

Evaluation in Distance Education ¹

by

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Introduction

The challenge of evaluation in distance education can be both a complex and confusing enterprise. Most of us would like to merely get on with it, do an evaluation of our distance education program, and not spend an inordinate amount of time defining evaluation terms, clarifying evaluation concepts, and being confused with semantic differences that are apparent whenever the topic of evaluation is presented. However, the truth is that we must work our way through all of the terms, concepts and semantic differences if we are ever to move to the point of being able to construct and implement meaningful evaluation in distance education. The good news is that once we understand the “playing field” of evaluation our evaluation practice becomes a rather simple task instead of a daunting challenge.

A major challenge of evaluation in distance education emanates from the very distance that exists between the learner and the teacher. This distance creates a situation whereby the control of the teacher is reduced and the control of the learner is increased. And, of course, as the teacher’s control is reduced so is the teacher’s ability to completely control the design and implementation of evaluation strategies. It is imperative that the educator in distance education explore evaluation strategies that provide for increased ways in which the learner can exercise control for the purpose of individual growth and development. Without such recognition of the enhanced role played by the learner in distance education, evaluation runs the risk of becoming a meaningless exercise that yields little valuable information. Input from the learner into the evaluative process is essential in a well designed distance education program.

This chapter has been organized around a set of three discrete and powerful concepts that form the basis for the successful selection, design and implementation of evaluation strategies in distance education - especially evaluation strategies that accommodate a concern for significant learner involvement.

At the conclusion of this chapter you will:

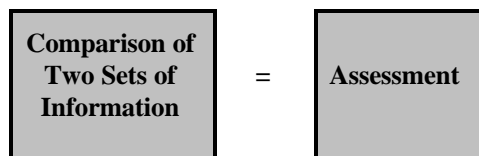
¹ **Evaluation in Distance Education** is one chapter in the book **Encouraging Learning: The Challenge of Teaching at a Distance**. Copyright MMIII LearnerAssociates.net

1. Be able to differentiate between **measurement**, **assessment** and **evaluation**; and know when each level is most appropriate to be used in distance education.
2. Understand that evaluation strategy changes in relation to the recipient of the evaluation results. The intended audience for the evaluation results directly influences the type of evaluation that is used. For instance, an evaluation that is to be presented in a report to a **sponsoring agency/group** is inherently different than one that you, as the **instructor/developer**, might use to get better insight into the teaching process used in the distance education program; and also very different from an evaluation that will be used to help the **learners** assess their own learning at a distance.
3. Appreciate that evaluation can be used at different times during and after a distance education program in order to allow the examination of different program elements. Key elements that can be examined include the **inputs** that were selected, the **processes** that were used, the **products** and **outputs** that were achieved, and the **outcomes/impacts** that affected the lives of the learners, their community or their organization. Evaluation differs in purpose and difficulty depending on which element is to be evaluated.
4. Be able to identify actual evaluation instruments in terms of the above characteristics.

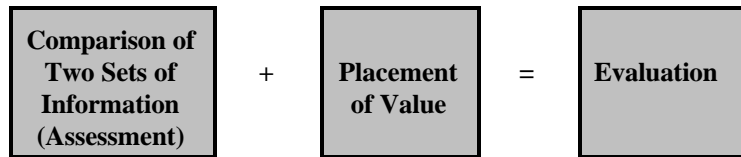
Differentiating Between Measurement, Assessment, and Evaluation

Evaluation consists of the merging of two very powerful ideas - the comparing of two sets of information and the placement of value on this comparison.

For instance we may have data that describes the learning outcomes of a face-to-face instructional program. When these data are compared with similar data drawn from a distance education program we are on the road toward evaluation. First, though, we are faced with an assessment - comparing two sets of information.



Next, when we assign a value to this assessment, we have arrived at evaluation.



But why in the world would someone want to stop at assessment, the comparing of two sets of information, when turning it into an evaluation could easily be achieved by just adding a statement of value to the comparison? The answer, of course, is politics and risk. The minute we place a value on the comparison we are opening ourselves to risk. What if the learning outcomes of a face-to-face instructional program are greater than those of a distance education program? We might want to merely state those facts (assessment) or go on to say that the face-to-face program was *better* (evaluation). The decision is yours! However, remember that assessment and evaluation are not the same thing. To move to the level of an evaluation demands that a value be placed on the outcomes of an assessment.

