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An Analysis Of Linking Formative And Summative Evaluations For Program Advancement

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AN ANALYSIS OF LINKING FORMATIVE AND SUMMATIVE EVALUATIONS FOR PROGRAM ADVANCEMENT

by

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Advisor Date

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Chapter 1
Introduction

The evaluation process is characterized using two major assessment methods, Formative and Summative Evaluation. These approaches utilize designated functions to carry out the components of each evaluation and to effectively evaluate the program as needed. The functions in this thesis are the tools, or role, used in the evaluation process i.e. the format or standard that the evaluation follows. Chapter one of this thesis will explain these functions in greater detail.

The purposes of formative evaluation are to (a) document implementation or (b) assess the effectiveness of a program, project, or activity to ensure that it is functioning properly (Weston,1995). Summative evaluations present information needed to determine whether the program should move forward or be discontinued (Gallagher, 2006). Evaluations are imperative to the program because they provide necessary information that determines the direction of the program to maximize the attainment of goals and objectives (Murray, 2005). Typically, information is gathered through interviews, questionnaires and surveys, observations, standardized testing, and other techniques.

Evaluation tools fit into two paradigms: Formative and Summative. Formative, also known as Process Evaluation, takes place while the task is active. Formative evaluations can be as complex as a program of fifteen or more years with several divisions or as simple as a student asking another classmate to read over an essay before turning it in to the teacher for the final grade. Any errors that were found as a result of the initial classmate evaluation can be corrected prior to finalizing the assignment.

Formative evaluations start at the program's beginning and continues until such time that goal or objective attainment must be assessed. Formative evaluation is used to determine the needs of the program and to discern program deficiency in its early stages. It addresses whether the objective of the program is being carried out and if not, what steps are needed for correction. It detects developing problems within the program. Data-based results give further direction concerning the level of improvement that is required and/or any other possible approaches that need development. Formative evaluations are not only useful to those requesting the evaluation but also to the evaluators. It enables the evaluator to constantly update data and keep the most current evaluation instruments.

Implementation, a function of Formative evaluations is the process used to carry out the strategies as planned. Implementation in the realm of education is regularly practiced but highly undocumented (Payne, 1994). With respect to the classroom, teachers regularly take notes and reuse lesson plans that are most effective for students. When something appears to prove ineffective they discontinue the use of that pedagogy. This, too, should be discontinued in order that other instructors do not continue down the wrong avenue. The implementation function of Formative evaluation is the disseminating of the new methods to others in order to produce a higher quality of education. Implementation evaluations consider both the rules and policies of program and designs and is more sensitive to the expectations. "Implementation evaluation activities enhance the likelihood of success by providing indications of what happened and why" (Peterson, 1997). The programs quality is developed with the Implementation function of evaluation. It insures that the goals are met and objectives are carried out.

Summative, also known as Outcome Evaluation is used primarily as the program is concluding either a term or complete dismissal. It determines the program's accountability and whether the program has accomplished its intended goals. Summative evaluations are useful in determining the cost effectiveness or cost benefit of the program. The following two evaluation functions are Outcome-based: (1). programmatic results, including any unintended results, and (2). impact including the cost benefit of the program. Outcome Evaluations incorporate the Impact and the evaluation and the cost benefit of the program.

Impact evaluation is desirable because it demonstrates its effectiveness with a comparative look at previous behaviors or outcomes before the programs existence, thus it is valuable where outside influences alter the programs outcome. It allows the evaluator to segregate the contributions of the program from any additional factors that may sway the results or the programs direction in order to bring the attention back to the objectives.

Impact is especially important because program results vary among different groups, regions, and extended periods of time. Impact determines how effective the program is with a comparative observation of collected data before and after the participant is assessed. An example of this is the Pretest and Posttest methods, which will be illustrated below. During evaluations participants are tested prior to instruction then retested with the same information but different test structure; or different days. This method serves multiple purposes: it can isolate prior knowledge from the intended information and ensure that the information was actually learned and not merely

reciprocated back in test form. Pre and post testing methods also reveals the reliability of the testing instrument itself.

The second element of the outcome is the cost benefit tool. This tool determines if the attained outcome and the cost of providing resources for that outcome is sufficient. It seeks the best outcome as it relates to funds necessary for utilizing the program.

In order to determine which evaluation tool is necessary depends on a number of conditions. One condition for example is relative to who is utilizing the evaluation. If the program's financial support is requesting an evaluation they may be more interested in the cost benefit of the program to identify the economical stability of the program. Programs financial support would then seek an outcome evaluation.

Alternatively, if the stakeholder, or anyone investing in the program, is requesting the evaluation is a lead program administrator, the evaluator may be seeking improvement possibilities and request an Implementation Evaluation. Also how frequent the data will be collected is a defining factor of which evaluation will be utilized. Summative evaluations are made up of instruments used to collect data less frequently than Formative evaluations (Payne, 1994).

