



**ONLINE LEARNING USING COL – CEMCA
HIGHER EDUCATION INTEGRATED MODEL**

**Report of the Need Assessment of the Programmes
Administered through the Centre for Distance and
Continuing Education, University of Peradeniya,
Sri Lanka**

Supported by

**The Commonwealth Educational Media Centre for
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Report of the Need Assessment – 2018
CDCE, University of Peradeniya, Sri Lanka

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ABBREVIATIONS

CEMCA	- Commonwealth Educational Media Centre for Asia
CDCE	- Centre for Distance and Continuing Education

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INTRODUCTION

The distance mode in continuing education is highly important for the citizens who are lacking opportunities in the formal education and the citizens who are employed while possessing dreams to make their higher education. As vision of Sri Lankan higher education is to be an international hub of excellence for higher education by 2020 the citizens are to be empowered with their higher educational needs. Thus, the mission is to delight students, the industry, staff and other stakeholders of the higher education system of Sri Lanka by formulating and implementing results oriented policies & strategies and to deliver results in an effective and efficient manner through a participatory process to produce the best intellectuals, professionals, researchers, entrepreneurs to deliver innovative solutions to make Sri Lanka "the Wonder of Asia". Hence, the objectives of the higher education are as follows:

- Increased Opportunities and Access to Higher Education
- Improved World Ranking of all Higher Education Institutes
- Improved Employability
- Improved Stakeholder Satisfaction
- Improved Global Compatibility of Higher Education Institutes
- Excellence in Research and Publications
- Improved Global Links and Exchanges
- Reduced Dependency on Treasury
- Increased Entrepreneurship of Graduates
- Improved Effectiveness and Efficiency of Higher Education Sector
- Contributing to the National Development and Long Term Vision of Sri Lanka
- Contributing to the National Reconciliation & Global Peace

The learning modalities of the higher education institutes (HEIs) in Sri Lanka include; face to face, open and distance, and online. Many HEIs practice face to face learning while some institutes are operating open and distance learning. In addition only a few institutes have launched online learning facilities. The **Centre for Distance and Continuing Education of University of Peradeniya** is one of such centres in the University system in Sri Lanka.

As the state Universities in Sri Lanka provide only a limited number of opportunities for the citizens to engage in face to face learning the majority of young population experience

unrest due to the lack of opportunities in the state Universities towards their higher education. Thus, the open and distance, and online learning modes are becoming highly important and valuable to fulfil the higher education needs of the citizens in Sri Lanka. As many employees are looking for higher education to enhance their knowledge, skills, and attitudes to uplift and promote their duties and personal goals the online learning has become essential. However, the quality and the resources for online learning have to be upgraded to provide more opportunities to facilitate online learning in Sri Lanka.

The vision of the Centre is to provide equal opportunities for all aspiring to further their career goals. Thus, the mission of the CDCE is to practice the concept of "Education for All and to Provide Opportunities for Those Who Look for Education without Barriers".

The CDCE is committed to provide quality education to the learners with the aim of orienting them to become skillful in the disciplines while assuring learner satisfaction through continual development. To ensure this the CDCE strives to: Develop the curricula to cater to the changing needs of the country and the world; Develop and maintain effective and efficient processes to satisfy all stakeholders involved; Adhere to the statutory and regulatory requirements; Manage the centre socially responsible manner; and Comply with the requirements of ISO 9001:2015 and quality management system; and Continually improve its effectiveness.

Currently, the CDCE offers two Degree Programmes namely Bachelor of Arts (BA) and Bachelor of Business Administration (BBA). The BA programme is operated through open and distance mode while BBA is offered through online mode. Moreover, at present the CDCE offers a Diploma Programme on Management and Development and the Centre is willing to offer more diploma and certificate programmes near future. Thus, the CDCE is willing to update and upgrade the existing BBA online programme while launching new online programmes to facilitate online learning.

The CDCE, University of Peradeniya is willing to promote digital learning across platforms due the increase of world trend towards learner-centered paradigm compared to the teacher-centered paradigm. The Centre is engaged in designing innovative and entrepreneur-oriented and skill based online courses. This will enable to enhance employability and also improve enrolment of students particularly belonging to marginalized communities and women. Increased enrolment and access to quality courses is most likely to enhance their employability in various sectors.

In order to upgrade and uplift the educational programmes offered through the CDCE it is necessary to conduct a need assessment study to identify demand driven online programmes special reference to enrolment, contents, students support services, use of ICT, teaching learning process, learning outcomes, and employability etc. Thus, the aim of the study was to investigate the suitability and the quality of the existing educational programmes administered by the CDCE while paying special attention on the mode of delivery, employability, and the new programmes to be launched to facilitate the learners through distance mode.

The study used a mixed methods approach while considering its advantages in drawing strong conclusions to make valuable suggestions to enhance a more learner supportive system in distance learning. The sample consisted of 533 Sri Lankans and the data were analysed through quantitative and qualitative analytical methods. The conclusions and suggestions were made based on the findings of this study.

AIM, OBJECTIVES, STUDY QUESTIONS, AND THEIR RATIONALE

Aim

The aim of this study was to explore the needs of new distance learning programmes to be launched through the CDCE, Peradeniya, Sri Lanka to facilitate learners to become efficient and recognized citizens in the country contributing enormously towards the national development.

Objectives

The objectives of the Study were to:

1. Find the reliability of the survey questionnaire
2. Find the needs on continuing education through the programmes administered by the CDCE;
3. Investigate the job oriented nature of the educational programmes;
4. Explore the suitable delivery mode of the programmes;
5. Compute relations of the factors such as need, job oriented nature, and the delivery mode; and
6. Find high demanding courses for the learners.

Study Questions

- 1.1 What is the reliability of questionnaire on different factors?
- 2.1 What are the needs on continuing education through the programmes administered by the CDCE, University of peradeniya?
- 3.1 What are the needs on job oriented nature of the educational programmes administered through the CDCE, University of Peradeniya?
- 4.1 What are the more suitable modes on continuing education through the CDCE, University of Peradeniya?
- 5.1 What are the relations of need, job oriented nature, and the delivery mode?
- 5.2 What are the regressions of the above factors?
- 6.1 What the courses in high demand nature to be offered by the CDCE, University of Peradeniya?

