

Met Expectations Hypothesis: The Use of Direct Measures to Develop Participant Surveys

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This study uses met expectations hypothesis, a form of expectancy theory, to develop survey instruments to identify and compare the goals, expectations, and perceived outcomes stakeholders held for the Faculty Development Institute (FDI). The stakeholders had similar expectations for the outcomes during and/or immediately following the initial FDI workshop, but differed in their expectations of the long-term outcomes.

Key Words: Survey instrument, Expectancy Theory, Training and development

The first postulate of self-perception theory is that individuals come to “know” their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs. The second postulate states that to the extent internal cues are weak, ambiguous, or uninterpretable, the individual is functionally in the same position as an outside observer who must necessarily rely upon those same external cues to infer the individuals’ inner states (Bem, 1972). Individuals use self-perception to explain their behavior by noting the conditions under which it occurs (Irving & Meyer, 1995).

This study is evaluating the final results of the impact of the training on the initial participants of FDI and their perceptions of the impact of the training on the university in general. It is also evaluating the expectations and goals that were considered by the developers of FDI as they made decisions about the future of their training program. This study will also contribute to the scientific understanding of the training process by evaluating the alignment of developer and participant expectations – whether they were met or not and how they affect perceived outcomes. The evaluation of FDI will depend on initial participants’ recall and their self-perception of their experiences as they can recall from their initial participation in the program. The fundamental concepts of personal recall and self-perception theory will all help to describe the process that occurred for the developers and initial participants. They will be used to help determine the expectations, goals, and perceived outcomes of FDI as initially implemented.

The importance of this study was to provide detailed, conceptual analysis of how the use of direct measures can be used effectively to design, develop and administer participant surveys. According to Irving and Meyer (1995) there are identified weaknesses within the use of direct measures. This study provides details of how these weaknesses can be avoided to produce solid research instruments that are valid and reliable. The following specific objective guided this study: to develop a research instrument to identify and compare the goals, expectations, and perceived outcomes stakeholders held for FDI. To achieve this objective, the study was guided by the following research questions:

1. What were the goals and expectations of stakeholders: FDI developers and initial participants?
2. In what ways were FDI developers', and initial participants' goals and expectations different?
3. In what ways, if any, have initial participants' professional roles changed as a result of FDI participation?
4. What were the perceived outcomes for the stakeholders: FDI developers and initial participants?

Theoretical Framework

Theories of Motivation

The theory of motivation deals with attitudes concerning needs, values, and satisfaction (Porter & Lawler, 1968). Two of the most often-used motivation theories are drive and expectancy theory. Both theories focus on the concept that people have behavior response “expectations” or “anticipations” about future events. They indicate that in order for motivation to exist there must be both positive outcomes and some kind of connection between behavior and the outcomes. “The differences between the theories are that expectancy argues that the anticipation of the positively valent outcome functions selectively on actions which are expected to lead to it. Drive theory views the magnitude of goal as a source of general excitement – a nonselective influence on performance” (Porter & Lawler, 1968). The drive theory concept of habit strength emphasizes past stimulus-response connections, and thus weights past learning heavily. Expectancy theory places a greater emphasis upon anticipation of the future than upon past learning (Porter & Lawler, 1968).

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Motivation has been studied for many years and there are many theories and definitions of motivation. Historically, psychologists have directed their studies of drive and expectancy towards filling in the missing empirical content of hedonism. As in the hedonistic doctrine, people are assumed to behave in ways that maximize certain types of outcomes (rewards, satisfiers, positive reinforcements, and so on) and minimize other outcomes (punishments, dissatisfiers, negative reinforcements, and so on). However, some of the circularity of hedonism has been overcome by the development of more precisely stated models and by the linking of the concepts in these models to empirically observable events (Vroom, 1995). Motivation has general effects:

- it increases an individual's energy and activity level;
- it directs an individual toward certain goals;
- it promotes initiation of certain activities and persistence in those activities; and
- it affects the learning strategies and cognitive processes an individual employs (Ormond, 1999).

