

1983

Comparison of student perceptions of the learning environment during an academic calendar change

David Spaulding Kelley
Iowa State University

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COMPARISON OF STUDENT PERCEPTIONS OF THE LEARNING
ENVIRONMENT DURING AN ACADEMIC CALENDAR CHANGE

Iowa State University

Ph.D. 1983

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Comparison of student perceptions of the
learning environment during an academic
calendar change

by

David Spaulding Kelley

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education

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Approved:

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Iowa State University
Ames, Iowa

1983

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CHAPTER ONE - PROBLEM STATEMENT

Iowa State University has been on the quarter system since the 1918-1919 academic year (Gowan, 1977). In March of 1975, the ISU All University Community Council (AUCC) voted to establish a committee in order "to study possible methods for improving the learning environment at Iowa State University." An 11 member Learning Environment Improvement Committee was appointed by Vice President George Christensen to look into this matter. This committee made several recommendations to improve the learning environment at ISU; among them were the following:

1. "An immediate in-depth study of the restructuring of the academic calendar and/or of course offerings be conducted. This results from the opinion that fragmentation accompanied by short quarters is undoubtedly detrimental to the learning environment."
2. "In implementing the above study, it is the recommendation of the committee that this study include an in-depth analysis to assess the effect of a change from the quarter to the semester plan on the learning process, the economics, and the benefits that would accrue to the students, the faculty and the university." (Mahlstede, 1977)

A study was conducted to determine the advantages and/or disadvantages a switch to a semester system would have on the learning environment. This information was presented to the administration, faculty and students of ISU, and after considerable discussion of the pros and cons of each system, a vote was taken of the General Faculty. The faculty voted to adopt the semester system calendar. For a detailed account of faculty involvement in this process, refer to Karas's study (Karas, 1983). This recommendation was submitted to the Board of Regents and approved by them in the spring of 1979 (AUCC, 1979). It should be noted that in informal polls a majority of the students did not favor a change to the semester system.

Iowa State University proceeded with the transition to the semester system which was implemented in the 1981-82 academic year. A Semester System Steering Committee was formed to assist in a smooth transition from the quarter system to the semester system. One of the recommendations of the Semester System Steering Committee was that this change to a new calendar be evaluated to determine its effects on the learning environment. To this end, a longitudinal research project was established under the sponsorship of the Office of the Vice President for Academic Affairs, the Department of Professional Studies in Education and the Research Institute for Studies in Education (RISE).

A research team was organized to study the impact the change may have on the learning environment at Iowa State University. The research team consisted of Dr. J. Stanley Ahmann, Chairman of the Professional Studies in Education Department, Dr. Richard Warren, Director of RISE, and two graduate students in higher education, James Moore and David Kelley. A three phase study was proposed by the research team;

Phase One -- A baseline study of student perceptions of the learning environment under the quarter system.

Phase Two -- A one year follow-up of possible changes in student perceptions of the learning environment after one semester.

Phase Three -- A five year follow-up of student perceptions of the learning environment under the semester system.

Phase One was completed by Moore in 1982. This dissertation will be concerned with phase two of the study.

The transition to the semester system provided Iowa State University with an opportunity to add to the limited data available regarding the perceived influence a change in an academic calendar may have on the learning environment as viewed by students. It also provided an opportunity to

evaluate some of the pros and cons expressed in the literature for the quarter and semester system. Lendt and Gowan (1977) present a good compilation of the pros and cons reported in the literature. The purported pros and cons for each system that they found were:

Semester System--Pro

1. Information can be studied in greater depth.
2. More term papers and extended readings are possible.
3. Students have time to develop more interest in a subject.
4. There are fewer examinations to "break up" the term.
5. Students and instructors get to know each other better.
6. Faculty members have more time to evaluate student work.
7. Faculty may have more research time during each term.
8. Less total time is spent in starting and ending terms.
9. Less total time is invested in preregistration, registration, graduation, grade recording, and room scheduling each term.

10. Adding and dropping of courses is reduced by approximately one-third.
11. Less faculty time is required for counseling and advising.
12. Most textbooks are written for semester courses.
13. The semester calendar coincides with more institutions. This makes the transfer process easier for students.

Semester System--Con

1. The semester can become tiresome for students and instructors.
2. Procrastination by students may be encouraged.
3. The variety of courses offered in a student's program may decrease.
4. There is less opportunity to transfer from one major to another.

Quarter System--Pro

1. More frequent class meetings benefit students.
2. Less time between examinations may stimulate better performance.
3. More frequent student counseling is required.
4. Self-supporting and work-study students are benefited.

5. Classes may be smaller, aiding students and requiring less space.
6. There is greater flexibility in planning a student's program of study.
7. College costs can be spread over three periods, rather than two.
8. Students can more easily change majors.
9. Students are more likely to receive the classes they preregister for.
10. Students can graduate or enter college three times per year.
11. Students can enroll in a greater variety of classes.
12. Students can be exposed to and become acquainted with more faculty members.
13. Faculty can have a more varied teaching schedule.
14. Students can concentrate on a few subjects each term.
15. Faculty may be able to get more uninterrupted time off for research.
16. Summer school fits the format as another "quarter."

Quarter System--Con

1. The quarter system can create a hectic pace.

2. Cramming and other poor study habits may be encouraged by the quarter system.
3. Students have less time to develop serious interest in a course.
4. Students may be obliged to take more courses than they want.
5. Administrative costs associated with beginning and ending the term are increased. (Lendt and Gowan, 1977)

As can be seen in these pros and cons, the academic calendar may have a definite impact on the learning environment of a university. This research study will attempt to assess the changes in the perceptions of students about the learning environment that may have occurred during a transition from the quarter system to the semester system.

The term, learning environment, has different meanings to different people. Some people view the learning environment very narrowly, only encompassing academic activities (classroom, laboratory, tests, library, etc.). Other people view the learning environment in a much broader context, including a student's social, cultural, and recreational experiences as well as academic experiences. For the purpose of this study, the broader context of the learning environment will be used. Moore (1982) has defined the learning environment as "the interaction among

institutional characteristics, human relationships and campus events as they affect the process of learning. This includes institutional policies and procedures, interaction among students, faculty and staff, and daily activities on campus." This definition is broad enough to include a student's total college experience and is what will be investigated in this study.

The three null hypotheses for this study are:

1. There will be no change in the student's perception of the learning environment between Year 1 (quarter system) and Year 2 (semester system).
2. The degree of change as reflected by difference scores will not be related to the independent variables of sex, college affiliation, grade point average, classification, residence, if a student is full-time or part-time, whether a student works during the term, and if a student attended another college under the semester system.
3. Within the subgroups of the selected independent variables of sex, whether a student works, has attended another college on the semester system, and classification, there will be no change between Year 1 and Year 2.

In addition to these hypotheses, an exploratory effort will be conducted in an attempt to develop a prediction equation for the change in student's perceptions. Student comments will also be examined.

CHAPTER TWO -- REVIEW OF THE LITERATURE

Many researchers have studied the college environment using one of several instruments available for this purpose. The College and University Environmental Scales (CUES), College Characteristics Index (CCI), College Student Satisfaction Questionnaire (CSSQ), Institutional Functioning Inventory (IFI), and the Inventory of College Activities (ICA) are a few of the instruments that are used to study college environments. Most of these studies examine perceived differences in the environment among students enrolled in different colleges, different classifications, full-time vs. part-time enrollees, commuter vs. noncommuter, residential classification, etc. Studies have also focused on comparing the perceived college environment with what an ideal college environment should be like. There is, however, a paucity of published research that reports on college environment at a university that is undergoing a change in its academic calendar.

The general findings from university climate studies suggest that perceptions of the climate may vary by sex (Duling, 1969; Stern, 1970); marital status (Duling, 1969); residential grouping (Donohue, 1973; Lindahl, 1967); the college of enrollment within the same institution (Stern, 1970); student classification and whether the student commutes or not (Pascarella, 1976). When Pascarella studied

both sex and year of enrollment (classification), he found that freshmen had significantly higher ratings of the climate on an intellectualism/scholarship factor than seniors. He also found that senior women had significantly lower mean ratings than senior men on two factors, responsiveness and openness.

McPeck (1966) compared male and female responses regarding the real environment and the ideal environment. She found that males and females differed significantly on two scales, community and propriety scales for the real environment.

In a study conducted by Morrison (1979) which analyzed the perceptions of how older students compared the real environment with the ideal environment, she found that there was no significant difference in degree of congruency by sex, class level and campus location. For level of satisfaction, class level was a significant main effect indicating that graduate/professional students reported a significantly higher aggregate satisfaction level than undergraduates.

King and Walsh (1972) found that incoming freshmen expect something different from what the upper classman has actually experienced in the college environment at the College of Wooster. These findings suggest that there may be differences between perceptions of freshmen and junior

and senior students as well as between undergraduates and graduate students in the way they view the learning environment. Differences by sex are not clear with studies reporting conflicting results.

When Riley (1970) compared the perception of the university environment of married and single male students, he found that neither marriage nor a student's place of residence had a differentiated effect on a student's perception of the university climate. This is supported by Christian (1973) in his study of students at the University of California at Irvine. Resident and nonresident students showed more similarities than differences. McHugo (1979) also found no significant difference between students living on or off-campus in their perceptions of the university climate. This suggests that where a student lives should not make a difference in his or her perception of the learning environment.

A study of how full-time and part-time students perceived the campus environment was conducted by Yates (1978). He reported that there were no significant differences in their perceptions of the campus environment.

Mertes (1969) reported on a study that was designed to "identify the significant attitudes of participating students toward their educational experiences during the conversion from a two-semester program to a three-quarter

system during the academic year 1966-67 at Chabot College." All students in the study had been exposed to one year under the semester system and one year under the quarter system at Chabot College. The students preferred the quarter system by a ratio of 2 to 1. However, other questions indicated that the student's preference for the quarter system was highly qualified.

Students were also asked why their peers would favor or oppose either system. Their responses were:

1. FAVOR QUARTER

- opportunity for students to take more courses and to come in contact with more faculty over a given period of time
- less chance of experiencing a "course slump"

2. OPPOSE QUARTER

- afraid of poor grades
- difficulty in scheduling courses
- fear of transfer difficulties

3. FAVOR SEMESTER

- more time to explore related ideas to the courses they are taking
- easier to recover from a poor start
- more time to become familiar with subjects they are studying

4. OPPOSE SEMESTER

- courses are too long to maintain their interest for the entire term
- time spent in their courses does not seem to be used to maximum advantage

Some of the student responses follow those reported by Lendt and Gowan (1977), but the students at Chabot College also give some new reasons to consider one system over another system in terms of the learning environment.