Words that can indicate an <i>assessment</i>	Words that can indicate an <i>evaluation</i>
More (Less)	Better (Worse)
Greater (Lesser)	Stronger (Weaker)
Larger (Smaller)	Improved
Higher (Lower)	Significant
Farther (Closer)	Enhanced
Louder (Softer)	Enriched
Increased (Reduced)	

For some, even the use of assessment, the comparing of two sets of information, can be perceived as a high risk. The presenting of information in the form of an educational assessment can be seen as just waiting for someone to assign it a value and then turning it into an evaluation without any help from you! What to do?

If we were to reduce the educational assessment to only a single set of information we would have an educational measurement. A measurement is the clear presentation of a set of scores, a set of outcomes, or a set of information that has been drawn from an instructional program. It is like a snapshot or a single picture taken of a program with no attempt to compare the picture to another picture - another program, a criteria, an expectation, a different point in time, etc.

Educational Measurement
(A snapshot/single picture
of an educational program.)

Educational assessment is the comparison of two measurements.



The first level or step toward a full educational evaluation of a distance education program, then, can be considered that of an educational measurement. Measurement consists of a single set of information regarding some aspect of the distance education program. It is presented as fact with no attempt to compare it with anything else or to assign any value to the information.

Measurement statements:

The distance education learners scored a combined 87% on the final examination.
The concept of a t-test was learned by all learners at the 3 downlink locations.
Clarity of materials, flexibility of learning times and prompt feedback were rated 4.8 by the learners on a 5.0 scale.

The second step toward an educational evaluation is that of assessment. Two different measures or sets of information are brought together to allow comparison. However, no attempt is made to assign any value to the similarity or difference between the two sets of information.

Assessment statements:

*The distance education learners scored a combined 87% on the final examination, **which was 4% higher than the same class taught in a face-to-face situation.***
*The concept of a t-test was learned by all learners at the 3 downlink locations **of which only 10% knew the concept at the beginning of the course.***
*Clarity of materials, flexibility of learning times and prompt feedback were rated 4.8 by the learners on a 5.0 scale. **A rating of 4.0 was considered acceptable.***

And finally we have educational evaluation - the comparing of two sets of information and the

placement of value on this comparison.

Evaluation statements:

*The distance education class **surpassed our prediction** when they scored a combined 87%, which was 4% higher than the same class taught in a face-to-face situation.*

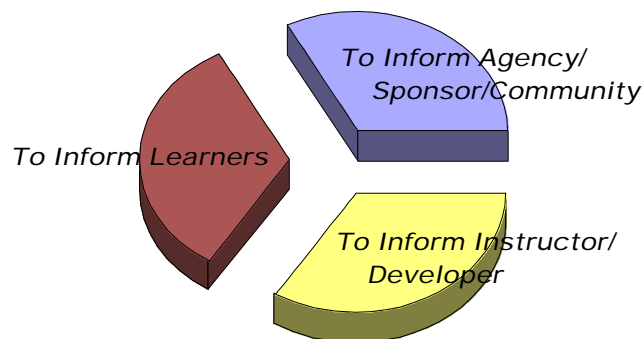
***Great improvement was shown** when the concept of a t-test was learned by all learners at the 3 downlink locations of which only 10% knew the concept at the beginning of the course.*

*The computer-based correspondence program **exceeded expectations** when clarity of materials, flexibility of learning times and prompt feedback were rated 4.8 by the learners on a 5.0 scale. A rating of 4.0 was considered acceptable.*

Considering The Purpose Or Use of an Evaluation

A large trap that many evaluators (assessors or measurers) fall into is assuming that one type of evaluation can fit a myriad of uses. For instance, the data that have been collected to help an instructor understand how to make improvements the next time the course is taught is made the focus of a report to the sponsoring agency. Or, an exercise to help learners better understand how to improve their own discipline for learning at a distance is used to identify weak points in a satellite delivered program. Each of these cases suffers from the inappropriate use of an evaluation to fulfill a secondary purpose.