Expectancy theory is the primary theory on which this study is based. "Expectancy is defined as a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome" (Vroom, 1995). Expectancy theory has been around for decades and is a decision theory of human motivation and choice in the work situation (House, Shapiro, & Wahba, 1974).

The extent to which participants' expectations influenced the outcomes of a program could help answer questions of motivation for participating in a new innovation program. Vroom's model has been used primarily for the prediction of job satisfaction, occupational preference, the valence of good performance; however, it can be used to predict the valence of an outcome (Mitchell, 1974).

Porter-Lawler Expectancy Model

The Porter-Lawler model has been used primarily to measure supervisor effort, peer effort and self-effort. It is a modification of Vroom's model and it too is a consideration for this study. This model focused on the value of the reward, the perceived effort required relative to attaining the expected reward, the actual effort, abilities and traits, role perceptions, performance (accomplishment), rewards (fulfillment), perceived equitable rewards and satisfaction (Porter & Lawler, 1968). Porter and Lawler's value of reward variable referred to the attractiveness of possible outcomes to individuals. The major focus of the model is that for any individual at the particular point in time there are a variety of potential rewards to which he/she attaches differential value. The value of the reward or rewards to an individual can be measured using several measures including asking an individual: (1) to make an actual choice among two or more alternatives in a situation in which he anticipates that the attainment of these outcomes will be affected by his behavior; (2) to rank or rate, on an attitude scaling device, the value of different rewards to himself; or (3) to complete some sort of projective device such as the Thematic Apperception Test (TAT) or a sentence completion test from which some other person (i.e., the tester) infers the values of different rewards for the individual under consideration (Porter & Lawler, 1968; Vroom, 1995).

Porter-Steers Met Expectations Hypothesis

Porter-Steers Met Expectations Hypothesis is the modification of Vroom's Expectancy theory that is most relevant for this study. Porter and Steers described "three common denominators that characterize motivation: (1) what energizes human behavior; (2) what directs or channels such behavior; and (3) how this behavior is maintained or sustained" (Steers & Porter, 1979). In the context of training, this force influences enthusiasm for the training (energizer), keeps attention focused on training per se (director), and reinforces what is learned in training, even in the face of pressure back on the job to discard what has just been learned (maintainer) (Cascio, 1998).

The various theories of motivation also have models that help to explain its characteristics. According to Porter & Steers, "the basic building blocks of a generalized model of motivation are: (1) needs or expectations; (2) behavior; (3) goals; and (4) some form of feedback" (Steers & Porter, 1979). Porter and Steers were concerned with the potential role that "met expectations" may have on withdrawal behavior of an individual. Their concept of met expectations is described as the "discrepancy between what a person encounters on this job in the way of positive and negative experiences and what he expected to encounter" (Porter & Steers, 1973). Using met expectations hypothesis, Porter and Steers predicted that when an individual's expectations – whatever they are – are not substantially met, his propensity to withdraw would increase. Irving and Meyer felt that met expectations hypothesis could be tested by utilizing difference scores reflecting the discrepancy between post-entry experiences and pre-entry expectations and found problems related to the difference scores. The difference scores produced artificial relations with outcome variables. The use of direct measures generally requires respondents to indicate the extent to which they perceive that their pre-entry expectations concerning their jobs have been confirmed (Irving & Meyer, 1995).

Thus, when direct measures of met expectations are used, it is implicitly assumed that respondent perform a mental comparison of their expectations and experiences and that scores on the measure reflect the "match" between

these variables. If this is true, it should be possible to show that direct measures of met expectations reflect independently obtained measures of expectation and experiences approximately equally (Irving & Meyer, 1995). A weakness of direct measures of met expectations is that it requires individuals to recall their prior expectations after having been on the job for some time. Individual recollections of pre-entry expectations are filtered by more recent experiences and behaviors (Irving & Meyer, 1995).