Statement of the Research Problem

Program evaluations serve the main purpose to prove or improve a program's level of significance. The purpose of this thesis is to show the benefit of linking the Formative and Summative assessments in order to minimize the challenges that face the two paradigms individually. The problem becomes evident when individual evaluations are unable to segregate the factors that benefit the program from the factors that are happenstance. An ongoing evaluation could (a) regulate the program's direction

and (b) advance the full extent of the program. A constant intake of quantitative data outcomes provides evaluators and program administrators an opportunity to compare and contrast methods based on data and factual results as appose to assumptions. When the evaluations are performed concurrently the programs improvement possibilities are enhanced. "We have to connect formative assessment with summative assessment and link decision of improvement with discussions on accountability. We have to connect the somewhat competing worlds of expectations for learning, or at least for the accountability of that student learning within federal and state governments, institutional boards of trustees, higher-level institutional administration, and facility" (Brescianai, 2006, p.146).

Formative evaluation strategies lead to strong summative evaluations. Effective evaluation requires continuous involvement and commitment from concept to implementation (Payne, 1994). An ideal evaluation will link the process to the outcome. This thesis design will examine if there is a correlation between Implementation and Outcome evaluation functions of the combined Formative and Summative Evaluation strategies. The success of a program is measured by met or exceeded objectives according to each individual research article.

Assumptions

Accuracy of best research practices of each journal article that is illustrated in this thesis design is assumed. It is also assumed that a complete assessment of the entire program was documented in the study articles.

Limitations

Due to time constraints and limited access, the numbers of articles are limited to five studies. The degrees to which the articles were examined were also limited to particular components that were made available through the internet journal sites. Furthermore, questions are limited to those that the specific evaluators developed in order to obtain their data.

Significant Terms Defined

Formative evaluations are used during the program and ensure that it is functioning properly (Weston, 1995). It incorporates the implementation or process function which is the plan by which the evaluation is executed. Summative evaluations are near the programs conclusion or concluding term; (Gallagher, 2006) it incorporates the outcome, impact, and cost benefit functions of the evaluation. The impact function assist in the evaluation by demonstrating the before and after effects of the programs. Goals, objectives and outcomes work collaboratively in order to focus the evaluation in a forward moving direction. The goal is the broad statement for the total project or activity, objectives list what is measurable and it pertains to a given time frame. "The outcome asked based on this program/activity what the result is" (Reisman & Mockler, 1995). The definitions were discussed in the previous section of this chapter with greater detail.

Chapter 2
Review of Literature

Formative evaluation faces the challenge of accountability. It has a tendency of developing immeasurable objectives and unattainable goals (Reisman & Mockler, 1995). Long term evaluations also generate problems for example, activities can adopt outside influences into their developmental stages of the program. The evaluator is unable to determine if their objectives for the program are met or if an outside influences are represented in the results.

Summative outcome based evaluations individually performed can lack in possibilities for improvement. By assessing if the program performed as it was assigned to do when it is complete, it may prevent piloting similar programs due to the low yielding results. Minor factors could have been addressed before its conclusion.

Many studies have examined the strengths and weaknesses of Formative and Summative Evaluations. This chapter will review peer reviewed research articles that directly or indirectly illustrate the connecting of formative and summative evaluations in practice and/or theory. The first section focuses on research studies that directly reflect student learning outcomes by linking Formative and Summative evaluations. The second section reflects linking Formative and Summative research studies that concentrate on training teachers and administrators which indirectly reflect student learning outcomes. Examining the process of linking the two approaches is beneficial because the design of this Thesis will determine if there is a correlation between the Implementation and Outcome functions of the Formative and Summative Evaluations in successful programs. The following research articles provided information on methods and procedures, and the constructing of evaluation instruments. These studies offered a

broad scope of programs that utilized formative evaluations in their process level and summative evaluations at the outcome levels.

Section 1:

Chur-Hansen and Koopowitz, (2005) found that literature for teaching psychiatry focused primarily on summative evaluations and the benefit of the feedback portion found in formative evaluations was scarce in available literature for teaching psychiatry.

Chur-Hansen, et.al (2005) methods consisted of students randomly placed in two separate hospitals. The students were evaluated prior to their final summative evaluation based on attitude and professional behavior, clinical knowledge, and clinical skills. They were ranked with satisfactory, borderline, or unsatisfactory. Following the evaluations students were asked if they were first able to define formative feedback and second did they receive it. Five of the participants missed the definition of formative feedback; their continued response was withdrawn from the study leaving 57 of the original 63 (91.9%) students for remaining of the questionnaire. The majority (87.5%) of the students who responded on the questionnaire indicated that they did in fact receive formative feedback and reported personal comments such as "Gave reassurance/Confidence" and "Identified areas for improvement" (Chur-Hansen, et al., 2005, p. 67).

