THEORY BUILDING ON UNDERSTANDING I.T. SKILL DIFFERENCES BETWEEN ADMINISTRATORS

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Abstract

It has been observed that school senior administrators who are often older tend to delegate computer related tasks to others. This paper tries to look at the impact of anxiety, lack of computer skills through a combination of quantitative and qualitative methods. The collected data are then presented to devise a theory on understanding the phenomena of task delegation by school administrators. The generated theory pointed out that anxiety to learn new skills and technophobia contributes to the fear of learning, plus the concept of easy delegation creates a symphony of inability to learn the new technologies of today.

Keywords: Administrators' Skills, I.T. Skills, Technophobia, Theory Building, Understanding

INTRODUCTION

The world has now become a vast communication network. It is one where all of us are connected, and where each one of us has the ability to converse with someone miles away with the use of our fingers and a laptop but this comes with a price. The failure to diversify education within the system will simply lead to the growth of alternative educational opportunities outside the system (Toffler, 1970). The Journal (Turner, 2005), an Internet magazine, published an article outlining the "skills that every educator should have."

Theoretical Perspective

The I.T. Skill theory (Sa'ari, J., Luan, W., et al., 2005). The following are its components Basic Computer Operation skill, Word Processing, Spreadsheet formulation, Media Presentation, Media Communication. The theory used in this study to explain the importance of computer skills for administrators was developed by Mr. Randall W. McCoy (2001), who posited that for teachers to be more effective they should possess computer literacy as it will help them in their job.

Conceptual Framework

In this particular study, phenomenology is selected as its methodology not just because it is a new breed of qualitative study which focuses more on experience and on how events are

perceived by the informants but specifically because phenomenology and hermeneutic phenomenology are often referred to as interchangeable, thus no questions of any distinction between them (Laverty, S., 2003). Indubitably, Husslerian and Collaizi's methodologies are similar in that they also try to explain events from the viewpoint of a person. They only differ on how these events are perceived and formed within the person having his own realm of thought process.

Technophobia has its roots in the introduction of technological advancements and the failure to adapt to such technological changes gives rise to a form of "culture shock". The purpose of this research is not clinical or rehabilitative in nature.

Where does technophobia originate? It is believed to have originated from "the speed at which technology is being thrust upon society at a pace and volume greater than they desire, this vast majority of the populace is also experiencing technostress" (Weil, M. & Rossen, L., 1997). Technophobia cannot just be held as a belief but it is a real scenario as 80-90% of current society do not make use of the "modern" trends of technology". Technophobia is related to Technosis, which is defined as an instance when people allow themselves to be sucked into this technological abyss, and in doing so they become more machine-oriented and less sensitive to their own needs and the needs of others. Some people become so immersed in technology that they risk losing their own identity.

RESEARCH PROBLEMS

Statement of the Problem

This study is aimed to explain in a narrative approach by describing the technical competencies of school administrators. Specifically, this aims to answer the following questions:

1. How do school Administrators cope with technology demands?
2. How do their skills affect their supervisory and administrative responsibilities?
3. Based on the results of the study, what theory can be developed relative to technophobia?
4. What training module in Technological awareness should be designed?

REVIEW OF RELATED LITERATURE

School administrator's competencies over Merchant circle, outlines the three administrative competencies for today's administrators. They are meeting preparation and coordination, office technology and problem solving (Holstein, R, 2008). In the short article, Holstein maintains that these competencies cannot be downloaded as an e-book nor can they be learned simply by reading. The author maintains that these are hands-on competencies acquired through experience. For educational settings, the competencies are a bit sound. Meetings must be prepared with appropriate handouts given to participants but in the educational setting, these rarely occur.

Another related literature on administrative competencies is the article entitled "Administrative support professionals: Competency Framework" Labrador (2010).

