

FINAL TECHNICAL REPORT

Due: August 31, 2006

Project Activities and Findings

Project Title:

*COLLEGE READINESS: A Study of Perceptions of Students and Faculty at the Secondary and Post-Secondary Levels in the Laredo/Webb County Area*¹

Project Investigators:

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Project Goal(s):

To provide an awareness of the different view points and perceptions in regard to the college readiness to the stake holders: policy makers, curriculum designers, administrative authorities, faculty, students, and the general public. Other outreach activities will be sought and implemented as opportunities become available.

Updated Project Description:

Prior preparedness and readiness are important educational experiences necessary for success in college programs. The recent article published in the *Chronicle of Higher Education* undertook a study of college readiness of high school graduates entering colleges and universities [1]. It depicts a gloomy situation in the country as to the variability in perceptions observed among various population segments, namely college/university and selected groups of high school faculty. This kind of study helps in planning changes to be implemented in any educational program, cf. [2]. It is said that perception is everything. Accordingly, the purpose of this study is to explore the variability of all the possible perceptions, namely, college readiness of entering students as perceived by high school students, teachers, and college/university students and faculty in South Texas region, in particular, in the Laredo/Webb County area. The main question this project addresses is how "College Readiness" of high school students in the Laredo/Webb county area compares with national findings of the same. The target population for the purposes of this study includes: a) college/university faculty and administrators, b) high school faculty and administrators, c) college students and alumni, and d) recent high school graduates. The questionnaire, [3], items include the questions from the *Chronicle* study², some of which have been slightly modified to accommodate our extended target audience when possible without much complication. Additional questions in the areas of mathematics, reading, and writing that measure discipline-specific capabilities are included to broaden the scope of the study.

Findings:

From the preliminary results we have observed that the perception changes depending on the locality and differs from the national averages. The exact findings will be made available in the final version of the manuscript. A copy of the preliminary version of the manuscript is attached.

¹ This project is partially supported by a research grant from Texas Center Research Fellow Center Grant Program of the Texas Center for Border Economics and Enterprise Development at Texas A&M International University, Laredo, Texas 78041-1900

² Parts of this survey are reproduced, with permission, from a similar nation-wide study that appeared in the Spring 2006 issue of *School and College*, a special report from the *Chronicle of Higher Education*.

Training and Development:

1. Four university students were trained in the art of conducting surveys and skills required to do the pertinent data analysis. They conducted the distribution and administration of the surveys, and helped in data entry and analysis and in the preparation of the manuscript.
2. A PhD student in Nursing approached the principal investigators to join our team of student assistants as part of the required practicum for her study program. However, she decided not to take part in this project due to specific program timeline requirement for the practicum to be conducted during fall 2006.

Contributions to Resources for Research and Education:

Specific segments of our survey are discipline specific in the core areas of writing, reading and mathematics. These core areas generally affect all disciplines and subject areas. Other segments are general and apply to all disciplines and subject areas.

Other Features of the Project:

It is noteworthy to include the high level of support received from the university/college faculty and administration, school faculty and administration, and the Chronicle of Higher Education and the interest each has expressed in receiving information on the outcomes of the study.

Academic Outlets (Journals, Conference Proceedings, Presentations):

The preliminary version of the manuscript entitled "*COLLEGE READINESS: A Study of Perceptions of Students and Faculty at the Secondary and Post-Secondary Levels in the Laredo/Webb County Area*" consisting of approximately 40+ pages is enclosed.

Internet Dissemination (URL for WWW Home Page, if applicable):

Internet dissemination will be available. A web site will be created for the report, e.g. <http://www.tamtu.edu/~firoozkh/CollegeReadinessStudy/>, and links to it will be provided through principal investigators' web pages, e.g. <http://www.tamtu.edu/~firoozkh/>.

