



Chapter 4

Evaluation

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Chapter 4

Evaluation

4.1 Introduction

"Evaluation is the systematic assessment of the worth or merit of some object."
(Trochim, 1999)

Trochim states that the "generic goal" of most evaluations is to provide "useful feedback" to different audiences and that evaluation should influence decision-making. Trochim describes the planning and evaluation of a multimedia program very clearly in Figure 4.1

Figure 4.1 Planning-Evaluation cycle (Trochim 1999)

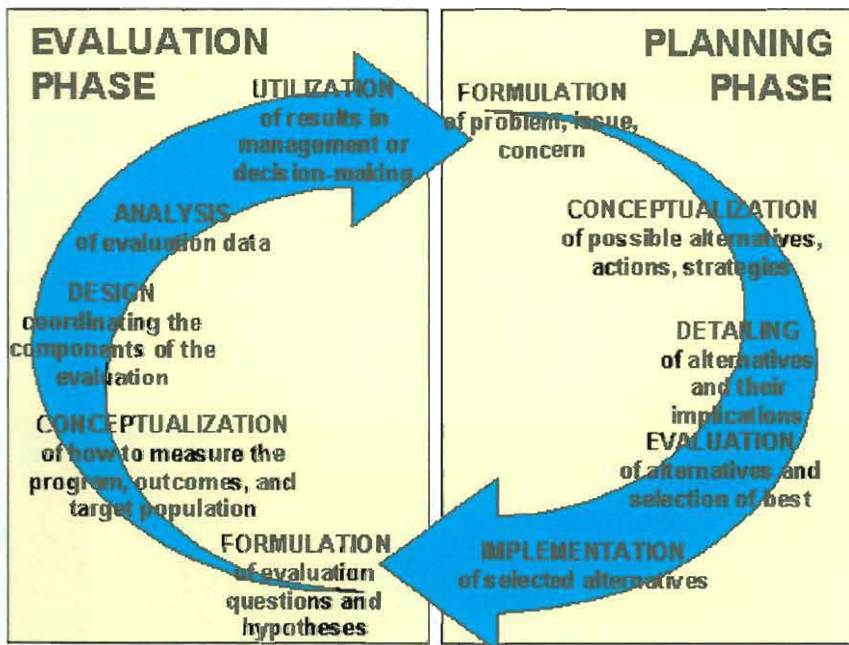


Table 4.1 reveals the instruments versus the questions answered through out the research.

Table 4.1 Topics addressed by the Research Questions

Topic addressed	Questions	Discussion
Content	<ul style="list-style-type: none"> ◆ What does the target population need to know - general info and specific info? ◆ How will effective learning take place on a web-based program? ◆ What is the level of skills and ability of the learner within the program? ◆ In what way will distance learning be combined with real class contact? 	<ul style="list-style-type: none"> ➤ Questionnaire 2 ➤ Chapter 2 (Literature) ➤ Questionnaire 1 ➤ Questionnaire 2 <p>To be answered in Chapter 4</p>
Communication issues	<ul style="list-style-type: none"> ◆ What methods of communication are necessary to ensure effective learning? ◆ What does the learner need to have access to these communication channels? ◆ What different groups will be communicating through this web site? 	<ul style="list-style-type: none"> ➤ Chapter 4 ➤ Questionnaire 1&2 <p>Known through meetings with client and notes in Research diary.</p>
Structural issues	<ul style="list-style-type: none"> ◆ How should a web site be structured to ensure logic and easy use for the target population? 	<ul style="list-style-type: none"> ➤ Chapter 2 ➤ Questionnaire 2
Design issues	<ul style="list-style-type: none"> ◆ What will make a web site work? ◆ Which design principles should be applied to ensure an effective site? 	<ul style="list-style-type: none"> ➤ To be answered in Chapter 4. ➤ Chapter 2

The **formative evaluation** was done during the development of the program to ensure that the essential design principles were followed. For detail on the samples, instruments and methods refer to the development phase in Chapter 3 (54-55).

Formative evaluation, which includes different types of evaluation according to Trochim (1999), is displayed in Table 4.2.

Table 4.2 Formative evaluation during the development phase.

Evaluation types	Activities
Needs assessment	
Who needs the program? How great is the need? How will we meet the need?	<ul style="list-style-type: none"> ✓ Target population questionnaire 1/Questionnaire 2 for enrolled students ✓ Needs analysis indicates the extent. ✓ Informal interviews with students on Open day and Questionnaire 2
Evaluability assessment	
Is an evaluation feasible? How can the users help to create its usefulness?	<ul style="list-style-type: none"> ✓ Formative and summative evaluation to improve product. ✓ Suggestions and comments from fellow students, friends and colleagues to improve the program. <p>The needs of the target population were incorporated into the program and the users evaluated the effectiveness thereof through questionnaire 3.</p>
Structured conceptualization	
Will the program, the target population and possible outcomes be defined?	<ul style="list-style-type: none"> ✓ The client defined the program during a meeting with the researcher. ✓ The target population was roughly defined by the client and described in more detail through questionnaire 1&2. ✓ Expectations by the researcher and the client regarding the possible outcomes.
Implementation evaluation	
How successful is the delivery of the program?	<ul style="list-style-type: none"> ✓ Expert evaluators have positive comments about the site. ✓ Other users agree to a large extent as to the usefulness and effectiveness of the site.
Process evaluation	
Is the process of delivery appropriate or should an alternative procedure be considered?	<ul style="list-style-type: none"> ✓ Delivery on the U.P web space (WWW) and a CD-ROM is practical, convenient and appropriate. Prior knowledge gained through questionnaire 1. ✓ The client suggested the CD-ROM for advertising purposes and presentation of the course material.

