaboration with other institutions, nationally and internationally	R3

According to Rumble (1997), the four contents illustrated in Table 1 are fundamental to construct and manage comprehensive and efficient online and face-to-face programs, the lack of any of which would lead to failure in implementations of the programs. Building these four contents is to facilitate learners and teachers with materials, infrastructure, methodology, and curriculum to implement course classes. To add, managing the implementation of these four contents is also core to successful educational management (Nolan, Owens, & Nolan, 1995). To this end, the current study took these four contents for both qualitative and quantitative research.

3.2. Sampling

The university surveyed was one of the biggest in the Mekong Delta. It was the first accredited educational institution to adopt CE in the region. And so far, the university has gained prestige for its quality and quantity of CE in the region. Regarding the document analysis, the statistics were collected from the training department of the university for the year 2019. A total of 1642 students admitted to CE courses and 1531 students were qualified for graduation in 2019. One hundred teachers surveyed from eleven faculties of the university were invited to participate in the survey. Besides, 20 administrators who, at the time of the survey, were serving as from the principal to associate deans of these faculties were involved in the survey.

3.3. Data analysis

The data collected from the Training Department were entered into a spreadsheet to provide an overview of the input and output of CE through DL and F2F courses.

Additionally, responses from the survey were coded and entered in SPSS Version 20 and checked for reliability using the Cronbach's α reliability estimate ($\alpha=N\rho/[1+\rho(N-1)]$). A high-reliability coefficient was achieved, with the Cronbach's α estimates ranging from 0.722 to 0.911 (≥ 0.7) (Table 2). The corrected

item-total correlation estimates were also higher than 0.3, showing good correlations between the variables. The other two indices that improve the reliability of variables, namely composite reliability (CR) and average variance extract (AVE), were also examined. The results reveal high reliability of variables with CR ranging from 0.788 to 0.858 (≥ 0.5) and AVE from 0.523 to 0.636 (≥ 0.5).

Table 2. Reliability estimates

Factors	Observed variables	Cronbach's Alpha	Corrected item-total correlation	CR	AVE
M_DL	M1_DL, M2_DL, M3_DL	0.722 - 0.728	> 0.3	0.788 - 0.794	0.523 – 0.534
M_F2F	M1_F2F, M2_F2F, M3_F2F	0.727 - 0.731	> 0.3	0.804 - 0.811	0.551 – 0.558
L_DL	L1_DL, L2_DL, L3_DL	0.883 - 0.886	> 0.3	0.829 - 0.837	0.609 – 0.618
L_F2F	L1_F2F, L2_F2F, L3_F2F	0.879 - 0.892	> 0.3	0.854 - 0.858	0.614 – 0.636
LP_DL	LP1_DL, LP2_DL, LP3_DL	0.731 - 0.737	> 0.3	0.796 - 0.805	0.527 – 0.558
LP_F2F	LP1_F2F, LP2_F2F, LP3_F2F	0.765 - 0.786	> 0.3	0.816 - 0.823	0.578 – 0.593
R_DL	R1_DL, R2_DL, R3_DL	8.893 - 0.902	> 0.3	0.823 - 0.842	0.568 - 0.589
R_F2F	R1_F2F, R2_F2F, R2_F2F	0.894 - 0.911	> 0.3	0.844 - 0.851	0.583 – 0.604

M1_DL: M1 in distance learning courses, M1_F2F: M1 in face-to-face courses
L1_DL: L1 in distance learning courses, L1_F2F: L1 in face-to-face courses
LP1_DL: M1 in distance learning courses, LP1_F2F: M1 in face-to-face courses
R1_DL: M1 in distance learning courses, R1_F2F: M1 in face-to-face courses

Following a reliability check, an Exploratory Factor Analysis (EFA) was conducted to determine the correlation between their factor loadings. Kaiser-Meyer-Olkin (KMO) Test = 0.736 (satisfying 0.55 ≤ KMO ≤ 1), Sig Barlett's Test = 0.000 (<0.05) (Table 3) showed good correlations between the observed variables.

Table 3. KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	3528.693
	Df	372
	Sig.	.000

The Rotated Component Matrix (Table 4) showed that the 10 observable variables loaded on 4 factors and there were good correlations between the variables.

Table 4. Rotated Component Matrix

	Component			
	1	2	3	4
M1	.702			
M2	.691			
M3	.684			
L1		.688		
L2		.663		
L3		.634		
LP1			.651	
LP2			.617	
LP3			.603	
R1				.615
R2				.592
R3				.589

The *F*-ratio in the ANOVA table (Table 5) tests whether the overall model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F = 62.720$, $p = .000 < .0005$.

