An Exploratory Study on the Student Acceptance of the Work System Method as Part of the Systems Analysis and Design Course

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Abstract

The Work System Method (WSM) has been getting wider attention by the Information Systems research community recently. Its potential for improving the practicing and teaching of Systems Analysis and Design (SA&D) is one of the directions of growing research associated with it. This paper provides the results from an exploratory research on the acceptance of the work system method by students in an undergraduate SAD course at a public US university. The research questions relate to the revealing of student perceptions about the WSM training received during the course, overall student opinion of WSM, the impact of some characteristics of the WSM on success in SA&D, the physical accessibility of the WSM and whether the students would use WSM even if it was not required. The initial results are promising regarding the relevance of WSM for teaching systems analysis and its acceptance by students.

Keywords: Systems Analysis and Design**,** Work System Method, IS Education**,** Information Systems

1. INTRODUCTION

Systems Analysis and Design (SA&D) reclaimed recently its importance in Information Systems (IS) Research through a series of papers in Communications of AIS (see Bajaj et al., 2005; Iivari et al., 2005 and others). The importance of Systems Analysis and Design within the IS curriculum for development of analytical and problem solving skills and the development and implementation of information systems was emphasized in Harris et al.(2006).

One of the important streams of related research is focusing on the relevance of the Work System Method to Systems Analysis and Design (see Alter, 2002, Alter and Browne (2005).The work system method (WSM) by S. Alter (Alter, 2008) is gaining wider support base in the Information Systems (IS) research community (see Petkov et al., 2010). The work system method is a methodology for enabling

better communication of user requirements between the clients and the developers. Possible directions for further diffusion of work system method ideas in SA&D were suggested in Alter and Browne (2005) and Petkov et al. (2008). Thus Petkov et l. (2008) suggest the need to provide evidence on the applicability of the WSM in the practicing and teaching of SA&D and that was the motivation for this research. The goal of this paper is to explore the acceptance of the Work System Method by students in the undergraduate Systems Analysis and Design course.

We present research in progress based on an exploratory field study aiming to investigate student perceptions about the WSM in a SA&D course at a public university in the Northeast of the United States of America. We approach in this paper the issue of analyzing the impact of WSM on teaching Systems Analysis and Design from the point of view of the theory of innovation diffusion. The contribution of this research is that it is the first reported field study measuring student perceptions about the relevance of the WSM in the SA&D course based on their project work. The research questions explored here reveal student perceptions about the WSM training received during the SA&D course, overall student opinion of WSM, the impact of some characteristics of the WSM on success in SA&D, the physical accessibility of the WSM and whether the students would use WSM even if it was not required. The paper proceeds with a brief overview of WSM fundamentals, review of other research on innovation diffusion, followed by explanation of the research design, discussion of the results and a conclusion.

2. A BRIEF OVERVIW OF THE WORK SYSTEM METHOD

The relevance of the work system method for defining and explaining information systems is discussed rigorously in Alter (2008). The systemic nature of the work system method and its applicability to understanding business and IS problems are its most distinctive and important characteristics for IS research and practice according to Petkov and Petkova (2008). The WSM is a relevant and important systems approach applicable to Information Systems analysis and design according to Petkov et al. (2008). The above considerations justify the choice of studying the student acceptance of WSM in SA&D.

According to Alter (2006), WSM has two major components: a static description of the work system that is called the work system framework, and a dynamic representation called the work system life cycle. Detailed definitions of the components of the work system framework are presented in Alter (2006, 2008). Both the static view and the dynamic view have a complementary role (see Alter (2006)).

The work system framework (the static view of a work system) consists of 9 elements, 4 internal and 5 external (Alter, 2006). The four internal elements, considered part of the work system, include processes and activities, participants, technology needed to enable completion of processes and work items, and information or knowledge base needed. The five external elements, include strategy (both business and IS/IT), infrastructure needed to support the work system, environmental factors, product and services, and customers (internal, work system users and external, end customers). The work system snapshot is a formulation of these nine components of a work system framework for a specific problem situation (see Alter, 2006).