In this relation, computer studies form part and parcel of that desire for personal growth. In their audit on Philippine education, it was pointed out that Information Computer Technology (ICT) as among the areas of teaching competence is yet to be developed; as these skills are merely inferred to by the National Competency Based Standards. An administrator who fails to "upgrade" his skills set fails in constant personal growth and personal development.

METHODOLOGY

This research used a combination of two methodologies: Interpretative Phenomenological Analysis and the Grounded Theory. The former method is selected not for its "ease" of use but rather it focuses on the lived experience of the informants. It tries to make sense of the meaning of the events but it is noted that it can never be considered as a method but is merely an approach (Smith, 2009).

The Grounded theory as methodology proposes itself in creating a theory based that is developed inductively from a corpus of data (Little, J.W. and Daily, J, 2010). From the collected data a theory is then developed by using inductive and cross-referencing of the data. It is popularly known for its coding system. For this study Selective Coding was used. Hence, we say that this study is lengthy as it included interview transcripts, notes and tests. An emergent theory was based on the analysis of data. As part of the testing procedure informants will be exposed to a "new teaching technology" either by usage of mobile computing or a new operating system. Non-participant observation was also done to verify the responses from the informants.

Another methodology that is used is the modified Dolbeare and Schuman Narrative Interview Design (Seidman, 2005) where the interview is divided into 3 parts: A beginning, middle and the end to this purpose of the study this format was followed as illustrated:
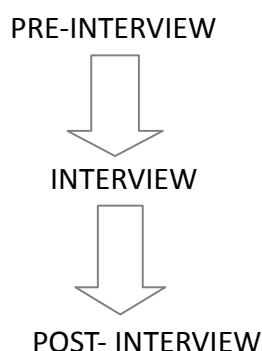
PRE-INTERVIEW

INTERVIEW

POST- INTERVIEW

Figure 1: The Interview flow

In the pre-interview stage, it is considered a "series of small talks" that deals with the background of the informant. It also acts as the beginning of the interview process. The pre-interview process may last up to 30-45 minutes. It is a series of small talks that are off the

record. The purpose of which is to put the informant in a state of relaxation to divulge more data. An example of small talks are conversations regarding work, weather, family and background. The researcher is tasked to find a common point of interest as a starting point to the pre-interview process and from there he uses varied questions that may seem mundane but actually points to the background of the informant.

The interview is the heart of the research process. Dolbeare & Schuman (Seidman, 2005) suggested the 90 minute format for an interview but this 90 minute can be divided into segments. It is suggested that interviews be spaced for five to seven days apart. The post-interview is another "off the record" interview format the purpose of which is to gather personal data about the informant. It is to be noted that personal experiences form part of one's perception of phenomena.

Coding Methodology

Coding is an interpretive technique that both organizes the data and provides a means to introduce the interpretations of it into certain quantitative methods. When coding is complete, the analyst prepares reports via a mix of: summarizing the prevalence of codes, discussing similarities and differences in related codes across distinct original sources/contexts, or comparing the relationship between one or more codes.

Table 1: Coding Sample

SAMPLE OF THE CODING FOR INFORMANT No.1			
Quote	Marginal Note	Page Number	Skill Code
"There are times when the hard disk dies	Plus one on perception	1	CC
"for your eyes only document"	Secrecy	2	WP
"only for accountants"	Negative response skill set?	3	SS
"each class room has an LCD	Presentation skill	4	MP
"I don't reply to them..."	unreachable	3	MC
Legend: CC – Computer Operation MP – Media Presentation WP – Word Processing MC – Media Communication SS – Spread Sheet			

As shown in Table 1 the researcher selects quotes from the interview that are believed to be of relevance to the study. These quotes are analyzed and interpreted by assigning codes such as CC for computer Operation, WP for Word Processing, SS for Spreadsheet, MP for Media presentation, MC for Media Communication. The column called "Marginal Note" is for important ideas, words, phrases that may be useful when interpreting this data. All raw data generated are then collated to find a central theme thus assigning either positive or negative attributes to the received responses from the informants.