Additional Funding Sources:

Texas Center Research Fellow Center Grant Program of the Texas Center for Border Economics and Enterprise Development at Texas A&M International University, Laredo, Texas 78041-1900: \$ 3,000.00 to support Student Research Assistants

Department of Mathematical and Physical Sciences: \$ 84.00 for 400 copies of the survey

Texas Collaborative for Excellence in Teacher Preparation (TxCETP), TAMIU Level II Grant: \$ 126.00 for 600 copies of the survey

References:

- [1] *School & College, The Chronicle of Higher Education*, Section B, March 10, 2006 Issue
- [2] Dick, Matthias, Wellnitz, Oliver, and Wolf, Lars: *Analysis of Factors Affecting Players' Performance and Perception in Multiplayer Games*, Institut für Betriebssysteme und Rechnerverbund Technische Universität Braunschweig Mühlenpfordtstrasse 23, 38106 Braunschweig, Germany
- [3] Khosraviyani, Firooz et al., *College Preparedness Perception Survey*, Texas A&M International University, Laredo, Texas, July 2006

COLLEGE PREPAREDNESS PERCEPTION SURVEY

The purpose of this survey is to collect information to examine the college preparedness of incoming students, as perceived by college/university/high school faculty and students. Completing this survey is voluntary; however, we encourage you to participate by providing your perceptions on the entire set of survey items in order to help us achieve the objectives of the project.¹ For each survey item please select **ONLY ONE** choice unless specified otherwise. We appreciate your willingness to participate.

Gender: Male Female

Indicate your status: Faculty: College/University High School Other
(Choose all that is applicable.)

Student: College/University High School
 Senior Junior Sophomore Freshman
 Other (Please specify): _____

VIEWS ON STUDENTS' PREPARATION FOR COLLEGE:

- How well prepared are students for college-level work?
1. Extremely well 2. Very well 3. Somewhat well 4. Not well
- Are colleges generally successful in making their academic expectations clear to high-school teachers?
1. Very much so 2. Somewhat 3. Not at all
- How great a role do parents of students play in helping them become prepared for college?
1. Very large role 2. Large role 3. Moderate role 4. Small role 5. No role 6. N/A
- How well do you personally understand the level of preparation that is required for anyone to succeed in college?
1. Very well 2. Somewhat well 3. Not well 4. N/A
- Considering the demands of college-level work, please indicate the level of preparation that students have for the following areas:

Please use this key to gauge your responses:

1. Very well prepared 2. Somewhat well prepared 3. Not well prepared 4. Don't know

A. Oral communication

1. 2. 3. 4.

C. Science

1. 2. 3. 4.

E. Mathematics

1. 2. 3. 4.

G. Writing

1. 2. 3. 4.

I. Reading/understanding difficult materials

1. 2. 3. 4.

B. Study habits(organization, planning)

1. 2. 3. 4.

D. Motivation to work hard

1. 2. 3. 4.

F. Ability to seek and use support resources

1. 2. 3. 4.

H. Research skills

1. 2. 3. 4.

- How effective are guidance counselors in your school at doing the following?

A. Providing appropriate advice on courses and preparation for college

1. Extremely effective 2. Very effective 3. Somewhat effective 4. Not effective 5. N/A

B. Providing good advice concerning college options

1. Extremely effective 2. Very effective 3. Somewhat effective 4. Not effective 5. N/A

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COMPARISON OF EXPECTATIONS AND ACTUAL STUDENT EFFORT:

7. Percentage of class time spent reviewing materials and skills that should have been learned earlier in high school.
1. None 2. 1% to 20% 3. 21% to 40% 4. 41% to 60%
5. 61% to 80% 6. More than 80%
8. What is the amount of work students do as compared with expectations?
1. Much more or somewhat more 2. About what I expect 3. Somewhat less
4. Much less

IMPACT OF HIGH-STAKES TESTING ON HIGH-SCHOOL TEACHERS' CLASSROOM PRACTICES:

9. How much has testing related to the No Child Left Behind Act or other state or district high-stakes testing programs affected your teaching?

Please use this key to gauge your responses:

1. Often 2. Sometimes 3. Never 4. Don't know

- A. It helps to have clearly specified learning goals for students.
1. 2. 3. 4.
- B. The teacher seems to have to cut out some of the more creative elements of teaching.
1. 2. 3. 4.
- C. The teacher teaches to the test.
1. 2. 3. 4.
- D. The teacher has to dumb down the material in order to concentrate on basics.
1. 2. 3. 4.
- E. The teacher must teach students material that is too difficult for them.
1. 2. 3. 4.
10. Thinking about a typical class, approximately how many hours in a school year do you spend directly preparing for high-stakes tests?
1. Zero hours 2. 1 to 5 hours 3. 6 to 10 hours
4. 11 to 20 hours 5. 20 to 30 hours 6. More than 30 hour 7. N/A