Victor Vroom pioneered the development of expectancy theory for use in explaining work behavior. Since his initial study, many researchers have used expectancy theory to explain work behavior. Porter worked closely with Vroom and many others to enhance the theory for further use. From their studies many models have been designed, developed and modified to explain expectations, values and instrumentations. Components of Vroom, Porter & Lawler, and Porter & Steers studies are relevant to this study, but the most important component of their research that is useful for this study is the met expectation hypothesis. This study is seeking perceived outcomes for the individual as it relates to what he/she initially expected, which aligns most closely with the components of met expectation hypothesis.

Personal Recall

The personal recall of the developers of FDI was used in this study during the interview phase. Therefore, it is important to know how personal memories are formed and how accurate they may be. The process of personal recall, an instance of long-term, episodic memory, involves two steps: (1) the individual begins by noting his or her present status on the attribute in question; (2) people may invoke an implicit theory of stability or change to guide their construction of the past. Implicit theories are schema like knowledge structures that include specific beliefs regarding the inherent stability of an attribute, as well as a set of general principles concerning the conditions likely to promote personal change or stability (Ross, 1989).

Weaknesses found with personal recall are that the prior response is likely to be biased when states (a) have changed and respondents are unaware of the change, (b) have changed and respondents uniformly miscalculate the degree or nature of the change, and (c) are stable and respondents assume that they have changed in a particular fashion; people exaggerated their consistency over time and inappropriately inferred that a prior response followed from their current state; people overestimated the extent to which their present state differed from an earlier state – they inferred a prior response that was too much at variance with their current status; and evidence was found that linked both of the above mentioned biases to people's implicit theories of stability and change for the attribute in question (Ross, 1989).

Method

This study used qualitative analysis because it allowed the best opportunity to gather the necessary information for designing the research instrument and answering the research questions. The qualitative interview guide allowed the researcher to gain insight and understanding from the perspectives of those who participated in the program, and to discover the goals and expectations of the developers and participants.

The five developers of FDI were interviewed about, and a historical analysis was conducted of documents relevant to, the initiation and development of FDI. The source documents used in this study included a FDI notebook obtained from developers and documents found as a result of interviews and university archive searches.

Data Collection Procedures

Semi-structured interviews of the developers were conducted to identify and confirm the original expectations of FDI. The interview guide, developed specifically for this study used open-ended questions to preclude limiting the interviewees' responses (Seidman, 1998). The interview narratives were analyzed to identify themes and develop the survey. Proper protocols, as identified by Siedman (1998), were used to maintain confidentiality and anonymity.

Document analysis was used because of the historical nature of the study; events could no longer be observed and informants may not have been able to recall all the events (Merriam, 1998). The historical document analysis was used to confirm the objectives of FDI, and the time frame for objectives as reported by the FDI developers during interviews.

Data Analysis

The constant comparative method was utilized to analyze the data for this study. The researcher constantly compared the interview responses of developers to determine recurring themes within the data. The data was analyzed throughout the interview process. The researcher did not wait until all of the developers had been interviewed to begin the data analysis. The development of categories, properties, and tentative hypotheses through the constant comparative method (Merriam, 1998) allowed for the formation of emerging themes within the data. Once the themes were formed, then additional data was analyzed to support the theoretical framework developed.

By constantly analyzing the data and organizing it in a manner that was easily retrievable, the researcher was able to focus more on the content of the data than on the collection process. This process allowed and encouraged the researcher to focus more on the content of the data than on the collection process.

Reliability and Validity

The reliability and validity of the data was affirmed through the use of triangulation, member checking, and participatory or collaborative modes of research (Merriam, 1998). Triangulation uses multiple investigators, multiple sources of data, or multiple methods to confirm emerging findings (Merriam, 1998). For example, the information provided by the developers was affirmed through analysis of documents related to the development of FDI and field notes of presentations given by the developers. Additionally, the responses of the developers were compared.