McGibbon and McPherson (2006) designed workshops on violence and healthy immersion for nursing undergraduate students. The objective was to provide a forum for nursing students to voice their beliefs and attitudes on health and violence. The goal was to increase knowledge from one another and learn to demonstrate compassion toward the victim. The program used both formative and summative evaluations.

Formative consisted of feedback sessions, student facilitated responses and visual and verbal ongoing evaluations. Ongoing feedback directed the agenda items, pacing, and time allotment. For example, when there was concern of an issue the facilitator adjusted the agenda to incorporate time for the student to discuss that issue (McGibbon, et al., 2006).

The Summative Evaluation consisted of feedback at the completion of the session as well as an evaluation questionnaire. The findings were that eighty five (85%, n=157) of the population responded. Majority rated the workshop very helpful "93% with a Likert scale 1= not helpful at all and 9 = extremely helpful" (McGibbon, et al. 2006). Also rated was the ability to express their own attitudes and beliefs and the opportunity to shift their attitudes and beliefs.

Murray's (2005) goal was to produce 24 well trained RN's in 15 months with a collaborative participation of hospital faculty. The study importance of this was evident based on the need for more qualified nurses to meet the needs of the population. There was an estimated 1.89 million nurses in 2000, but the demand was estimated at 2 million nurses (Murray, 2005). The methods included online courses, web instructors, and the renovation of space for clinical laboratory skills, and purchasing equipment and supplies. Formative evaluations involved meetings with hospital faculty and partners and college for feedback and ongoing assessment for the implementation phase of the project. Summative evaluation methods yielded many results from course evaluations, of those results were students' achievement by way of program outcome, increase in college's capacity from 32 to 56 students.

Rentschler, Eaton, Cappiello, McNally and McWilliam (2007) found that students gain a large amount of unequal experiences clinically therefore the outcomes were immeasurable. Rentschler et al. (2007) piloted a study to develop an Objective Structured Clinical Evaluation (Rentschler et al., 2007). This is designed to measure knowledge and clinical skills. Measures were student's knowledge of NTG, medications purpose, medication effectiveness, sensory ability, and understanding of instructions given. Formative evaluation included feedback and the overall results provided to each student; and information on how they compared with the group. Summative Evaluations included post-encounter paperwork and an overall overview.

William and Black (1996) found that in order for there to be a harmonious relationship between the formative and summative assessments there has to be active participation along with a full understanding of the use of the tools and the indicators used appropriately. They focused on formative and summative functions of assessment. The evaluation used in class is based on a recording tool that allowed teachers to first perform formative evaluations using a mark to indicate if the student did not fully comprehend the provided topics. After a set amount of instruction and practice the same topic was reexamined with the same student where the student was able to show improvements and the indication mark was demolished. The same process was used to reevaluate the student for the summative evaluation.

William and Black (1996) found that the teachers only used the record for the first formative evaluation and due to time and other limitations the reevaluation for the formative assessments did not take place. Because the reevaluation did not take place, the students who did actually acquire the information seemed as if they did not;

translating into a false negative. The record later became a tool for summative evaluations more often than as a team effort.

Section 2:

Aultman (2006) focused on the in-class assessments that students were allotted experimentally by their instructor in order to conduct a formative evaluation on the teacher's methods. The components of the evaluation included students writing down questions pertaining to the current lecture to be addressed at the start of the next class time. A second component was the opportunity of the students to rate Aultman's (2006) effectiveness in four different areas, lecture quality, class activities to enhance understanding quality, teachers being prepared for class, and the course pace.

Aultman (2006) found that the question portion proved beneficial because the student held many questions that they did not express during class procedure and content. Additionally, Aultman (2006) found that the reaction of the students was that they felt Aultman was more approachable therefore, they began staying after class or coming early to discuss their questions. This formative style evaluation produced more active listening on the part of the instructor and improved teaching skills.

Blunt (2005), study proved valuable because it was frequently referenced in other studies previously reviewed for this thesis. Blunt (2005), encouraged evaluators to consider its audience when creating evaluation tools. Participants of evaluations are assumed to have a level of competency however when they lack the evaluations produce a negative outcome that is not reflective of the programs true performance. Blunt (2005) study approached learners that lacked basic knowledge. The method of use was an impact evaluation, expanding over three decades from the 1970's to the

1990's of evaluating research. This research also played a role in determining the termination of instructors. Three trials focused on different factors that impeded desired results. Examples of the trials were: participants faced problems with sentence structure and individual words and participants faced problems of respecting general interest by changing the vernacular of the evaluation language that made the participants more comfortable with action words that better illustrated for them the feelings of the presenters.