When Mertes asked the students to evaluate their own success or failure with learning under each system, 80% of the students expressed satisfaction with the semester system. More than half of the students felt dissatisfaction under the quarter system. The students believed that the quarter system placed them under too much pressure for learning.

Ninety-five percent of the students responded that they were able to know their faculty well under the semester system compared to only 50% who felt they were able to know their faculty under the quarter system.

Students generally felt the grades they received under the semester system more accurately reflected what they had learned than did the grades they received under a quarter system. This is interesting because student grades at

Chabot College were slightly higher under the quarter system than under the semester system.

Students also expressed that both the courses and the faculty presentations appear to be better organized under the semester system than they did under the quarter system. Students also indicated that all instructors appeared to have less conference time under the quarter system.

It appeared that from the student's responses to individual questions, the students clear preference should be for the semester system, not the new quarter system. Mertes explains the contradiction by stating that many of the problems associated with the quarter system came from students taking too many courses and administrative procedures that needed to be worked out.

The University of Wisconsin--Oshkosh was on the semester system and they were awarded a grant from the Department of Health, Education and Welfare to study the impact an alternative calendar would have on various constituencies (e.g., student, faculty, administrators, etc.). An attempt was made to break the semester up into 7-7-3 week modules. A survey was mailed to the various constituencies to gather their reaction to the experiment. The results of the survey indicated:

- Most students (70%) preferred the 14 week long courses to the 7-week courses (15%).

- Course withdrawals significantly increased for the 7-week long courses compared to the 14-week long courses (from 9% to 16%).
- Grades tended to be higher in 3-week courses than in 14 or 7-week courses and 7-week courses tended to have higher grades than 14-week courses.
- A very high percentage of students (93%) felt the calendar allowed them a better opportunity for part-time employment.
- Part-time enrollment increased significantly (from 21% to 30%).

Another finding from the study is that whether or not the students expected a particular activity seems to have made a difference in whether or not they experienced it. Those who expected it were likely to experience it (Fund for the Improvement of Post Secondary Education, 1977).

It seems that what a student expects out of a particular academic calendar can initially shape the student's perceptions of the environment under that calendar. At Chabot College the students evidently expected positive experiences from the switch to the quarter system, and they still held this belief after one year. However, the real experiences they encountered would seem to indicate a preference for the old semester system. It would have been helpful to follow up on the calendar change at Chabot

College in a few more years to see if student perceptions had changed toward either of the calendar systems. This information would have greatly added to the body of knowledge in this area.

Miami University switched to an early semester system in the mid 1970s. President Philip Shriver spoke favorably of the change, saying that there was less pressure, fewer exams, increased studying, improved relations on campus and better opportunities for summer employment of students. The only concerns expressed by students were the decrease in the number of course offerings and fewer chances for a student to experiment with courses out of their major (Shriver, 1977).

Moore (1982), in his baseline study of students at Iowa State University, found a strong consensus (over 80% of the students responding agreed with the statement) on nine items about the learning environment at ISU under a quarter system. These nine items are:

- There is a lot of last minute cramming.
- Students have a strong desire to learn.
- ISU courses provide an intellectual challenge.
- Students are glad they came to ISU.
- Students seek advice from one another.
- There are many opportunities to get involved in clubs and organizations.

- There are many opportunities to attend cultural events.
- There is an extensive program of intramural sports.
- Social activities usually involve the use of alcoholic beverages.

Moore also found six items where students exhibited a "wait and see" attitude about the new semester system to be started in the next school year. The items that the students were neutral about for the upcoming semester system were:

- Departmental clubs will be stronger.
- The quality of advising will be improved.
- It will be easier to pick up a minor or a double major.
- The homework load will increase.
- My G.P.A. will go down.
- My academic advisor will be more available for consultation.

Moore (1982) also identified eight factors and four couplets that he deemed worthy of further analysis in his study. The eight factors and four couplets identified were:

FACTOR 1 -- Broadening Curriculum

FACTOR 2 -- Hard Work

FACTOR 5 -- Student-Faculty Interaction

FACTOR 7 -- Student-Student Interaction

- FACTOR 8 -- Semester Advantages
- FACTOR 9 -- Quarter Advantages
- FACTOR 10 -- Quarter Process Advantages
- FACTOR 12 -- Grades
- Couplet 1 -- Stimulation
- Couplet 2 -- Fragmentation
- Couplet 3 -- Desire to Learn
- Couplet 4 -- Being Behind

The factors had reliability estimates from .49 to .83, and the couplets had reliability estimates from .40 to .71. The present study will attempt to determine if these same factors and couplets exist in the learning environment under the semester system.

In Moore's (1982) study, he found grade point average to be a highly significant variable in how students perceived the learning environment under the quarter system. Excellent students ($GPA \geq 3.5$) viewed the quarter system much more positively than the poorer students ($GPA \leq 2.00$). Poorer students felt more pressure, more fragmentation in their learning, that too much information was crammed into courses, and they perceived more advantages to the semester system. This might have been predicted because if a person is successful under a system why would they want to change to a new system; also if one is doing poorly perhaps there is the hope that they will do better under the new system.

It will be of interest to the investigator to see if this holds as the students actually experience the semester system.

Moore (1982) also found a difference in how graduate students and undergraduate students perceived the learning environment. Graduate students exhibited a stronger desire to learn and more desire to switch to the semester system. Undergraduates reported being behind in their assignments under the quarter system and more dissatisfaction with the number of places to study.

The perception of the learning environment was also viewed differently by seniors and freshmen. Moore found that seniors reported a higher level of student-faculty relations and saw more advantages to the quarter system. Freshmen indicated more advantages to the semester system and viewed the proposed transition to the semester as being smoother. If the attitude of freshmen hold, one could expect positive responses about the semester system learning environment from this group in phase three of the study.

Students have an uneasy feeling about change. They are cautious of change until they find out how this change is going to affect them. From Moore's study, seniors, who have been on the quarter system their entire college time, favor the status quo; where as, freshmen indicated more advantages to the semester system. The report of differences between

graduate vs. undergraduate and freshmen vs. seniors by Moore is consistent with previous research findings.

The question remains, "Does one academic calendar provide a better learning environment than another?" This study and the third phase of this longitudinal study will address this question.

CHAPTER THREE - METHODOLOGY

Because of the nature of this longitudinal study, there was joint effort at the beginning in order to coordinate the first two phases of this study. The investigator and Moore were responsible for developing and testing an instrument which could be used in both studies. Moore was the principal investigator for the first phase of the study, and the researcher is the principal investigator for the second phase of this study. For further information on the development of the survey instrument, please refer to Moore's dissertation (Moore, 1982).

In Moore's study (Year 1), a sample of 1340 students was obtained. These students were sent a survey instrument in the spring of 1981 when Iowa State University was on the quarter system. Moore had computer cards for each student in his sample. These computer cards contained the student's social security number. In January of 1982, these computer cards were sent to Administrative Data Processing to match the social security numbers to those students who had also registered for the spring 1982 semester. If a student was registered for spring 1982 and also matched a social security number on one of the computer cards, three sets of address labels were printed for that person. Nine hundred fourteen students who participated in the first year study were still in school in the spring of 1982.

This study used the same instrument that Moore used in his baseline study with minor modifications. The question that asked the student for his or her major was deleted. This question was very time consuming to code because there are over 80 majors within the university. In addition, the investigator decided that there would not be a large enough sample from each major to make any meaningful comparisons. The other change was in the tense of the verbs. Semester questions needed to be changed to present tense and quarter questions needed to be changed to past tense.

After Moore's experience and further evaluation, the research team decided that the original survey instrument met the design specification for obtaining the desired information. Only one area came to the attention of the investigator that the instrument didn't address. The survey instrument did not ask the students how well they liked (disliked) recesses under the quarter system. Typically, there would be one week at the end of Fall Quarter, two weeks over Christmas/New Year, and one week at the end of Winter Quarter. The breaks under the semester system are four weeks at the end of Fall Semester and a one-week break during Spring Semester. The research team decided not to add a question of this nature to the survey instrument. It was believed that the study would benefit more from not

having the contamination of an additional question. (See Appendix A for Survey Codebook.)

In the baseline study, each student was assigned an identification number. In this study, each student was assigned the same identification number and this I.D. number was placed on the survey instrument and also on the person's mailing label. When the instrument was to be mailed out, the number on the instrument was carefully checked to see that it matched with the number on the mailing address label.

The initial mailing was completed by the end of the first week in February. This mailing contained the survey instrument and a cover letter from Dr. George C. Christensen, Vice President for Academic Affairs, requesting the student's cooperation in completing the survey (see Appendix B). Once the student completed the survey instrument, all he/she needed to do was to tape or staple it closed and place it in a mailbox. The first mailing generated 403 returned surveys which is a return rate of approximately 44% (403/914).

The second mailing was done two weeks after the first mailing. This mailing contained a survey instrument and a cover letter from Dr. Richard D. Warren, Director of the Research Institute for Studies in Education, asking the student to participate in this study (see Appendix C).

Both the first and second mailings were timed to elicit a maximum return rate. They both took place early in the semester and well before midterm examinations. Sixty-five percent (594/914) of the surveys were returned before a final postcard follow up was sent out. This postcard (see Appendix D) was mailed out one month after the second mailing. This was after midterm examinations and during Spring Quarter break. This meant that a student would have the reminder postcard in their mailbox when they returned from spring break. The postcard follow up helped to bring in an additional 29 surveys. The final return rate was 68.2% (623/914). Of the 623 returned surveys, 603 (66%) were usable for this study.

A codebook was developed by the author which followed a format similar to the one used by Moore. If Moore labeled an item TRAN 1, the author labeled the same item ATRAN 1. The A before the label indicated it was the answer after ISU switched to the semester system. It also indicated that it was after the baseline study. The people who coded the returned surveys were trained by the author. Once the coding was completed, the numerically ordered survey instruments were delivered to the Iowa State University Computation Center to be keypunched.

Frequencies were run on the data and a few discrepancies were discovered. The author then went back to the

original survey form and made the appropriate corrections to the data. Once this was accomplished, the data were stored on disk to await further analysis.

Of the 603 who returned the survey instrument, 531 had also returned Moore's survey (Year 1). It was originally planned to have a minimum of 500 subjects who would have returned both surveys (Year 1 and Year 2). The estimate of the original sample size needed to provide 500 subjects in Year 2 was very accurate. This estimate was made in consultation with Dr. Roy Hickman, Iowa State University Statistical Laboratory, and with information obtained from the Office of the Registrar.