Table 5. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	81.356	6	13.559	62.720	.000[b]
	Residual	84.313	390	.216		
	Total	165.668	396			

4. Findings and discussion

4.1. The input and output of continuing education via F2F and DL courses

In this research, the input of CE via DL and F2F was investigated based on admitted enrolment and average admission scores in 11 majors of the university. The document analyses reveal that though the number of students admitted to F2F classes was noticeably greater than that of DL classes, the students admitted to 2 types of classes had similar high-school academic records. The finding confirms what was concluded in the research by P. Pham (2017) in which even though the DL courses do not attract as many students as F2F, there is an insignificant difference in the quality of students enrolling F2F and DL courses of CE.

Preferences for CE were also markedly different in each sector of college. Specifically, the most preferable sector belonged to law with 61.2% and 52.4% in F2F and DL respectively. Yet, the least preferable belonged to information-library with 1.2% in F2F and 1.5% in DL. This outcome shows a noticeable shift in choices of disciplines which was mainly economics (at 30%) in 2011 (MOET, 2010). The differences in choices of major also reflect an imbalance in employment structure in the society. This leads to redundancy in law graduation, yet shortages in the

library. Such imbalance in choices of academic majors is affected by the lack of career-orientation for high school students (Duong, 2015) or the trendy preference to work for managerial and office work in developing countries (Madhi & Barrientos, 2003). Such shortage leads to perspective or trendy rather than practical and necessary choices for future careers (Khurshid, 2014). When examining the data synthesized in the previous years (from 2016 to 2019), a reserve trend of enrolment is observed in both types of courses in CE. Specifically, from 2016 to 2019, there was a downward trend of enrolment in both F2F (from 2093 to 986) and DL (from 954 to 300) (See Table 6). However, in 2019, enrolment in F2F and DL classes experienced a remarkable rise to 1098 and 544 respectively. Such a reverse trend confirmed what Duong (2015) had found about the increasing popularity of CE in the Mekong Delta. Therefore, a foreseeable future of a bigger contribution of CE to human resource training can be revealed.

Table 6. Students admitted and enrolled in CE courses at the university (from 2016 to 2018)

Course type	Year	Admitted	Enrolled
F2F	2016	2,577	2,093
	2017	3,415	2,477
	2018	1,235	986
	2019		1,098
DL	2016	966	954
	2017	634	588
	2018	343	300
	2019		544

4.2. Comparing the output of F2F and DL education

Three contents concerning the output of CE which were investigated in this research include graduation, average final score, and employment after graduation. Data analyses showed significant differences in the figures of graduated as well as employed students after graduation between F2F and DL courses. To be more specific, the percentage of graduate students from F2F courses was nearly twice as large as that from DL courses (68.8% to 31.2% respectively). Similarly, the employment rate after graduation of F2F courses was around two-thirds of the total figure (68.9%). This finding is a confirmation that F2F courses dominated DL ones with a significantly higher figure of graduation and employment after graduation (Jahng et al., 2007). This is understandable due to the big difference in enrollment between the two-course types that can entail the corresponding difference in the output in terms of graduation, employment, and major preference. On another note, despite its lower figure in both graduation and employment, DL courses experienced slightly higher final average scores. Besides, the highest limit of Grade Point Average (GPA) in DL courses was higher than that in F2F courses. Specifically, 2 cases of graduation in law_DL were qualified as the final good cumulative GPA (>3.2). Simultaneously, no final good cumulative GPA was found in any surveyed F2F courses. These finding illustrates the quality of students in DL courses which has been improved and is potential to surpass that in F2F courses. Also, the ratio of graduation (output) to enrolment (input) in F2F courses saw no significant difference to that in DL courses. A similar level of difference between the two-course types was found in the ratios of

employment after graduation to graduation. Detailed figures are shown in Table 7.

Table 7. Ratios of input and output of DL and F2F in CE

Course type	Ratio E/G		Ratio EAG/G	
	Qualified	Unqualified	Employed	Unemployed
F2F	93.2%	6.8%	67.9%	32.1%
DL	85.5%	14.5%	67.3%	32.7%

Overall, the outcome reveals the high level of course completion as well as the capacity to provide the trained labor force for the Mekong Delta region through continuing education. The level also confirms the high competitiveness of distance learning to face-to-face learning in quality and expected results. In other words, DL, though attracting about half as many enrollments as F2F, proved to be valuable and of equally crucial contribution to fulfilling the employment to the F2F. However, the comparison between the numbers of human resource required for the whole Mekong delta region in 2025 (500,000 qualified laborers per year) with the current available graduated students from the university through CE (1489 students), it can be seen that CE in the Mekong Delta still has a long way to reach its targets in catering to the increasing requirements of the human resource of the whole region.