The process of performing WSM analysis of a problem includes three steps according to Alter (2006):

-Identify the system and problems;
-Analyze the system and identify possibilities;
-Recommend and justify changes.

Another attractive feature from the point of SA&D is the possibility to conduct WSM analysis at different levels of detail depending on the specific goals at various stages of the project.

A discussion of the concepts of the work system method and their implications for the IS field can be found in Alter (2008, 2009). Recent additions to the work system method theory and techniques include responsibility tables, extension of WSM ideas for service oriented systems (see also Alter, 2007).

Ongoing prolific research on various aspects of the Work System Method is conducted by its originator, Professor Steven Alter (see

www.stevenalter.com). Petkov and Petkova (2008) note that most of the work related to the work system method by other researchers than Alter has been related to the potential application of its concepts (e.g. see Siau et al., 2004, Casey and Brugha, 2005, and others). There have been also a few attempts so far by other researchers for extending WSM ideas (see Tan et al., 2008).

The WSM applied in IS education gets more attention within the IS educators' community since 2006. The first field laboratory experiment to test the impact of WSM for improvement of student understanding of an IT related work system problem in an introductory IS course was presented in Petkov and Petkova (2008). The possibilities for applying the WSM in Systems Analysis and Design (SAD) were explored previously by Alter and Browne (2005) and Petkov, Misra and Petkova (2008). More recent research on the WSM was discussed at a panel at the 2010 European Conference in Information Systems (see Petkov et al., 2010). In another paper at the same conference, Truex et al. (2010) describe the results on how MBA students at a major US university used a work system analysis template to perform preliminary analyses of work systems in their own organizations for class projects.

The above analysis leads to the conclusion that researching the student acceptance of the WSM in a SA&D course is a relevant research topic. It is a relatively new approach in the IS literature which lead to considering how theoretical work in innovation diffusion might be applicable to the WSM.

3. RELATED RESEARCH TO INNOVATION DIFFUSION AND OUR STARTING ASSUMPTIONS

Leaonard-Barton and Deschamps (1988) present a comprehensive model of the adoption of a complex innovation decision in organizations that consists of two parts: authority adoption decision that deals with how top management approaches the diffusion of innovations in an organization; and target end user's adoption decision. The focus in their paper is on the latter problem. According to their model a particular innovation (in their case an expert system used for configuring computer systems) is adopted by the end users under the influence of the perceived influence of management, personal skills and characteristics as mediators between managerial intervention and the use of the innovation. They considered also a number of other factors in their research as control variables which were not investigated further. These included innovation's accessibility (if the necessary information about the information is provided), training provided and social influences like the role of peers in the workplace and a few other factors including ease of use. Their model is quite different in its goals from the widely researched Technology Acceptance Model (see Davis, 1989) where the independent variables are the perceived ease of use and perceived usefulness.

We claim that it is possible to view the WSM as an innovation in an IS course and we can consider the students as an analog to the end users in research on the diffusion of innovation. We are interested to know more about how the students accept this approach. Due to the larger number of variables included as compared to TAM, we believe that the model of Leonard-Barton and Deschamps (1988) provides a suitable framework for exploring the acceptance of the WSM by students. The students in the particular SAD course under concern here were not given a choice whether to use WSM or not as the relevance of WSM for SAD was proven by past research (see Alter, 2002; Alter and Browne (2005) and because there are essentially no alternative approaches facilitating the understanding of user requirements by clients and the developers in non-technical but rigorous way like the WSM. Hence investigating the interaction between instructor encouragement (an analogy for top management support for the innovation) and the personal characteristics of the students along Leonard-Barton and Deschamps (1988) is not relevant for our case.

In addition, the personal traits of the students in the undergraduate Information Systems program where this study was conducted are quite uniform in nature and hence we may consider these and the role of the instructor as controlled variables. Instead this exploratory study is focusing on the impact of several variables that were considered as control variables in the industrial environment where Leonard-Barton and Deschamps (1988) conducted their research on innovation

diffusion: training, traits of the innovation (in our case – WSM), including its accessibility and availability. Prior research on innovation diffusion analyzed in Leonard-Barton and Deschamps (1988) (and not quoted here for space reasons) shows that these variables have an influence on innovation diffusion and hence the justification of our approach.