The article focused on different levels of the *Assessment Ladder* Corcoran, Dershimer, Tichenor (2004) found an unfavorable representation in conventional teacher assessments and explained alternative ways of assessments using the *Assessment Ladder.* The ladder included three levels and demonstrates the use of cross-referring formative and summative evaluations. Corcoran et al. (2004) listed three levels on the assessment ladder starting at the Ground Floor, Level One, Level Two, and Level Three. Ground Floor means no methods exist at this point but he or she is interesting in exploring options. Level one includes assessments such as rubrics, checklist and portfolios typically in primary grades. Elements of Level one were used multiple times in a grading period for formative assessment strategies and can serve as summative assessments at Level two. Level two implements assessments throughout the schools term as where formative assessments are used in summative formats. Formative assessments account for teachers evaluating target points learned during class session.

Level three allows students to demonstrate their proficiency in the concepts with conventional and unconventional methods. Meaning perhaps a rap or a game like trivial

pursuit or jeopardy are a few ideas listed by Corcoran (2004). Whatever the students used they would have to demonstrate knowledge utilizing all points, i.e., theories and facts.

Eldar and Ronen (1995) introduced Quality Assurance (QA) development in 14 participating hospitals in Israel. This is entitled the Comite Medical d' Action Concerte (COMAC) project. The studies relevance was made apparent because prior to this study many hospitals did not have a formal QA policy in practice. The study covered three implementation phases.

The outcome of the efforts was 69% felt the project helped in practice and procedures, while 71% felt the increase was in quality of care in topic areas. Support was given to the percents by a "reduction of incidence of pressure sores, length of time and dosage of prophylactic administration of antibiotics, the number of preparative tests performed and preoperative hospital days" (Eldar & Ronen, 1995, p. 29).

Gallagher (2006) research focused on accountability by common errors in the program evaluation. They discussed the data collection process that affects the overall life of the program. Gallagher (2006) found that Summative evaluations make program administrators uneasy with its emphasis on the outcome alone. The Head Start Program was listed as one example that Legislature is solely interested in the outcome. Adversely, Formative evaluation is appropriate for the program administrator's use of indicators and goals for success.

Gallagher (2006) articulated the problem based learning samples one was the measuring of student performance with a new method called Problem based learning. The problem came when though at the forefront the method seems logical, the step

overlooked was whether or not the teachers were adequately trained in the new methods. If the teacher was not adequately trained the students evaluation would not reflect what they did or did not know, instead it would reflect what the student was never taught. The solution, observe classroom teaching by a qualified evaluator using indication questions applied per question in order to examine proficiency. Teachers who did not meet standards were not allowed into the summative evaluations; rather they used this as formative feedback and designated them for further training.

Gerla, Gilliam, and Wright (2006) found that past program efforts were rarely implemented in the classroom. The study's goal was to develop teacher's skills with a program that would improve children's literacy. The participants of the study were personnel from an independent school district, education faculty from a university and students.

The methods included formative and summative evaluations. The evaluation consisted of assessments of outcomes from teacher observation and feedback. University Faculty served as evaluators that analyzed the data and submitted the reports to the school board.

Finalization of the projects results were that twelve teachers responded from kindergarten to third grade, also fifth grade teachers responded. The use of ongoing feedback from observation and mentoring provided a formative evaluation to occur during the program. Each teacher was observed one hour weekly. The observer took notes and provided feedback. The expectation of their presence was meant to direct a change in the outcome.

Gerla et al. (2006) found that summative and formative evaluations improved combined reading for at risk student based on elements measured. Staff development models effect change. Thirty five teachers enrolled in graduate courses following the study. Twenty went on to receive Masters Degrees in reading. The study illustrated the use of university faculty and students collaboratively working with the community in the education realm program improvements are reflective of that collaboration.

Harlen (2005) expressed how traditional formative and summative evaluation tools worked cooperatively. Harlen (2005) illustrated this by referencing research from other research studies using examples of summative assessment to help learning; and formative assessments as an end result of what was or should have been learned. Harlen (2005) reversed the roles of the two assessment approaches, to illustrate the compatibility of the relationship. He explored developmental indicators such as gathering information through observation computer resources. The computers were used for instant information and provided feedback for teacher as well as students. In the study, Harlen (2005) found that the same assessment could be conducted for different purposes. The evaluation was implemented with pre and post testing. A separate study demonstrated the use of formative and summative assessments with the same evidence. Work collected in the portfolio is used to provide feedback to the students at the time it is completed as well as being used later in assessing overall attainment.

Many (2006) conducted a study pertaining to teachers who were unhappy with the amount of test taking and the data the assessments produced. The data was used to direct instructional strategies to improve student learning. Teachers created their own

assessments, but this was without success due to their inability to compare students with other students and curriculums of the past to track progress. Teachers found themselves in an undesirable predicament; all assessments were either highly formative or highly summative. They wanted school wide collaboration, but because of the inconsistency of their data tools it was virtually impossible to accomplish this.