For questions 11 & 12, please use this key to gauge your responses:

**1. Agree strongly 2. Agree somewhat 3. Neither agree nor disagree
4. Disagree somewhat 5. Disagree strongly 6. N/A**

11. Concerning high-stakes tests, indicate the level of agreement/disagreement for the following:
A. High scores on the tests indicate that a student is well prepared for college.
1. 2. 3. 4. 5. 6.
- B. Test items do not reflect the kinds of intellectual demands expected in college
1. 2. 3. 4. 5. 6.
12. Impact of SAT/ACT and Advanced Placement (AP) tests on student preparedness.
A. SAT/ACT scores are good indicators of the preparedness of students for the academic demands of college.
1. 2. 3. 4. 5. 6.
- B. Students' passing of Advanced Placement (AP) tests are good indicators that they can do college-level work.
1. 2. 3. 4. 5. 6.
13. Indicate your views on the degree to which outcomes testing has impacted student preparedness for college.
1. Substantial positive impact 2. Slight positive impact 3. No impact
4. Slight negative impact 5. Substantial negative impact 6. Don't know

ACADEMIC REQUIREMENTS IN A TYPICAL CLASS:

14. Indicate the frequency that each activity is performed in your classes.

Please use this key to gauge your responses:
1. Weekly or more often 2. A few times a month 3. Less than once a month 4. Never

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Write a 1- to 5-page paper.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> | B. Work with other students on projects.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> |
| C. Write a paper of more than 5 pages.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> | D. Memorize facts, ideas, or methods.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> |
| E. Analyze basic elements of an idea, experience, or theory.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> | F. Apply theories or concepts to practical problems or in new situations.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> |
| G. Make a presentation in class.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> | H. Judge the value of information, arguments, or methods.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> |
| I. Work on a project that requires integrating ideas or information from various sources.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> | J. Participate in class discussions.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> |

VIEWS ON HIGH-SCHOOLS AND ONE'S OWN INSTITUTION:

15. Indicate your level of agreement with the following statements regarding students' preparation for college.

For questions 11 & 12, please use this key to gauge your responses:
1. Agree strongly 2. Agree somewhat 3. Neither agree nor disagree
4. Disagree somewhat 5. Disagree strongly 6. N/A

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Most students in my classes lack the basic skills for college-level work.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> 5. <input type="checkbox"/> 6. <input type="checkbox"/> | B. Faculty members here are strongly interested in the academic problems of undergraduates.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> 5. <input type="checkbox"/> 6. <input type="checkbox"/> |
| C. This institution should not offer remedial/developmental education.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> 5. <input type="checkbox"/> 6. <input type="checkbox"/> | D. Promoting diversity leads to the admission of too many underprepared students.
1. <input type="checkbox"/> 2. <input type="checkbox"/> 3. <input type="checkbox"/> 4. <input type="checkbox"/> 5. <input type="checkbox"/> 6. <input type="checkbox"/> |
- E. Faculty members feel that most students are well prepared academically.
1. 2. 3. 4. 5. 6.
16. How academically well prepared are students now in comparison to the past?
- | | |
|-----------------------------------------------------|-----------------------------------------------------|
| A. Compared to five years ago students are: | B. Compared to 10 years ago students are: |
| 1. <input type="checkbox"/> Better prepared | 1. <input type="checkbox"/> Better prepared |
| 2. <input type="checkbox"/> Prepared about the same | 2. <input type="checkbox"/> Prepared about the same |
| 3. <input type="checkbox"/> Not as well prepared | 3. <input type="checkbox"/> Not as well prepared |
17. How descriptive of your institution is the following statement: "Faculty members are rewarded for their efforts to work with underprepared students."
1. Very descriptive 2. Somewhat descriptive 3. Not descriptive
18. Do you believe that public secondary schools are adequately conveying to their students what colleges will expect of them academically?
1. Very much so 2. Somewhat 3. Not at all
19. Rate your involvement over the last five years, if any, with collegiate programs that work with high-school teachers to increase their effectiveness in preparing students for college.
1. Substantial involvement 2. Slight involvement 3. No involvement