We can make a similar assumption like Leonard-Barton and Deschamps (1988) that implementing an innovation of high complexity, one that many members must use to benefit the organization, is a process of internal diffusion, involving numerous secondary adoption decisions by the users (the students in our case) even if the instructor has made the use of the innovation (in our case WSM) a requirement for a particular project.

The second assumption is that the spread of innovative approach in educational setting (and in an organization) is different from the spread of individually adopted innovations like solar panels (see Leonard-Barton and Deschamps (1988:1253) and Rogers (1982)). Thus even if the instructor has made the use of the WSM required she or he can still influence the process through training, discussions and other incentives. Therefore instructors have a role in impacting the adoption of this innovation in teaching SA&D and it deserves to be researched.

In contrast to Leonard-Barton and Deschamps (1988), our third assumption is different as we cannot expect that undergraduate students with similar background, level of education, limited skills on the task for which the WSM is to be used and limited uniform software usage skills will have different abilities to use the WSM and will have substantially different reactions to the instructor's encouragement to use the WSM. Hence the personal traits of the students like their subjective evaluation of the importance of the task for which the innovation could be used, skill on the task, skill in software and personal innovativeness towards this type of innovation (the WSM) were considered as uniform for the students and as control variables in our case. That is different from the model presented by Leonard-Barton and Deschamps (1988). The latter may seem a strong assumption that may not be completely valid in an educational institution and needs further verification. Hence the exploratory nature of this research.

4. RESEARCH DESIGN

4.1. Purpose and Scope of the study and population sample

The purpose of the study was to gather empirical data about student perceptions on several variables describing traits of the work system method after it is used in a systems analysis and design project in an undergraduate SAD course. The scope of the study covers analysis of questionnaires that were distributed among the students at the end of the completion of a semester long course in SAD. The sample population involved 30 students from two similar sections in a junior level Systems Analysis and Design course.

The treatment of the two sections of students was identical as the instructor was the same and the material covered was similar. With respect to the role played by WSM ideas in the SAD course, there was a formal instruction on the WSM provided during the first 4 weeks of the course covering project planning activities and various systems analysis techniques. The students were given one assignment on creating a work system snapshot. Then the students used WSM in a group miniproject investigating various aspects of a real information system implementation which had to be completed by week 6 of the course. A large systems analysis and design project was initiated concurrently at the start of the semester and was conducted by the same groups. It included in the analysis phase the application of the WSM. At the end of the semester the students were asked to fill a questionnaire about their perceptions of the WSM as is discussed further.

4.2. Research Instrument and Meaning of the Variables That Were Measured

The research instrument was a questionnaire (available in Appendix B). It was derived from a similar instrument developed by Leonard-Barton and Deschamps (1988). Ours was an adaptation to the WSM terminology version of a subset of the instrument used by Leonard-Barton and Deschamps (1988) following the explanations on the website for instruments of the Association of Information Systems at www.aisnet.org. We used the same scales for

the respective variables as in the original instrument. That eliminated the need for justification and validation of our instrument. Thus the way how each item listed below is measured is similar to the analogical approach followed with the instrument of Leonard-Barton and Deschamps (1988).

Explanation of the data used in our research
(see also Appendix B)

First are listed several parameters for which we studied student perceptions. One may view them also as the independent variables influencing the acceptance of the WSM:

-*Training* received was measured through items 8 and 9 on a five point Likkert type scale: -2-very negative, 0-neutral, +2-very positive.
-*Overall student opinion of the WSM* at the end of the semester was measured through item 10 on a seven point scale where 1 meant very poor and 7 meant excellent.
-*The impact of the WSM on systems analysis and design work* is measured through the first, second, fourth and fifth parts in item 12 on a 5 point scale where 1 is very poor and 5 is very good; as well as well as the first part of item 13 on a five point scale where 1 meant disagree strongly and 5 meant agree strongly.
-*Physical accessibility of the WSM* was measured by second and the last two parts in item 12 on a five point scale where 1 is very poor and 5 is very good.