Rationale of the Study Questions

As the CDCE, University of Peradeniya is looking for more educational programmes to be launched to facilitate learners through the distance mode, the existing nature and the learners' expectations are to be investigated. Thus, the information on different aspects such as the need, quality of the programmes, the nature of the delivery mode, and programmes with high demanding nature is essential to fulfil learners' needs effectively and efficiently. Hence, the study questions have been focused in the test instruments to explore the nature of the academic programmes to be offered in the future to satisfy the learners' long term needs through the educational programmes to be administered by the CDCE, University of Peradeniya.

METHODOLOGY

The survey design was used in this study to assess learners' need of the educational programmes to be administered through the CDCE, University of Peradeniya.

Method

Mixed methods approach was used in the study while considering its advantages. Mixed-methods researchers, in bringing together the benefits of both qualitative and quantitative approaches to research, often claim greater validity of results as a reason for their methodological choices (Buber, Gadner, & Richards, 2004). Mixed-methods approach can provide realistic advantages when exploring complex research questions as the qualitative data provide a deep understanding of survey responses, and statistical analysis can provide a detailed assessment of patterns of responses (Driscoll, Yeboah, Salib, & Rupert, 2007).

The utilisation of qualitative research methods provides access to the lived reality of individuals, facilitating the exploration of people's internal constructions of their personal worldview (Morgan & Drury, 2003). Further, Sechrest and Sidani (1995) argue that "quantitative observations may be subjected to rational analysis that leads to verification by qualitative observation" (p. 78). Moreover, mixed-methods designs can provide pragmatic advantages when exploring complex research questions.

Conducting research using mixed-methods is also referred to as triangulation by some researchers (e.g., Mathison, 1988; Webb, Campbell, Schwartz, & Sechrest, 1966). Triangulation is a powerful technique that facilitates validation of data through cross verification from more than two sources. Altrichter, Feldman, Posch, and Somekh (2008) contend that triangulation "gives a more detailed and balanced picture of the situation."

Hence, the mixed method approach was used to collect quantitative and qualitative data in this study. Both types of data were collected through a survey questionnaire.

Data Collection

Instrumentation

A survey questionnaire (Annexure 1) was prepared on three factors such as need, job oriented nature, and the mode of delivery (*Figure 1*). Each factor was measured through five items. The learners' preferences on different courses were tested on 11 programmes. Respondents' open ideas were collected through open ended question. Four items in each factor were used in quantitative analysis.

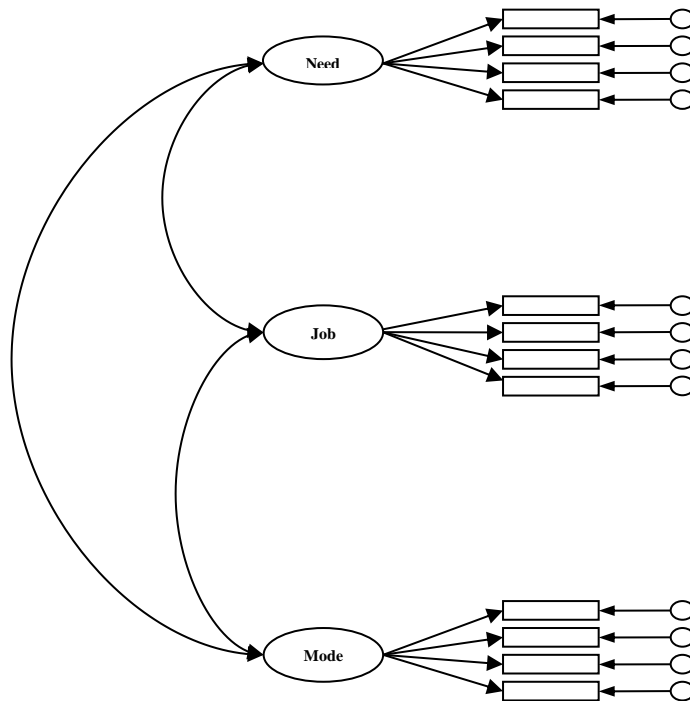


Figure 1: Design of the Survey Questionnaire

Data Collection Procedure

After obtaining prior permission from the relevant authorities and personnel the survey questionnaire was administered in different governmental and non-governmental premises such as schools, University, banks, and food serving places. The current students also responded the survey on their visit to the CDCE, University of Peradeniya. The survey was administered with a minimal disturbance to the day-to-day practice in the work places. At the beginning of the survey the respondents were informed that the data collected through the survey are left confidential and used only for the academic purposes. The collected data were stored in a confidential room in the CDCE.

Sample

The sample consisted of 534 respondents covering a broad spectrum of personalities. The respondents included the school teachers, high school students, current CDCE students, current University undergraduates, University staff members, bank officers, and other general public. However, around 40% of the sample was represented by high school students who are looking for higher education in the tertiary level in the near future.

Data Analysis

The collected quantitative data were entered in an excel sheet. The data cleaning was conducted manually due to missing data and unreliable data. The data were then transferred to SPSS software package and they were subject to reliability analysis followed by analysis for descriptives, correlations, and regressions.

Qualitative data were used to prepare transcripts. The information on transcripts were then analysed through thematic and content analyses.

The results were represented using tables, figures, and graphs. Finally, based on the results the conclusions and suggestions were made.

RESULTS AND DISCUSSION

The results and discussions of the survey are presented below based on the study questions.

Results of Study questions 1.1 on the Reliability of the Questionnaire

Overview. The above question has been prepared to check whether the factors of the survey questionnaire show high reliability.

Results. The reliability was checked using Cronbach's alpha values. The reliabilities for three factors Need, Job, and the Mode of Delivery are .510, .635, and .704 respectively. There is no universally agreed minimum threshold for a reliability coefficient (Kline, 2009; Urbina, 2004). However, values of .7 or greater are preferred (Netemeyer et al., 2003), and values of at least .6 are considered acceptable (Aron & Aron, 2003). Thus, the factors on the Job and Mode of Delivery are showing acceptable reliabilities (Figure 2).