20. Rate your involvement over the last five years, if any, with programs designed to help high-school students help themselves become better prepared for college.
1. Substantial involvement 2. Slight involvement 3. No involvement
21. Over the last five years, with respect to undergraduate admissions, would you say that your institution has gotten:
1. Much more selective 2. Somewhat more selective 3. Remained about the same
 4. Somewhat less selective 5. Much less selective 6. Don't know
22. Does your institution have adequate resources for students who need extra academic help?
1. Very much so 2. Moderately so 3. Not at all
23. Hours of work outside of the class expected of students per week are:
1. None to 2 2. 3 to 5 3. 6 or more

SUPPLEMENTARY QUESTIONS:

STANDARDS FOR INTELLECTUAL DEVELOPMENT IN MATHEMATICS/Writing/READING

MATHEMATICS

24. Students in their high school courses should place emphasis in engaging each of the following mental activities. Specify the level of emphasis that should be associated with each:

Please use this key to gauge your responses:
1.High emphasis 2.Moderate emphasis 3.Some emphasis 4.Little emphasis 5.Don't know

- A. Memorizing facts, procedures or methods from the course and readings so students can repeat them in the same form.
 1. 2. 3. 4. 5.
- B. Analyzing the basic elements of an idea, experiment, or theory, such as examining a particular case or situation in depth, and considering its components.
 1. 2. 3. 4. 5.
- C. Synthesizing and organizing ideas, information, or experiences into new, more comprehensive interpretations and relationships.
 1. 2. 3. 4. 5.
- D. Making judgments about the value of information, arguments or methods, such as examining how others have gathered and interpreted data, and assessing the soundness of their conclusions.
 1. 2. 3. 4. 5.
- E. Applying theories or concepts to practical problems or in new situations.
 1. 2. 3. 4. 5.

25. For the following areas, indicate the level of preparation you perceive students to have:

Please use this key to gauge your responses:
1. Very well prepared 2. Well prepared 3. Somewhat well prepared
4. Not well prepared 5. Don't know

- A. Writing clearly and effectively
 1. 2. 3. 4. 5.
- B. Speaking clearly and effectively
 1. 2. 3. 4. 5.
- C. Thinking critically and analytically
 1. 2. 3. 4. 5.
- D. Analyzing quantitative situations
 1. 2. 3. 4. 5.
- E. Working effectively with others
 1. 2. 3. 4. 5.
- F. Learning effectively on their own
 1. 2. 3. 4. 5.
- G. Using computing and information technology. (The student possesses abilities to use software and graphing calculators for writing documents and performing calculations.)
 1. 2. 3. 4. 5.

Please use this key to gauge your responses for items 26 and 27:

1. Very important 2. Important 3. Somewhat important 4. Unimportant 5. Don't know

26. Indicate the level of importance needed for students to master learning skills and self-confidence:
- A. Understanding themselves
1. 2. 3. 4. 5.
 - B. Understanding people of other cultural, socio-economic, racial, and ethnic backgrounds
1. 2. 3. 4. 5.
 - C. Having multiple attempts at solving problems
1. 2. 3. 4. 5.
 - D. Understanding the tenacity needed to solve moderate to complex real-world problems
1. 2. 3. 4. 5.
 - E. Developing a personal code of values and ethics
1. 2. 3. 4. 5.
 - F. Acquiring a broad general education
1. 2. 3. 4. 5.
 - G. Acquiring job or work-related knowledge and skills
1. 2. 3. 4. 5.
27. Please indicate the importance level for acquiring each of the following abilities:
- A. Working independently,
1. 2. 3. 4. 5.
 - B. Understanding inductive and deductive reasoning,
1. 2. 3. 4. 5.
 - C. Focusing and concentrating on a given topic where self-motivation, enthusiasm, and hard work are an essential part of this task.
1. 2. 3. 4. 5.
28. Check all that apply to potential college students:
- A. Students have the necessary language and writing skills to productively pursue college level courses in mathematics.
 - B. Students are aware of Advanced Placement (AP) courses.
 - C. Students are aware of the Texas Essential Knowledge and Skills (TEKS).