The resultant dependent variable is an aggregate measure of student acceptance of the WSM in SA&D:
-*The potential use of the WSM even if it was not required by the instructor.* It was measured by item 11 on a five point scale where 1 is definitely not while 5 is definitely yes. This could be seen as a perceptive measure for the dependent variable to be used in a possible model of the relationship between variables impacting the use of the WSM. The actual investigation of the relationship between the independent variables (training received, overall student opinion of WSM, the impact of some characteristics of the WSM on success in SA&D and the physical accessibility of the WSM) and the dependent variable was outside the scope of this research.

The other data collected with the instrument were not used in this research as they were either considered as uniform control variables or simply were not included in the research. These items are defined below for completeness as they may be included in a future model of data relationships associated with related problems:
-*Strength of the instructor message about the use of the WSM* was not measured as it was part of the course requirements in the syllabus.
-*The perceived instructor support (analog to management support)* was measured by item 13c.
-*Personal innovativeness towards the WSM* was measured by items 13e, 13f and 13 g.
Job-determined importance (need) for the innovation was not measured as the population involved students and hence one could not expect that they have understanding of the need for WSM in the job of a systems analyst.
-*Subjective importance of the various systems analysis and design tasks* for which the WSM could be used was measured by item 7a.
-*Skill on the tasks* in SAD for which the WSM could be used was measured by items 6 and 7b.
-*Skill in software* was measured by items 4 and 5 in the questionnaire.
Job performance was considered irrelevant and hence not measured for the same reasons as Job-determined importance above.

5. ANALYSIS OF THE RESULTS

The WSM was introduced first in the Systems Analysis and Design course in 2006. By 2008 the use of WSM in the SA&D was a regular element of the course taught at a public university in Connecticut. It was decided to explore student acceptance of WSM as an approach guiding their project work in SAD in the fall of 2008 and fall of 2009. The instrument discussed earlier was given to the students at the end of the semester. After capturing the data the following results were processed concerning the variables that were explored in this study:

The first two research questions relate to whether the training given by the instructor on the WSM prior to starting work on the projects was applicable to SAD (see Table 1 in Appendix A) and on the perception about the need for more training on WSM (Table 2). In both cases the whole group was positive (value of 4 or

higher) in their answers. Provision of additional training in a particular method is decided taking into account many constraints on the semester course and hence determining the right amount of instruction on WSM in a course on SA&D is an open issue for further research.

The students were asked to evaluate overall the WSM as a method explaining information systems, work systems and the links between them on a scale from 1 to 7 (see table 3). The mean for the whole population was 4.83, while for the Business Information Systems (BIS) majors it was higher (5) , and for the Business majors slightly lower (4.67) and for those from other majors – 4.5. There is a potential for increasing the acceptance of the WSM through more training being provided as was indicated in the answers to the first two questions.

The results on four questions regarding particular characteristics of the WSM are presented in Table 4 (a scale from 1 to 5 was used following the original instrument by Leonard-Barton and Deschamps (1988)). The whole population considered the role of WSM for improving the accuracy of the WSM quite high (mean =3.97), well above the middle value of the scale but for the Business students this value was even higher compared to the one for the BIS students. The mean answers on whether the WSM increased the speed of developing an understanding of a system and helpfulness in learning systems analysis skills were also well above 3.5. Only for easiness to learn the mean was slightly lower at 3.37. This can be explained again to a degree with the amount of training provided in WSM before the start of the project and as this study is only an exploratory one it is not appropriate to generalize from these results.

Similar conclusions can be made also regarding the high mean values for the student ratings on the questions on the degree of accessibility of the work system method (do the students have all the necessary information on the work system method in order to apply it appropriately?) and on its availability (whether it is requiring any special software and hardware that could be used). These are presented in Table 5. Again the Business students and those from other majors viewed the WSM more favorably than the BIS students. The slightly lower ratings on the last question in Table 5 indicate that the WSM might be applied more productively using a supporting software template for conducting WSM analysis (available only recently from Prof Steven Alter upon request). However at the time of collecting the data in 2008 and 2009 that was not possible.