<u>1982</u> <u>Desired</u> <u>Return</u>		<u>Estimated</u> <u>1982</u> <u>Return</u> <u>Rate</u>	X	<u>Estimated</u> <u>1981</u> <u>Summer</u> <u>Loss</u>	X	<u>Estimated</u> <u>1981</u> <u>Return</u> <u>Rate</u>	X	<u>1981</u> <u>Sample</u> <u>Size</u>
525	=	.70		.20		.70		1340

Since each student had been assigned the same identification number that they had for Moore's study, it was a relatively simple procedure to merge the data of those who returned both surveys. This provided two data sets:

1. 603 respondents to present survey (Year 2)
2. 531 respondents who returned the surveys of both studies (Year 1 and Year 2)

The primary objective of this study was to look at the change in perceptions of the students that may have occurred between Year 1 and Year 2. With this in mind, most of the

data analysis was performed on the merged data set which is the matched analysis or data set. An analysis of the students in the matched data set by sex and classification can be seen in Tables 1 and 2.

TABLE 1. Sex of Students in Matched Data Set (N = 531)

SEX	NUMBER OF RESPONDENTS	PERCENTAGE
Male	304	57.3
Female	227	42.7
	531	100.0

The proportion of males and females who participated in both surveys is representative of the proportion of males and females who are enrolled at Iowa State University.

The percentages in Table 2 will vary from Moore's because it is a year later and most students have moved into a new classification. This can be seen in Table 2 by noticing that only six students from a year ago are still classified as freshman. The other students who were classified as freshman in year 1 of the study have moved up into a different classification.

TABLE 2. Classification of Students in Matched Data Set for Year 2 (N = 531)

CLASSIFICATION	NUMBER OF RESPONDENTS	PERCENTAGE
Freshman	6	1.1
Sophomore	145	27.3
Junior	137	25.8
Senior	174	32.8
Graduate	66	12.4
Other	3	.6
	<u>531</u>	<u>100.0</u>

Each item in the survey was assigned to one of the major topic areas that was used in the development of the instrument. These major topic areas were:

Academic Life

Interpersonal Relationships

Satisfaction

Extra-curricular Activities

Quarter System

Semester System

For further information on how items were developed for each topic area, please refer to Moore's dissertation (Moore, 1982).

Each item in the survey was coded similar to the coding format used by Moore. Abbreviations for questions relating to a specific topic area were:

<u>Abbreviation</u>		<u>Topic Area</u>
ATRAN	=	Transition
AACAD	=	Academic Life
ALE	=	Learning Environment
ABEH	=	Behavioral
AQTR	=	Quarter System
ASEM	=	Semester System

For further clarification, a copy of the codebook is in Appendix A.

CHAPTER FOUR - FINDINGS

This chapter will report the findings of a Factor Analysis that attempted to verify the factors identified by Moore (1982). The factors and their reliabilities can be found in Tables 3 and 4. In addition, difference scores were computed for the factors identified. Hypothesis number one is examined in Table 10 (Factors) and Table 21 (Individual Items). Hypothesis number two is tested in terms of difference scores in Tables 8, 9, 11, and 12. The results of hypothesis number three can be found in Tables 13 through 20. Lastly, a multiple regression was performed in an attempt to develop a prediction equation.

Factor Analysis

Moore's (1982) earlier work used factor analysis to develop the factors for the following topic areas; Transition, Academic Life, Learning Environment, Behavioral, Quarter System and Semester System. To verify these scales a factor analysis was performed on both data sets (N = 603, merged N = 531) using the principal factoring with iteration method varimax rotation. There was a high degree of similarity between both data sets, and therefore factor loadings will be reported for the merged data set (N = 531). Nine factors were identified. (See Table 3.)

TABLE 3. Factor Analysis Results (N = 531)

ITEM NUMBER	ITEM STATEMENT	FACTOR LOADING	
		YEAR 1	YEAR 2
<u>Academic Dimension</u>			
Factor 1 (Broadening Curriculum)			
AACAD 8	I have a strong desire to learn.	.45	.27
AACAD 18 (-)	Most of my classes are boring.	.45	.41
AACAD 19	The ISU curriculum has broadened my view of the world.	.06	.46
AACAD 20	Course goals are clearly explained.	.19	.43
AACAD 23	The quality of instruction at ISU is excellent.	.07	.60
AACAD 26	ISU courses provide an intellectual challenge.	.10	.49
Factor 2 (Hard Work)			
AACAD 16	I feel a high degree of pressure during a typical term.	.59	.61
AACAD 27	Much reading is expected in my courses.	.41	.38
AACAD 28	Most courses at ISU require extensive out-of-class preparation.	.47	.52
AACAD 29 (-)	It is easy to pass most courses at ISU.	.25	.28
<u>Relationship Scale</u>			
Factor 3 (Cultural/Community Activities)			
ALE 2	Theatre, music and the arts are important components at ISU.	.39	.56
ALE 12	There are many opportunities to get involved in clubs and organizations.	.50	.31
ALE 14	Students volunteer their time for community service projects.	.27	.39
ALE 15	There are many opportunities to attend cultural events.	.71	.48
Factor 5 (Student-Faculty Interaction)			
ALE 3	Instructors get to know students in their classes quite well.	.48	.51
ALE 4	I feel free to discuss exam scores with my instructor.	.48	.51

TABLE 3 (Continued)

ITEM NUMBER	ITEM STATEMENT	FACTOR LOADING	
		YEAR 1	YEAR 2
ALE 5	Faculty members are sensitive to students' needs.	.75	.69
ALE 16	If you ask, most instructors will go out of their way to help you.	.46	.63
Factor 7 (Student-Student Interaction)			
ALE 6	I socialize a lot with my friends.	.63	.73
ALE 8	Students frequently engage in bull sessions.	.37	.49
ALE 9	It is easy to get a group together for card games, attending a movie, and similar activities.	.65	.75
ALE 17	Students have the opportunity to develop intimate personal relationships.	.40	.43
ALE 20	There is an extensive program of intramural sports.	.56	.39
ALE 22	Students seek advice from one another.	.40	.37
<u>Quarter/Semeter Scale</u>			
Factor 8 (Semester Advantages)			
ASEM 1	Instructors have more time to prepare for their classes.	.66	.59
ASEM 3	There is more time to assimilate classroom material.	.63	.69
ASEM 4	Departmental clubs are stronger.	.40	.26
ASEM 5	Registration is less hassle.	.27	.16
ASEM 7	The quality of advising has been improved.	.13	.14
ASEM 8	There is a more leisurely learning pace.	.58	.62
ASEM 9	Students are better able to get into the classes they need.	.31	.14
ASEM 14	My academic advisor is more available for consultation.	.29	.13

TABLE 3 (Continued)

ITEM NUMBER	ITEM STATEMENT	FACTOR LOADING	
		YEAR 1	YEAR 2
Factor 9 (Quarter Advantages)			
AQTR 3	Students had more time to get into the subject matter.	.67	.51
AQTR 5	Students got to know their classmates better.	.58	.59
AQTR 8	There was a more leisurely learning pace.	.70	.29
AQTR 9	There was a better use of textbooks.	.66	.38
AQTR 10	There were fewer deadlines.	.57	.25
AQTR 11	The spacing of exams was better.	.57	.11
Factor 10 (Quarter Process Advantage)			
AQTR 2	Students graduated sooner.	.57	.33
AQTR 6	It was easier to change from one major to another.	.64	.59
AQTR 12	There was more course variety.	.34	.27
Factor 12 (Grades)			
AQTR 1	Students tended to get better grades.	.46	.43
ASEM 12	The homework load increased.	.51	.61
ASEM 13	My G.P.A. went down.	.47	.27

Moore identified eight factors. This study identified the same eight factors and one additional factor (Cultural/Community Activities). None of Moore's Couplets could be confirmed for the matched data set.

Factor 1 (Broadening Curriculum) had one more item (AACAD 8) than the factor used by Moore. In Moore's study, AACAD 8 was part of a couplet but when analyzed in Year 2 it loaded on Factor 1.

Factor 7 also had the addition of one more item (ALE 20) when compared to Moore's Factor 7.¹ The makeup of the other factors was identical to those used by Moore.

When looking at the factor loadings for each item, it can be seen that some of the items loaded more heavily in one year rather than in the other year. The investigator tried to integrate both results when looking at factor loading. When the factors were viewed in terms of reliability and item validity, considerable consistency was found. It must be remembered that Moore and the investigator are not using established scales but rather are in the process of developing scales. Additional testing will be needed to further refine the scales.

¹ ALE 9 was inadvertently left off the final printing in Moore's dissertation.

Reliability

The nine factors were analyzed to determine their reliability at Year 1 and Year 2. Reliability was derived by use of Cronbach's alpha. (See Table 4.)

The reliability figures for Year 1 were from .50 to .83. Year 2 reliability figures had a minimum of .46 and a maximum of .79. Table 4 shows that two factors had reliability estimates for both years over .75 (Factors 8 and 9) and three factors had reliability estimates for both years over .60 (Factors 1, 5, 7). Five factors exhibited high reliability if .60 is used as a cut-off point. Factor 3 is very close to the cut-off point of .60, showing a reliability estimate of .58 in Year 1 and .61 in Year 2 and will also be analyzed further. The other three factors have lower reliability estimates and further analysis on these three will not be reported in this dissertation.

The reliability estimates of the matched subgroup (N=531) supported five of the factors identified by Moore in his study (Broadening Curriculum, Student-Faculty Interaction, Student-Student Interaction, Semester Advantages and Quarter Advantages). A sixth factor (Cultural/Community Activities emerged that was not identified by Moore. These factors and the descriptors that will be used for them can be found in Table 5.