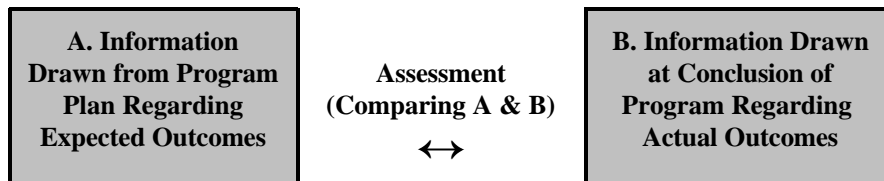
Three Major Recipients of Evaluation Results



Purpose - Evaluation Intended to Inform the Agency/Sponsor/Community. Clearly the use that is most often the basis for an evaluation is a concern for accountability by the group that has sponsored the program. Tyler refers to this as program evaluation that is used to “provide estimates of effects and costs.” (Tyler, 1991, pg. 4) It is a most appropriate expectation for a sponsoring group to want to find out to what extent their assistance in aiding the program has “paid off.” Has the program achieved the intended objectives? Have the observable outcomes been in line with what was originally planned? Was the program a good investment? These questions and other similar ones form the basis for what Michael Scriven² originally referred to as **summative evaluation** - evaluation that occurs at the conclusion of a program and intends to look at effects in a conclusive manner.³

Evaluation that intends to inform the sponsoring group can truly be evaluation, but often it stops just short of being an evaluation and takes the form of assessment whereby two sets of information are compared and no defined value is placed on the comparison. One set of information for the assessment is that which is collected at the conclusion of the program. These data may be drawn from participant observations, cognitive testing, instructor reactions, or other *ex post facto* forms of data. The second set of information, that which allows an assessment to be made, is often taken from the preliminary plan for the program. Statements of expected outcomes, as presented in the initial program plan, are compared with the data collected at the end of the program and a comparison is made. It is then possible to make a clear comparison between what was intended and what was achieved - an assessment of the program.

**Summative Assessment:
Intended to Inform the Agency/Sponsor/Community**

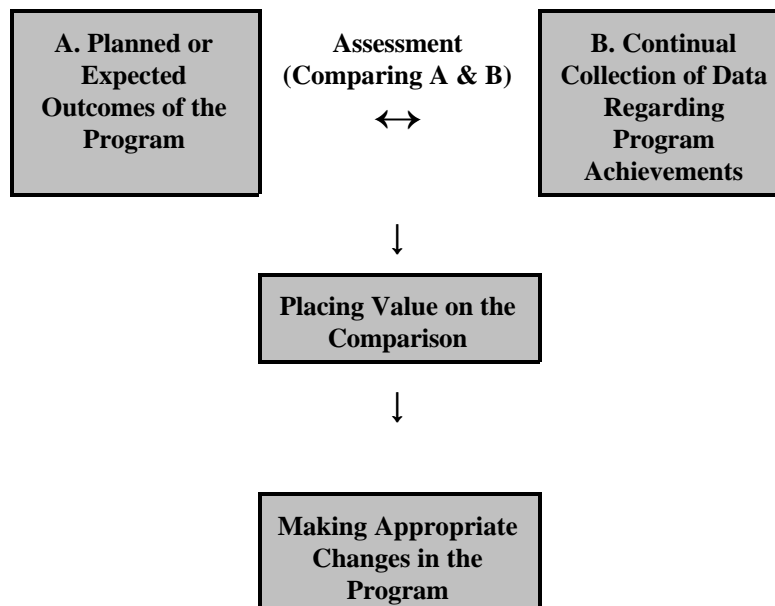


² Michael Scriven, “The Methodology of Evaluation,” in Perspectives of Curriculum Evaluation, ed. Robert E. Stake, AERA Monograph Series on Curriculum Evaluation, no. 1 (Chicago: Rand McNally, 1967).

³ On the other hand, formative evaluation refers to that form of evaluation that is done to make improvements in a program. Summative evaluation, when compared to formative evaluation, was expressed well by Robert Stake when he described the difference as the difference between when the cook tastes the soup (formative evaluation) and when the guest tastes it (summative evaluation).