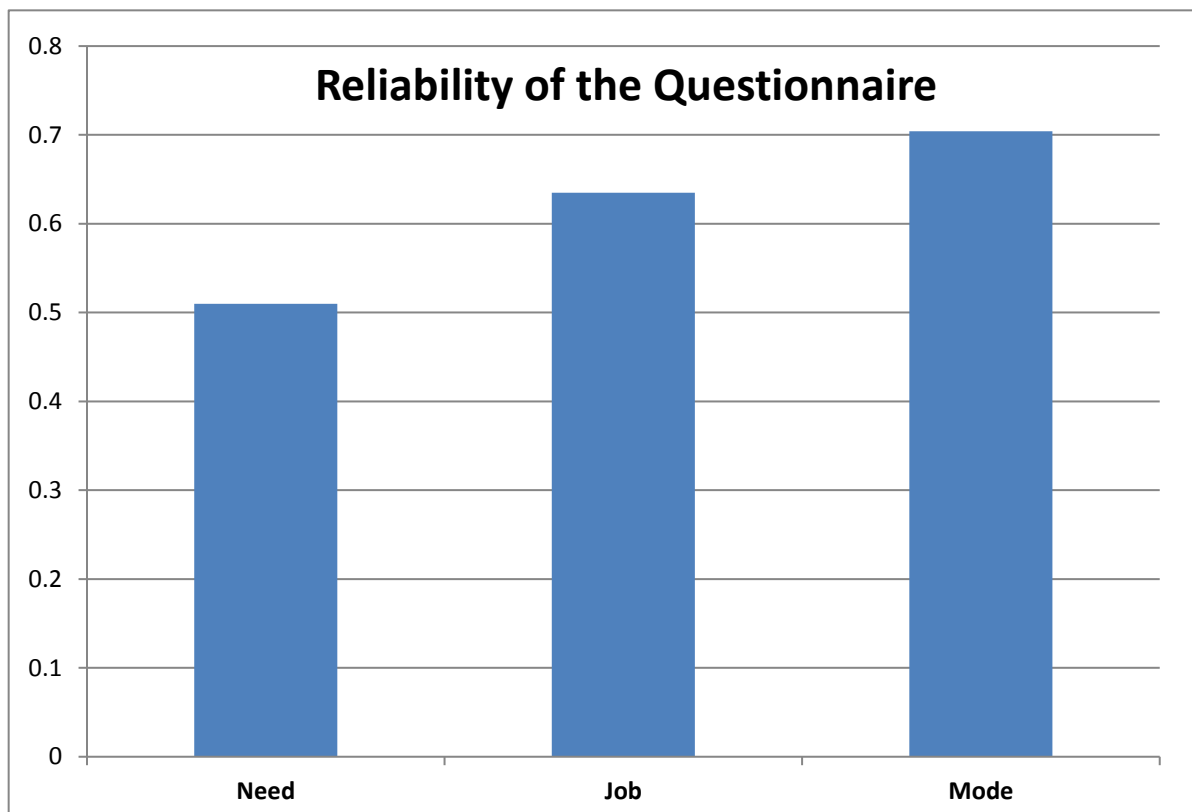


Figure 2: Reliabilities of the Factors

Results of Study questions 2.1 on the needs in continuing education

Overview. This question is seeking the needs of the learners in continuing their education through the academic programmes administered by the CDCE, University of Peradeniya

Results. Based on the results there are very high values for offering more diversified new programmes. This situation could be due to the need of different types of learning experiences to meet the challenges on the complex nature of job opportunities available and diversified practices in day-to-day life. The results also indicate that the nature of the contents in the programmes administered through the CDCE is moderately traditional.

Table 1: Items in the factor “Need”

ITEM	
N1	The programmes offered currently through the CDCE are adequate.
N2	The CDCE should offer more diversified programmes.
N3R	The programmes offered through CDCE are more traditional.
N4	The CDCE should offer new programmes.
N5	The CDCE should contribute more in continuing education of the citizens.

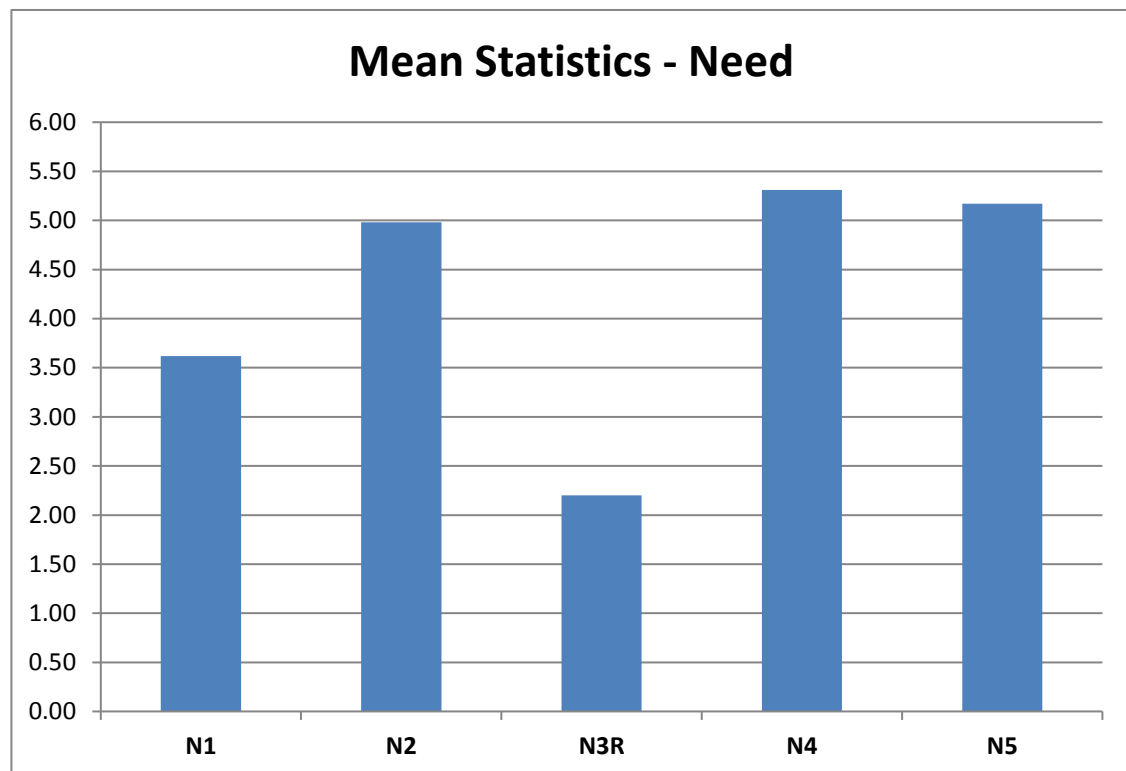


Figure 3: Mean statistics for need related items

Results of Study questions 3.1 on the job oriented nature of the programmes

Overview. This question is seeking to find information of the job oriented nature of the programmes administered through the academic programmes administered by the CDCE, University of Peradeniya.