TABLE 4. Reliability Figures for Factors N=531

FACTOR	MEAN	STD. DEV.	AVE. CORR.	ALPHA
FACTOR 1				
Year 1	21.81	3.14	.24	.65
Year 2	21.80	3.06	.23	.64
FACTOR 2				
Year 1	14.69	2.39	.21	.50
Year 2	14.46	2.43	.23	.53
FACTOR 3				
Year 1	14.77	2.15	.27	.58
Year 2	14.87	2.16	.29	.61
FACTOR 5				
Year 1	12.32	2.60	.31	.64
Year 2	12.56	2.74	.37	.70
FACTOR 7				
Year 1	23.50	3.15	.27	.69
Year 2	23.38	3.24	.32	.74
FACTOR 8				
Year 1	24.64	4.86	.38	.83
Year 2	22.30	4.67	.33	.79
FACTOR 9				
Year 1	14.37	3.86	.42	.81
Year 2	15.61	3.64	.35	.76
FACTOR 10				
Year 1	10.49	2.06	.27	.51
Year 2	10.66	2.06	.29	.54
FACTOR 12				
Year 1	8.54	1.78	.32	.58
Year 2	9.47	2.13	.22	.46

TABLE 5. Selected Factors

Factor	Descriptors			Title
	Year 1	Year 2	Difference Score	
1	FAC 1	AFAC 1	DFAC 1	Broadening Curriculum
3	FAC 3	AFAC 3	DFAC 3	Cultural/Community Activities
5	FAC 5	AFAC 5	DFAC 5	Student-Faculty Interaction
7	FAC 7	AFAC 7	DFAC 7	Student-Student Interaction
8	FAC 8	AFAC 8	DFAC 8	Semester Advantages
9	FAC 9	AFAC 9	DFAC 9	Quarter Advantages

Moore identified four couplets in his study which were not supported by this study. They all had low reliabilities when analyzed for this study.

A Pearson Correlation was not performed on the Factors because the investigator was more interested in the change that occurred between Year 1 and Year 2 for each factor. A Pearson Correlation was performed on the difference score for each factor and this appears later in the results. The correlation between the original factors may be found in Moore's dissertation.

Difference Score

In trying to measure the change that may have occurred between Year 1 and Year 2, the research team decided to use the method of difference scores. This decision was reached with the realization that this was a quasi-experiment and that only those factors that exhibited high reliability would be analyzed. The difference scores for the six factors can be found in Table 6.

TABLE 6. Changes in Responses to Factors

FACTOR	PERCENT* OF RESPONDENTS RATING		
	Higher in Year 2	Same	Higher in Year 1
Factor 1 (Broadening Curriculum)	43	15	42
Factor 3 (Cultural Community Activities)	43	20	37
Factor 5 (Student-Faculty Interaction)	42	18	40
Factor 7 (Student-Student Interaction)	40	17	43
Factor 8 (Semester Advantages)	25	7	68
Factor 9 (Quarter Advantages)	42	11	31

*Rounded to nearest percent.

Factors 1, 5, and 7 have very similar percentages for Year 1 and Year 2. Factor 3 shows a small percentage difference (5%) in Year 2. The biggest change by far occurred in Factor 8 (Semester Advantages). In Year 1, this

was rated higher by 68% of the respondents but in Year 2 it was only rated higher by 25% of the respondents. This indicates initially that the students agreed with some of the advantages typically mentioned for a semester system, but once they had a chance to attend school under the semester system, they did not agree with those advantages. The opposite response mode occurred for Factor 9 (Quarter Advantages). The students rated this higher in Year 2 (42%) than in Year 1 (31%). After recently switching from the quarter system, the students may have been more acutely aware of the perceived advantages of the quarter system.

The responses to Factors 9 and 10 are consistent since they deal with almost opposite constructs--Semester Advantages vs. Quarter Advantages. Some advantages of one system may be viewed as disadvantages in the other system.

Pearson Correlations were obtained to examine the interrelationship among the factor scores and are reported in Table 7.

In reviewing Table 7, there are 11 pairings that are significant at the .01 level and two pairings that are significant at the .05 level. The highest percent that one factor can be explained by another factor is approximately 14 (DFAC 3 with DFAC 7). This leaves almost 86%

unexplained. This indicates that the change scores being measured are relatively different for each factor.

TABLE 7. Pearson Correlation Between the Difference Scores (N_>490)

	DFAC 1	DFAC 3	DFAC 5	DFAC 7	DFAC 8	DFAC 9
DFAC 1	1.00					
DFAC 3	.319**	1.00				
DFAC 5	.314**	.201**	1.00			
DFAC 7	.324**	.376**	.085*	1.00		
DFAC 8	.050	.126**	.126**	.108**	1.00	
DFAC 9	-.094*	-.124**	-.050	-.118**	-.214**	1.00

*Significance level .05.

**Significance level .01.

ANOVA--Difference Scores

The difference scores for the six factors were subjected to a one-way analysis of variance procedure using five independent variables; college affiliation, classification, grade point average, residence and time (full-time vs. part-time).

College

Although a few overall F values were significant at the .05 level, no two groups were significantly different at the .05 level using the Scheffe' Multiple Range Test for pairs

of means. Appropriate contrasts for the five independent variables were constructed and tested, and none were found to be significant.

Classification

This analysis revealed a significant difference between the difference scores for Factor 3 (Cultural/Community Activities) and Factor 8 (Semester Advantages). The results for these can be found in Tables 8 and 9.

TABLE 8. One-way Analysis of Variance Cultural/Community Activities (DFAC 3) by Classification

Source	Analysis of Variance			
	D.F.	Mean Squares	F Ratio	F Prob.
Between Groups	4	.707	2.394	.05
Within Groups	508	.295		
Total	512			

<u>Group</u>	<u>Count</u>	<u>Mean</u>
Freshman	146	.094
Sophomore	121	-.002
Junior	130	-.010
Senior	59	-.089
Graduate	57	.167

Two contrasts for DFAC 3 were significant at the .05 level; undergraduates vs. graduates and freshmen vs. seniors. Compared with all the undergraduates, the

TABLE 9. One-way Analysis of Variance Semester Advantages (DFAC 8) by Classification

Source	D.F.	Mean Squares	F Ratio	F Prob.
Between Groups	4	1.298	4.056	.003
Within Groups	500	.320		
Total	504			

Group	Count	Mean
Freshman	139	-.398
Sophomore	122	-.355
Junior	128	-.249
Senior	58	-.175
Graduate	58	-.101

graduates believed that there is more time for cultural/community activities under the semester system. Freshmen saw more opportunity to participate in cultural/community activities than seniors. When the Scheffe' Multiple Range Test was performed on the data, no two groups were significantly different at the .05 level.

Two contrasts were also noted for DFAC 8; undergraduate vs. graduate and freshman vs. senior. Although all groups perceived the semester advantage to be less in Year 2 than in Year 1, graduate students changed less than their undergraduate counterparts. Freshmen had a greater negative change than seniors in viewing semester advantages in Year 2.

The Scheffe' Multiple Range Test revealed a significant difference at the .05 level between freshmen and graduate students. The graduate students' change was less negative than the freshmen students in their perception of the semester advantages in Year 2.

Grade Point Average, Residence, Time

Several overall F values were significant at the .05 level, but no two groups were significant at the .05 level and none of the contrasts was significant.

In terms of factor testing, the study fails to reject hypothesis number two for the independent variables of college affiliation, grade point average, residence and whether a student is full-time or part-time. For the independent variable, classification, only two of the factors can be rejected (Cultural/Community Activities and Semester Advantages--specific comparison within factors).

Paired t test--Overall Change for Factors

A t test was used to test the difference between scores on the factors between Time 1 and Time 2, and these results are presented in Table 10.

The difference for the means of Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages) were significant at the .001 level. Factor 8 was rated lower in Year 2 than in Year 1 (2.788 vs. 3.076) while Factor 9 was

TABLE 10. Paired T-test between Factors for Year 2 (AFAC) and Year 1 (FAC)

Variable	Number of Cases	Mean	Standard Deviation	Mean Difference	T Value
AFAC 1 FAC 1	513	3.632 3.641	.513 .525	-.009	-.40
AFAC 3 FAC 3	517	3.720 3.689	.542 .548	.031	1.27
AFAC 5 FAC 5	525	3.139 3.092	.685 .657	.047	1.60
AFAC 7 FAC 7	513	3.900 3.918	.541 .528	-.018	-.78
AFAC 8 FAC 8	507	2.788 3.076	.588 .611	-.288	-11.34***
AFAC 9 FAC 9	515	2.603 2.396	.605 .640	.207	6.42***

*** Significance level .001.

rated higher in Year 2 than in Year 1 (2.603 vs. 2.396). In terms of factor testing for hypothesis number one, only two factors (Semester Advantages and Quarter Advantages) can be rejected. The other factors did not indicate a significant change in the student's perceptions of the learning environment between Year 1 and Year 2.

T-test--Difference Scores

Next, a t test was conducted using the difference score for the six factors as dependent variables and using the following independent variables; sex, work, and whether they previously attended a school on the semester system.

Table 11 shows that female students disagreed more strongly than male students in regard to the perceived advantages of the semester system (Factor 8).

The only significant difference noted in Table 12 is with Factor 8 (Semester Advantages) where those that didn't work during the term had a more negative change than those that did work during the term.

When a comparison was made between those that had attended another college or university under the semester system versus those that hadn't, no significant differences were found.

Hypothesis number two can only be rejected for Factor 8 when examining the independent variables of sex and work. A change in Factor 8 (Semester Advantages) was noted for both variables.

Paired t--Subgroups

A paired t test was performed for subgroups within the independent variables using the factors as the dependent variable and sex, whether they worked during the term,

TABLE 11. T-test Comparing Difference Scores of Males and Females

Variable	Number of Cases	Mean	Standard Deviation	T Value
Factor 1				
Male	291	-.016	.477	.31
Female	220	-.001	.557	
Factor 3				
Male	295	.052	.518	-.95
Female	220	.005	.580	
Factor 5				
Male	301	.035	.674	.38
Female	222	.057	.674	
Factor 7				
Male	295	.004	.467	-1.09
Female	216	-.049	.598	
Factor 8				
Male	290	-.229	.545	-2.66**
Female	217	-.367	.600	
Factor 9				
Male	296	.199	.701	.25
Female	219	.216	.769	

**Significance level .01.

TABLE 12. T-test Comparing Difference Scores of Students Who Didn't Work (No) vs. Those Who Did work (Yes) While Going to School

Variable	Number of Cases	Mean	Standard Deviation	T Value
Factor 1				
No	295	-.018	.531	.53
Yes	216	.006	.488	
Factor 2				
No	299	.017	.530	.58
Yes	216	.045	.564	
Factor 5				
No	303	.059	.711	-.57
Yes	220	.026	.620	
Factor 7				
No	296	-.003	.576	-.73
Yes	215	-.036	.447	
Factor 8				
No	291	-.349	.565	2.69**
Yes	215	-.212	.569	
Factor 9				
No	299	.196	.734	.40
Yes	215	.222	.727	

**Significance level .01.

whether they previously had attended a school under the semester system and the classification of undergraduate/graduate as the independent variables. Results are in Table 13 through Table 20.