WRITING

Please use this key to gauge your responses:

1. Strongly Agree 2. Agree 3. Somewhat Agree 4. Strongly Disagree 5. N/A

29. Students receive sufficient instruction in grammar, syntax, and elements of style in high school.
1. 2. 3. 4. 5.
30. Students in language-arts classes are adequately exposed to samples of classical works to become discriminating readers and critics of effective writing in different genres.
1. 2. 3. 4. 5.
31. Teachers assigned to language-arts classes in high schools are fully competent in their field.
1. 2. 3. 4. 5.
32. Administrations, at all levels, display commitment to the improvement of writing skills in the student body.
1. 2. 3. 4. 5.
33. The language-arts curriculum in high schools allows for exposure of students to various approaches to writing and provides experience in writing with different rhetorical aims.
1. 2. 3. 4. 5.

READING

Please use this key to gauge your responses for items 34–42:

1. Strongly agree 2. Agree 3. Disagree 4. Strongly Disagree 5. Don't know

34. Students' beliefs about the subject influence:
- A. The meaning they acquire from reading their course text(s).
1. 2. 3. 4. 5.
- B. The study strategies they use to read the text.
1. 2. 3. 4. 5.
35. Students understand the academic tasks they are assigned.
1. 2. 3. 4. 5.
36. Students can adjust the strategies they use to complete different assigned tasks.
1. 2. 3. 4. 5.
37. Students' knowledge about the subject matter:
- A. Helps them decide which strategies to use to read different texts.
1. 2. 3. 4. 5.
- B. Influences their eventual performance in completing an assigned task.
1. 2. 3. 4. 5.
38. Students' prior knowledge of the content sometimes interferes with their comprehension of the material they are assigned to read.
1. 2. 3. 4. 5.
39. To succeed, students are able to:
- A. Plan how they need to read their assigned text(s).
1. 2. 3. 4. 5.
- B. Monitor their comprehension as they read the text(s).
1. 2. 3. 4. 5.
- C. Evaluate how successful they were in reading the text(s).
1. 2. 3. 4. 5.
40. Students who use appropriate reading strategies to complete different tasks are generally more motivated to achieve than those who cannot use these strategies.
1. 2. 3. 4. 5.
41. Students' interest in the subject is influenced by:
- A. Their background knowledge of the subject matter.
1. 2. 3. 4. 5.
- B. How easily they can understand the text(s) they are assigned to read.
1. 2. 3. 4. 5.
42. Students' beliefs about the subject matter, influence:
- A. The strategies they use to read assigned materials.
1. 2. 3. 4. 5.
- B. Their interpretations of the text(s) they are assigned to read.
1. 2. 3. 4. 5.

Please use this key to gauge your responses for items 43–54:

1. Extremely well 2. Very well 3. Somewhat well 4. Not well 5. Do not know

43. Students use lecture notes to generate questions and then answer the questions.
1. 2. 3. 4. 5.
44. Students generate questions about what they read and then answer these questions.
1. 2. 3. 4. 5.

45. Students generate summaries in their own words of what they read.
1. 2. 3. 4. 5.
46. Students orally elaborate on what they read by:
- A. Creating examples or analogies. B. Drawing inferences.
1. 2. 3. 4. 5. 1. 2. 3. 4. 5.
- C. Explaining the relationships between two or more concepts. D. Connecting what they have read with their prior knowledge.
1. 2. 3. 4. 5. 1. 2. 3. 4. 5.
- E. Asking why-questions and answering them.
1. 2. 3. 4. 5.
47. Students use concept maps to help them understand vertical and horizontal relationships among ideas represented in their text
1. 2. 3. 4. 5.
48. Students use graphic organizers to link major ideas with their supporting details, for example, bird – eagle --- flies.
1. 2. 3. 4. 5.
49. Students can:
- A. Plan the strategy(ies) they will use to understand the selection(s) they are to read. B. Monitor their comprehension while reading the selection(s).
1. 2. 3. 4. 5. 1. 2. 3. 4. 5.
- C. Select and transform ideas they read in the selection. D. Evaluate the content of the selection(s) read.
1. 2. 3. 4. 5. 1. 2. 3. 4. 5.
- E. Elaborate on ideas they read about. F. Organize ideas they have read about.
1. 2. 3. 4. 5. 1. 2. 3. 4. 5.
- G. Evaluate their own understanding of the selection(s) read.
1. 2. 3. 4. 5.
50. Students can explain different reading strategies they use to understand different selections they read.
1. 2. 3. 4. 5.
53. Students can explain the advantages of using different reading strategies to understand various selections they are assigned to read.
1. 2. 3. 4. 5.
54. Students can modify a strategy to fit situations slightly different from those in which they originally learned the strategy.
1. 2. 3. 4. 5.