The students demonstrated strong confidence in the WSM as an approach that offers real advantage over intuitive understanding of information systems. As can be seen from Table 6, on a scale from 1 to 5 the mean value for the whole group is 3.5, while for the BIS students it is 3.12 but for the Business students it is much higher being 3.92.

The final results from Table 7 (on a scale from 1 to 5) regarding whether a student would use the work system method even if it were not pushed by the instructor on the class (note that the wording is the same as in the instrument for exploring innovation diffusion by Leonard-Barton and Deschamps (1988)) indicate very strong confidence in the applicability of the WSM to SA&D by the whole group (mean equal to 3.43) and by the BIS and Business majors.

One can see this variable as a surrogate dependent variable in the model of the interrelationships between the various factors in the process of innovation diffusion as presented in Leonard-Barton and Deschamps (1988) given the fact that the students did not have a choice in selecting whether or not to use the WSM in their projects. The positive response of the students indicates that they were convinced in the advantages that the WSM offers along the previously discussed results from Table 6.

CONCLUSION

This exploratory study presented preliminary results on the student perceptions about the use of the Work System Method with other approaches in a Systems Analysis and Design course within an undergraduate Information Systems program at a US public university. Data was collected over two years at the end of the semester using a previously used and validated instrument on measuring variables about the diffusion of an innovation in the IT industry (see Leonard-Barton and Deschamps (1988)). One conclusion from our research is

that the inclusion of the WSM in the SAD course is a complex teaching innovation that requires very careful preparation and planning on the side of the instructor. We explored student perceptions about the WSM training received during the course, overall student opinion of WSM, the impact of some characteristics of the WSM on success in SA&D and the physical accessibility of the WSM and whether the students would use WSM even if it was not required. These provide useful insights into the relevance of WSM inclusion as a regular methodology in the SA&D course,

We may caution that the size of the student population we had was not big enough (only 30) and hence the results cannot be generalized. Still they are a good indicator for the relevance of the WSM in the SA&D course. There is a potential to expect improved student responses through an increase of the amount of time dedicated to explaining the basics of the WSM and providing better reading materials to the students as well as software templates for assisting in the WSM analysis. Investigating the impact of giving the students better instruction on the WSM is one possibility for future research as a continuation of this study. Another opportunity for future work is to conduct an investigation of the relationship between the independent variables (training received, overall student opinion of WSM, the impact of some characteristics of the WSM on success in SA&D and the physical accessibility of the WSM) and the dependent variable: willingness to use WSM even if it was not required.

Other possibilities for future work include the use of the same instrument that we derived from Leonard-Barton and Deschamps (1988) to replicate their research on the role of management influence in the adoption of the Work System Method in work conditions by systems analysts in a particular organization. That would require a suitable modification of the assumptions that were guiding our work in this project as it was about student acceptance of WSM in a SAS course in an educational setting.

Considering the above mentioned constraints we may conclude that the results from this exploratory study showed that the students accepted WSM as a relevant, easy to use and helpful approach for analyzing Information Systems in an undergraduate IS course on Systems Analysis and Design.

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APPENDIX A. TABLES WITH THE RESULTS OF THE SURVEY ON THE ACCEPTANCE OF THE WORK SYSTEM METHOD BY STUDENTS IN A SA&D COURSE

Table 1. Mean values for the group and by student major for the question:

Did you find training in WSM applicable to SA&D?

On a scale from 1 to 5, 3 being neutral, 5 very positive, 1 very negative			
Whole group	BIS n=16	Business n=12	Other major n=2
4.00	4.13	3.92	3.50

Table 2. Mean values for the group and by student major for the question:
Do you feel that more training in WSM may help you be a better Systems Analyst?