In Tables 13 and 14, the responses of males vs. females can be compared. In both cases, the two significant differences occurred on Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages). On Factor 8, both males and females rated this factor very slightly toward the agree side of the scale on Year 1 while in Year 2 they both rated this factor toward the disagree side of the scale. On Factor 9, both groups disagreed more strongly in Year 1 than in Year 2.

In Tables 15 and 16, the responses of those who didn't work during the term and those who did work during the term are presented. Again a similar pattern can be seen on Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages) as was observed for males and females. On Factor 8, both groups rated this very slightly toward the agree side of the scale in Year 1 while in Year 2 they were on the disagree side of the scale. On Factor 9, both groups disagreed more strongly in Year 1 than in Year 2.

In Tables 17 and 18, the responses are shown for those students who did not attend another college or university under the semester system and those students who did attend

TABLE 13. Paired t test for Males

Variable	Number of Cases	Mean	Standard Deviation	T Value
Factor 1				
Year 2	219	3.575	.488	-.55
Year 1		3.591	.509	
Factor 3				
Year 2	295	3.643	.504	1.71
Year 1		3.592	.526	
Factor 5				
Year 2	301	3.115	.651	.90
Year 1		3.081	.637	
Factor 7				
Year 2	295	3.878	.515	.15
Year 1		3.874	.486	
Factor 8				
Year 2	290	2.822	.554	-7.17***
Year 1		3.051	.619	
Factor 9				
Year 2	296	2.646	.553	4.89***
Year 1		2.447	.632	

***Significance level .001.

TABLE 14. Paired t test for Females

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	220	3.710	.536	
Year 1		3.711	.539	-.02
Factor 3				
Year 2	220	3.819	.576	
Year 1		3.815	.550	.12
Factor 5				
Year 2	222	3.166	.728	
Year 1		3.108	.687	1.27
Factor 7				
Year 2	216	3.926	.575	
Year 1		3.975	.578	-1.21
Factor 8				
Year 2	217	2.742	.629	
Year 1		3.109	.599	-9.01***
Factor 9				
Year 2	219	2.543	.665	
Year 1		2.327	.645	4.16***

***Significance level .001.

TABLE 15. Paired t test for Students Who Didn't Work During the Term

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	295	3.639	.477	-.58
Year 1		3.657	.518	
Factor 3				
Year 2	299	3.712	.548	.55
Year 1		3.694	.551	
Factor 5				
Year 2	303	3.132	.708	1.45
Year 1		3.073	.668	
Factor 7				
Year 2	296	3.984	.511	-.08
Year 1		3.987	.546	
Factor 8				
Year 2	291	2.770	.599	-10.52***
Year 1		3.119	.606	
Factor 9				
Year 2	299	2.620	.607	4.61***
Year 1		2.424	.639	

***Significance level .001.

TABLE 16. Paired t test for Students Who Worked During the Term

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	216	3.624	.560	.19
Year 1		3.617	.534	
Factor 3				
Year 2	216	3.735	.535	1.18
Year 1		3.690	.541	
Factor 5				
Year 2	220	3.146	.653	.62
Year 1		3.119	.641	
Factor 7				
Year 2	215	3.787	.562	-1.17
Year 1		3.823	.489	
Factor 8				
Year 2	215	2.808	.574	-5.45***
Year 1		3.020	.614	
Factor 9				
Year 2	215	2.580	.603	4.47***
Year 1		2.358	.641	

***Significance level .001.

TABLE 17. Paired t test for Students Who Have Previously Attended a College or University Under the Semester System

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	127	3.663	.620	
Year 1		3.651	.593	.24
Factor 3				
Year 2	126	3.689	.473	
Year 1		3.693	.554	-.08
Factor 5				
Year 2	127	3.264	.701	
Year 1		3.221	.641	.72
Factor 7				
Year 2	122	3.766	.519	
Year 1		3.775	.516	-.19
Factor 8				
Year 2	123	2.939	.627	
Year 1		3.200	.665	-4.76***
Factor 9				
Year 2	122	2.440	.630	
Year 1		2.306	.747	1.90

***Significance level .001.

TABLE 18. Paired t test for Students Who Have Not Attended Another College or University Under the Semester System

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	383	3.624	.474	-.58
Year 1		3.638	.501	
Factor 3				
Year 2	388	3.731	.564	1.41
Year 1		3.693	.545	
Factor 5				
Year 2	395	3.096	.677	1.36
Year 1		3.051	.658	
Factor 7				
Year 2	388	3.942	.542	-.70
Year 1		3.961	.525	
Factor 8				
Year 2	382	2.740	.566	-10.47***
Year 1		3.039	.587	
Factor 9				
Year 2	391	2.653	.589	6.37***
Year 1		2.422	.601	

***Significance level .001.

another college or university under the semester system. For those who did attend another college or university under a semester system, Factor 8 (Semester Advantages) was the only significant difference to emerge. In Year 1, they rated Factor 8 more toward the agree side of the scale, while in Year 2 the direction is more toward the disagree side of the scale. A significant difference does not appear in Factor 9 (Quarter Advantages) as it had for our previous independent variables. This is interesting because Factor 8 and Factor 9 produce significant differences for those students who had not previously attended a college or university under the semester system. The differences here are consistent with those found in the previous independent variables.

In Tables 19 and 20, the responses of undergraduate and graduate students can be observed. The undergraduate students showed a significant difference on Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages). Factor 8 is rated slightly toward the agree side of the scale in Year 1 and toward the disagree side of the scale in Year 2. Factor 9 shows that undergraduates disagreed less strongly in Year 2 than in Year 1.

The graduate student responses are interesting because there was not a significant difference on Factors 8 and 9. The only significant difference (.05 level) to appear for

TABLE 19. Paired t test for Undergraduate Students

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	448	3.625	.495	-.64
Year 1		3.641	.507	
Factor 3				
Year 2	456	3.717	.559	.60
Year 1		3.701	.543	
Factor 5				
Year 2	460	3.109	.674	1.53
Year 1		3.060	.647	
Factor 7				
Year 2	454	3.932	.537	-.78
Year 1		3.952	.528	
Factor 8				
Year 2	447	2.757	.594	-11.51***
Year 1		3.072	.614	
Factor 9				
Year 2	454	2.637	.607	6.94***
Year 1		2.399	.640	

***Significance level .001.

TABLE 20. Paired t test for Graduate Students

Variable	Number of Respondents	Mean	Standard Deviation	T Value
Factor 1				
Year 2	63	3.691	.629	.58
Year 1		3.653	.644	
Factor 3				
Year 2	59	3.733	.404	2.19*
Year 1		3.576	.573	
Factor 5				
Year 2	63	3.341	.731	.20
Year 1		3.325	.697	
Factor 7				
Year 2	57	3.632	.507	-.16
Year 1		3.640	.446	
Factor 8				
Year 2	60	3.013	.484	-1.45
Year 1		3.104	.592	
Factor 9				
Year 2	61	2.344	.504	-.34
Year 1		2.374	.641	

*Significance level .05.

the graduate students was in Factor 3 (Cultural/Community Activities). Although tending toward agreement in both years, the degree of agreement was stronger in Year 2 than in Year 1.

Hypothesis number three can be rejected for sex and for those students who worked and those who didn't work on Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages). For the independent variables of classification and whether they attended another college on the semester system, hypothesis number three can also be rejected on one or more factors. A change was found in Factor 8 (Semester Advantages) for those that did attend another college under the semester system. Changes were noted in Factor 8 (Semester Advantages) and Factor 9 (Quarter Advantages) for undergraduate students and for those that had not attended another college under the semester system. In each instance, Factor 8 (Semester Advantages) was disagreed with more strongly in Year 2 while Factor 9 (Quarter Advantages) was disagreed with less strongly in Year 2. For graduate students, the only change indicated was for Factor 3 (Cultural/Community Activities). They perceived more opportunities for cultural and community activities under the semester system.

Paired t --Overall Change for Individual Items

For additional testing of hypothesis one on overall change, a paired t test was performed on all the individual items in the survey. Only those that had a mean difference that was significant at the .01 level or less are reported in Table 21.

The direction of response to questions pertaining to the quarter and semester systems offer a comparison worth noting. On the whole, the questions pertaining to the quarter system were viewed more positively in Year 2 than in Year 1. For example, under the quarter system . . .

(AQTR 2) Students graduated sooner.

(AQTR 8) There was a more leisurely learning pace.

(AQTR 11) The spacing of exams was better.

There is some inconsistency in the responses in this area. The students disagreed less strongly that there was a more leisurely learning pace under the quarter system in Year 2 which might lead one to predict that the students would disagree with AQTR 13 (Too much information is crammed into each course under the quarter system.) more strongly in Year 2, but instead they were neutral or in slight agreement with the statement.

The questions pertaining to the semester system were rated more toward the disagree side in Year 2 than in Year

TABLE 21. Paired *t* test for Selected Individual Items in the Survey

Variable	Number of Respondents	Mean	Standard Deviation	Mean Difference	T Value
AACAD 1					
Year 2	529	2.348	.967		
Year 1		2.631	1.012	-.284	-5.99***
AACAD 10					
Year 2	530	2.964	1.134		
Year 1		3.111	1.160	-.147	-2.89**
AACAD 11					
Year 2	529	2.754	.955		
Year 1		2.620	.880	.134	2.73**
AACAD 13					
Year 2	529	2.151	.935		
Year 1		2.019	.911	.132	2.73**
AACAD 15					
Year 2	527	3.418	1.089		
Year 1		3.235	1.196	.182	3.42***
ALE 1					
Year 2	529	3.471	.853		
Year 1		3.637	.884	-.166	-3.69***
ALE 3					
Year 2	528	2.617	.979		
Year 1		2.491	.962	.127	2.75**
ALE 7					
Year 2	528	2.578	1.318		
Year 1		2.833	1.391	-.256	-3.92***
ALE 11					
Year 2	523	3.302	.876		
Year 1		3.159	.853	.143	3.32***

**Significance level .01.

***Significance level .001.

TABLE 21 (Continued)