Thank you for your time and efforts in providing us with your views and perceptions.

For additional information or questions, or to reach the principal investigators, please contact Dr. Firooz Khosraviyani by mail at Department of Mathematical and Physical Sciences, Texas A&M International University, 5201 University Boulevard, Laredo, TX 78041-1900, phone: (956) 326-2594, fax: (956) 326-2439, or email: FiroozKh@TAMIU.edu.

**COLLEGE READINESS: A STUDY OF PERCEPTIONS OF STUDENTS AND
FACULTY AT THE SECONDARY AND POST-SECONDARY LEVELS IN THE
LAREDO/WEBB COUNTY AREA¹**

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August 31, 2006

Abstract.

Prior preparedness and readiness are important educational experiences necessary for success in college programs. The recent article published in the *Chronicle of Higher Education* undertook a study of college readiness of high school graduates entering colleges and universities [1]. It depicts a gloomy situation in the country as to the variability in perceptions observed among various population segments, namely college/university and selected groups of high school faculty. This kind of study helps in planning changes to be implemented in any educational program, cf. [14]. It is said that perception is everything. Accordingly, the purpose of this study is to explore the variability of all the possible perceptions, namely, college readiness of entering students as perceived by high school students, teachers, and college/university students and faculty in South Texas region, in particular, in the Laredo/Webb County area. The main question this project addresses is how "College Readiness" of high school students in the Laredo/Webb county area compares with national findings of the same. The target population for the purposes of this study includes: a) college/university faculty and administrators, b) high school faculty and administrators, c) college students and alumni, and d) recent high school graduates. The questionnaire, [3??], items include the questions from the *Chronicle* study², some of which have been slightly modified to accommodate our extended target audience when possible without much complication. Additional questions in the areas of mathematics, reading, and writing that measure discipline-specific capabilities are included to broaden the scope of the study.

1. Purpose:

As a national average, more than 40% of students entering higher education need remedial work. Among other figures, 84% of professors and 65% of teachers believe that high school graduates are unprepared or only somewhat prepared for college. Even though there is a perception difference between teachers and professors on the college readiness of students, both groups believe overwhelmingly that there is a problem to be looked into. These and other issues of under-preparedness of high school students for college courses have been discussed through several articles appearing in [5] and have

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indicated grave national implications as revealed by the study in the *Chronicle of Higher Education* [1]. Accordingly and most importantly, 65% of professors and 66% of teachers say that students do not do enough homework and other work for adequate college preparation.

The primary objective of this research undertaking is to provide high school students, teachers, parents, college faculty members, administrators, and community leaders with information regarding the extent of the readiness expected of the potential college admission seekers and to take corrective action in order to remedy the situation. The information collected will be shared with all stakeholders to inform them of necessary skills, knowledge, and standards of intellectual development expected of their students. The college educators, faculty and administrators alike, will accordingly be able to design the course offerings with these guidelines in mind, thereby positively affecting the student learning and achievement. Various tests and instruments used for admission to institutions of higher learning and programs as well as placement instruments and course prerequisites can be streamlined for greater student success and retention. All of these constitute the values we instill in students for preparation and readiness issues in education and in preparing a competent workforce.

The secondary purpose of this study is to develop a set of guidelines for high-school students and their teachers to follow to augment the possibility of success for students in college-level courses. These guidelines, when followed fully, should assure that the students receive the minimum knowledge and skills necessary for success in core college courses and beyond. The standards presented in this manuscript are based on a variety of experiences and guidelines developed through practice by educators with expertise in multidimensional programs at various institutions [1].

Another purpose of the current project is to examine the issue of college readiness among high school students in the Laredo/Webb County area. The 2005-2006 academic-year depicted an increase of 35.56% in the number of freshman high school students entering in area high schools. Since the area population has been growing rapidly in recent years, similar or higher rates of increase could continue for years to come. Therefore, findings of the study will have an increasingly greater significance on the people involved in public and higher education, high school students, parents, the business community, and the community at large.