Research Environment

The interviews and "testing" were conducted at the informant's office and schools. This is believed to give the informants a more relaxed and open environment that will allow for a

further discussion and in-depth understanding of their psyche. Nine school administrators were selected from nine private schools in Cebu City. The nine schools were selected using a ballot random sampling method, where each of the proposed informant schools, a total of ten, were written on a "ballot" paper and were put in an enclosed box.

Selection of informants

The purposive sample was used to select the nine school administrators. They were "believed" to have a certain degree of technophobia and have less understanding about technology as observed in the pre-interviews   A test was also administered to identify that the person has an extent of technophobia. There are a total of nine informants; three from each level of education to wit: Tertiary, Secondary and Primary levels. all school administrators and ranges from aged 35 to 62, and had been a school administrator for at least three years or more.

Research Instrument

This qualitative study used semi-structured interviews, interview grids and video recorded interviews. Probing questions were asked to clarify answers to the questions in the structured interview. The semi-structured interview was selected as it is believed that the researcher can establish a rapport with the informant so they can open up and talk more about their views regarding the subject matter (Smith, J, 2003). This gave the informants a leeway in answering open-ended questions, which were to be clustered into "codes" or "themes". The interview lasted between 30 – 45min in a three-meeting session. Due to its nature the listed questions are few; around three to ten questions only, inclusive of sub-questions, were asked to allow the researcher for follow-up questions. Additional questions were asked when necessary.

Interview grid is divided into 5 columns to write: questions, responses, comment, theme, score. This five-column interview grid was developed as part of the coding system that was to be used for data analysis by the researcher. The question column refers to the guide questions as they are found in the semi-structured questions. The response column is a record of the emotional responses of the informants.

The co-employees were used as co-informants who serve to verify the data collected from the school administrators. Their perceptions on the responses of the administrators served as an eye opener to the informants as this will be made known to them for verification. But to safeguard the identity of the secondary sources anonymity and secrecy is granted to them by this study.

Data Gathering Procedure

The interviews were conducted at a place that is conducive to the informant, which can either be in their office, their homes or any other place provided that they feel relaxed. The semi-structured interview with the informants lasted for an hour or less per session. Each interview was divided into four separate sessions. The informants were given a general overview or objectives of the interview. The researcher cannot in any way suggest or lead answers to the informants but ask open-ended questions.

Data analysis

This applied the Collaizi Method of data analysis (Collaizi, 1978). The steps in the Collaizi method of data analysis is as follows (Bowles, 2004), Reading the entire description of the experiences of the informants to get a sense of the entire content, Identify units of experience, phrases and sentences, that directly pertain to the experience, identify the meaning of each significant statement, organize the clusters of themes from the grouping of identified meanings, compare the theme clusters to the original descriptions to validate and examine discrepancies, develop an unequivocal statement exhaustive description of the essential structure of the experience. For a qualitative comparative analysis of data, this study uses the Fuzzy Question Comparative Analysis method. Under this method, respondents are then classified as having either the full set skill, barely having the skill, barely not having the skill and finally not having the set of skills so desired. The Fuzzy Question Comparative Analysis allows a means of measurement for non-numerical responses through this means the study has measurable data, which are then treated statistically.

The Research flow gives a graphical view of the methodologies and approaches used in this study for the treatment of data gathered in this study.

Summary of comparison of the Finds for all Informants

Table 2: Comparison and Correlation

Informant	Average Administrative Competencies (Dependent Variable)	Average I.T. Competencies (Independent Variable)	Spearman's RHO	P-Value
1	0.72	0.53		
2	0.72	0.73		
3	0.89	0.73		
4	0.72	0.32	Computed Value is 0.656	Computed Value0.55
5	0.83	0.73		
6	0.89	0.73		
7	0.72	0.13		
8	0.77	0.78		
9	0.89	0.78		

Table 2 based on the computed value; the correlation is 06.56 this means that the sixty five percent (65%) variance found on the Dependent Variable was contributed by the independent variable. The computed P-value of the data in rejects the null hypothesis that computer related skills does not mean a person is a good administrator. Anxieties are external fears that affect the performance of these administrators with respect to computer skills.