A participatory or collaborative mode of research (Merriam, 1998) was used during the study. The FDI developers were actively involved in locating documents and former participants of FDI workshops. Member checking involves taking data and tentative interpretations back to the people from whom they were derived and asking them if the results are plausible (Merriam, 1998). Member checking via telephone and informal conversations with developers was used to validate the researcher's interpretation of the developers' responses during the interview.

The subjects of this study consisted of 50 faculty members who participated in the first implementation from various departments across the university. Parallel forms of the survey instrument were developed for, and administered to, the FDI developers and participants. The instrument identified the developers' and initial participants' expectations and used a Likert type scale to measure the extent to which those were achieved. The initial participants were also surveyed to identify changes in their jobs they believed were a result of participation in the initial FDI workshop. The following comparisons were made and evaluated during this study:

1. FDI Expectations vs. Initial participants' Expectations
2. FDI Expectations vs. FDI Outcomes
3. Initial participants Expectations vs. University Expectations
4. Initial participants' Expectations vs. Initial participants' Outcomes

Instrument Development

The literature suggests that expectancy theory surveys be developed using "the subject's own outcomes" (Mitchell, 1974) in order to provide more reliability and validity to the study. The decision to use the subject's outcomes is most often based on the amount of control that the investigator has over the experimental setting. Vroom's theory is based on a within subjects approach and theoretically that would mean that the subject should be asked to list his/her own outcomes, especially in settings where the experimenter has no control over the outcomes (Mitchell, 1974). One limitation to this approach is that the list of outcomes could be very extensive and would need to be reduced by the researcher. Another limitation is that subjects may not list negative outcomes, which may be important to the study.

In this study the researcher had some control by interviewing the developers and then developing the survey in order to reduce the list of potential outcomes had it been very extensive and include negative information, if applicable. A review of the literature also identified several considerations in the development of instruments based upon expectancy theory. Mitchell (1974) reviewed 23 studies that used expectancy theory and found "few problems with expectancy measures. The most prevalent concerns that he cited were:

1. Investigators listing outcomes instead of each subject using his own outcomes is probably not the most accurate representation of what the theory would suggest. The impact of this problem is unknown.
2. Distinctions between positive and negative outcomes and intrinsic and extrinsic outcomes should probably be included and analyzed separately.
3. Long lists of outcomes, as opposed to short lists, are probably detrimental.
4. Important-unimportant is used most frequently as a measure of valence and yet valence is supposed to reflect anticipated satisfaction (Mitchell, 1974).

The above concerns were considered in the development of the instruments used in this study. The reliability and validity of the Likert type survey used in this study was evaluated by the dissertation committee and faculty members from the Education Research and Evaluation (EDRE) program within the university's Department of Leadership and Policy Studies. The survey was sent to various individuals for evaluation of readability and usability.

The survey for this study was developed after interviewing the developers and after reviewing the results of the readability and usability evaluation. The process for developing and administering the survey was as follows:

1. Interviewed developers.
2. Analyzed responses to questions as they align with research questions.

3. Developed a scale that is based upon the met expectations hypothesis.
4. Presented survey to committee for review.
5. Presented survey to selected EDRE program faculty for review.
6. Field tested the survey with small group of individuals.
7. Made recommended and necessary changes to survey.
8. Sent letter to subjects informing them of survey.
9. Administered survey to developers and initial participants of FDI and provided them the option of responding electronically, via e-mail, or using a traditional pencil and paper format.