The teachers found that a balanced and coherent assessment system would prove to be the best solution to their bind (Many, 2006). The methods they encompassed was a collaborative effort with the school board and other teachers in the district formed groups and met throughout the school year to form assessments that they could all follow. They agreed on classroom formative assessments which include regular informal assessments implemented by feedback produced from the teacher to the student. The second assessment type was the *Common Assessments.* Common Assessment is the formative and summative assessments distributed to students approximately at the same level at the same time in the school year throughout the district. Following Common Assessments was the *District Assessment.* District Assessments were summative assessments rather than formative assessments. They were distributed exactly at the same time for all students in the same grade level etc. These exams were larger and were formatted as pre/post tests scored by outside vendors. Lastly, external assessments mostly summative also known as standardized testing.

The findings presented that a system relying solely on the most summative and most formative assessments fell short of what was needed for effective instruction. A system of balance and coherence included a variety of assessments not limited to the

highly formative or highly summative assessments typically found in schools. The final result of the study was that 90% of the students under the instruction of these particular teachers met state standards.

Sander and Trible (2008) found that nursing professors have to document the formative and summative process of their students a task that is described in the article as laborious and time intensive. They developed an electronic evaluation form designed from an excel spread sheet that would calculate the students formative and summative evaluations automatically. The study originated with paper and pencil evaluations for students and faculty to participate in order to get a complete overview. The pilot testing of the excel spread sheet style evaluation was intended to test the effectiveness and usability of the tool and encourage formative evaluations.

The method of implementation was to input the spread sheet on the secure blackboard site so that students and their instructor can update it regularly with ongoing feedback. Steps taken were to familiarize the students with the navigation of the blackboard site and the excel program. Due dates each semester for formative feedback were assigned and a final date for the summative evaluation. Reports were made weekly by students and faculty. Some initial concerns were that the system was still time consuming and that students were not computer literate enough. Final findings were that the students liked the tool and did not want to go back to the paper and pencil system.

Summary

The articles reviewed possessed general to specific relevance pertaining to the thesis topic. They covered a range of dominate factors in the realm of education and the mediation of evaluating students, teachers and programs. The articles reviewed laws past and present that were implemented as a result of the evaluations in practice. Also, examined were the positive and negative effects of solely using summative or formative evaluations. The research proposed in the aggregated data on the findings was illustrated in the literature reviews.

Chapter 3
Methodology

This study will examine the relationship of the Implementation and Outcome functions of the combined Formative and Summative Evaluation's. The ongoing feedback of Formative Evaluation's paired with the outcome results of Summative Evaluations was measured. This is a non-experimental quantitative design. Each study was carefully examined for their evaluation components

Data Gathering Method

A sample of five research articles from one journal but separate volumes was used in order to determine if there is a correlation between the functions of formative and summative evaluations in successful programs. The studies were taken from one journal that maintained the structure of their methodological design for conducting evaluations. Section indicators for Formative Evaluations were feedback, and pre-assessments. Summative Evaluation indicators include student feedback and post assessments.

The table below displays the variables for the data collected from the research studies. Studies were initially observed for one source of a formative and one source of a summative evaluation for each study. The table displays the findings of each study.

Table 3.1: Data Gathering Table

	Formative (Implementation)		Summative (Outcome)		Study Results
Study Codes	Form 1	Form 2	Sum 1	Sum 2	Objectives Met/ Exceeded
	Feedback	Pre Assessment	Feedback	Post Assessment	
1	x	x		x	x
2	x	x	x	x	x
3	x	x	x	x	x
4	x	x	x		x
5	x		x		x

1= Expanding Educational Capacity Through an Innovative Practice-education Partnership; Teri A Murray, PhD, RN
2= The Virtual Clinical Evaluation Tool; Rebecca Sander, and Karen A Trible,
3=Interpretive Pedagogy in Action: Design and Delivery of Violence and Health workshop for Baccalaureate Nursing Students; Elizabeth A McGibbon, PhD, RN and Charmaine M. McPherson, MSN, RN
4 =Health Assessment in a 2-Week Intensive Format for Second-Degree Baccalaureate Nursing Students; Joanne Yastik, MSN, RN; and Maureen Anthony, PhD, RN
5= Development of Human Patient Simulation Programs: Achieving Big Results with a Small Budget; Michelle M. Curtin, BSN, RN; and Michelle Denise Dupuis, MS, RN

Feedback under the formative subheading is equal to students receiving a form of feedback throughout the training sessions. Pre-assessment encompasses various forms of written formative evaluations (i.e. quizzes and/or handouts) during the training/school term as appose to a final exam concluding the class/training. Summative features include feedback, which is any written feedback the students use to describe training during a final evaluation and post assessment which incorporates various written quantitative feedback finalizing evaluation methods (i.e. questionnaire's, checklists and/or grades).

