Student Perceptions of Classroom Environment and Attitudes Toward Teaching and Learning in East Toledo Junior High

A collaborative Project and Publication of:



And



February, 2006

Xi Zhang, M.A.

Graduate Assistant, Research and Measurement Foundations of Education

Svetlana Beltyukova, Ph.D.

Assistant Professor, Research and Measurement Foundations of Education

Christine Fox, Ph.D.

Associate Professor, Research and Measurement Foundations of Education



The Urban Affairs Center is a partner in the Ohio Urban University Program. The Urban University Program is a unique network linking the resources of Ohio's urban universities with the communities and students they serve. The UUP partners work in a cooperative effort to improve Ohio's urban regions



The University of Toledo Urban Affairs Center 2801 W. Bancroft St. Toledo, Ohio 43606 419•530•3591

E-Mail: uac@utoledo.edu

This publication is available for download at the Urban Affairs Center website: $\underline{HTTP://uac.utoledo.edu}$

Table of Contents

Executive Summary	2
Introduction	3
Research Questions	4
Methodology	4
Surveys	4
Sample	5
Data Analysis	5
Findings	6
Conclusion	12
References	13

Executive Summary

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP) is designed to help more low-income students to receive postsecondary education. GEAR UP focuses on an entire cohort of students beginning no later than the 7th grade and follows the cohort through high school. GEAR UP grantees in the Midwest Educational Reform Consortium (MERC) and the MERC partner at Bowling Green State University have focused on school reform efforts at East Toledo Junior High (ETJH).

As part of the evaluation of the federal GEAR UP grant project, this study assesses the success of school reform efforts in ETJH by evaluating changes of student perceptions of classroom environment and their attitudes toward teaching and learning. The study focused on two cohorts of students: 7th graders (Cohort I) and 8th graders (Cohort II) in the academic year 2002-2003 and both cohorts of students were followed through the academic year 2003-2004 when they were 8th graders and 9th graders, respectively. Their responses to the survey of classroom from the academic year 2002-2003 to the academic year 2003-2004 environment served as the basis of assessment. Five research questions were targeted: 1) Is there change in ETJH students' level of comfort with regard to the process of learning and teaching? 2) Do more students at ETJH perceive that their teachers have high expectations for their success compared to their perceptions of teacher expectations in the previous year? 3) Do more students feel safer in their classrooms and the school as compared to the previous year? 4) Is there change in ETJH students' perceptions of student-teacher relationships? Does this change show a trend toward a more positive teacher and student relationship? 5) Is there change in ETJH students' attitudes toward their school and teachers? Did the attitudes become more positive?

The survey of classroom environment was developed consisting of two parts: Part A tapping into the teaching strategies and Part B focusing on student attitudes toward learning and school climate. As a result, 113 students in Cohort I completed the survey as 7th graders in 2002-2003 and then as 8th graders in 2003-2004. In Cohort II, 167 students who completed the survey at 8th grade in 2003-2004 and then again as 9th graders in 2003-2004. A principal component factor analysis was used to group original survey questions into five conceptual themes. In each cohort, students' responses in two academic years, namely 2002-2003 and 2003-2004, were compared. A series of chi-square goodness of fit tests were conducted to obtain evidences of significant perception changes. Out of 28 items in the questionnaire, Cohort I students revealed significant changes on 11 items and only 4 for Cohort II students.

Two cohorts' of responses to the Survey of Classroom Environment revealed that Students at Junior High level had the greatest number of significant changes in the area of teaching and learning. The majority of the students responded positively that they were encouraged to ask questions, went through lessons at a good speed, received higher expectations from their teachers, and what they learned were connected to what they needed to know. Significantly less students in the cohort reported that they felt challenged to grow in the learning.

No evidence showed that similar changes occurred to the high school students except the feedback they received from their teachers.

Similarly, significantly more students at the Junior High level felt safer from being hurt by teachers' words whereas no such changes reported by the High School students, who also did not show any changes regarding their perceptions of student-teacher relationship. Instead, more Junior High students agreed that they were treated fairly by their teachers when they broke rules. In addition, more students in both cohorts responded positively to doing work that makes them think.