The standards to outline are based on the Texas State education curriculum and to the best judgment of the four educators who contributed to this article. They provide goals for introductory college programs and guidelines for selecting content and instructional strategies and skills necessary for accomplishing these goals and typical needs of the students. Keeping in mind the diversity of students and institutions, it is expected that these guidelines, once implemented will provide the standards for success in education, and moreover in institutions of higher education.

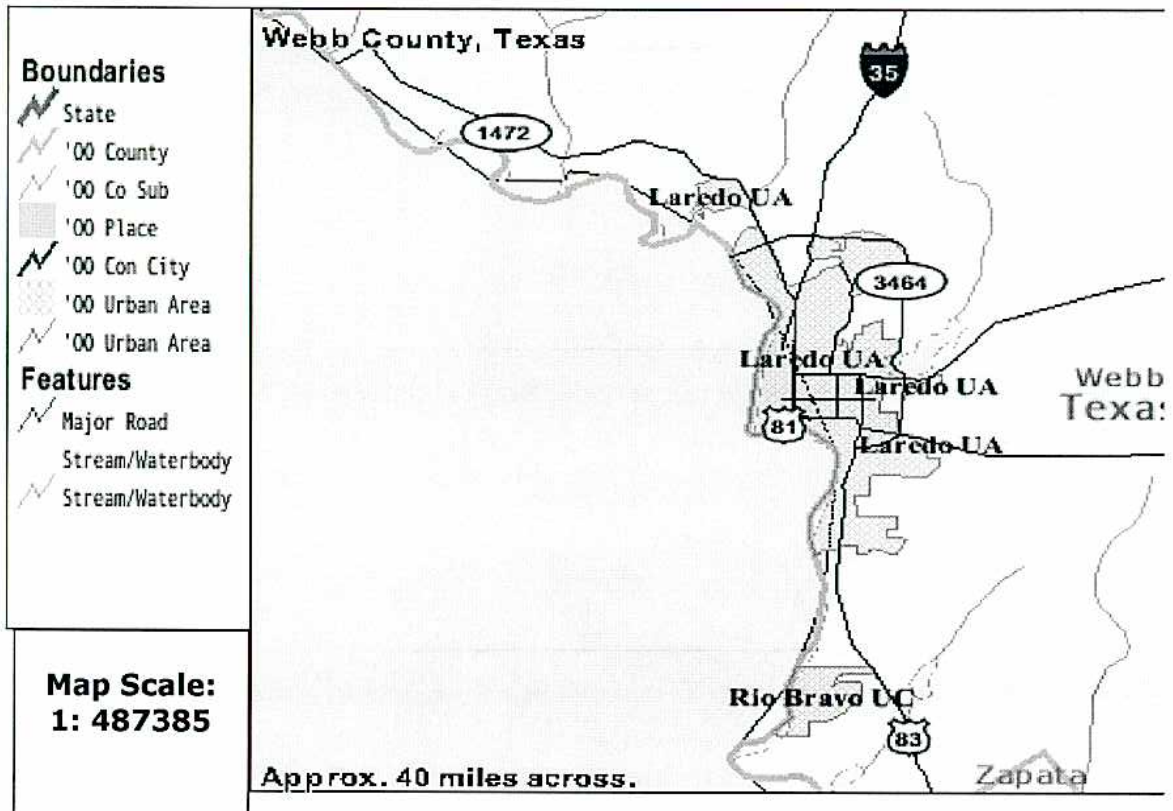


Figure 1: This map represents the heart of Webb County, Texas and Laredo, the County seat. The map is generated using American Fact Finder/US Government Census, Thematic Mapping, and interactive program. Map scale was created by using an on-screen ruler (Jruler, nd). Each inch on this map represents 487385 inches on the ground (or about 15 miles). How to determine map scale is explained and diagrammed well at the San Francisco Estuary Institute (1999) web site. Census maps are based on what are called TIGER line files. TIGER stands for topographically integrated encoding and referencing. The US Geological Survey (USGS) developed the files used by the Census. Roads, railroads, hydrographic features, and miscellaneous transportation features were added, each in separate layers, until finally all layers were vertically integrated into one topologically consistent file (Census, nd).