Purpose - Evaluation Intended to Inform the Instructor/Developer. A second popular use for evaluation, though not as frequently employed as the above, is to inform those responsible for providing the instructional program. Data are collected that help the instructor and others involved with the design and delivery of the distance education program get a sense of how they are doing and what might be changed if the program were to be repeated. This type of focus for an evaluation is seen as a developmental strategy, one that builds and changes over time, and the evaluation is called **formative** since it is designed to help form the program in new ways or to make improvements in the program. Collection of data is not reserved exclusively for the conclusion of the program. Data are collected throughout the program and continually compared with the planned or expected data. Value is assigned to these comparisons and judgements are made regarding how “good” the program is or what aspects might need “improvement” or “refinement”. Changes and improvements in the program are able to be made “on the run” to take full advantage of the information that is being collected when it is collected.

**Formative Evaluation:
Intended to Inform the Instructor/Developer**



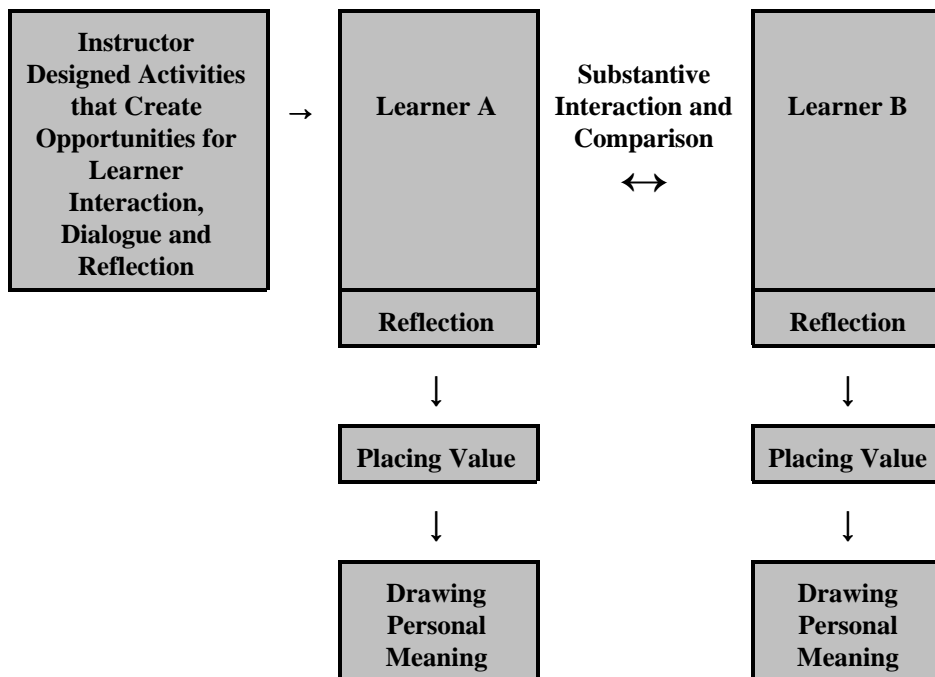
Purpose - Evaluation Intended to Inform the Learners. The evaluation use that is least often implemented is that which is created to inform the learners - to let the learners self-reflect to know if they are being successful, if their goals and objectives are being attained, and if they have made a good investment in the distance education program. Such learner-focused evaluation is often an

instinctive part of the learning process and goes on unobtrusively and rather automatically. Seldom is evaluation that is intended to inform the learners made explicit through a strategy implemented by a facilitator or teacher in a distance education setting.

Evaluation that is implemented with the intention of informing the learners is very different from evaluation which is designed to inform the teacher, who in turn informs the learner. Evaluation that is truly designed to inform the learner, and remove the teacher from a “middle man” role, can be viewed as **empowering evaluation**. Such evaluation often is based on reflective opportunities that are built into the instructional program, and usually provide opportunities for learners to interact directly with each other. It may be an activity as simple as the providing of time and structure that allow learners to give written feedback to each other via a bulletin board or the use of small group discussions that are conducted by learners via email without the intervention of the teacher.

It is often hard to differentiate evaluation that is intended to inform the learners from a highly learner interactive distance education program. A hallmark of such a highly interactive program is the considerable amount of responsibility that is shared with the learners.

**Empowering Evaluation:
Intended to Inform the Learners**



A comprehensive approach to evaluation in distance education should include some aspect of each of the three uses for evaluation: to inform the agency/ sponsor/community, to inform the instructor/developer, and to inform the learners.