In both cohorts, significantly fewer students agreed that the school wouldn't help them fulfill their dreams whild a huge increase of the number of students who disagreed with the statement. Also, in both cohorts, there was a significant increase of students who became not sure about their teachers' beliefs in their success in college. However, more Junior High students agreed that their teachers think they would graduate from high school.

The findings and conclusions imply that more teacher and students communication is needed with the regard to teacher expectations of student success. An improved communication might be part of the structural changes taking place to retain students throughout the high school years. Additionally, given the fact of some social problems included boredom, feeling comfortable asking for help with a personal problem, and the perception that other students' disrupt classes remained the same, clusters may develop strategies for addressing these issues not only to students, but to parents as well.

Introduction

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP) is a federally funded program designed to "increase the number of low-income students who are prepared to enter and succeed in postsecondary education. GEAR UP provides five-year grants to states and partnerships to provide services at high-poverty middle and high schools. GEAR UP grantees serve an entire cohort of students beginning no later than the seventh grade and follow the cohort through high school. GEAR UP funds are also used to provide college scholarships to low-income students" (U.S. Department of Education, 2004).

The GEAR-UP grant awarded to The Midwest Educational Reform Consortium (MERC), and specifically, the MERC partner at Bowling Green State University, has focused on school reform efforts at East Toledo Junior High (ETJH). These school reform efforts combine school restructuring (teaming and looping), teacher professional development, student support, and community engagement. The goal of these school restructuring components is to achieve small learning communities by developing interdisciplinary teaching teams, common planning time, and continuity in teacher-student relationships.

Evaluation of the success of these school reform efforts is multi-faceted. If successful, school restructuring should result in increased school achievement, decreased school discipline issues, and foster more positive attitudes towards teaching and learning. Furthermore, the focus on small learning communities should ultimately make students feel safer and more comfortable in their classrooms.

As part of the evaluation of the federal GEAR-UP grant project, evaluators routinely survey teachers and students at East Toledo Junior High. The survey of classroom environment in particular was developed during the third year of the grant in response to the need to obtain more information about the implementation of the extensive professional development program at GEAR-UP schools. This survey asks students about classroom environment and their attitudes toward teaching and learning. The purpose of this study was to assess changes in ETJH student perceptions as measured by the survey of classroom environment from the academic year 2002-2003 to the academic year 2003-2004 that could in part be attributable to the school reform efforts.

Research Questions

Question 1. Is there change in ETJH students' level of comfort with regard to the process of learning and teaching?

<u>Question 2</u>. Do more students at ETJH perceive that their teachers have high expectations for their success compared to their perceptions of teacher expectations in the previous year?

Question 3. Do more students feel safer in their classrooms and the school as compared to the previous year?

<u>Question 4</u>. Is there change in ETJH students' perceptions of student-teacher relationships? Does this change show a trend toward a more positive teacher and student relationship?

<u>Question 5</u>. Is there change in ETJH students' attitudes toward their school and teachers? Did the attitudes become more positive?

Methodology

Surveys

The classroom environment survey was developed together with the GEAR-UP evaluation team from Western Michigan University (WMU). Approximately 30 teachers from WMU and 10

teachers from ETJH provided feedback on the face validity of the instrument, including the content appropriateness of the questions, clarity of the questions and meaning of the response categories of the scale.

The Student Survey of Classroom Environment consists of two parts. Part A questions tap into the teaching strategies. Students are asked to rate each teaching strategy for the frequency of its use by the teacher in a classroom on a scale from 1 to 5, where 1=never, 2=rarely (defined as 1 or 2 out of 10 times that a class meets), 3=sometimes (defined as less than half the times the class meets), 4= often (defined as more than half the times the class meets) and 5=almost always (defined as almost every class). Part B focuses on student attitudes toward learning and school climate. Students are asked to indicate the degree of their agreement with each statement on a scale from 1 to 5 (1=strongly disagree, 2=disagree, 3=uncertain, 4=agree, 5=strongly agree).

Sample

The sample analyzed for this report consisted of two cohorts of students at East Toledo Junior High. Each cohort was matched on its survey responses for the 2002-2003 and 2003-2004 academic years. As a result, cohort I was represented by 113 students who completed the survey as 7th graders in 2002-2003 and then again as 8th graders in 2003-2004. Cohort II included 167 students who completed the survey as 8th graders in 2002-2003 and then again as 9th graders in 2003-2004.