4.3. Managing the implications of CE in the Mekong Delta

4.3.1. Managing CE through DL and F2F courses

In this regard, twelve elements of four core critical conditions were examined. Administrators were asked on the extent to which they agree on each element received priority in the management of the university during the implementation of CE through DL and F2F. The mean scores of answers reveal medium priority with little significant difference between the two mediums. Specifically, regulatory management in terms of managing, decision making, and planning received the highest appreciation respectively, whereas tutoring the lowest in both DL and F2F courses. The other contents had their mean scores of more than 2.7, which shows a middle level of appreciation. This finding is echoed by many studies on the issues of non-formal education management. Edirisingha (1999), Khurshid (2014), Duong (2015), and P. Pham (2017) came to the similar conclusion that regulatory management receives the highest priority as it plays the most crucial role in continuing education. That is, if the framework of laws and policies for non-formal education is invested initially, it will effectively integrate CE into the broader national education system (Nolan et al., 1995; T.D. Pham, 2018). Additionally, logistical management in terms of personnel, finance, and marketing received the second-highest priority in CE management in both DL and F2F courses (see Table 8). Finance and marketing are agreed to contribute to the wider accessibility and feasibility of CE while personnel to the quality and preference (Edirisingha, 1999; Rumble, 1997).

Table 8. The priority of each condition received in management of DL and F2F in continuing education

	Priority in management DL	Standard deviation	Priority in management F2F	Standard deviation
M1	3.12	0.67	3.17	0.63
M2	2.83	0.71	3.01	0.67
M3	2.72	0.73	2.89	0.75
L1	3.51	0.58	3.6	0.54
L2	3.45	0.62	3.4	0.59
L3	3.56	0.57	3.61	0.55
LP1	2.92	0.76	2.95	0.71
LP2	2.56	0.88	2.75	0.85
LP3	3.17	0.69	3.21	0.61
R1	3.48	0.59	3.54	0.57
R2	3.62	0.53	3.77	0.50
R3	3.6	0.54	3.76	0.52

4.3.2. The current situation of non-educational management via DL and F2F courses

The twelve elements were brought into the questionnaire to investigate the current situation of managing non-educational operation via the two education mediums in the university. The results disclose a rather low satisfaction among 150 subjects in both course types (Table 9).

Table 9. Effectiveness of management of each condition in implementing CE

	Mean (DL)	Standard deviation	Mean (F2F)	Standard deviation
M1	3.16	0.78	3.21	0.74
M2	3.31	0.73	3.37	0.67
M3	3.28	0.74	3.33	0.69
L1	3.42	0.68	3.59	0.63
L2	2.52	0.85	2.64	0.83
L3	2.89	0.80	2.51	0.89
LP1	2.73	0.83	2.96	0.79
LP2	3.58	0.64	3.31	0.70
LP3	3.12	0.77	3.18	0.76
R1	3.21	0.80	3.35	0.68
R2	3.5	0.66	3.66	0.62
R3	3.33	0.71	3.58	0.65

On the one hand, when asked about the extent to which current management in each regulatory element is effective to the development of continuing education?" the respondents show a higher mean score in F2F than in DL courses. In other terms, while regulatory in F2F courses was rated the best-managed group, it was the second best-managed group in DL classes. In other words, the importance of regulatory was best realized by managers in F2F courses and second-best in DL courses. This is also concluded in several surveys that recognize the efforts of the

managing and authorizing board in building an effective framework of policies and strategies for the development of CE. Regulatory management was even highlighted as urgent due to the increasing demand for a qualified human source in the region (Duong, 2015; Edirisingha, 1999; Rumble, 1997).

On the other hand, despite the significant role that the logistical group played in the management of CE, this group received incompatible low ratings in finance and marketing. In detail, more than 95% of surveyed subjects agreed upon the limited funding and marketing that both DL and F2F courses received. This finding was previously confirmed by UNESCO (2008) which emphasizes the extremely limited budget and promotion for CE. Such limitations in budget and marketing create a huge obstacle for tertiary institutions to guarantee long-term and equitable provision to people in the region, and thus negatively affect fulfilling the need for qualified human resources (MOET, 2010; P.T Pham, 2017; Vietnamese Government, 2011). Under that recognition, UNESCO (2014) recommended educational institutions involve the contribution of NGOs to supply funds for bettering the quality of CE. Exceptionally, personnel is one element of this group that received compatible management to its pivotal role. The content was rated the third most considered of all in DL and F2F courses. However, this result is a reverse of UNESCO (2014) stating that only about 25% of development plans included teacher training in CE. Again, UNESCO (2014) brought in NGOs as a reliable source of providing teacher and manager training and related services to enhance personnel quality.