<i>Evaluation that is intended to:</i>	<i>Can be labeled:</i>	<i>And is usually described as:</i>
Inform the Agency/ Sponsor/Community	Summative Assessment	Most frequently used Expected by the funding agency Reflecting back on original intentions Occurring at the conclusion of the program Only an assessment
Inform the Instructor/Developer	Formative Evaluation	Often used Helping the designer make changes Occurring in an ongoing manner Developmental in nature Being useful when the information is collected
Inform the Learners	Empowering Evaluation	Least frequently used Controlled by the learners Self-reflective in nature An instinctive part of the learning process Helpful when the educator makes it explicit Building on learner-learner interaction

Considering Which Aspect of the Distance Education Program Will Be Evaluated

With distance education, more so than other less technologically based forms of education, the question of which aspect of the program will be evaluated becomes a major focus. This occurs because there seems to be so many more aspects to consider! Will we be evaluating the array of equipment and technology that has been brought together to facilitate teaching at a distance (computer software, telephone lines, CODEC units, interactive classrooms, etc.)? Or, will we be evaluating learning to gain a sense of exactly what changes have taken place in the learners? And, if we are evaluating change as a result of learning, will we be looking at recall immediately following the distance education program or will we be considering the application of the learning months after the conclusion of the program? These and other similar questions become the basis for considering the specific aspects of the program that will be evaluated.

Kaufman (1983), in a chapter focusing on needs assessment, presents the Organizational Elements Model (OEM) which provides a very helpful perspective on five separate elements or aspects that can be the basis for evaluation. Kaufman presents his elements in a sequential manner based upon their occurrence within an educational program.

The Organizational Elements Model (OEM)
Roger A. Kaufman (1983)

<i>Organizational Efforts</i>		<i>Organizational Results</i>		<i>Societal Impact</i>
Inputs ➡	Processes ➡	Products ➡	Outputs ➡	Outcomes

Organizational Efforts (Inputs and Processes). The first two elements are referred to as Organizational Efforts and describe the array of resources and teaching-learning methods that are orchestrated by the educator and educational organization. The Organizational Efforts - inputs and processes - are those aspects of a distance education program that are under the complete control of the educator and are designed and delivered by the educator in such a manner to facilitate learning.

Organizational Efforts	
Element	Examples in Distance Education
Inputs	Interactive Classroom Computers Broadcast Studio Instructional Objectives Community Access Locations Resource People Computer Bulletin Board Videotaped Lectures
Processes	Sequence of Topics Learner Feedback from Instructor Organization of Curriculum Informal Discussion Groups Virtual Field Trip

Organizational Efforts are those efforts that are most controlled by the educator or organization and it logically follows that the organizational efforts are also those parts of the educational program that are easiest to evaluate. Evaluation would hardly be a challenge if it were only focused on those things that we can control!

Questions that can be answered through an evaluation of Organizational Efforts might include:

- Was the selected technology appropriate for the learners? content? (Inputs)*
- Did the instructor provide sufficient structure to allow an appropriate comfort level for the learners? (Processes)*
- Were appropriate educational resources available to the learners in a convenient and timely manner? (Inputs)*
- Did the technical systems operate as expected? Did breakdowns occur? (Inputs)*
- Were the learners able to maintain the pace that was established for the program? (Processes)*

It becomes clear that an examination of *learning* is not a function of an evaluation of Organizational Efforts. Learning evaluation, evaluation which examines the degree to which change has taken place in the individual, is a function of an examination of Organizational *Results*.

Organizational Results (Products and Outputs). Products and outputs, what Kaufman labels as Organizational Results, moves evaluation away from those aspects that the organization is responsible for putting in place and focuses on the results that accrue from their efforts. Organizational results are often seen as countable phenomena that allow the organization to suggest with some assuredness that certain specific things have been achieved as a result of their efforts. These achievements, directly related to the distance education program, can be as diverse as the completion of certificates and degrees or the acquisition of specific knowledge, attitudes, skills, and aspirations (Bennett, 1975). The examination of Organizational Results is what most distance educators have in mind when they go about the challenge of evaluation. It is understood that to achieve meaningful Organizational Results demands the appropriate implementation of meaningful Organizational Efforts. The two are clearly linked and the way to insure their viability is through evaluation.