Data Analysis

In order to better understand the patterns of survey responses, a principal component factor analysis was used to identify conceptual themes into which the original survey questions could be grouped. This analysis yielded a 5-factor solution (discussed in detail in the Results) that was used to organize the discussion of the other findings of the survey data analysis by the theme underlying each factor.

These other findings were obtained by conducting a series of chi- square goodness of fit tests. The chi-square goodness of fit tests were performed for each cohort to assess change in distributions of student perceptions across the two years at the level of each item. Number of students selecting each response category in 2002-2003 was treated as the observed frequency. Number of students selecting each response category in 2003-2004 was treated as the expected frequency. Response categories with residuals larger than two (i.e., at the 95% confidence level) were viewed as evidence of significant change in perception distribution for that category. Items that exhibited significant distributional change are included in Tables 2-11. Each table contains items representing each of the five factors described earlier.

Findings

Principal components analysis

Based on the responses of the two cohorts combined, the principal components analysis of the survey data yielded a 5-factor solution that explained 46.18% of the total variance given a low person to variables ratio in the data set (Osborne, Jason W. & Anna B. Costello, 2004). Closer examination of the content of each factor revealed distinctive themes. Each factor structure and factor loadings are presented in Table 1.

Table 1. Items and Factors Loadings for a Five-Factor Model of Student Perceptions of Classroom Environment and Attitudes Toward Teaching and Learning inventory (N=560)

		Fa	ctor Loadin	gs		
Items	1	2	3	4	5	Communalities
06.Students are encouraged to ask questions	.66	01	00	.19	.04	.48
04.Students are encouraged to give ideas in class.	.65	09	07	.37	.04	.58
05.Students are encouraged to express opinions.	.63	12	05	.43	02	.59
07. We go through lessons a good speed.	.50	.07	.26	.19	.09	.36
03.My teachers give me feedback.	.49	.11	.17	04	.13	.30
22.My teachers have high expectations of me.	.48	.30	.13	.08	.28	.42
08.I feel challenged to grow in my learning.	.48	.17	02	02	.18	.29
02.I understand my teachers' expectations of me.	.48	.26	.32	.10	07	.41
01.I understand what is being taught in class most of						
time.	.48	.13	.39	04	10	.41
11.We review material that has already been						
covered.	.44	.15	.05	14	14	.26
13.I feel comfortable asking for help when I don't						
understand.	.43	.23	.21	.10	.15	.31
23.My teachers connect what I learn with what I						
need to know.	.39	.35	.21	.18	.23	.40
25.My teachers think that I would succeed in						
college.	.22	.83	.10	.07	.02	.75
26.My teachers think that I would succeed in life.						
24.My teachers think that I will graduate from high	.23	.79	.137	.02	.14	.72
school.	.27	.68	.27	.10	.09	.62
27.Even if I am successful in school, it won't help						
me fulfill my dream.	11	.52	19	.12	07	.34
20.I feel safe from being hurt by students' words.				0.4		
19.I feel safe from being hurt by teachers' words.	.07	01	.76	.01	.02	.58
21.I feel physically safe in school.	.08	.16	.72	.23	10	.61
21.1 reet physically sale in sensor.	.13	.04	.56	.23	.15	.41
16.My teachers blame students when they don't						
understand.	02	04	07	70	.17	.53
12.My teachers treat all students respectfully.						
17.My teachers are fair to all students when they	.18	.22	.27	.66	.27	.67
break rules.	.13	.19	.30	.53	.27	.50
15.My teachers help students when they do not						
understand.	.46	.14	.15	.46	.09	.47
18.Students rarely disrupt class.						
09.I am rarely bored in school.	19	09	04	03	.65	.47
10.I am interested in school.	.07	.14	13	.18	.57	.39
14.I feel comfortable asking for help when I have a	.17	.18	.03	.30	.51	.41
personal problem.	.31	.10	.08	07	.48	.35
28.My teachers make sure that the work I do really						
makes me think.	.10	13	.27	17	.45	.33
Eigenvalues	6.48	1.85	1.67	1.57	1.36	
% variance explained	23.15	6.62	5.95	5.60	4.87	
, o tarante emplantea	25.10	0.02	0.70	2.00	,	