Variable	Number of Respondents	Mean	Standard Deviation	Mean Difference	T Value
AQTR 1					
Year 2	523	3.216	.941	.298	6.40***
Year 1		2.918	.790		
AQTR 2					
Year 2	525	3.410	.944	.232	4.80***
Year 1		3.177	.964		
AQTR 3					
Year 2	526	2.477	.834	.183	4.00***
Year 1		2.295	.872		
AQTR 4					
Year 2	525	3.192	.953	-.227	-4.25***
Year 1		3.419	.943		
AQTR 5					
Year 2	526	2.654	.777	.133	3.01**
Year 1		2.521	.845		
AQTR 8					
Year 2	524	2.407	.884	.307	6.65***
Year 1		2.099	.847		
AQTR 10					
Year 2	523	2.469	.941	.157	3.04**
Year 1		2.312	.906		
AQTR 11					
Year 2	522	2.899	1.049	.241	4.25***
Year 1		2.657	.971		
AQTR 13					
Year 2	520	3.023	1.105	.415	8.34***
Year 1		2.608	1.126		
ASEM 1					
Year 2	524	3.168	.908	-.223	-4.83***
Year 1		3.391	.965		

TABLE 21 (Continued)

Variable	Number of Respondents	Mean	Standard Deviation	Mean Difference	T Value
ASEM 3					
Year 2	519	3.116	1.022		
Year 1		3.626	.898	-.511	-10.53***
ASEM 4					
Year 2	518	2.842	.608		
Year 1		2.938	.772	-.097	-2.67**
ASEM 5					
Year 2	525	2.938	1.133		
Year 1		3.208	1.056	-.284	-5.27***
ASEM 7					
Year 2	523	2.568	.748		
Year 1		2.713	.791	-.145	-3.78***
ASEM 8					
Year 2	525	2.730	1.124		
Year 1		3.373	1.020	-.644	-11.29***
ASEM 9					
Year 2	523	2.195	.882		
Year 1		2.447	.855	-.252	-5.85***
ASEM 11					
Year 2	526	2.679	1.189		
Year 1		3.420	1.027	-.741	-12.50***
ASEM 12					
Year 2	522	3.305	.950		
Year 1		2.854	.795	.450	9.13***
ASEM 13					
Year 2	524	2.949	1.168		
Year 1		2.782	.829	.166	2.86**
APRT 7					
Year 2	493	6.177	5.639		
Year 1		7.063	7.150	-.886	-3.04**

1. For example, under the semester system . . .

(ASEM 3) There is more time to assimilate classroom material.

(ASEM 5) Registration is less hassle.

(ASEM 8) There is a more leisurely learning pace.

(ASEM 11) The total cost of a year's books and supplies went down.

In each instance, in Year 1 the students were more toward the agree side of the scale, but in Year 2, the students either agreed less strongly or disagreed with the statement.

Hypothesis number one can be rejected for 29 individual items in the survey (Table 21). The investigator believes that in reviewing the change in perceptions that may have occurred among students, one would be advised to look at the difference in factor scores rather than differences in individual items.

Multiple Regression

AFAC 8 (Semester Advantages) was one of the factors that produced many significant differences. The researcher wanted to know if one could predict how a student would score on this factor if certain information were known about that student. A Multiple Regression was run on AFAC 8 using

all the factors² from Year 1 plus other selected variables (e.g. age, sex, etc.). After five variables had entered the equation, the adjusted R^2 was only .339. The mean square for regression was 11.462 and the mean square for residual was .233 with an overall F of 49.180. Further information is provided in Table 22.

TABLE 22. Multiple Regression for AFAC 8

Coefficient Value	Variable
1.483	Constant
.490	FAC 8
-.105	FAC 7
.080	TRAN 2
.051	CLAS
-.110	SEX

FAC 8 (Semester Advantages) alone contributed .288 of the variability. FAC 8 was then subjected to a multiple regression analysis using several independent variables. The results of that regression indicated that FAC 8 could not be predicted with the variables that we had in the study.

² An alternate Factor 7 was used that correlated .98 with the original factor.

In retrospect, the research team wished it had asked two more questions which may have had some predictive success. One question dealt with asking the students how their peer group viewed the transition to the semester. The second question would have asked students how they believed their instructors viewed the change to semesters. With these two questions, the study might have been able to see what influence a student's peer group as well as a student's instructor might have had on their outlook toward the semester transition.

Student Comments

On the last page of the survey students were asked, "Are there any comments you would like to make about the learning environment at ISU or about the transition to the semester system?" Over 40% (41.8) of those in the matched data set (N=531) made a comment of one type or another in Year 2. In Year 1, 48.4% of this same group made a comment.

The investigator read all the comments made in Year 2 and tallied the responses. The comments were two to one in favor of the quarter system. The investigator has categorized and paraphrased the comments into those discussing the semester system, those commenting on the quarter system, and a general comment category. The most frequently voiced comments in each category were:

Semester System

1. There is not a more leisurely learning pace under the semester system because more information was crammed into each course..
2. The semester seems to drag on and many students are drained before the term is over. Fall semester definitely needs a break in it.
3. It has been more difficult to register for certain classes, and therefore more graduations have been pushed back.
4. Instructors were not prepared the first semester. For example, no course outlines, pace fast, slow, fast.
5. Examinations needed to be better spaced over the semester. Too many exams coming all in one week.
6. Final examination seemed harder, perhaps because of more material covered in a comprehensive final.

Quarter System

1. Allowed the students the opportunity to take more courses. Students enjoyed the greater variety of courses available under the quarter system.

General Comments

1. Students dislike the plus/minus grading system. They felt it should not have been initiated at

the same time as the quarter/semester transition.

Comments were made that plus/minus should apply to all classes or none at all.

2. Twice as many students felt the transition went smoothly vs. those that felt it did not go smoothly.
3. Student opinion should carry more weight in decision making at ISU.
4. Complaints about advisors not caring about students.
5. Students felt that the questionnaire favored certain responses and was therefore biased.

The investigator has read several of the comments made in Year 1 and believes that the majority of the comments in Year 2 were very rational and made in an attempt to improve the learning environment at Iowa State University. Many of the comments from Year 1 seemed to stem from student frustration.

Many of the comments made by the students should be given consideration by a university considering a change of calendar as well as Iowa State University as it attempts to "fine tune" its semester system. Some of the concerns of the students could be worked out in future semesters, e.g., the spacing of exams, a break during Fall Semester, better prepared instructors.

It is interesting to note that some of the comments made by the students are quite similar to those made by the students at Chabot College during their transition to a quarter system.

CHAPTER FIVE -- SUMMARY

This study has attempted to measure the change in student perceptions of the learning environment at ISU during the university's switch to a semester system calendar from a quarter system calendar. It should be cautioned that the research team had no control over the university learning environment during the transition and therefore certain happenings on campus may have contaminated some of the results, e.g., ISU switched to a system of plus/minus grading in the Fall of 1982. The concurrent change of the academic calendar and grading policy (5-point scale to a 12-point scale) may have affected student perceptions of the learning environment. This grading policy change was met with strong student resistance, and this may have influenced their responses to some of the survey questions. In addition, the library at ISU was being expanded during the time of this study and the students could anticipate the possibility of having additional study space in the future.

This study identified nine factors present in the learning environment at ISU:

Broadening Curriculum	Grades
Cultural/Community Activities	Hard Work
Student/Faculty Interaction	Semester Advantages
Student/Student Interaction	Quarter Advantages
Quarter Process Advantages	

Eight of these factors are almost identical to the factors reported by Moore (1982). Cultural/Community Activities was a new factor observed in this study that did not appear in Moore's study. Six factors exhibited high reliability ($\geq .60$) in both years of the study and were selected for further analysis. (Hard Work, Quarter Process Advantages and Grades were not analyzed further.)

Hypothesis number one, that there will be no change in the student's perception of the learning environment between Year 1 and Year 2, can be rejected for only two factors and several individual items in the survey. A t test between the factors (Table 10) produced a significant difference between the means on the Semester Advantages and Quarter Advantages factors. In Year 1, the respondents were undecided or very slightly favorable toward the Semester Advantages factor. In Year 2, the respondents disagreed with the Semester Advantages factor. With the Quarter Advantages factor, the respondents were on the disagree side of the scale in both years, but the disagreement was less strong in Year 2.

The same trend noted for the above factors was also evident in the paired t test on individual items (Table 21). Generally the questions pertaining to the quarter system were viewed less negatively in Year 2 and the questions

pertaining to the semester system were viewed more negatively in Year 2.

The investigator failed to reject hypothesis number two (The degree of change as reflected by difference scores will not be related to selected independent variables.) for the independent variables of college affiliation, G.P.A., residence, time (part-time vs full-time), and whether a student attended another college or university on the semester system. Hypothesis number two may be rejected for the variables of classification, sex, and whether a student works during the term. This was however, only evident for two factors.

In a One-Way Analysis of Variance, on the difference scores for each factor, using the Scheffe' Method, the Semester Advantages factor produced a significant difference between freshmen and graduate students (Table 9). Although both disagreed less in Year 2, graduate students decreased significantly less than freshmen in Year 2. A contrast produced similar results when graduate students were compared with all undergraduate students. Two contrasts for the Cultural/Community Activities factor were also found to be significant (Table 8); undergraduates vs. graduate students and freshmen vs. seniors. Both graduate students and freshmen believed that there was more time for cultural and community activities under the semester system. These

two contrasts did not hold up under the rigors of the Scheffe' Multiple Range Test at the .05 level.

A t test was performed on the variables of sex and work (Tables 11 and 12). Semester Advantages was the only factor which had a significant change. Female students disagreed more strongly than male students in regard to the perceived advantages of the semester system. Students who didn't work during the term had a more negative change than those that did work during the term.

Hypothesis number three, that there will be no change between Year 1 and Year 2 within the subgroups of selected independent variables, can be rejected for all the variables on at least one factor. Paired t tests were conducted on the variables of sex, work, previous exposure to the semester system, and classification (Tables 13-20). The Semester Advantages factor was significantly different for all groups except graduate students. Perhaps because of their higher maturity level and greater life experiences, graduate students are better able to adapt to change. They were the only group to be on the agree side of the scale in both years.

Female students were a little more positive than males on the Semester Advantages factor in Year 1. In Year 2, they were more negative than their male counterparts. This

same pattern was evident for those who didn't work vs. those that worked during the term.

The Quarter Advantages factor was significant for all groups except graduate students and those who had previously attended a college or university under a semester system. This may mean that those who have attended a school under the semester system either discount the advantages of the quarter system or haven't had enough experience with the quarter system to become familiar with its espoused advantages.

The graduate students showed a change in a different factor than the other variables--Cultural/Community Activities. They agreed more strongly in Year 2 that the semester system provided an increased opportunity to become more involved in community and/or cultural activities.

A prediction equation was attempted for the Semester Advantages Factor. The best predictor of how a person would score on the Semester Advantages Factor was how that person scored on the same factor in Year 1. This only explained about 28% of the variability. The addition of four more factors only raised the explained variability to 33%. Further attempts to predict how a person would score on the Semester Advantages factor in Year 1 were fruitless.