Data Analysis

The dependent variables are at an interval scale of measurement. Data input proceeded as indicated in Table 1. The input process included creating an SPSS Data Set and indicating based on the aforementioned standards, if those functions were

present in the program and if specified formative functions paired with summative functions contributed to the success of the program.

The two tailed Pearson correlation was used to determine the relationship each of the Implementation and Outcome functions for the Formative and Summative Evaluations. The alpha level was selected .01.

The results are presented with graphs and tables. The graphs are formatted with the scatterplot feature of the SPSS Statistical Interactive Graphs for a visual illustration of the correlations.

Hypothesis

There is a positive correlation between combining the functions of Formative Evaluations with the functions of Summative Evaluations and the success of the program.

Underlying Assumptions

It is assumed that the information provided in the selected journal is accurate. It is also assumed that the journal included all pertinent information in the study not omitting facts needed in the data collecting process of this thesis.

Chapter 4
Results

The following tables and graphs illustrate the results found for the components of the Formative and Summative correlations. Tables 2 & 3 depict a comprehensive look at all of the variable sets. The subsequent graphs present the finding of the variable sets individually analyzed, followed by an explanation of the results utilized by correlation tables. Descriptive Statistics for each variable set succeed their table of correlations.

Table 2: Objectives Correlations
(Overall View)

Control Variables			Formative Evaluation Feedback	Formative Evaluation Pre Assessment	Summative Evaluation Feedback	Summative Evaluation Post Assessment
Objectives Met	Formative Evaluations Feedback	Correlation	1.000	.	.	.
		Significance (2-tailed)	.	.	.	.
		df	0	2	2	2
	Formative Evaluations Pre Assessment	Correlation	.	1.000	.	.
		Significance (2-tailed)	.	.	.	.
		df	2	0	2	2
	Summative Evaluations Feedback	Correlation	.	.	1.000	.
		Significance (2-tailed)	.	.	.	.
		df	2	2	0	2
	Summative Evaluations Post Assessment	Correlation	.	.	.	1.000
		Significance (2-tailed)	.	.	.	.
		df	2	2	2	0

Table 3: Objectives Descriptive Statistics
(Overall View)

	Mean	Std. Deviation	N
Formative Evaluations Feedback	1.0000	.00000	5
Formative Evaluations Pre Assessment	1.2000	.44721	5
Summative Evaluations Feedback	1.2000	.44721	5
Summative Evaluations Post Assessment	1.4000	.54772	5
Objectives Met	1.0000	.00000	5

Graph 1

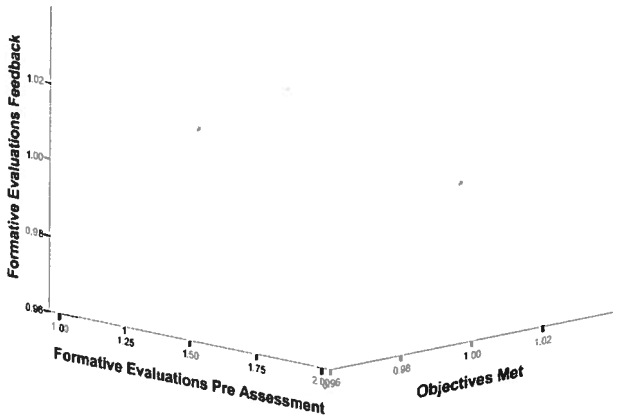

Table 4: Correlations
Formative Pre Assessment and Feedback

Control Variables			Formative Evaluations Pre Assessment	Formative Evaluations Feedback
Objectives Met	Formative Evaluations Pre Assessment	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Formative Evaluations Feedback	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 5: Descriptive Statistics
Formative Pre Assessment and Feedback

	Mean	Std. Deviation	N
Formative Evaluations Pre Assessment	1.2000	.44721	5
Formative Evaluations Feedback	1.0000	.00000	5
Objectives Met	1.0000	.00000	5

Graph 2

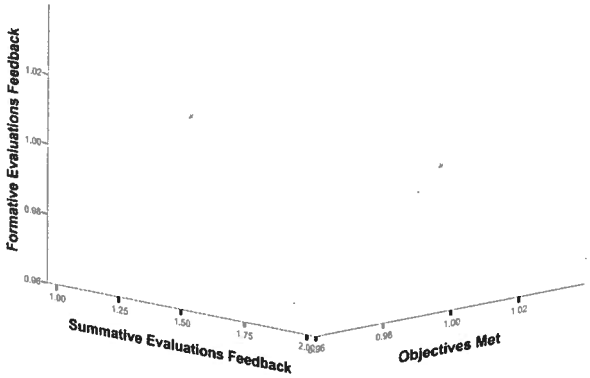

Table 6: Correlations
Formative Feedback and Summative Feedback

Control Variables			Formative Evaluations Feedback	Summative Evaluations Feedback
Objectives Met	Formative Evaluations Feedback	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Summative Evaluations Feedback	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 7: Descriptive Statistics
Formative feedback & summative