Materials and learning received medium satisfaction in management. Particularly, DL and F2F tutoring management was one of the best whereas media was one of the worst. Such a lack of media investment is explained to be caused by the lack and the uneven distribution in the budget for media (Duong, 2015; P.T. Pham, 2014, 2017). Shortages in media have particularly a direct impact on the implementation of DL classes, and thus needs more consideration from the authorizing bodies.

4.3.3. The capacity of training qualified human resources catering to the needs of the society.

For this concern, five focuses namely seafood, technology, engineering, business, and agriculture on the employment structure of the Mekong Delta region were investigated. When asked the question "to what extent do you think that the needs of human resources majoring in each sector are high?" the answers revealed significant differences in their assessment for the requirement of human resources in each sector. Specifically, the sector that needs to provide the trained human resource the most was technology whereas the least was business. This is echoed by the conclusion of the Ministry of Education and Training (MOET) (2019b) which highlights the higher needs of technical rather than managerial and economic major laborers. The finding also matches with the current situation in the society where there is an uneven distribution of graduated students in different majors, favoring economics and management (P.T. Pham, 2017).

When asked for their opinion about the extent to which they think that CE at the university can contribute to the completion of the educational system in

generating 500,000 tertiary-level laborers per year until 2025, responses reveal differences among the investigated majors. In detail, majors belonging to business received the highest rate of agreement in satisfying the human resource need (M=3.07). Simultaneously, those belonging to engineering and technology received the lowest rate (M=2.53) (Table 10).

Table 10. Correlation between labor needs and capacity to provide required laborers

	Seafood	Technology	Engineering	Business	Agriculture
Needs of qualified labors	4.0	4.63	4.21	3.82	3.95
Capacity to provide the needed labors	2.61	2.55	2.51	3.0	2.75

The table reveals that the biggest mean difference between the need for laborers in the society and the capacity that CE can train for the society belongs to technology (MD = 2.08) whereas business the smallest (MD = 0.82). Referring back to the analysis of the input and output, this trend can be explained to result from the unevenly distributed choices of majors among students. That means, more students enrolled in business majors than technology and engineering in both DL and F2F courses and therefore the number of graduate students in business majors was far higher than that in technology and engineering. More importantly, in the assessments of respondents, CE at the university did not have very high capacity in providing sufficient labors catering to the needs of society in all surveyed sectors (only from 2.53 to 3.07). The result poses challenges for administrators and teachers to make major shifts in CE to achieve the goal of 500,000 labors by 2025. It was recommended in several documents that CE management in both DL and F2F in Vietnam should focus on addressing the urgent problem in capital shortages and regulatory incompletion (P.T. Pham, 2017; T.D. Pham, 2018). One of the biggest efforts to be recognized is an amendment in Educational Law in higher education in July 2019, removing the distinction in the diplomas of formal and non-formal education (P.T. Pham, 2018). Such a move is, agreed by 82% of respondents, considered important in triggering the development of non-formal education if it is well-managed. However, it is believed to be impeding and even reversing the development of the educational system in general if management in non-formal education is ignored or loosened due to shortages in facilities, resources, and management capacity. In the context of a developing country, DL and F2F non-formal education cannot be prioritized over the formal ones (Alamgir, 1999; Duong, 2015; Mnyanyi & Mbwette, 2009). In fact, non-formal education received the least portion of the total budget for education from the Vietnamese Government with no more than 1.8% from 2008 to 2014 (Dinh, 2017). At the same time, the need for quality human resources in the Mekong Delta is increasingly high in terms of quantity and quality. Upgrading the quality and quantity of non-education management is, as such, becoming more urgent than before. Also, the analysis of output in this research shows that even though the mean graduation score only ranged from 2.0 to 3.2, the rate of employment of the graduated students was quite high. When asked about the confidence in the success in building an effective CE, meeting the needs for human resources of 500,000 qualified laborers in 2025, 45.7% of respondents were confident whereas

only 18.5% were totally and very confident. The rest of 31.8% were rather confident in the capacity of the university management in building a qualified non-formal education system. The data reveal rather high level of confidence in the success of the system.