Results. Based on the results there are high demands in job related courses and the programmes suitable for social development (Figure 4). Thus, the programmes administered through the CDCE are to be more job oriented while improving their social skills to support the community.

Table 2: Items in the factor of Job oriented nature

ITEM	
J1	The programmes offered through CDCE are good enough to find a suitable job.
J2R	The qualifications obtain through CDCE programmes are not directly useful in finding a job.
J3	The CDCE should offer more job related programmes.
J4	The qualifications obtain through CDCE programmes should be able to use in day-to-day life.
J5	The CDCE should launch the programmes that are useful in the development of the society.

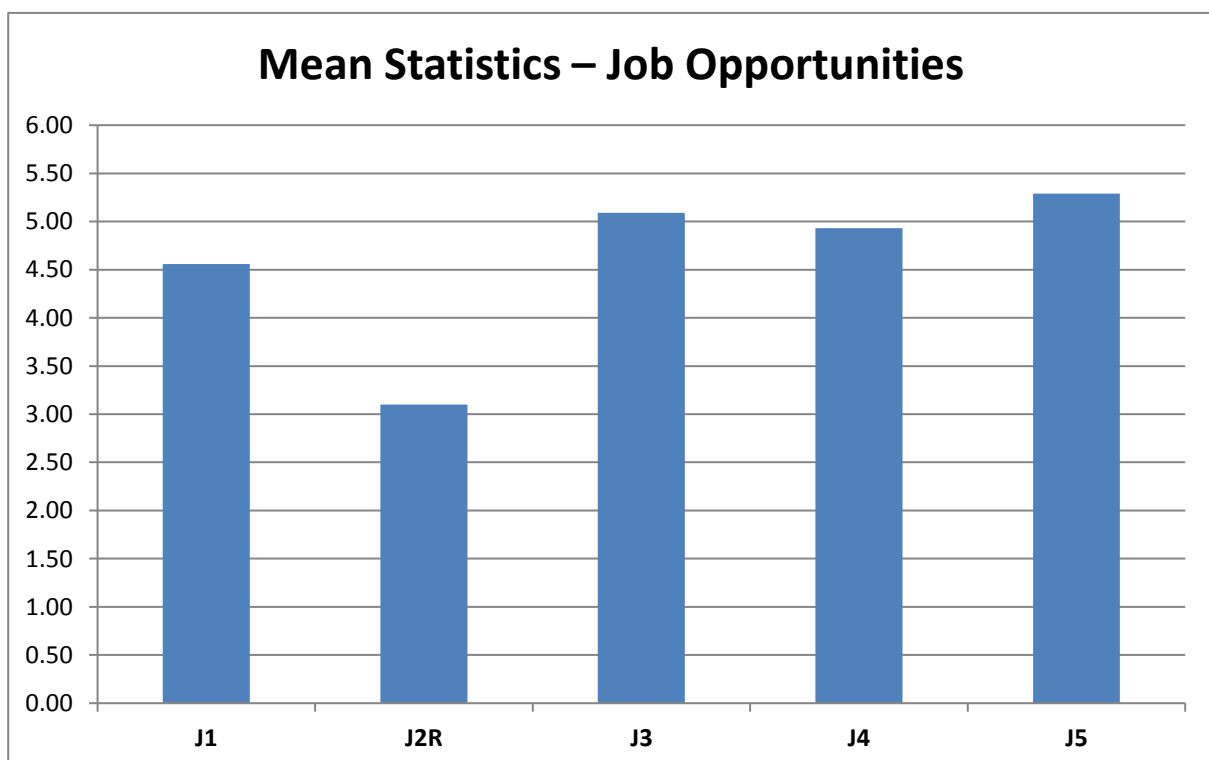


Figure 4: Mean statistics for job related items

Results of Study Question 4.1 on the suitable mode of delivery of programmes

Overview. This question is seeking to find information about the appropriate mode of delivery of the programmes administered through the CDCE, University of Peradeniya.

Results. Based on the results it is suggested to offer academic programmes in both face to face and online modes to facilitate the learners effectively. Results also indicate that more online programmes are more suitable for the future. Hence, more programmes of the hybrid mode are to be launched in the future to support the learners through the CDCE. This situation could be due to learners' different life styles playing different roles in the society in their day-to-day life.

Table 3: Items in the factor of delivery mode

ITEM	
M1	The CDCE should offer more face to face programmes.
M2	The programmes offered through CDCE should be online.
M3	The programmes offered through CDCE should have both online and face to face sessions.
M4R	The online programmes cannot be followed easily.
M5	The online mode for the programmes will be more suitable for the future.