Results

The instrument was developed to measure outcomes during and/or immediately following the initial FDI workshop and long term outcomes as a result of the FDI initiative. Statements within the survey were designed to determine whether they represented an expected outcome of the participant and /or developers and the extent to which the expectation was realized. The participants were asked to base their responses on their expectations prior to attending the initial FDI workshop. Categories for statements were: Outcomes during and/or immediately following initial FDI workshop and long-term outcomes as a result of the FDI initiative. Sample statements included:

1. I would earn a state of the art desktop computer, installed in my office, with necessary hardware and software to incorporate computer technology in my teaching.
2. Collaborative communication regarding teaching strategies would be encouraged and facilitated during the workshop among participating faculty.
3. Curriculum change within disciplines would occur through implementation of formal course development for targeted courses.
4. FDI would become a forum for faculty to re-think their teaching strategies and how they were teaching.

The goals and expectations of the FDI developers were identified through historical document analysis, interviews with the developers, and a survey of developers. Many of the goals of the developers were found through historical document analysis and are reported here. “The primary goal of the workshops was to provide an opportunity for faculty to reexamine curriculum issues and instructional methods which would allow them to adapt to the changing needs of students”(Faculty Development Project, 1993). Another goal of the developers was that the pilot workshops “be scaled up to a University-wide instructional development program which would involve all faculty over a four-year cycle”(Faculty Development Project, 1993).

The developers themselves identified four specific goals: 1) Increase faculty-driven teaching effectiveness; 2) Increase learning efficiency; 3) Enhance ability of faculty to meet professional responsibilities; and 4) Enhance student opportunities beyond the academy. The goals are outlined such that each goal is associated with the objectives and the tools/processes that were intended to facilitate accomplishment of the goal. Following are the three FDI developers’ goals that specifically relate to FDI (First Draft Goals and Objectives, n.d.):

1. Increase faculty driven teaching effectiveness.
 - a. Improve quality of interactions among faculty and students.
 - i. Electronic mail.
 - ii. Discussion lists.
 - iii. Multimedia tutorials and help sessions.
 - iv. Other instructional communication strategies.
 - b. Foster critical reexamination of teaching methods and curricula at a fundamental level.
 - i. Promote faculty collaboration to develop course materials.
 - ii. Develop courses with more emphasis on active and independent learning strategies.
 - iii. Develop courses with more emphasis on problem-solving, synthesis, and critical thinking skills.
 - iv. Develop courses with more emphasis on collaboration.
 - v. Promote students’ ability to construct knowledge and develop insights.
 - c. Generate a sense of excitement about curricular information.
 - i. Deal with more realistic issues by using live databases and real-time simulation.
 - ii. Promote a higher level of understanding of complex phenomena by establishing links between disciplinary information.
 - iii. Involve students with curricular information through hands-on research, analysis and presentation.
2. Increase learning efficiency
 - a. Offer 24-hour access to pertinent course information
 - i. Ability to access materials, assignments, and discussions from dorm room, apartment, or open lab.

- ii. Ability to e-mail messages to and from faculty and other students from dorm room, apartment, or open lab.
- 3. Enhance ability of faculty to meet professional responsibilities.
 - a. Teaching
 - i. Access to new resources for teaching
 - ii. Access to new resources for testing and grading
 - iii. Ability to creatively present material in new ways
 - iv. Use of courseware and simulations
 - v. Enhance ability to work with diverse group of students
 - vi. Enhance ability to help students experiencing problems
 - vii. Enhance enjoyment of teaching
 - b. General
 - i. Time/meeting management
 - ii. Classroom/office management
 - iii. Project management ([First Draft Goals and Objectives, n.d.](#))

Interviews with developers confirmed the above-mentioned goals. Examples of statements made by developers that helped to confirm those goals are:

proposed our initiating a program that would be aimed at, a faculty development program that would be aimed at 100% of our faculty over several years; and there were two goals: one was to at the end of four years instead of being 60 some percent 100 percent of our faculty were computer and network literate and would have the computer, have access to computers and good network access and the second goal was to see if we couldn't have a more notable percentage that were actually using computers and networking in some way to support teaching ... improve the teaching of whatever discipline they taught... we were at that point moving from a mainframes centralized to a distributed environment and we wanted to use this program to facilitate... to help get faculty that were computer literate that had a dependency on mainframe computing, we wanted to get those faculty and the applications they were using over into distributed computing environment at the least and in most cases into their personal computing environment. That was the information systems goal that was, it was secondary to the university goals, but you know, I think we played a role in creating all three of those goals. But one had a very information systems orientation to it, the other two were very much university enhancement kinds of goals (Developers, personal communication, October 2001).