As seen in Table 1, Factor 1 is comprised of the items that seem to assess student perceptions of learning and teaching at ETJH. Examples of the survey items that loaded high on this factor include "Students are encouraged to express opinions," "We go through lessons at a good speed," and "My teachers give me feedback." Factor 2 is comprised of the items that seem to evaluate student perceptions of their teacher expectations of them. Examples of the survey items that loaded high on this factor include "My teachers think that I would succeed in college," "My teachers think that I would succeed in life," and "My teachers think that I will graduate from high school." Factor 3 appears to include items related to classroom and school safety. Examples of the survey items that loaded high on this factor include "I feel safe from being hurt by students' words," "I feel safe from being hurt by teachers' words," and "I feel physically safe in school." Factor 4 is comprised of the items that share a common theme of the teacher-student relationship. Examples of the survey items that loaded high on this factor include "My teachers treat all students respectfully" and "My teachers are fair to all students when they break rules." Finally, Factor 5 is defined by the items that reflect student attitude toward school and their teachers. Examples of the survey items that loaded high on this factor include "I am rarely bored in school" and "I am interested in school." The themes of these five factors helped shape the research questions the discussion of which follows next.

Change in ETJH Students' Level of Comfort With Regard to the Process of Learning and Teaching

The results of the chi-square tests revealed that Cohort I showed more perceptual change on Factor 1 items (see Table 2) when compared to Cohort II (see Table 3). Significantly more students in Cohort I reported agreement and significantly less students disagreed on the items related to teachers encouraging them to ask questions, going through lessons at a good speed, their belief that teachers have high expectations of them, and teachers' effort in connecting what they learn with what they need to know. However, there was a significant drop in the percentage of students who said they felt challenged to grow in their learning. In addition, significantly more students expressed uncertainty about this question. Cohort II Students data revealed that there was a significant increase by 8% in the number of students who disagreed that their teachers gave them feedback often.

ETJH Student Perceptions of Their Teachers Expectations of Their Success

With regard to teacher expectations, the chi-square analysis revealed more changes for Cohort I than for Cohort II on the items of Factor 2 (see Tables 4 and 5). As far as teachers' belief in their students' success in college is concerned, fewer students in Cohort I tended to respond with disagreement. However, the percentage of students who agreed significantly dropped. Instead, more students reported their uncertainty about whether their teachers belief in their success in college. On the other hand, the number of students who agreed that their teachers think they would graduate from high school significantly increased. Though more students reported

uncertainty on this question, the number of students who disagreed significantly dropped. With regard to the statement that being successful won't be helpful with fulfilling students' dreams, significantly fewer students agreed that the school wouldn't help them fulfill their dreams while a huge increase of the number of students who disagreed with the statement.

Table 2. Change in ETJH student perceptions of learning and teaching (Factor 1) (based on the matched sample of Cohort I; n=113)

		2002-2003/2003-20	04
Factor 1	Disagree	Not Sure	Agree
Students are encouraged to ask questions.	23/9	23/25	54/66
Students are encouraged to give ideas in class.	24/19	28/33	48/48
Students are encouraged to express opinions.	24/27	23/28	53/45
We go through lessons at a good speed.	27/16	15/13	58/71
My teachers give me feedback.	22/20	42/43	36/37
My teachers have high expectations of me.	23/11	32/28	45/61
I feel challenged to grow in my learning.	29/28	21/32	50/40
I understand my teachers' expectations of me.	15/12	24/26	61/62
I understand what is being taught in class most of time.	9/9	13/18	78/73
We review material that has already been covered.	15/10	21/26	64/64
I feel comfortable asking for help when I don't understand	d. 22/18	14/17	64/65
Teachers connect what I learn with what I need to know		26/30	46/57

Note. Data in the table are percentages. Highlighted item(s) indicate significant perceptions change.