	Mean	Std. Deviation	N
Formative Evaluations Feedback	1.0000	.00000	5
Summative Evaluations Feedback	1.2000	.44721	5
Objectives Met	1.0000	.00000	5

Graph 3

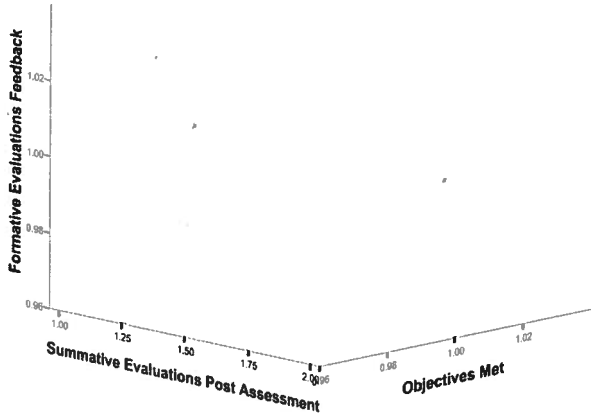

Table 8: Correlations
Formative Feedback & Summative Post Assessment

Control Variables			Formative Evaluations Feedback	Summative Evaluations Post Assessment
Objectives Met	Formative Evaluations Feedback	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Summative Evaluations Post Assessment	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 9: Descriptive Statistics
Formative Feedback & Summative Post Assessment

	Mean	Std. Deviation	N
Formative Evaluations Feedback	1.0000	.00000	5
Summative Evaluations Post Assessment	1.4000	.54772	5
Objectives Met	1.0000	.00000	5

Graph 4

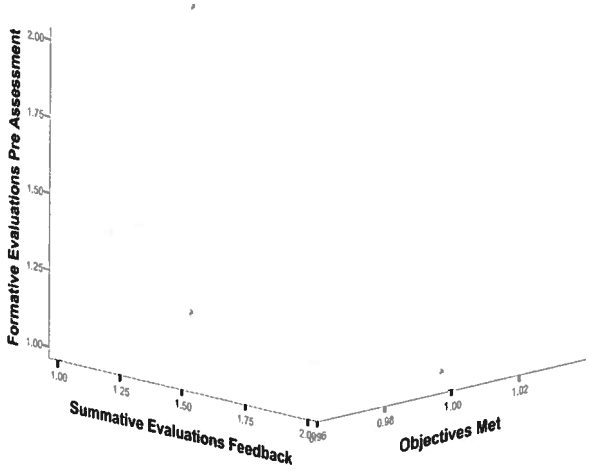

Table 10: Correlations
Formative Pre Assessments and Summative Feedback

Control Variables			Formative Evaluations Pre Assessment	Summative Evaluations Feedback
Objectives Met	Formative Evaluations Pre Assessment	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Summative Evaluations Feedback	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 11: Descriptive Statistics
Formative Pre Assessment and Summative Feedback

	Mean	Std. Deviation	N
Formative Evaluations Pre Assessment	1.2000	.44721	5
Summative Evaluations Feedback	1.2000	.44721	5
Objectives Met	1.0000	.00000	5

Graph 5

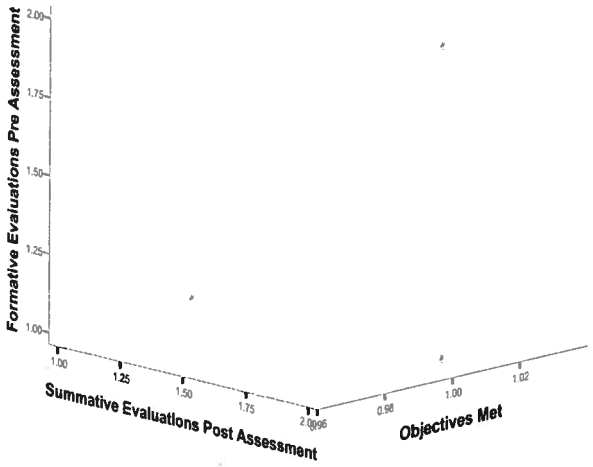

Table 12: Correlations
Formative Pre Assessment and Summative Post Assessment

Control Variables			Formative Evaluations Pre Assessment	Summative Evaluations Post Assessment
Objectives Met	Formative Evaluations Pre Assessment	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Summative Evaluations Post Assessment	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 13: Descriptive Statistics
Formative Pre Assessment and Summative Post Assessment

	Mean	Std. Deviation	N
Formative Evaluations Pre Assessment	1.2000	.44721	5
Summative Evaluations Post Assessment	1.4000	.54772	5
Objectives Met	1.0000	.00000	5