COMPARATIVE ANALYSIS

This Chapter outlines the methods of performing Comparative Analysis on the nine respondents using the Fuzzy set Qualitative Comparative Analysis often abbreviated as FsqCA (Ragin, 2006). The Fuzzy set was chosen as a method of comparative analysis due to its ease of use and it allows a leeway for the explanatory factors that may contribute to the degree of computer competency of an administrator. These respondents are clustered into three groups namely Tertiary, Secondary and Primary. The Five sets of computer competencies namely: Computer Operation, Word processing, spreadsheet, Media presentation and Media Communication. These will be categorized in a table that will show comparative analysis. Under the Fuzzy set qualitative comparative analysis weights are then assigned each of the five skills. A weight of one refers to the informant's degree of being fully "in" with computer skills, the weight of point sixty-seven refers of more being "In" than being out, point thirty-three refers to being more "out" than in whereas the scale of zero represents the totality "out" with technology. This method of assigning is called the four-value fuzzy set. (Ragin and Rihoux, 2007).

Table 3: Comparative analysis: I.T. Skill

Informant	Computer Operating Skills	Word Processing Skills	Spreadsheet Skills	Media Presentation	Media Communication Skill	AVERAGE
1	0.67	0.67	0.67	1.0	0.33	0.53
2	0.67	0.67	0.67	0.67	1.0	0.73
3	0.67	0.67	0.67	0.67	1.0	0.73
4	0.33	0	0	0	0.33	0.32
5	0.67	1.0	0	1.0	1.0	0.73
6	1.0	0.67	1.0	1.0	1.0	0.73
7	0.33	0	0	0	0.33	0.13
8	1.0	1.0	0.67	0.25	1.0	0.78
9	0.67	1.0	1.0	0.25	1.0	0.78
Average	0.67	0.63	0.52	0.54	0.77	

Fuzzy Questions Comparative Analysis — Desired I.T. Skill of administrators (Sa'ari, J., Luan, W., et al., 2005)

LEGEND: 1 – Fully in, 0.67- somewhat in,

0.33 Somewhat Out, 0 – Fully Out

From table 3 we can see a comparative analysis of the levels of Information of Tertiary administrators is within an acceptable range of being "in" with the skills pertaining to computer literacy. The study also took note that among the recurring skills that had a full level of literature is the media communication skills. We can note that two informants are found wanting with respect to spreadsheet skills. The factors that contributed to this are found in the raw data like family background and lack of interest that contributed to the outcome for this particular sample group. Lastly, for primary education administrators it shows that a particular

administrator lacked more than three of the given skill sets where some are.

Table 4: Administrative Competencies

Administrative competencies Theory (DepEd Teacher's Blog, 2008) Competency level of School Administrators							
Informant	Interpersonal skill	Managing Vision	Value Diversity	Integrity Trust	Drive for Results	Functional Techniques	AVERAGE
1	0.67	1	0.33	0.67	1	0.67	0.72
2	0.33	1	0.33	1	1	0.67	0.72
3	1	1	.67	1	1	0.67	0.89
4	.67	1	0.33	1	1	0.33	0.72
5	1	1	.33	1	1	0.67	0.83
6	1	1	.67	1	1	0.67	0.89
7	.33	1	1	.67	1	0.33	0.72
8	.67	1	.67	1	1	0.33	0.77
9	1	1	.67	1	1	0.67	0.89
Legend as based on the level of skill possession:							
1	- Fully in possession the skills desired			0.67 -more in, than more out			
0.33 – More out, than in possession of the skill				0 – the skill is totally absent			

Summary of table 4

Findings based on the table show no administrator based on this study possess all of the desired traits regarding Information Technology. On an average they merely possess a "more in, than more out" of the desired skills. The next paragraph explains the contents of the administrative skill theory.