Table 3. Change in ETJH **Student Perceptions of learning and teaching** (Factor 1) (based on the matched sample of **Cohort II**; n=167)

	<u> </u>	2002-2003/2003-20	04
Factor 1	Disagree	Not Sure	Agree
Students are encouraged to ask questions.	11/9	17/15	72/76
Students are encouraged to give ideas in class.	18/19	22/22	60/59
Students are encouraged to express opinions.	18/18	22/25	60/57
We go through lessons at a good speed.	24/24	24/19	52/57
My teachers give me feedback.	15/23	37/31	48/46
My teachers have high expectations of me.	10/11	35/34	55/55
I feel challenged to grow in my learning.	17/23	35/32	48/45
I understand my teachers' expectations of me.	7/10	21/24	72/66
I understand what is being taught in class most of time.	9/13	20/19	71/68
We review material that has already been covered.	11/15	27/37	62/48
I feel comfortable asking for help when I don't understand	1. 20/23	24/24	56/53
My teachers connect what I learn with what I need to know		30/26	53/49

Note. Data in the table are percentages. Highlighted item(s) indicate significant perceptions change.

Table 4. Change in ETJH **Student Perceptions of their teachers expectations of them** (Factor 2) (based on the matched sample of **Cohort I**; n=113)

		2002-2003/2003-200	04
Factor 2	Disagree	Not Sure	Agree
My teachers think that I would succeed in college.	12/6	28/41	60/53
My teachers think that I would succeed in life.	9/8	40/36	51/56
My teachers think that I will graduate from high school	l. 17/7	26/30	57/63
Even if I am successful, it won't help me fulfill my drea	m. 9/51	31/31	60/18

Similar to Cohort I, Cohort II showed a significant increase in disagreement with the statement "even if I am successful, it won't help me fulfill my dream." However, there was a significant decrease in the percentage of students who agreed with the statement "My teachers think that I would succeed in college."

Table 5. Change in ETJH **Student Perceptions of their teachers expectations of them** (Factor 2) (based on the matched sample of **Cohort II**; n=167)

	2002-2003/2003-2004		
Factor 2	Disagree	Not Sure	Agree
My teachers think that I would succeed in college.	4/9	30/51	66/40
My teachers think that I would succeed in life.	8/10	37/40	55/50
My teachers think that I will graduate from high school.	10/8	35/33	55/59
Even if I am successful, it won't help me fulfill my dre	eam. 3/56	38/23	59/21

Note. Data in the table are percentages. Highlighted item(s) indicate significant perceptions change.

Students' Perceptions of Safety in the Classroom and the School

With regard to student perceptions of school safety, the chi-square analysis revealed more changes for Cohort I than for Cohort II on the items of Factor 3 (see Tables 6 and 7). More students in Cohort I felt safer from being hurt by teachers' words as compared to the previous year. No significant changes were identified for Cohort II students.

Table 6. Change in ETJH **Student Perceptions of School and Classroom Safety** (Factor 3) (based on the matched sample of **Cohort I**; n=113)

	2002-2003/2003-2004			
Factor 3	Disagree	Not Sure	Agree	
I feel safe from being hurt by students' words.	35/25	27/33	38/42	
I feel safe from being hurt by teachers' words.	29/14	22/30	49/56	
I feel physically safe in school.	28/20	25/28	47/52	

Table 7. Change in ETJH Student Perceptions of School and Classroom Safety (Factor 3) (based on the matched sample of Cohort II; n=167)

	2002-2003/2003-2004		
Factor 3	Disagree	Not Sure	Agree_
I feel safe from being hurt by students' words.	37/28	28/30	35/42
I feel safe from being hurt by teachers' words.	18/20	28/29	54/51
I feel physically safe in school.	28/20	25/28	47/52

Note. Data in the table are percentages.

Student-Teacher Relationships

With regard to student-teacher relationships, the chi-square analysis revealed more changes for Cohort I than for Cohort II on the items of Factor 4 (see Tables 8 and 9). Significantly more students from Cohort I agreed that their teachers treated students fairly when they broke rules. No changes were identified by Cohort II students on the same factor.

Students' Attitudes toward Their School and Teachers

Both Cohort I and Cohort II showed similar perceptual change of their attitude toward their school and teachers (see Tables 10 and 11). For both cohorts, more students agreed over time that their teachers make sure that the work they do really made them think.