Student comments highlighted the fact that they definitely did not believe that there was a more leisurely

learning pace under the semester system. In addition, they felt that the semester dragged on too long causing some students to "burn out" before final exams. They also missed the variety of courses available under the quarter system. Students felt strongly that their opinions should count more when making decisions within the university. There was disappointment and frustration that their opinions on the change to semester and plus/minus grading weren't given more weight.

The investigator does not believe that this study has answered which system provides for the best learning environment. More insight into this question will hopefully be gleaned after the final phase of this study is completed. This study has shown that some change has occurred among the students in their perceptions of the advantages and disadvantages of both the semester and quarter systems. This study has also shown that undergraduate students' perceptions changed significantly more than graduate students on those two factors.

How much difference will a change in calendar make upon the present environment at ISU and the students' perception of the semester system? The investigator suspects that a change in calendar will have very little effect on the learning environment. Faculty and advisors who made time to see students under the quarter system will continue to have

conference time available for students. Those faculty who didn't have time under the quarter system will continue to not have conference time available under the semester system.

The investigator believes that the semester system advantages will be viewed more favorably in the final phase of the study. As the semester system at ISU matures, many of the concerns expressed by the students can be addressed, thus improving the system in their eyes. Students, like most all people, are fearful of change and therefore will tend to rate the present calendar system higher than some unknown system.

Recommendations

Based on a review of the literature, it appears that this research is part of the most extensive study of student perceptions of the learning environment during an academic calendar change ever done. The information obtained from this research and the other phases of this study can be valuable to institutions considering a calendar change as well as those institutions which are trying to improve the learning environment under a new academic calendar which has been recently adopted.

The study of the learning environment during an academic calendar change provides ample opportunity for

further research. The investigator would like to see this study replicated at other four-year institutions and also at junior and/or community colleges. The factors developed by Moore (1982) and supported by this study need to be further refined. Are the same factors evident at other colleges and universities? What differences exist? Many more questions could be answered by further research in this area.

The students at Iowa State University had a number of concerns before the transition to the semester system. These concerns may have placed some stress on students during the transition period. A researcher might attempt to measure the degree of stress experienced by students before the transition to a new academic calendar compared to the degree of stress after the transition. This could give an institution insight into the areas that cause stress and an institution could proact to reduce or eliminate student stress.

In addition to looking at students, a researcher could study administrators and faculty during the transition to a new academic calendar, e.g., Karas (1983) studied the faculty at Iowa State University.

Although the investigator was pleased with the survey instrument that was used in this study, the following questions should be considered for inclusion in future studies:

1. Under the quarter system, I enjoy the placement of the vacation breaks.
2. My peer group approves of the present learning environment.
3. Most of my instructors dislike the present learning environment.

Question one addresses itself to the one area about the two systems that was not covered in the original survey. Questions two and three might indicate a relationship between how a person responded and the view of their friends and instructors. The rationale for this is to learn how much a student may be influenced by their peer group and their instructors. This could prove to be more useful in prediction analysis.

This study has attempted to add to the body of knowledge relating to the learning environment during an academic calendar change as perceived by students. Additional studies in this area would be most appropriate and could greatly add to the available data. The information obtained in studies like this could prove helpful to administrators at colleges and universities which are contemplating a change in academic calendar. Change can be unsettling, and the more that is known about how the change of an academic calendar can effect the learning

environment, the better prepared colleges and universities will be to deal with potential problems.

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APPENDIX A -- CODE BOOK FOR SURVEY INSTRUMENT

Quarter/Semester Survey
Codebook

	<u>VAR</u>	Card 01 <u>COL</u>	<u>FORMAT</u>
Card Number	ACD1	<u>1</u> <u>2</u>	F2.0
Schedule Number	AID1	<u>3</u> <u>4</u> <u>5</u> <u>6</u>	F4.0
Date of Return (Month, Day)	ADATE	<u>7</u> <u>8</u> <u>9</u>	F3.0
Returned	RET	<u>10</u>	F1.0

1 = First Schedule Only
2 = Second Schedule only
3 = Both Schedules

Section 1

We would like your opinion about the academic environment of Iowa State University during the current academic year. There are no right or wrong answers. Use the following response categories.

- Strongly Agree 5
- Agree 4
- Neither Agree or Disagree . . . 3
- Disagree 2
- Strongly Disagree 1

	<u>Please circle your response</u>					Card 01		
						<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
1. Overall, I am glad I.S.U. switched to the semester system	5	4	3	2	1	ATRAN 1	11	F1.0
2. Students took too many courses during a quarter	5	4	3	2	1	AACAD 1	12	F1.0
3. My learning experience is too fragmented	5	4	3	2	1	AACAD 2	13	F1.0
4. The faculty encourage students to perform up to their expectations . .	5	4	3	2	1	AACAD 3	14	F1.0
5. Class discussions are usually vigorous and intense	5	4	3	2	1	AACAD 4	15	F1.0
6. Courses at I.S.U. stress the abstract more than the concrete . .	5	4	3	2	1	AACAD 5	16	F1.0
7. I have developed strong communication skills	5	4	3	2	1	AACAD 6	17	F1.0
8. Students do a lot of last minute cramming	5	4	3	2	1	AACAD 7	18	F1.0
9. I have a strong desire to learn . .	5	4	3	2	1	AACAD 8	19	F1.0
10. The information provided by my academic advisor is accurate . . .	5	4	3	2	1	AACAD 9	20	F1.0
11. I am behind in my assignments throughout most of the term	5	4	3	2	1	AACAD 10	21	F1.0
12. Group projects are encouraged in my classes	5	4	3	2	1	AACAD 11	21	F1.0
13. I have the opportunity to collaborate with faculty on research projects	5	4	3	2	1	AACAD 12	23	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	<u>Please circle your response</u>					Card 01		<u>FORMAT</u>
						<u>VAR</u>	<u>COL</u>	
14. My classes are taught so that I can learn at my own pace	5	4	3	2	1	AACAD 13	24	F1.0
15. I generally study in my room	5	4	3	2	1	AACAD 14	25	F1.0
16. The preclassification system works well	5	4	3	2	1	AACAD 15	26	F1.0
17. I feel a high degree of academic pressure during a typical term	5	4	3	2	1	AACAD 16	27	F1.0
18. The quality of laboratory equip- ment is good	5	4	3	2	1	AACAD 17	28	F1.0
19. Most of my classes are boring	5	4	3	2	1	AACAD 18	29	F1.0
20. The I.S.U. curriculum has broadened my view of the world	5	4	3	2	1	AACAD 19	30	F1.0
21. Course goals are clearly explained .	5	4	3	2	1	AACAD 20	31	F1.0
22. I study very little over weekends . .	5	4	3	2	1	AACAD 21	32	F1.0
23. There are a sufficient number of places on campus to study	5	4	3	2	1	AACAD 22	33	F1.0
24. The quality of instruction at I.S.U. is excellent	5	4	3	2	1	AACAD 23	34	F1.0
25. Tutoring is available to students at a reasonable cost	5	4	3	2	1	AACAD 24	35	F1.0
26. Too many tests are given in my courses	5	4	3	2	1	AACAD 25	36	F1.0
27. I.S.U. courses provide an intel- lectual challenge	5	4	3	2	1	AACAD 26	37	F1.0
28. Much reading is expected in my courses	5	4	3	2	1	AACAD 27	38	F1.0
29. Most courses at I.S.U. require extensive out-of-class preparation .	5	4	3	2	1	AACAD 28	39	F1.0

- Strongly Agree 5
- Agree 4
- Neither Agree or Disagree . . . 3
- Disagree 2
- Strongly Disagree 1

	<u>Please circle your response</u>					<u>Card 01</u>		
						<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
30. It is easy to pass most courses at I.S.U.	5	4	3	2	1	AACAD 29	40	F1.0
31. The transition to the semester system went smoothly	5	4	3	2	1	ATRAN 2	41	F1.0

Section 2

For the following items, please record the number of times you have engaged in the following activities during the current school year.

		<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
1. Sat down and talked with my advisor	___ times	ABEH 1	<u>42 43 44</u>	F3.0
2. Talked with instructors after class	___ times	ABEH 2	<u>45 46 47</u>	F3.0
3. Not received a course I requested	___ times	ABEH 3	<u>48 49 50</u>	F3.0
4. Had a good conversation with students of a different ethnic background	___ times	ABEH 4	<u>51 52 53</u>	F3.0
5. Attended cultural events	___ times	ABEH 5	<u>54 55 56</u>	F3.0

Section 3

Now we would like your opinion about other aspects of the I.S.U. learning environment during the current academic year. There are no right or wrong answers. Use the following response categories.

- Strongly Agree 5
- Agree 4
- Neither Agree or Disagree . . . 3
- Disagree 2
- Strongly Disagree 1

	<u>Please circle your response</u>					<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
1. I like the current learning environ- ment at I.S.U.	5	4	3	2	1	ALE1	57	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	<u>Please circle</u> <u>your response</u>					Card 01		
						<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
2. Theatre, music, and the arts are important components at I.S.U.	5	4	3	2	1	ALE2	58	F1.0
3. Instructors get to know students in their classes quite well	5	4	3	2	1	ALE3	59	F1.0
4. I feel free to discuss exam scores with my instructor	5	4	3	2	1	ALE4	60	F1.0
5. Faculty members are sensitive to students' needs	5	4	3	2	1	ALE5	61	F1.0
6. I socialize a lot with my friends . . .	5	4	3	2	1	ALE6	62	F1.0
7. In developing campus policies, student opinion counts	5	4	3	2	1	ALE7	63	F1.0
8. Students frequently engage in bull sessions	5	4	3	2	1	ALE8	64	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