On a scale from 1 to 5, 3 being neutral, 5 very positive, 1 very negative			
Whole group	BIS n=16	Business n=12	Other major n=2
4.17	4.13	4.25	4.00

Table 3. Mean values for the group and by student major for the question:
What your opinion of the WSM as a method is for IS and work syst.?

On a scale from 1 to 7, 1 being very poor, 7- excellent			
Whole group	BIS n=16	Business n=12	Other major n=2
4.83	5.00	4.67	4.50

Table 4. Mean values for the group and by student major for the questions:

(On a scale from 1 to 5, 1 being very poor, 5 - very good)			
Rate WSM for improving accuracy of understanding systems.			
Whole group	BIS n=16	Business n=12	Other major n=2
3.97	3.94	4.08	3.50

Rate WSM for increasing speed of understanding a system.			
Whole group	BIS n=16	Business n=12	Other major n=2
3.77	3.56	4.00	4.00
Rate WSM for helping in learning systems analysis skills			
Whole group	BIS n=16	Business n=12	Other major n=2
3.93	3.81	4.17	3.50
Rate WSM on how it is easy to learn.			
Whole group	BIS n=16	Business n=12	Other major n=2
3.37	3.44	3.33	3.00

Table 5. Mean values for the group and by student major for the questions:

(On a scale from 1 to 5, 1 being very poor, 5 - very good)			
Rate WSM for its accessibility (Do you have all information on WSM)			
Whole group	BIS n=16	Business n=12	Other major n=2
3.80	3.69	4.08	3.00
Rate WSM for its availability -Is it requiring special software to use?			
Whole group	BIS n=16	Business n=12	Other major n=2
3.43	3.31	3.67	3.00

Table 6. Mean values for the group and by student major for the question:
The WSM offers real advantage over intuitive understanding of IS

On a scale from 1 to 5, 1 being disagree strongly, 5 - agree strongly			
Whole group	BIS n=16	Business n=12	Other major n=2
3.50	3.19	3.92	3.50

Table 7. Mean values for the group and by student major for the question:

Would you use WSM even if it were not pushed by instructor?

On a scale from 1 to 5, 1 being definitely not, 3 - don't know, 5 - yes			
Whole group	BIS n=16	Business n=12	Other major n=2

3.43	3.56	3.42	2.50

APPENDIX B. INSTRUMENT USED FOR THE SURVEY ON THE IMPACT OF THE WORK SYSTEM METHOD ON UNDERSTANDNG THE SYSTEMS ANALYSIS PROJECT IN A SYSTEMS ANALYSIS AND DESIGN COURSE (BASED ON LEONARD-BARTON AND DESCHAMPS (1988))

Please fill in your answers by placing an X where necessary. Save and submit via email. Thank you for your time and assistance in this important task.

SEX: _____ M _____ F

1. What is your level – junior or senior?

2. Have you ever worked in systems analysis and design before this course?

_____ no _____ yes

IF YES: Where and when? .....

3. What field is your academic major in?

_____ BIS incl BGS/BIS _____ Computer Science
_____ Business _____ Other (WRITE IN)_____

4. I would like to know something about your skills as a software user and developer. As you read some descriptive phrases, please tell me if they represent YOUR USE of computers (in general) or not. CHECK ALL THAT APPLY; WRITE COMMENTS BELOW

_____ I use software packages on university systems (e.g. EMAIL, spreadsheets) when I need to.
_____ I have used or can use other different software packages (not just those listed above and on other systems).
_____ I enjoy playing around with software packages (e.g. at home with a PC).
_____ I have programmed proficiently in at least one computer language
_____ At one time in my life, I made my living as a programmer or systems analyst.

5. Then on a scale of 1 to 7, where 1 means limited use of software and 7 means real expert in systems development, where would you place yourself? by placing an X next to the selection number

1 2 3 4 5 6 7
Limited use Expert

6. On a scale of 1 to 7, how would you rate your own skill as a systems analyst just on the basis of your knowledge from BIS 361 (without studying BIS370 and the work system method approach), where 1=Adequate but Beginner and 7=Expert (As good as anyone can be?)