4.2 Model for evaluation

4.2.1 Participant-oriented model

The centre of importance is the evaluation participant. This is especially relevant where the user expresses his/her opinion on a program designed for a specific purpose (Trochim, 1999).

According to Trochim it is more important to distinguish between the formative and summative evaluation.

Formative evaluation means that the program being evaluated, is "strengthened or improved" (Trochim, 1999). The evaluators examine the delivery of the program, the quality of the implementation and the context.

Summative evaluation on the other hand, examines the outcomes of the program. This includes the activities after the delivery of the program, the impact the program has on the target group and in case of expenses, the estimated costs associated with the project.

Hannafin & Peck (1988:301) stress the fact that the purpose of **summative evaluation** is not to modify or revise. It is an end in itself and does not result in major changes of the content or the procedures.

The **summative evaluation** was conducted after the development of the program and the evaluation stage is described in Table 4.3.

Table 4.3 Evaluation stage of the program

Stage	Activities	Output
Evaluation <ul style="list-style-type: none"> ▪ Summative 	<ul style="list-style-type: none"> ◆ Conduct the summative evaluation. ◆ Revise the program 	<ul style="list-style-type: none"> ◆ Evaluation of the site by experts and users. ◆ Make the changes to the program and refine
Report	<ul style="list-style-type: none"> ◆ Describe the findings and make the appropriate recommendations to enable further development. 	<ul style="list-style-type: none"> ◆ Research Report ◆ Delivering the final program.

4.2.2 Summative evaluation

The summative evaluation is divided into the following categories according to Trochim (1999).

Table 4.4 indicates the different categories of the summative evaluation.

Table 4.4 Summative evaluation process

Evaluation categories	Activities
<p>Outcome evaluations: (whether the program has an effect on specifically defined target outcomes)</p>	<ul style="list-style-type: none"> • A prominent effect on the communication of students with other students and students with lecturers. • The value of the program in terms of learning
<p>Impact evaluation: (assesses the overall effects of the program)</p>	<ul style="list-style-type: none"> • Provides a comfortable facility through which the learners can obtain information. • The economical benefits of the program are a concern for most students. • The convenience of gathering information at any time is a great advantage.
<p>Secondary analysis: (re-examines existing data and addresses new questions)</p>	<ul style="list-style-type: none"> • New questions arose from the data gathered through the expert interface rating. • Relationships between data in the different questionnaires were drawn.
<p>Meta-analysis: (integrates the outcome from multiple studies and concludes in an overall judgement on an evaluation question)</p>	<ul style="list-style-type: none"> • Other similar studies are used to compare the outcome of this study and the recommendations are made from that.

The research question that needed to be answered by the summative evaluation, was:

What makes a web site work?

In order to decide whether the program accommodates the main research question successfully, a summative evaluation was conducted. The main research question that needed to be answered is:

What are the issues to consider when building a web site in order to achieve effective learning and comfortable, efficient communication within an educational institute?

4.3 Samples used to conduct the summative evaluation

The target population was mainly students involved in the Program in Interior Design.

During the evaluation process a variety of individuals participated in the evaluation of the web site. This resulted in a much broader spectrum of opinions from users outside the Interior Design industry.

The samples comprised of the following:

- ◆ All levels of enrolled students.
- ◆ Lecturers within the Department of the Built Environment (Interior Design, Architecture).
- ◆ Students busy with a Diploma in CBT (Computer Based Training).
- ◆ Colleagues and friends.
- ◆ Experts in Information Technology (IT) and web design.

4.4 Evaluation instruments

4.4.1 User interface rating form

Questionnaire 3 was designed to accommodate the user in general. The questions were aimed at the layout of the web site, the navigation, the content and the ease of use. A scale from 1-5 was provided to evaluate the different aspects. There was sufficient space provided to add comments or make suggestions in order to maximize the effectiveness of the site.

(See Appendix C)

4.4.2 Expert interface rating form

The researcher compressed the above questionnaire and compiled Questionnaire 4, which was sent via electronic mail to 12 experts in the field of web design. The expert evaluators were given the opportunity to comment on every specific aspect. The completed evaluation form had to be returned to the address within a week.

(See Appendix D)

4.5 Other data collection methods

During a focus group, the client and the researcher discussed and assessed the program.

The researcher kept a research diary up to date by entering all the relevant and significant data gained via electronic conversations and informal meetings with the client.

The researcher gathered all the data by means of the methods mentioned and significant relationships and comparisons are discussed in Chapter 5 (Findings).