Table 8. Change in ETJH **Student Perceptions of Teacher and Student Relationship** (Factor 4) (based on the matched sample of **Cohort I**; n=113)

	2002-2003/2003-2004		
Factor 4	Disagree	Not Sure	Agree
My teachers blame students when they don't understand.	59/55	21/27	20/18
My teachers treat all students respectfully.	25/16	30/28	45/56
My teachers are fair to students when they break rules	41/22	25/29	34/49
My teachers help students when they do not understand.	12/7	17/19	71/74

Table 9. Change in ETJH **Student Perceptions of Teacher and Student Relationship** (Factor 4) (based on the matched sample of **Cohort II**; n=167)

	<u>20</u>	02-2003/2003-20	04
Factor 4	Disagree	Not Sure	<u>Agree</u>
	50/50	20/22	20/24
My teachers blame students when they don't understand.	52/53	20/23	28/24
My teachers treat all students respectfully.	32/37	20/24	48/39
My teachers are fair to all students when they break rules.	43/52	25/24	32/24
My teachers help students when they do not understand.	9/12	16/15	75/73

Note. Data in the table are percentages.

Table 10. Change in ETJH **Student attitude toward the school and teachers** (Factor 5), (based on the matched sample of **Cohort I**; n=113)

		2002-2003/2003-20	04
Factor 5	Disagree	Not Sure	Agree
Students rarely disrupt class.	61/59	17/23	22/18
I am rarely bored in school.	52/51	20/23	28/26
I am interested in school.	46/36	29/34	25/30
I feel comfortable asking for help when I have a personal problem.	48/45	25/27	27/28
My teachers make sure that the work I do really mak me think.	tes 44/14	25/31	31/55

Note. Data in the table are percentages. Highlighted item(s) indicate significant perceptions change.

Table 11. Change in ETJH **Student attitude toward the school and teachers** (Factor 5) (based on the matched sample of **Cohort II**; n=167)

	2002-2003/2003-2004		
Factor 5	Disagree	Not Sure	Agree
Students rarely disrupt class.	62/63	17/17	21/20
I am rarely bored in school.	51/58	19/14	30/28
I am interested in school.	38/35	26/24	36/41
I feel comfortable asking for help when I have a personal problem.	42/52	28/21	30/27
My teachers make sure that the work I do really make me think.	es 60/21	23/28	17/51

Conclusion

A two-year analysis of survey responses of two GEAR-UP cohorts to the Survey of Classroom Environment revealed that the greatest number of significant changes occurred in the area of teaching and learning at the Junior High level. When ETJH students transferred to high school, there was almost no change in their responses to the teaching and learning items on the survey. Similarly, more students at the Junior High level felt safer from being hurt by teachers' words while no significant changes were identified for High School students. The latter did not show any changes with regard to student-teacher relationships either whereas significantly more students from Junior High agreed that their teachers treated students fairly when they broke rules.

In both cohorts, more students were not sure about their teachers' beliefs in their success in college. At the same time, more students agreed that their teachers think they would graduate from high school. Additionally, significantly fewer students agreed that the school wouldn't help them fulfill their dreams while a huge increase of the number of students who disagreed with the statement. This finding might imply that more teacher/student communication is warranted regarding teacher expectations of student success. Such improved communication might be part of the structural changes taking place to retain students throughout the high school years.

Overall, student perceptions of the teacher-student relationship remained fairly similar from year 1 to year 2, with the majority of students agreeing that teachers are fair to students when they break rules, and offer help when students do not understand. Student attitude toward their school and teachers also remained fairly similar across years, with the majority of students having positive attitude regarding their school and teachers. This is supported by the positive ratings to doing work that makes students think. Some social problems included boredom, feeling

comfortable asking for help with a personal problem, and the perception that other students' disrupt classes remained the same too. Clusters may develop strategies for addressing these issues not only to students, but to parents as well.

References

Kretovics, J., Farber, K. S., & Armaline, W.A. (1991). *Blowing the top off urban education: Educational emplowerment and academic achievement*. Journal of Curriculum and Supervision

Kretovics, J., Farber, K. S., & Armaline, W.A. (in press). *It ain't brain surgery: Restructuring schools to improve the education of children placed at risk*

U. S. Department of Education (2004). Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) (http://www.ed.gov/programs/gearup/index.html).