In summary, although the fundamental role of F2F and DL continuing education in providing a timely and qualified human resource to the region is highly recognized among teachers and administrators, the reality is still having a long way far from the expected results. However, a majority of respondents are still confident in the success of the CE system in contributing to providing the required number of qualified human resources for the Mekong Delta region in 2025.

5. Concluding remarks

Continuing education (CE) has been highlighted as a solution to educational development and socio-economic sustainability. For the Mekong Delta region of Vietnam, to achieve the goal of training 500,000 qualified labors by 2025, CE, in both DL and F2F training modes, plays an indispensable role. The current research reveals an increasing enrolment trend in CE-based courses in the Mekong Delta, with both DL and F2F actively contributing to the thriving of the region's CE. DL courses, in particular, have managed to narrow the gap in enrolment and employment rates with F2F training courses and confirm their competitive quality. This study recognizes the effort of administrators and teachers in managing the implication of CE and delivering lessons via both DL and F2F modes. However, it points out that many CE courses still unevenly focus their intention on areas of training that do not require substantial investment in training facilities, for example, business and management disciplines, while failing to adequately invest in technological fields where the region is in strong need of qualified human resources. Among the four contents related to managing CE courses, namely the material, logistical, learning process, and regulatory aspects, the issues of regulatory management and logistical management are identified by key stakeholders to be at the top priorities. However, improvements in these two aspects are challenging due to a notable lack of financial resources and insufficient promotion of related CE courses. This substantially affects the capacity of the region's education system in general and the region's CE in particular. Despite the difficulties and challenges, the study confirms the confidence among stakeholders in the success of CE in developing a sustainable education system that caters to the increasing demand for a qualified and high-quality workforce of the region.

6. Limitations and Implications

This study was conducted with several unavoidable limitations, which can be fruitful for further academic implications. Firstly, the scope of the study was limited to one university in the region with 130 subjects. This can be widened to more universities and involve more administrators from higher positions to have a broader and more reliable overview of the situation. Besides, the analysis of the output of the study can gain further investigation into higher academic advancement or professional promotion after graduation rather than only employment. Also, the study provides an overview of four contents in general, which can open to further research into each content or sub-content.

For managerial implications, this study mainly worked on management and thus it can contribute to the improvement of the management of F2F and DL continuing education by both the government and by institutional managers. To start with, it is a good sign that the national policies have re-positioned the role of non-formal education within the national education systems by recognizing no difference in its diploma with formal education. Nevertheless, it is important to explore more about the relevance of CE to formal education to make better coordination and supplementation between the two modes and thus strengthen the development of the tertiary education system in the region. Furthermore, the quality of the output remains controversial since there is no standard and fixed tools of measurement for this regard. As such, the administrators need to invest more in building an effective measurement for output quality to better assess the quality of CE in tertiary institutions. To add, the biggest challenge is mainly related to inadequate financial support, which hinders the implications of CE, especially DL courses. Therefore, managers need to encourage more coordinated partnerships from NGOs and the private sectors, donors, and communities. In the context of economic difficulties and uneven distribution of the Government budget, the assistance of non-government and private organizations will be valuable. Since the Mekong Delta region is having its general economy stimulated and improved by foreign bodies, such financial assistance in education is mobilizable if educational administrators have an encouraging and opening strategy in fostering the investment of the external stakeholders. Regulatory management is believed to be improved the most among the investigated contents. Nonetheless, more efforts are required for further enhancement of national legal frameworks and full implementation of legislation, particularly at regional and institutional levels. This can be done by developing further databases concerning non-formal education and integrating monitoring systems for effective policy management for CE. Another step to be taken is enhancing the capacities of institutions and education personnel with training programs under the investment and guidance of the Government and NGOs. This should be carried out in parallel with designating clear objectives and reliable measures in realizing a vision in the curriculum, teaching and learning materials, and assessment in F2F and DL courses.

For educational implications, this research makes a significant contribution to the fundamental shift in the operation of educational virtues from preferable brick-and-mortar classrooms to online classrooms under the impact of the global Covid-19 pandemic. The pandemic hitting almost every country, including Vietnam, has frozen many sectors, including education. Without the implementation of virtual classrooms, the effects of the downturn of education and thus of many economies would be immeasurable. However, according to Dinh and Nguyen (2020), the effectiveness of operating online classes of all educational levels, especially of higher education remains questionable. This research can therefore open up several issues to a more in-depth investigation, including management of hybrid education, facilitation of technological platform, materials, and curriculums. By confirming the importance and the reasonability of continuing education by applying for online courses, the current study sets a steppingstone to a stronger development of online courses in the future in developing countries like Vietnam.

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