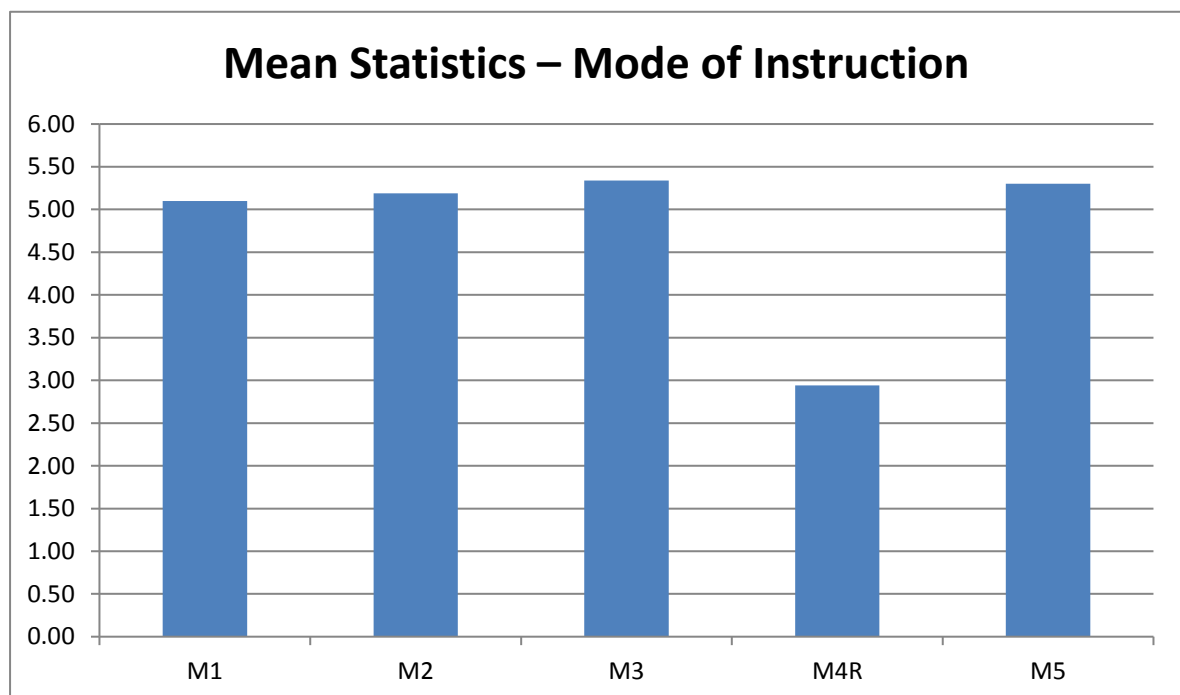


Figure 5: Mean statistics for mode of delivery

Results of Study question 5.1 on the correlations among the different factors of the survey questionnaire

Overview. This question seeks to investigate the correlations among the factors such as need, job oriented nature, and the mode of delivery in the survey questionnaire.

Results. Based on the results the strongest factor concerned is the mode of delivery. Results also indicate that the highest correlation is between the job oriented nature and the mode of delivery. This indicates that the mode of delivery expected by the learners is demonstrating high consideration and concern of their nature of employment. Especially, the learners who are employed may prefer more online mode with considerable amount of support through face to face sessions.

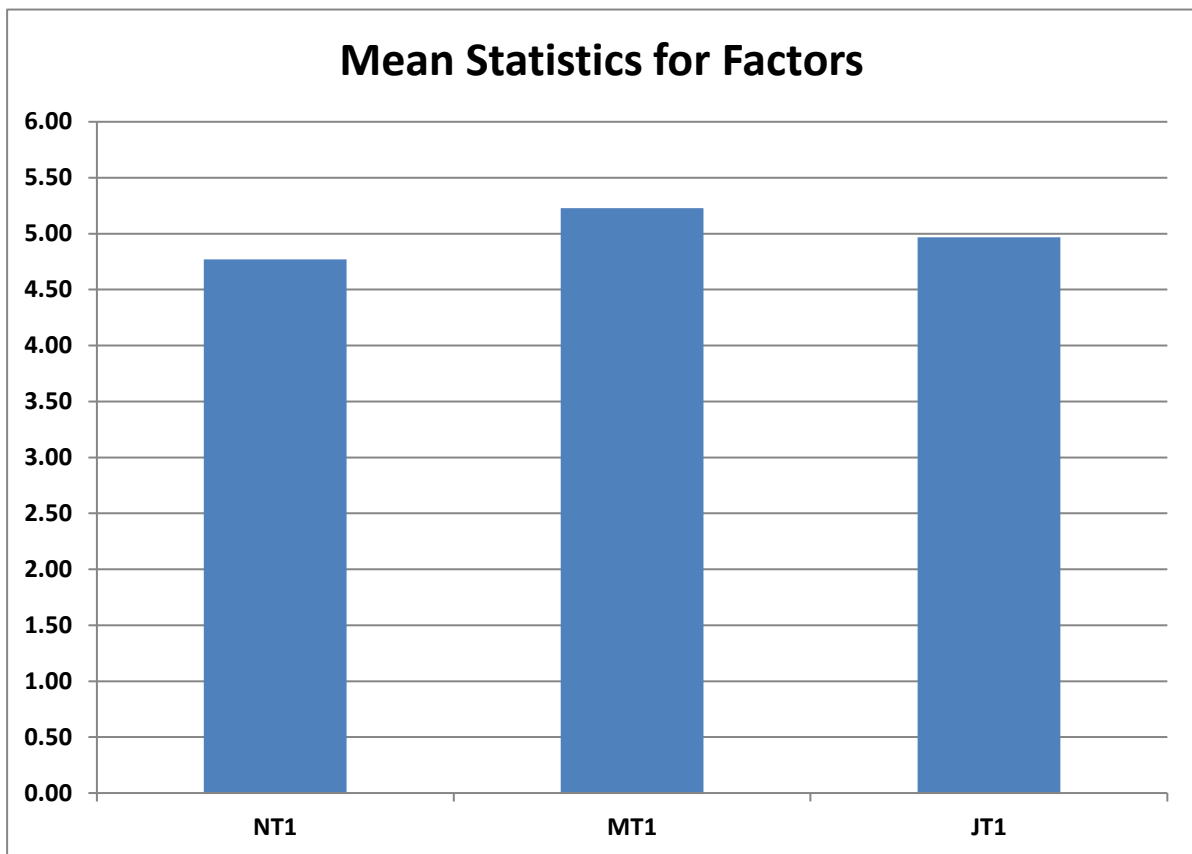


Figure 6: Mean statistics for factors

Note. NT1 = Need, MT1= Mode of Delivery, JT1 = Job Oriented Nature

Table 4: Pearson Correlations of the Factors

	Need	Job	Mode
Need	1	-	-
Job	.515**	1	-
Mode	.369**	.635**	1

Note. ** Significant at the 99% confidence level

Results of Study question 5.2 on the regressions among the different factors of the survey questionnaire

Overview. This question was to explore the regressions among the factors such as need, job oriented nature, and the mode of delivery in the survey questionnaire.