THEORY GENERATION

This study concludes that those Administrators who are good in Information Technology skill have a high probability of becoming better administrators. Hence the following propositions are devised from the findings of the study:

Proposition No.1 The physical environment helped motivate the administrators to use available technology. Informant No.1 equipped his school with a Wi-Fi Internet access of the school, which he uses in his job. Without the physical environment that is conducive to technology administrators cannot make use of facilities that are absent in their workplace.

Proposition No.2 Training and previous exposure enhances the administrators use of the said technology. Informant No.9 is a B.S. Information Technology graduate. Their backgrounds, training and previous exposure to technology enhances their ability to make use of the same in their profession as administrators.

Proposition No.3   Despite a supportive environment and prior exposure to technology principals or administrators with ICT anxiety refuse to learn about technology. Informant No.5 has ICT anxiety. Her anxiety impairs her ability to make use of technology that she delegates most of the task to her subordinates. Informant's fear of breaking computers factors greatly in her reluctance to adopt technology in her profession.

The three propositions lead the researcher to deduce the Dublin's Theory in Technology Learning stating that:
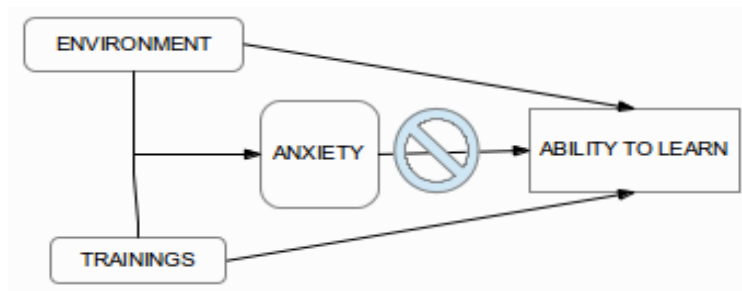
"Anxiety is a demotivator in learning a skill"

Figure 2: Dublin's theory on learning anxiety

Based on Figure 2 as shown above a person who has no anxiety when it comes to using computers has no hindrance to his ability to learn, however if a person has anxiety, it acts like a filter to one's learning ability hence he can only learn this that he finds interesting or useful. It has been noted that in various seminars/training not all topics can be considered as interesting but in the long run these topics can be of use and should receive attention.

CONCLUSIONS

The data gathered from the informants and its analysis leaves the last piece to the solved riddle of this study. The data from the informants allowed for the formulation of a uniquely shaped collective thinking, at first these data may seem unrelated but from this study we can see that all data are related in some ways.

Computer skills allow administrators to perform their task quickly and efficiently. Administrators can easily verify data of the subordinates and monitoring can be easily facilitated. Computation of evaluation measures is made easy and is more reliable. Time and effort can be maximized with the use of technology

RECOMMENDATIONS

This study recommends that the following measure be taken for School Owners:

a) If School owners would like to migrate to a Linux system as part of the cost reduction, an immersion module must be introduced.

b) Migrating to a purely computer-based system can significantly reduce paper

consumption thus reducing operational cost. This can be done with an Administrator with sufficient computer knowledge.

c) When selecting administrators, the computer competence must also be taken into consideration.

d) This study recommends that the following measure be taken for Administrators:

e) Administrators must be open to adopting new technology.

f) They must take time to learn more about computers in their free time, to improve their administrative skills.

g) Administrators should not delegate all task to others for they will be perceived to be incompetent when it comes to using computers.

h) As a way of professional development administrators should continually strive for professional improvement by taking courses on computers; if not feasible a self-study should be taken into consideration.

Further studies on I.T. Competencies and administrative competencies are recommended by this study.

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