Organizational Results	
Element	Examples in Distance Education
Products	Number of students completing a program Number of Certificates issued Number of Degrees awarded Specific knowledge, attitudes, skills and aspirations acquired Number of Learners who have Passed an Examination Validation of a Specific Program Documentation of the Use of An Instructional Technology
Outputs	Public Awareness of the Distance Education Program Increased Use of Local Learning Resources Increased participation by distance education learners in community programs

Kaufman cautions that our understanding of the words “Products”, “Outputs”, and “Outcomes” is important and that unfortunately “common language usage intermix these three words.” (Kaufman, 1983, pg. 55). His own defining of the terms is precise and provides a very helpful guideline for considering the two types of Organizational Results and also the difference between Organizational Results and societal impact - which, according to Kaufman, is the essence of Outcomes.

Questions that can be answered through an evaluation of Organizational Results might include:

- How have the graduates of this program impacted the local community? (Outputs)*
- In what way have the learners involved with the distance education program been able to make meaningful use of the skills that have been taught? (Outputs)*
- How many learners that began the distance education program were able to successfully complete the program? (Products)*

Societal Impact (Outcomes). When Kaufman’s view is applied to evaluation it makes evaluation very expansive and the focus moves beyond the individual learner and clearly brings into focus the greater community and the potential that education has for effecting change at that level. In Kaufman’s words, a major role of education is as a “means to societal ends.” (Kaufman, 1983, pg. 56) Outcomes are seen as the impact that Outputs have in and for society. “These are the external or outside-of-school results (or indicators of results) that determine the utility of organizational efforts and organizational results in and for society.” (Kaufman, 1983, pg. 56) Within the context of distance education, a concern for Societal Impact allows us to go beyond the mere concern for elaboration of technology or self-indulging learning and, instead, develop a

sense of the value of learning at a distance within the greater context of society. It significantly strengthens our position and stretches our thinking to look past considering only the learner and his/her own immediate learning needs and creates a greater sense of community as the basis for ultimate change. Distance education evaluation that encompasses a concern for Societal Change looks to the contribution that learning and learners make and the contribution that the program has made to the self-sufficiency of learners and society.

Societal Impact	
Element	Examples in Distance Education
Outcomes	New legislation by government agencies Greater community participation in local decisions Change in the Local Job Market New initiatives in the community Resolution of community problems

Questions that can be answered through an evaluation of Societal Impact might include:

In what ways is the community now better able to accommodate new voices in decision making since the distance education program was offered? (Outcomes)

What have been the long term effects of the program on the responsiveness of the organization in dealing with issues? (Outcomes)

How have the lives of the learners been enriched in unexpected ways since the conclusion of the program? (Outcomes)

The Challenge of Evaluation in Distance Education

In all forms of education evaluation plays a major role in justifying programs, improving practice, and projecting into the future. However, in distance education, where the learner has the potential to move away from the control of the teacher and operate in very autonomous ways, it is essential that the practice of evaluation also be moved closer to the learner. Moving evaluation closer to the learner demands that evaluation be appropriately influenced by the learner's needs of growth and development. Through appropriate learner-focused evaluation practice in distance education it is possible to recognize the learner as a major partner in the teaching learning environment - something that can be too easily overlooked in face-to-face learning situations. Evaluation in distance education must be carefully balanced between a traditional view that allows for program justification/development and a new view that has the potential for empowering learners.

Examples of Evaluation Instruments and Their Application in Distance Education

Example - 1

Evaluation Level		Recipient of Evaluation Results		Program Element to be Evaluated	
	Measurement		Agency/ Sponsor/ Community (Summative Evaluation)		Inputs (Organizational Efforts)
	Assessment		Instructor/Developer (Formative Evaluation)		Processes (Organizational Efforts)
	Evaluation		Learners (Empowering Evaluation)		Products (Organizational Results)
					Outputs (Organizational Results)
					Outcomes (Societal Impact)

How will data be used?

To identify possible aspects of the project that should be considered for future improvement/change.

Johnson County Extension Service
At-Home Video Learning Project
 Project Evaluation

To improve the *Basic Family Economics* at-home learning materials we would appreciate your completing the following items.

The strengths of *Basic Family Economics* were:

The weaknesses of *Basic Family Economics* were:

If another *Family Economics* program were to be developed for at-home use, it should include:

General Comments:

Please return your completed evaluation when you return the videotape.
 Thank You!