Results. Based on the results the strongest regression is between the job related factor and the mode of delivery. Thus, it is evident that the mode of delivery expected by the learners is predicted by their nature of employment status. Hence, a more suitable mode of delivery is to be decided according to the voice of the learners to facilitate their learning in the distance mode.

Table 5: Regression of the factors

	Need	Job	Mode
Need	1	-	-
Job	.263**	1	-
Mode	.136**	.404**	1

Results of Study question 6.1 on the high demanding courses

Overview. This question was posed to find the nature of the demand for the different types of courses administered through the CDCE, University of Peradeniya.

Results. Based on the quantitative survey results the most demanding course is General English. The other high demanding courses include computer related programmes. The qualitative findings also show similar results on the demanding courses as Computer and

English courses. Thus the attention should be paid to enhance learner supportive environment through more demanding courses on the distance learning mode.

Table 6: Courses to be Offered

P1	Course in Pre - School Teaching	P7	Course in Hotel Management
P2	Course in Quantity Surveying	P8	Course in Fashion Design
P3	Course in General English	P9	Course in Computer Graphic Designing
P4	Course for Computer Application Assistants (MS)	P10	Course in Cyber Security
P5	Course in Human Resource Management	P11	Course in Computer Web Designing
P6	Course in Tamil Language		