						VAR	Card 02	FORMAT	
						ACD2	COL	F2.0	
Card Number						AID2	<u>1</u> <u>2</u>		
Schedule Number							<u>3</u> <u>4</u> <u>5</u> <u>6</u>	F4.0	
Please circle									
<u>your response</u>									
9.	It is easy to get a group together for card games, attending a movie, and similar activities	5	4	3	2	1	ALE9	7	F1.0
10.	Varsity athletic events generate a lot of student enthusiasm and support	5	4	3	2	1	ALE10	8	F1.0
11.	My departmental club is very active . .	5	4	3	2	1	ALE11	9	F1.0
12.	There are many opportunities to get involved in clubs and organizations . .	5	4	3	2	1	ALE12	10	F1.0
13.	I am glad that I came to Iowa State University	5	4	3	2	1	ALE13	11	F1.0
14.	Students volunteer their time for community service projects	5	4	3	2	1	ALE14	12	F1.0
15.	There are many opportunities to attend cultural events	5	4	3	2	1	ALE15	13	F1.0
16.	If you ask, most instructors will go out of their way to help you	5	4	3	2	1	ALE16	14	F1.0
17.	Students have the opportunity to develop intimate personal relationships	5	4	3	2	1	ALE17	15	F1.0
18.	I have been treated unfairly at I.S.U.	5	4	3	2	1	ALE18	16	F1.0
19.	Students know where to go when they have problems	5	4	3	2	1	ALE19	17	F1.0
20.	There is an extensive program of intramural sports.	5	4	3	2	1	ALE20	18	F1.0
21.	Social activities usually involve the use of alcoholic beverages	5	4	3	2	1	ALE21	19	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	<u>Please circle your response</u>					<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
22. Students seek advice from one another .	5	4	3	2	1	ALE22	20	F1.0
23. My advisor shows a personal interest in me	5	4	3	2	1	ALE23	21	F1.0
24. Students' problems are promptly resolved	5	4	3	2	1	ALE24	22	F1.0
25. Adequate recreational facilities on campus are available for student use .	5	4	3	2	1	ALE25	23	F1.0
26. Student elections are of great concern to students	5	4	3	2	1	ALE26	24	F1.0
27. My contact with most administrators has been helpful	5	4	3	2	1	ALE27	25	F1.0

Section 4

Iowa State University changed from the quarter system to the semester system in the fall of 1981. We would like to know how you think the two systems compare at I.S.U. There are no right or wrong answers. Use the following response categories.

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	<u>Please circle your response</u>					<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
Under the quarter system ...								
1. Students tended to get better grades .	5	4	3	2	1	AQTR 1	<u>26</u>	F1.0
2. Students graduated sooner	5	4	3	2	1	AQTR 2	<u>27</u>	F1.0
3. Students had more time to get into the subject matter	5	4	3	2	1	AQTR 3	<u>28</u>	F1.0
4. Students were more likely to drop courses	5	4	3	2	1	AQTR 4	<u>29</u>	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	Please circle <u>your response</u>					Card 02		
						<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
5. Students got to know their class- mates better	5	4	3	2	1	AQTR 5	<u>30</u>	F1.0
6. It was easier to change from one major to another	5	4	3	2	1	AQTR 6	<u>31</u>	F1.0
7. Final exams covered more content . . .	5	4	3	2	1	AQTR 7	<u>32</u>	F1.0
8. There was a more leisurely learning pace	5	4	3	2	1	AQTR 8	<u>33</u>	F1.0
9. There was a better use of textbooks . .	5	4	3	2	1	AQTR 9	<u>34</u>	F1.0
10. There were fewer deadlines	5	4	3	2	1	AQTR 10	<u>35</u>	F1.0
11. The spacing of exams was better . . .	5	4	3	2	1	AQTR 11	<u>36</u>	F1.0
12. There was more course variety	5	4	3	2	1	AQTR 12	<u>37</u>	F1.0
13. Too much information was crammed into each course	5	4	3	2	1	AQTR 13	<u>38</u>	F1.0
Under the semester system ...								
14. Instructors have more time to prepare for their classes	5	4	3	2	1	ASEM 1	<u>39</u>	F1.0
15. Laboratory facilities are less crowded.	5	4	3	2	1	ASEM 2	<u>40</u>	F1.0
16. There is more time to assimilate classroom material	5	4	3	2	1	ASEM 3	<u>41</u>	F1.0
17. Departmental clubs are stronger	5	4	3	2	1	ASEM 4	<u>42</u>	F1.0
18. Registration is less hassle	5	4	3	2	1	ASEM 5	<u>43</u>	F1.0
19. Class sizes increased	5	4	3	2	1	ASEM 6	<u>44</u>	F1.0
20. The quality of advising has been improved.	5	4	3	2	1	ASEM 7	<u>45</u>	F1.0
21. There is a more leisurely learning pace .	5	4	3	2	1	ASEM 8	<u>46</u>	F1.0
22. Students are better able to get into the classes they need	5	4	3	2	1	ASEM 9	<u>47</u>	F1.0

Strongly Agree 5
 Agree 4
 Neither Agree or Disagree . . . 3
 Disagree 2
 Strongly Disagree 1

	<u>Please circle your response</u>					<u>VAR</u>	Card 02 <u>COL</u>	<u>FORMAT</u>
23. It is easier to pick up a minor or double major	5	4	3	2	1	ASEM 10	<u>48</u>	F1.0
24. The total cost of a year's books and supplies went down	5	4	3	2	1	ASEM 11	<u>49</u>	F1.0
25. The homework load increased	5	4	3	2	1	ASEM 12	<u>50</u>	F1.0
26. My G.P.A. went down	5	4	3	2	1	ASEM 13	<u>51</u>	F1.0
27. My academic advisor is more available for consultation	5	4	3	2	1	ASEM 14	<u>52</u>	F1.0

Section 5

Please answer the following questions about yourself by filling in the information or by circling the letter of the appropriate category.

	<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
1. What is your age? _____ Years	AAGE	<u>53 54</u>	F2.0
2. What is your sex? a) Male b) Female	ASEX	<u>55</u>	F1.0
3. What is your classification? a) Freshman d) Senior b) Sophomore e) Graduate c) Junior f) Other	ACLAS	<u>56</u>	F1.0
4. What is your current marital status? a) Single b) Married	AMAR	<u>57</u>	F1.0

		Card 02		
		<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
5.	If you are an undergraduate student, what is your college designation?			
	a) Agriculture e) Home Economics			
	b) Design f) Sciences and Humanities			
	c) Education g) Veterinary Medicine			
	d) Engineering	ACOLL	<u>58</u>	F1.0
6.	Where are you living this quarter?			
	a) University residence hall			
	b) University student apartments			
	c) Fraternity or Sorority house			
	d) Housing within walking distance of the university			
	e) Housing away from the campus			
	f) Other, please specify _____	ARES	<u>65</u>	F1.0
7.	What is your cumulative G.P.A.?			
	a) Below 2.00 d) 3.00 - 3.49			
	b) 2.00 - 2.49 e) 3.50 - 4.00			
	c) 2.50 - 2.99	AGPA	<u>66</u>	F1.0
8.	How would you classify yourself?			
	a) Undergraduate full-time (12 or more credits/semester)			
	b) Undergraduate part-time (Less than 12 credits/semester)			
	c) Graduate full-time (9 or more credits/semester)			
	d) Graduate part-time (Less than 9 credits/semester)			
	e) Other	ATIME	<u>67</u>	F1.0
9.	Do you work during the semester?			
	a) No	AWORK	<u>68</u>	F1.0
	b) Yes	AWKHR	<u>69</u> <u>70</u>	F2.0
	If yes, how many hours per week do you work? _____ hours			
10.	How many student organizations have you participated in during this current academic year?			
	_____	AORGS	<u>71</u> <u>72</u>	F2.0
11.	Have you ever attended a college or university which was on the semester system?			
	a) Yes			
	b) No	APREV	<u>73</u>	F1.0
12.	If you are an undergraduate, are you a transfer student?			
	a) Yes			
	b) No	ATRST	<u>74</u>	F1.0

Card 02

<u>VAR</u>	<u>COL</u>	<u>FORMAT</u>
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13. In a typical week, how many hours do you

- a) study . . _____ hours
 b) party . . _____ hours

ASTDY	<u>75</u> <u>76</u>	F2.0
APRTY	<u>77</u> <u>78</u>	F2.0

Are there any comments you would like to make about the learning environment at I.S.U. or about the transition to the semester system?

0 = none

1 - written comments

ACMNT	<u>79</u>	F1.0
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APPENDIX B -- INITIAL COVER LETTER

Iowa State University *of Science and Technology* Ames, Iowa 50011



Vice President
For Academic Affairs
110 Beardshear Hall
Telephone 515-294- 9452

January 15, 1982

Last year you were selected in a random sample of ISU students to give your perceptions about the learning environment under the quarter system at ISU and the transition to the semester system. The information from that questionnaire is being compiled and will be published shortly.

Students have recently finished the first semester at ISU. We would now like your perceptions of the learning environment at ISU under the semester system. This information will enable us to compare students' perceptions of the two systems and to identify areas of improvement in our future planning.

Enclosed is the questionnaire which we would like you to complete and return to us. For our results to be representative of ISU students, it is important that each questionnaire be completed and returned. Your voluntary cooperation is greatly appreciated.

You may be assured of complete confidentiality. The questionnaire has an identification number to be used only for record-keeping purposes. It enables us to check your name off the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

Return postage on the questionnaire has been prepaid, so you need only to drop the completed questionnaire in a mailbox. If you have any questions, please write or call us collect at 515-294-9452.

We thank you in advance for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "George C. Christensen".

George C. Christensen
Vice President for Academic Affairs
110 Beardshear

enclosure

APPENDIX C -- FOLLOW-UP COVER LETTER

Iowa State University *of Science and Technology* Ames, Iowa 50011



*Research Institute for Studies in Education
College of Education
The Quadrangle
Telephone 515-294-7009*

February 19, 1982

Dear Student:

We know that you are very busy getting ready for midterms, but we do need your help!

You recently received a questionnaire from the Research Institute for Studies in Education at Iowa State University seeking your views about the current learning environment at Iowa State University and comparing the quarter/semester systems. If you have mailed it recently, we want you to know that your participation is appreciated.

If you have not mailed your questionnaire, we would ask you to complete the enclosed questionnaire (or the first one) and drop it in a mail box.

We have had a very good completion record and return rate on the questionnaire and would like very much to have your responses to include in our tabulations.

Thank you for your voluntary participation in the study.

Sincerely,

A handwritten signature in black ink, which appears to read "Richard D. Warren". The signature is written in a cursive, flowing style.

Richard D. Warren, Director
Research Institute for Studies in Education

RDW/pa

Enclosure

APPENDIX D -- FINAL REMINDER POSTCARD

Iowa State University
Ames, Iowa 50011
March 9, 1982

Dear Student:

We would like very much to include your responses in our study of the Quarter/Semester system. To date, over one-half of the students have returned the questionnaire. If you have mailed the questionnaire recently, we want to express our thanks to you.

If you have not mailed your questionnaire, we would truly appreciate it if you would complete it and drop it in a mailbox.

Sincerely,

Richard D. Warren, Director
Research Institute for Studies in Education
294-7009