1 2 3 4 5 6 7
Adequate (but Beginner) Expert (as good as anyone can be)

7. This question has two parts
A. First, I would like you to rank each group of activities according to which is the ***most important to do well*** in order to succeed as a systems analyst. What is the most important? What is second most important? etc (use numbers from 1 to 7)

Activities	Rank
1. Defining the scope of a system	_____
2. Defining its elements(customers, Processes, information, Products, environment etc).	_____
3. Basic understanding of the System and related problems	_____
4. Developing an analysis and generation of possibilities (level 2)	_____
5. Justifying recommendations	_____
6. Understand the functionality Of a system	_____
7. Understand the data requirements Of a system	_____

B. Please RANK for each activity your ***level of skill*** in applying them as demonstrated by you and your team in your semester project by placing an X for one of the options A, B or C respectively.

Activities	A Just understand	B Satisfying	C Skilled
1. Defining the scope of a system	_____	_____	_____
2. Defining its elements (customers, Processes, information, Products, environment etc).	_____	_____	_____
3. Basic understanding of the System and related problems	_____	_____	_____
4. Developing an analysis and Generation of possibilities (level 2)	_____	_____	_____
5. Justifying recommendations	_____	_____	_____
6. Understand the functionality Of a system	_____	_____	_____
7. Understand the data requirements Of a system	_____	_____	_____

8. Did you find the training in the work system method applicable to systems analysis and design? Express your attitude encircling an item in the following scale by placing an X next to the selection number:

-2	-1	0	+1	+2
Very Negative	Somewhat Negative	Neutral/ Equal	Somewhat Positive	Very Positive

9. Do you feel that more training in other aspects of the work system method may help you to become better systems analysts? Express your attitude encircling an item in the following scale

-2	-1	0	+1	+2
Very Negative	Somewhat Negative	Neutral/ Equal	Somewhat Positive	Very Positive

10. Based on your current state of familiarity with the work system method, what is your opinion of it as a method explaining information systems, work systems and the links between them using a scale of 1 to 7, where 1 = very poor and 7 = excellent by placing an X next to the selection number.

1	2	3	4	5	6	7
Very Poor						Excellent

11. Would you use the work system method even if it were not pushed by Your instructor? (Definitely or Probably?) by placing an X next to the selection number

1	2	3	4	5
Definitely Not	Probably Not	Don't Know	Probably Yes	Definitely Yes

12. For the next question, I'm going to be referring to a list of characteristics of the Work system method and will ask you to rate it on a scale of 5 to 1, where 5 = very good and 1 = very poor

For example: What is your opinion of the WSM on this first characteristic (improvement of the accuracy of understanding systems)?

How would you rate the WSM, Good, poor, or neutral?

Very Good			Very Poor		WSM CHARACTERISTICS
5	4	3	2	1	N/A ___ Improves Accuracy of understanding systems
5	4	3	2	1	N/A ___ Increases the speed of developing an understanding of a system
5	4	3	2	1	N/A ___ Impressing customers
5	4	3	2	1	N/A ___ Helpful in learning Systems analysis skills
5	4	3	2	1	N/A ___ Easy to learn
5	4	3	2	1	N/A ___ Accessibility (Do you have the necessary information on the WSM)
5	4	3	2	1	N/A ___ Availability (Is it requiring any special software or hardware you can use?)

13. Please agree or disagree with the following statements. (Strongly or

Somewhat?)

a. The work system method offers a real advantage over intuitive understanding of IT problems without a framework.

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

b. I need a methodology like the WSM.

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

c. My instructor wants me to use the WSM.

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

d. Within the next 3-4 years, the WSM will become more popular in the IT industry:

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

e. I leave it to others to work out the details in applying new approaches before I use them.

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

f. Among the fellow students or work colleagues, I will be first (or among the first) to try out new methods at work (not just the WSM).

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly

g. I use only those methods in my studies or work that have a proven track record.

1	2	3	4	5
Disagree Strongly	Disagree Somewhat	Neutral	Agree Somewhat	Agree Strongly