Graph 6

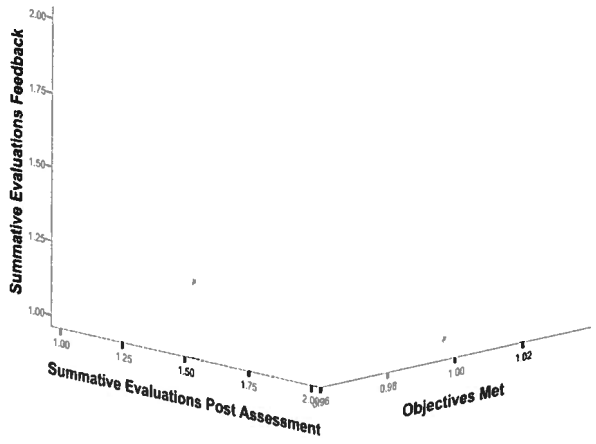

Table 14: Correlations
Summative Feedback and Summative Post Assessment

Control Variables			Summative Evaluations Feedback	Summative Evaluations Post Assessment
Objectives Met	Summative Evaluations Feedback	Correlation	1.000	.
		Significance (2-tailed)	.	.
		df	0	2
	Summative Evaluations Post Assessment	Correlation	.	1.000
		Significance (2-tailed)	.	.
		df	2	0

Table 15: Descriptive Statistics
Summative Feedback and Summative Post Assessment

	Mean	Std. Deviation	N
Summative Evaluations Feedback	1.2000	.44721	5
Summative Evaluations Post Assessment	1.4000	.54772	5
Objectives Met	1.0000	.00000	5

Chapter 5
Summary and Conclusions

Successful programs are associated with a number of different elements. Studies have shown that a solid program can be linked to a good evaluation process. This thesis reviewed five successful programs for evidence of linking Formative and Summative functions of evaluation in those programs.

The review of literature on this topic provided beneficial articles with information on students learning increases via test scores etc. and the use of evaluation forms that students utilized to increase the teaching skills of the instructors and program development. This illustrated that a structured evaluation systems i.e. a combination of formative and summative methods, will fare better for all participating. The importance of summative and formative evaluations working congruently was brought out and the differences in both evaluations styles was considered in many of the articles.

Summary of Findings

The objectives for each of the provided research articles satisfied their expectations therefore this variable, which is objectives met, was used as the control for computing the correlations. The variables paired, (Formative and Summative Feedback and Formative and Summative Pre or Post Assessments) were examined for correlations, none of which were statically significant. The data gathered had two degrees of freedom per item therefore the evidence is inconclusive as to whether the combined functions had any effect on the program meeting their objectives or if it was just a matter of chance. The hypothesis of there being a positive correlation between combining the functions of Formative Evaluations with the functions of Summative

Evaluations and the success of the program is rejected based on the provided evidence.

Recommendations

Based on the research, future studies should use a larger sample size and focus specifically on only one of the functions within in each evaluation component. That is, narrow the study to Feedback or Pre/Post Assessments between Formative and Summative Evaluations instead of both. The intent then is to eliminate the factors that lead to correlations that are achieved only by chance and provide distinctive evidence of a positive or negative correlation.

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ABSTRACT

AN ANALYSIS OF LINKING FORMATIVE AND SUMMATIVE EVALUATIONS FOR PROGRAM ADVANCEMENT

by

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May 2009

Advisor: Dr. Shlomo Sawilowsky

Major: Educational Research and Evaluation

Degree: Master of Education

The purpose of this study was to determine if there is a relationship between the functions of Formative Evaluations and the functions of Summative Evaluations in successful programs. The success of the individual programs was measured according to their own expectations as listed in their objective; that is if said objectives were met or exceeded. The study focused on the functions of each evaluation process which included Formative (Implementation) and Summative (Outcome; Impact and Cost Benefit) Evaluations. Data was collected from previous education based research studies provided by Wayne State University's Online Journal Library system. A correlation analysis was utilized for each evaluation component. The results indicated that there is a possibility of a relationship between the evaluation functions in the provided studies. However, because the data results offer two degrees of freedom, the results could be due to other factors.

AUTOBIOGRAPHICAL STATEMENT

As a graduate student at Wayne State University (WSU) I have participated in research opportunities in undergraduate as well as graduate school. My Bachelor of Arts degree in Sociology was complement by a research fellowship from the National Institute of Mental Health Career Opportunities in Research (NIMH-COR). During this fellowship I tied for first place in the Undergraduate Division for Research Poster Presentations. My research presentation was entitled Racial Segregation and Health outcomes: A Comparison of Two Detroit Metropolitan Communities. I am finishing now my Masters of Education majoring in Educational Research and Evaluation.