Example - 2

Evaluation Level		Recipient of Evaluation Results	Program Element to be Evaluated
Measurement		Agency/ Sponsor/ Community (Summative Evaluation)	Inputs (Organizational Efforts)
Assessment		Instructor/Developer (Formative Evaluation)	Processes (Organizational Efforts)
Evaluation		Learners (Empowering Evaluation)	Products (Organizational Results)
			Outputs (Organizational Results)
			Outcomes (Societal Impact)

How will data be used?

To provide an immediate check of learning that is taking place as basis for possible justification of program.

Basic Family Economics

Web-Based Learning Module

Unit 2 Test

1. The major obstacles to good family economic planning are:

Lack of ability
 Poor time management
 Inability to communicate with each other
 Lack of sufficient funds
 Misunderstanding

2. Most families, when faced with a major economic problem, turn to:

Friends and family
 Financial agencies (banks, credit unions, etc.)
 Financial planners
 No one

3. Economics is a concept:

unknown to most people
 familiar to everyone
 only understood by a few
 that only applies to people with a lot of money

Submit

Example - 3

Evaluation Level		Recipient of Evaluation Results		Program Element to be Evaluated	
	Measurement	Agency/ Sponsor/ Community (Summative Evaluation)		Inputs (Organizational Efforts)	
	Assessment	Instructor/Developer (Formative Evaluation)		Processes (Organizational Efforts)	
	Evaluation	Learners (Empowering Evaluation)		Products (Organizational Results)	
				Outputs (Organizational Results)	
				Outcomes (Societal Impact)	

How will data be used?

Individually and independently by each learner as basis for reflection and personal development.

From: "Joe Levine" <instructor@msu.edu>
 To: "Online Learners" <ae801@msu.edu>
 Subject: Assignment
 Date: Mon, 4 Mar 200X 20:18:06 -0500
 X-MSMail-Priority: Normal
 X-Mailer: Microsoft Outlook Express 5.00.2919.6600
 X-MimeOLE: Produced By Microsoft MimeOLE V5.00.2919.6600

It appears that all of the Learning Groups are now functioning very well. Congratulations!

The following is an individual task that I would like to ask each of you to do. There will be no grade for this task and you are not required to send copies of your emails to me. I hope you will find this task to be valuable for your own learning.

1) Prepare an email in response to the following assignment. Send your email to each member of your Learning Group.

Assignment:

Rate (and discuss) your ability to be a self-directing learner who is capable of learning on his/her own. What devices and activities do you find to be very helpful in assisting you as a self-directing learner.

2) Read and respond to emails that you receive from other members of your Learning Group. Try and help the other members of your group better understand how they are approaching their own self-directed learning.

3) Reflect on this activity - especially the feedback you receive from your Learning Group. Prepare an entry for your Online Journal that captures some of the important aspects of your reflection.

Example - 4

Evaluation Level		Recipient of Evaluation Results	Program Element to be Evaluated
Measurement		Agency/ Sponsor/ Community (Summative Evaluation)	Inputs (Organizational Efforts)
Assessment		Instructor/Developer (Formative Evaluation)	Processes (Organizational Efforts)
Evaluation		Learners (Empowering Evaluation)	Products (Organizational Results)
			Outputs (Organizational Results)
			Outcomes (Societal Impact)

How will data be used?

To decide if the Local Learning Program should be enhanced in the future through the regular use of the *Question & Answer Conference Call* (Conference Call will be adopted if each statement receives a mean score of at least 4.0)

Local Learning Program

Thank you for participating in last week's *Question & Answer Conference Call* dealing with Unit 2 of our Local Learning Program. Please take a few minutes and indicate how much you agree/disagree with each of the following statements. Your responses will help us understand whether a *Question & Answer Conference Call* should be used during future programs.

1) The *Question & Answer Conference Call* was a good use of my time.

Strongly Agree 5 4 3 2 1 Strongly Disagree

2) My questions/concerns were answered during the *Question & Answer Conference Call*.

Strongly Agree 5 4 3 2 1 Strongly Disagree

3) Everyone had a good chance to participate during the *Question & Answer Conference Call*.

Strongly Agree 5 4 3 2 1 Strongly Disagree

4) It was important to have a good facilitator available during the *Question & Answer Conference Call*

Strongly Agree 5 4 3 2 1 Strongly Disagree

5) Comments: