

An Exploration of the Cisco Online Courses: A Basis for the Development of a Learner's e-Workbook in Introduction to Network Technology

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Abstract

The purpose of this study was to assess the effectiveness of the Cisco Online Course vis-à-vis the conduct of the regular course in Introduction to Network Technology in terms of contents, learning materials and assessment. This study made use of a descriptive survey method to assess the effectiveness of the alternative mode of delivery of the course along the criteria mentioned. The data were gathered with the aid of a questionnaire addressing certain areas. The results of the study revealed that no significant difference was noted as far as the contents of the course are concerned. However, significant differences were noted on the use of learning materials and assessment. As an output, a learner's e-workbook in Introduction to Network Technology was developed to augment the present study materials and to improve the learning experience of the students.

Keywords: online learning, face-to-face methodology, e-workbook, Computer-Aided Assessment (CAA), Introduction to Network Technology

Introduction

Education over the years had gone through paradigm-shifts. Alternative education includes varied approaches to teaching and learning distinct from what is accessible by conventional or traditional education. The emergence of technology and the availability of a wide-variety of electronic tools, among other factors, have contributed to this transformation.

In the realm of higher education alone, alternative teaching methodologies included various forms of online and computer-based education alongside the regular curricular offerings. Some others, have blended the teaching-learning process into a combination of face-to-face and online education.

Some universities, apart from its regular conduct of courses, partner with other entities to share their resources and other educational services. These collaborations are perceived to improve teaching and learning.

This study was conducted for the purpose of evaluating the effectiveness of the Cisco Online Courses alongside the conduct of the regular course in terms of Contents, Learning Materials, and Assessment. The research was also done to assess the extent of compliance of the students as regards the online assessments, hence will lead to the determination of the passing and failing rate of students enrolled. Based on the findings, a learning material was developed to augment the present study materials and to improve the learning experience of the students.

Related Literature

In the study conducted by Neuhauser, C. (2002), the researcher compared two sections of the same course, one of which was online and the other through face-to-face method. Among other variables, the effectiveness of course activities, tests grades, and final grades were examined.

On the effectiveness of course activities, "the students were asked to evaluate the effectiveness of each major component of the course in relationship to their learning. The purpose was to ascertain any differences that might have an impact on the effectiveness of online versus FTF methodology, to investigate the relationship between learning styles and effectiveness, as well as to supply information for future course design. There was no significant difference between the two sections on the effectiveness of the various course activities, except for the pretest and the chapter review, which were found to be significantly more effective for the online sections. "

On Test Scores and Final Grades, "even though the average test score was higher for the online group, the results of the t test showed no significant difference between the two groups. The grades were actually higher in the online section but not significantly so."

Stansfield, M., et. al. (2004) mentioned: "Within many educational institutions across the world, the delivery of undergraduate and postgraduate courses is facilitated by online learning technologies. The

development and transformation of traditional academic courses for online learning delivery provides a number of opportunities for both the academic institution and prospective students. However, there are a number of important issues that need to be addressed if online learning is to contribute to the educational experience.

In developing a learning framework for their programme, they considered the course design. As such, according to them: “Designing valid learning tasks requires a sound knowledge of both the relevant academic subject matter and, as far as possible, of how learners learn. The learning task is in itself the specification for the ensuing learner activity. The specification of the learning task must be sufficiently detailed to avoid the possibility of the learner engaging in inappropriate or unproductive activity, but should not be so detailed as to stifle a creative response by the learner to completing the task. Learner activity is the process whereby learners interpret the specifications of the learning task and complete the work involved in the task. Learning outcomes are inextricably linked to the learning tasks, and so the design of educationally valuable learning tasks calls for clarity and precision in the specification of learning outcomes”.

In terms of contents, “the e-workbook was designed to be used alongside the full-text version of the course materials. The e-workbook contains a summarized version of the course materials and is a carefully tailored, accurate version of the full text. The materials are couched in language familiar to learners, which allows them to work through the basic concepts using the interactive elements, and gives them time for reflection and consideration. Learners have a wide variety of screens to work from in the e-workbook and each screen incorporates learning activities.”

Costagliola, et. al,(2004), introduced “a Web application for creating and making use of on-line tests to evaluate learner’s competency in different subjects by means of multiple choice questions. Its use is suitable within the academic environment in a blended-learning fashion both by tutors, for having an additional assessment tool, and by learners, for performing a distant self-assessment. Main features, architectural design, technical notes and future extensions of the application, called eWorkbook, were covered in the study”.

Costagliola, et. al,(2007), in the article, presented “a Computer-Aided Assessment Web application, named eWorkbook, which can be used for evaluating learner’s knowledge by creating (the tutor) and taking (the learner) on-line tests based on multiple choice, multiple response and true/false question types. Its use is suitable within the academic environment in a blended learning approach, by providing tutors with an additional assessment tool, and learners with a distance self-assessment means. In the article, the main characteristics of the tool are presented together with a rationale behind them and an outline of the architectural design of the system”.

Methodology

This study made use of a descriptive survey method to assess the effectiveness of the alternative mode of delivery of the course. The study utilized a survey questionnaire which was administered to the target respondents of the study along the key areas.

The instrument contained two parts. Part I was intended for collecting the profile of the respondents. It was reflected but not included as part of the analysis. Part II was intended to collect data. There were questions assigned to each independent variable. Corresponding each question were five numerical scales. Responses to the questions were electronically tallied by the researcher after their collection. Weights were assigned to the qualitative scales and the weighted mean of each item in the questionnaires were also determined. T-test was used to determine whether significant difference existed between the responses of the students and teachers. Hard data were used in the analysis of the compliance of students on the assessment part of the online course and passing/failing rate.

Findings

The results showed that there was no significant difference between the responses of the two groups of respondents. The results revealed that the contents available online supplements the regular lectures to a great extent. However, the learning materials and assessment part were considered as an area of concern. In the assessment, factors that contributed to it as a concern, among others, are the availability of dumps. The concepts, analysis and skills tested in the online assessment are hindered because the students tend to just memorize the answers. On the other hand, the results revealed that from the teacher side, student compliance to the taking of the online quizzes, showed a little extent. Based on the hard data, it showed that 3 for every 10 students failed because of several factors which includes, among others, the inability of the students to do the online quizzes as scheduled by the teacher and their lack of preparation during the conduct of online assessment.

To address the findings, a learning material was developed to ensure that critical analysis of the course is validated. The learner’s e-workbook was designed to include exercises that will verify the knowledge, skills and analysis of the students on the subject matter. Furthermore, a rubric for each assessment was also included to provide consistency in marking. The e-workbook, apart from being a learning material, was also intended to cover-up any missed online assessment.

Conclusion

While blended learning or hybrid courses, combination of face-to-face and online learning are increasingly offered at colleges and universities (Garrison, R. et al, 2008) and with growing evidence that they can enhance student learning (Means, B. et al, 2008), other ways to improve the learning activities have emerged. On the basis of the result of this study, an e-workbook was developed as a supplement to the learning materials already available to the students.

In the design of learner’s workbook, it is important to note that “learners should be able to acquire a full understanding of the course materials from the e-workbook and assessment criteria and methods must be closely aligned to the stated learning outcomes to meet learners’ reasonable expectations of the kind of performance that is required of them. (Stansfield, et.al., 2004).

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Notes

Table 1. Effectiveness of the Course

CRITERIA	INTERPRETATION	ONLINE COURSE	REGULAR CONDUCT OF CLASSES
Contents	Great Extent	87%	85%
	Low Extent	13%	14%
	Very Low Extent	0%	1%

Note: No significant differences between the two courses (p< .05).

Learning Materials	Great Extent	78%	66%
	Low Extent	22%	34%
	Very Low Extent	0%	0%

Note: significant differences at the .05 level

Assessment	Great Extent	70%	80%
	Low Extent	30%	20%
	Very Low Extent	0%	0%

Note: significant differences at the .05 level

Table 1 shows the percentage distribution of the respondents' responses on the effectiveness of the conduct of the course in terms of content, learning materials and assessment.

Figure 1. Level of Compliance

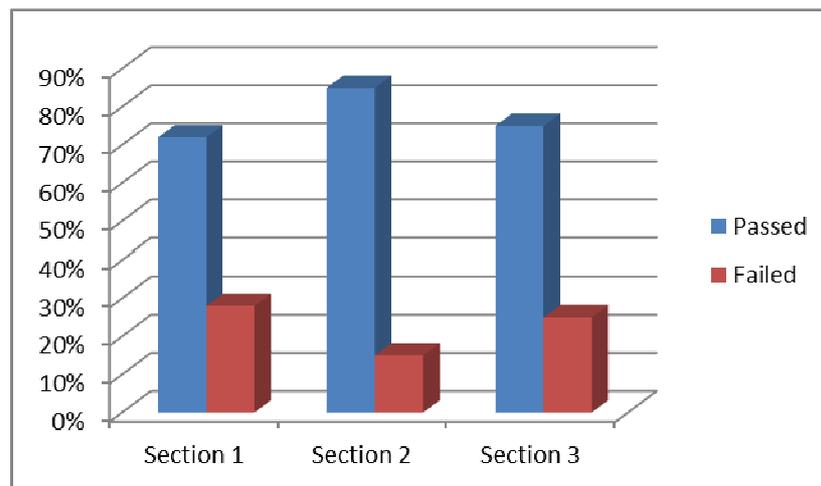


Figure 1 shows the level of compliance of students in the 3 sections. The table shows that, on the average, the rate of those who failed the online course are 3 for every 10 students due to some factors mentioned in the results.

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