Although the complete compilation of the developers' perceived outcomes are expressed in the 41 items on the developer survey and 41 of 42 items on the initial participant survey many expectations for FDI were confirmed during the interviews. Examples of these in the developers' own words are:

the university would be competitive in the use and integration of technology not just in teaching but in research across the whole institution in the use of administrative systems; outcome was to improve student to faculty communication, principally through e-mail; greater faculty understanding and greater faculty use of technology in their courses either as supplements or as online courses; 100% of our faculty technology literate, 100% of our faculty with reasonably ... up-to-date technology; and uniform, consistent software and hardware upgrades (Developers, personal communication, October 2001).

The comparison results are:

1. FDI Expectations vs. Initial Participants' Expectations

During Phase I, the interviews, of the data collection, the developers identified 41 expected outcomes. The developers held 39 of the 41 outcomes identified as common expectations. When the participants were asked whether they expected these 41 outcomes to occur, agreement was reached on only 21. Developers and participants were found to agree more often on the short-term expectations, 13 of 17, than on the long-term expectations, eight of 24.

2. FDI Expectations vs. FDI Outcomes

Although there were differences among the developers regarding the extent to which some of the expectations were achieved, they believed that the vast majority of their expectations had been met to some degree. They believed that 16 of the 17 short-term and 21 of the 24 long-term expectations were met to some extent.

3. Initial Participants' Expectations vs. Initial Participants' Outcomes

The extent to which initial participants' perceived that the outcomes they held as expectations for the workshop were achieved varied. Of the 12 short-term and nine long-term expectations held by at least 65% of the initial participants, only two were rated as having been fully achieved. Participants did not agree on the extent of achievement for the remaining ten outcomes.

Discussion

Interview findings show that developers saw the opportunity, were in positions to influence change and made the decision to so. FDI evolved out of their decisions. The FDI developers and initial participants did not hold identical short or long-term expectations for the workshop. However, both groups believed that all of the expectations commonly held within each group were at least somewhat achieved. Moreover, both the FDI developers and the participants confirmed that the basic expectations of the university were achieved.

Overall, there was a distinct difference in the perceived outcomes and the extent to which each was achieved for the developers and initial participants. There was total agreement among the stakeholder groups on only two of the 41 expectations. Those were that: (a) faculty would receive a state of the art desktop computer, installed in their office with necessary hardware and software to incorporate computer technology into their teaching; and (b) faculty could develop new ways to use technology to help students learn. The first of these was a very tangible and visible outcome; the second was less so, but an almost unavoidable outcome of the workshop was that faculty would know more about using technology than when they entered the program.

Although the developers communicated the goals of the FDI workshop to key participants before the workshop with the expectation that they would inform the others in their departments, the participants still entered the workshop with their own perceptions. FDI met some needs and expectations of the individual participants; however, the developers did not know exactly what those needs and expectations were prior to developing the program. Met expectation hypothesis supports that a discrepancy between what the person actually experienced and what the person expected to encounter often would occur in such situations (Porter & Steers, 1973).

Implications for HRD

The instrument developed in this study is itself an addition to the field of HRD. Developers of training programs can make certain that they articulate their expectations to participants by developing valid, reliable instruments that are specific to their instruction and the expectations as expressed by stakeholders. HRD currently utilizes many elements of met expectation hypothesis. For example, it is used when new hires are made aware of job requirements. However, there is not as much use of the theory within the design and development of survey instruments, training programs and strategic planning within the field. HRD can use these techniques and methods to better understand the effectiveness of training programs.

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