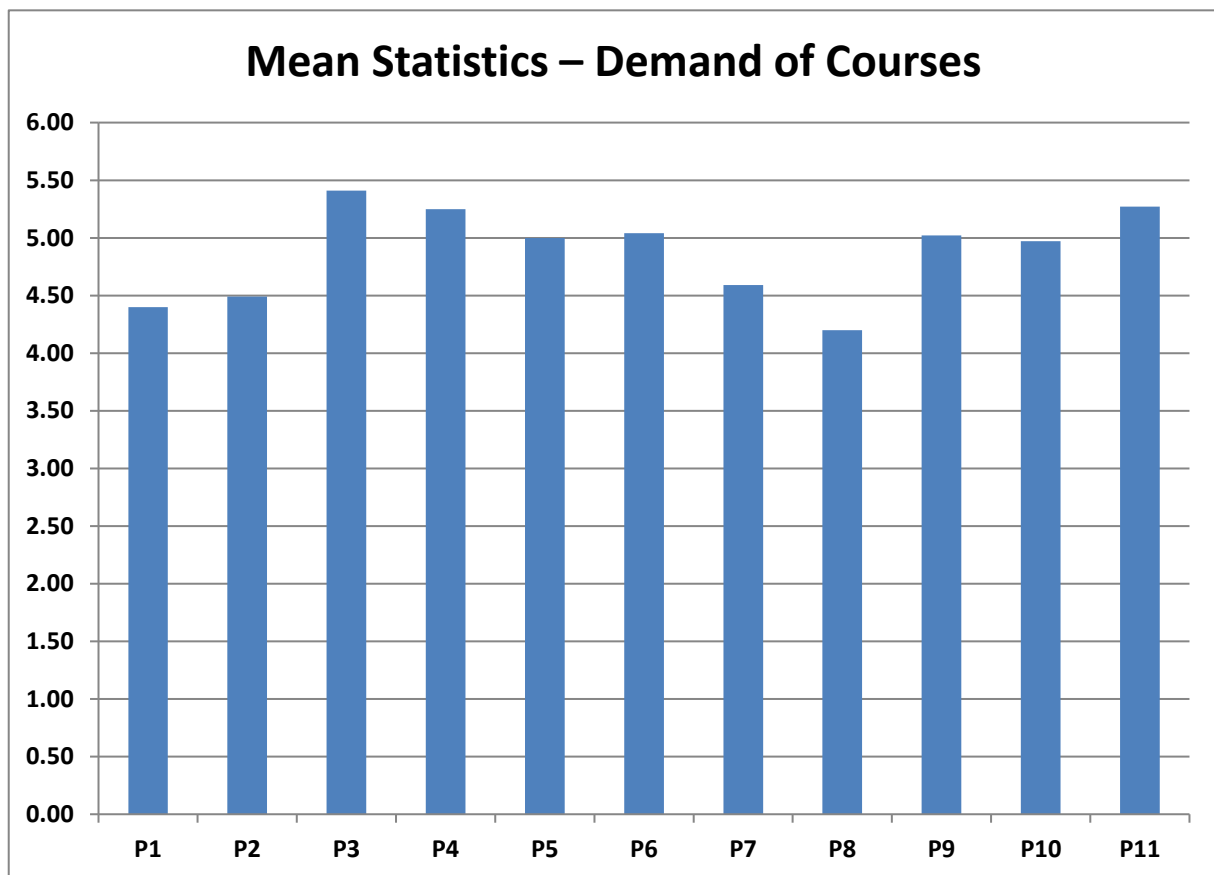


Figure 7: Demand of the Courses

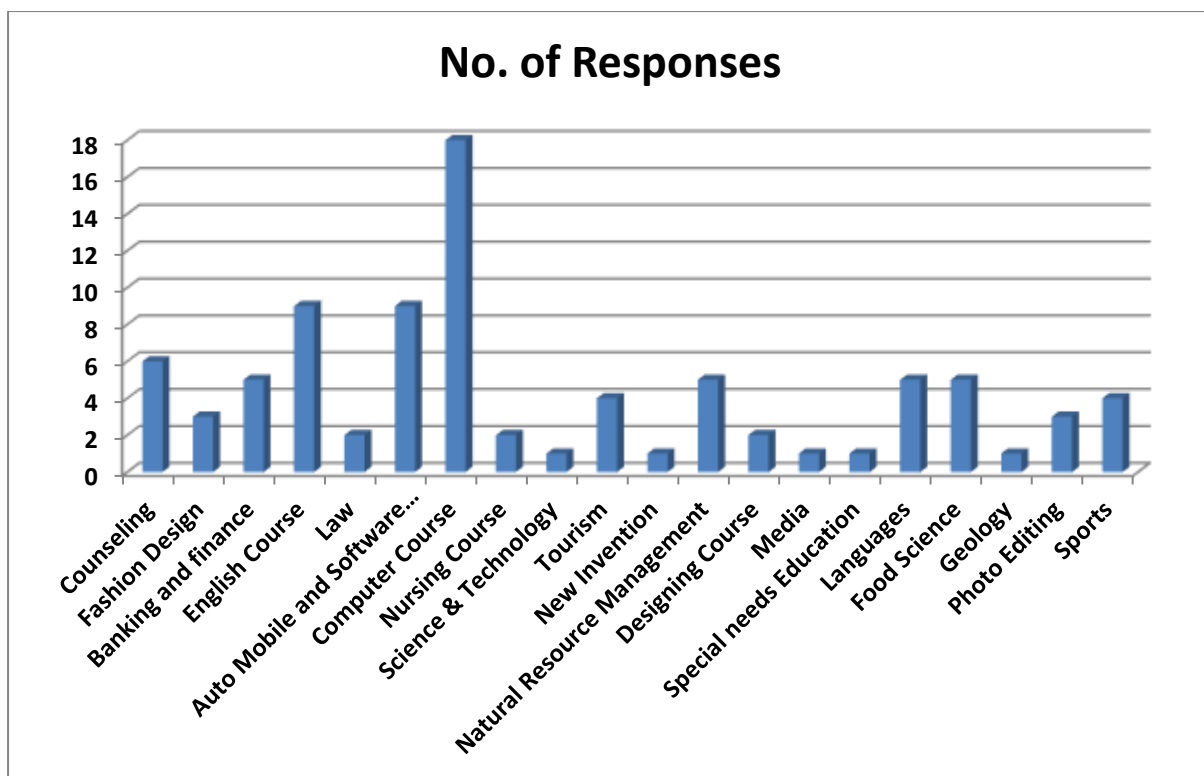


Figure 8: No. of Responses on the Courses to be offered based on the Qualitative Data

The content analysis shows the above results in *Figure 8* on open responses of the questionnaire. The identified themes from the responses based on thematic analyses include: the enhancement of the efficiency of learner supportive services through the web; launching of job oriented courses; commencement of short courses on demanding disciplines; commencement of diversified courses that are useful in day-to-day life (e.g., English language, counselling, computing, entrepreneurship, sports, engineering, tourism management, and fashion designing); and building strong links with other organizations.

CONCLUSIONS AND SUGGESTIONS

The questionnaire showed a satisfactory reliability of assessing the need of the learners on different aspects to enhance the learner support through the new programmes to be launched by the CDCE, University of Peradeniya. The factors on the Job and Mode of Delivery of the survey questionnaire showed moderately high reliabilities.

The learners expect more diversified new programmes through the CDCE. Thus, different types of learner supportive and learner matching programmes are to be launched to meet the needs of the learners to facilitate them to face their challenges successfully in day-to-day life.

As there are high demands in job related courses and the programmes suitable for social development, the CDCE has to promote academic programmes which are useful and helpful to fulfil the needs of the learners in their careers. Moreover, more learners prefer hybrid mode where both online and face to face sessions are included. It is suggested that more online programmes are more suitable for the future.

The highest correlation and the regression of the factors are between the job oriented nature and the mode of delivery. Thus, mode of delivery should be coupled with the job oriented nature of the learners in launching new academic programmes through the CDCE, University of Peradeniya.

The highly demanding courses include General English and Computer based courses. Hence, the CDCE should pay attention to launch new programmes on the disciplines of English Language and Computer related courses.

It is suggested that the CDCE at University of Peradeniya should promote digital learning across platforms due the increase of world trend towards learner-centered paradigm compared to the teacher-centered paradigm. Thus, the Centre has to promote designing innovative and entrepreneur-oriented and skill based online courses. This will enable to enhance employability and also to improve enrolment of students particularly belonging to marginalized communities and women. Increased enrolment and access to quality courses is most likely to enhance their employability in various sectors in a wide spectrum.

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ANNEXURE 1
Survey Questionnaire



Evaluation Form of the Academic Programmes Offered Through the CDCE

Dear Respondent,

Please indicate your honest opinion on the following statements about the programmes offered through the Centre for Distance and Continuing Education (CDCE), University of Peradeniya by circling the chosen number for the respective response. Your kind support in this regard would be very much appreciated for improving the services offered by the CDCE. Use the Likert scale to indicate your response as follows.

		1. Strongly Disagree	2. Disagree	3. More Disagree than Agree	4. More Agree than Disagree	5. Agree	6. Strongly Agree
1	The programmes offered currently through the CDCE are adequate.	1	2	3	4	5	6
2	The CDCE should offer more diversified programmes.	1	2	3	4	5	6
3	The programmes offered through CDCE are more traditional.	1	2	3	4	5	6
4	The CDCE should offer new programmes.	1	2	3	4	5	6
5	The CDCE should contribute more in continuing education of the citizens.	1	2	3	4	5	6
6	The programmes offered through CDCE are good enough to find a suitable job.	1	2	3	4	5	6

7	The qualifications obtain through CDCE programmes are not directly useful in finding a job.	1	2	3	4	5	6
8	The CDCE should offer more job related programmes.	1	2	3	4	5	6
9	The qualifications obtain through CDCE programmes should be able to use in day-to-day life.	1	2	3	4	5	6
10	The CDCE should launch the programmes that are useful in the development of the society.	1	2	3	4	5	6
11	The CDCE should offer more face to face programmes.	1	2	3	4	5	6
12	The programmes offered through the CDCE should be online.	1	2	3	4	5	6
13	The programmes offered through CDCE should have both online and face to face sessions.	1	2	3	4	5	6
14	The online programmes cannot be followed easily.	1	2	3	4	5	6
15	The online mode for the programmes will be more suitable for the future.	1	2	3	4	5	6

Please give your ratings on the following programmes to be offered through the CDCE according to the given scale.

1. Extremely not important
4. Moderately important

2. Not Important
5. Important

3. Moderately not important
6. Highly important

1	Course in Pre-School Teaching	1	2	3	4	5	6
2	Course in Quantity Surveying	1	2	3	4	5	6
3	Course in General English	1	2	3	4	5	6
4	Course for Computer Application Assistants (MS)	1	2	3	4	5	6

5	Course in Human Resource Management	1	2	3	4	5	6
6	Course in Tamil Language	1	2	3	4	5	6
7	Course in Hotel Management	1	2	3	4	5	6
8	Course in Fashion Design	1	2	3	4	5	6
9	Course in Computer Graphic Designing	1	2	3	4	5	6
10	Course in Cyber Security	1	2	3	4	5	6
11	Course in Computer Web Designing	1	2	3	4	5	6

Please state any other programme/s to be offered through the CDCE and write down your other valuable feedback/comment in the space given below.

.....
.....
.....
.....

Thank you for your kind support.

ANNEXURE 2
Tables of Statistics

Reliability Statistics - Need

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.510	.591	4

Reliability Statistics - Job

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.635	.658	4

Reliability Statistics - Mode

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.704	.705	4

Descriptive Statistics - Need

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
N1	416	1	6	3.62	1.319	-.131	.120	-.775	.239
N2	416	1	6	4.98	.958	-1.519	.120	3.547	.239
N3R	416	1	6	2.20	1.020	.938	.120	1.029	.239
N4	416	1	6	5.31	.806	-1.602	.120	4.589	.239
N5	416	1	6	5.17	.846	-1.341	.120	3.310	.239
Valid N (listwise)	416								

ITEM	
N1	The programmes offered currently through the CDCE are adequate.
N2	The CDCE should offer more diversified programmes.
N3R	The programmes offered through CDCE are more traditional.
N4	The CDCE should offer new programmes.
N5	The CDCE should contribute more in continuing education of the citizens.

Descriptive Statistics – Job Opportunities

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
J1	416	1	6	4.56	1.215	-.912	.120	.445	.239
J2R	416	1	6	3.10	1.350	.165	.120	-.889	.239
J3	416	1	6	5.09	.917	-1.372	.120	3.046	.239
J4	416	2	6	4.93	.892	-1.006	.120	1.331	.239
J5	416	1	6	5.29	.850	-1.943	.120	6.296	.239
Valid N (listwise)	416								

ITEM	
J1	The programmes offered through CDCE are good enough to find a suitable job.
J2R	The qualifications obtain through CDCE programmes are not directly useful in finding a job
J3	The CDCE should offer more job related programmes.
J4	The qualifications obtain through CDCE programmes should be able to use in day-to-day life.
J5	The CDCE should launch the programmes that are useful in the development of the society.

Descriptive Statistics – Mode of Instruction

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
M1	416	1	6	5.10	1.014	-1.619	.120	3.485	.239
M2	416	1	6	5.19	.983	-1.636	.120	3.493	.239
M3	416	1	6	5.34	.945	-1.938	.120	4.554	.239
M4R	416	1	6	2.94	1.390	.738	.120	-.186	.239
M5	416	1	6	5.30	1.031	-1.925	.120	3.955	.239
Valid N (listwise)	416								

ITEM	
M1	The CDCE should offer more face to face programmes.
M2R	The programmes offered through CDCE should be online.
M3	The programmes offered through CDCE should have both online and face to face sessions.
M4R	The online programmes cannot be followed easily.
M5	The online mode for the programmes will be more suitable for the future.

Descriptive Statistics – Demanding Courses

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
P1	413	1	6	4.40	1.425	-.809	.120	-.196	.240
P2	413	1	6	4.49	1.210	-.800	.120	.289	.240
P3	413	1	6	5.41	.950	-2.428	.120	7.369	.240
P4	413	1	6	5.25	.978	-1.731	.120	3.867	.240
P5	413	1	6	5.00	1.115	-1.468	.120	2.330	.240
P6	413	1	6	5.04	1.115	-1.433	.120	2.198	.240
P7	413	1	6	4.59	1.288	-.789	.120	.030	.240
P8	413	1	6	4.20	1.453	-.501	.120	-.641	.240
P9	413	1	6	5.02	1.107	-1.414	.120	2.346	.240
P10	413	1	6	4.97	1.237	-1.495	.120	1.922	.240
P11	413	1	6	5.27	.967	-1.661	.120	3.391	.240
Valid N (listwise)	413								

ITEM			
P1	Course in Pre - School Teaching	P7	Course in Hotel Management
P2	Course in Quantity Surveying	P8	Course in Fashion Design
P3	Course in General English	P9	Course in Computer Graphic Designing
P4	Course for Computer Application Assistants (MS)	P10	Course in Cyber Security
P5	Course in Human Resource Management	P11	Course in Computer Web Designing
P6	Course in Tamil Language		

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
NT1	413	1.50	6.00	4.7712	.63881	-.919	.120	2.290	.240
MT1	413	2.25	6.00	5.2264	.72441	-1.349	.120	2.087	.240
JT1	413	2.00	6.00	4.9667	.67771	-.998	.120	2.148	.240
Valid N (listwise)	413								

Descriptive Statistics

	Mean	Std. Deviation	N
NT1	4.7712	.63881	413
MT1	5.2264	.72441	413
JT1	4.9667	.67771	413

Correlations of the factors				
		NT1	MT1	JT1
NT1	Pearson Correlation	1	.369**	.515**
	Sig. (2-tailed)		.000	.000
	Sum of Squares and Cross-products	168.127	70.332	91.854
	Covariance	.408	.171	.223
	N	413	413	413
MT1	Pearson Correlation	.369**	1	.635**
	Sig. (2-tailed)	.000		.000
	Sum of Squares and Cross-products	70.332	216.207	128.488
	Covariance	.171	.525	.312
	N	413	413	413
JT1	Pearson Correlation	.515**	.635**	1
	Sig. (2-tailed)	.000	.000	
	Sum of Squares and Cross-products	91.854	128.488	189.230
	Covariance	.223	.312	.459
	N	413	413	413
**. Correlation is significant at the 0.01 level (2-tailed).				

Regression – NT/JT Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.515 ^a	.265	.263	.58165	.265	148.333	1	411	.000

a. Predictors: (Constant), NT1

b. Dependent Variable: JT1

Regression – NT/MT Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.369 ^a	.136	.134	.67414	.136	64.738	1	411	.000

a. Predictors: (Constant), NT1

b. Dependent Variable: MT1

Regression – MT/JT Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.635 ^a	.404	.402	.52405	.404	278.042	1	411	.000

a. Predictors: (Constant), MT1
b. Dependent Variable: JT1