2. State of Texas Educational Mandate:

National Education Summit on High Schools [7] held in 2005 by the National Governors Association is calling for states to raise graduation standards to a level that meets the expectations of colleges and employers because graduation standards are so low that it is possible to earn a diploma anywhere in the country without gaining the basic knowledge and skills required by colleges and employers. They also propose regular testing of high school students, and sanctions against those schools that their students fail to show improvement. A study performed by Achieve, Inc., [10], finds that Texas is in the process of aligning standards to implement Align High School Standards With Real-World

Expectations and is planning implementation of Hold High Schools Accountable for Graduating Students College- and Work-Ready.

For the State of Texas, Texas education officials plan to ratchet up the state's accountability system by finding ways to hold high schools responsible for their graduates' college performance. The state already tracks student performance from pre-kindergarten through college. The next step would mean students who need remediation in college could hurt their high school's ranking under the state's accountability system.

DeEtta Culbertson, a Texas Education Agency (TEA) spokeswoman, said the plan, mentioned in a national report on college and work readiness released, is still in the early stages. "It is part of the overall package to improve education and increase college-readiness standards," according to Culbertson. "We have already put in place a more rigorous curriculum and we are implementing several projects that are going to have an effect," further said.

Gov. Rick Perry of the State of Texas proposed holding high schools accountable for student college performance in December 2005. Last year, two states, Texas and Arkansas, required high school students to take a curriculum that includes higher-level science and mathematics, such as Algebra II, to earn a diploma. Now six other states have raised their graduation requirements to that level and 12 more are toughening standards. The Class of 2008 will be the first in Texas to graduate under the curriculum. Judging by college remediation rates, the tougher standards are always necessary [1].

3. State Governor's Initiatives—Mathematics and Science Initiatives and High School Reform:

Over the last decade, state leaders, in cooperation with educators, local trustees, and a broad range of education stakeholders, have pursued a number of strategies that have helped raise achievement levels in our high schools. These strategies include instituting an exit-level assessment that measures progress in the four core curriculum areas, strengthening high school graduation requirements, instituting ninth-grade support programs, and investing in dropout prevention programs. As a result, while still not at acceptable levels for all student groups, graduation rates in Texas have risen steadily over the last five years from 79.5 percent of high school students graduating within four years of entering ninth grade in 1999 to 84.2 percent of students graduating within four years of entering ninth grade in 2003. Statewide passing rates on the Grade 11 exit-level Texas Assessment of Knowledge and Skills (TAKS) have increased from 49 percent in 2003 to 72 percent in 2004. Over the past seventeen years, growth in Advanced Placement (AP) participation among Texas high school students has outpaced growth in AP participation in the nation as a whole, with ten times as many examinees in Texas in 2003 as in 1987, while nationally there were only four times as many examinees in 2003 as in 1987. Greater percentages of students are also matriculating to higher education. According to a Texas Higher Education Coordinating Board (THECB) study, more than half of all public school graduates from 1999-2000 enrolled in Texas public higher education institutions.

The Texas Mathematics and Science Initiatives are multi-million dollar efforts to improve student performance in mathematics and science through research-based teaching and intervention strategies. The initiatives include: Master Teacher Certification Programs, which provide \$5,000 stipends to qualified teachers teaching at high need schools; online diagnostic instruments to assist teachers with assessment of student needs; intensive after school and summer programs for struggling students and the creation of professional development modules emphasizing effective strategies for teaching mathematics and science [3]. This shows that several rigorous initiatives are currently in place to address these shortcomings. In [25], it further asserts that just like peanut butter and jelly, science and the communication skills of reading and writing are natural partners for today's elementary classroom. The teaching of science concepts combined with communications skills is an approach whose time has come for two major reasons. Therefore, this study also tries to look at this three way comparison as to how these three components provide the basis intellectual needed for other disciplines.

4. Standards for Intellectual Development:

Students in their high school courses should place much emphasis in engaging in each of the following mental activities to be successful to acquire intellectual capabilities:

- Memorizing facts, procedures or methods from the course and readings so students can repeat them pretty much in the same form
- Analyzing the basic elements of an idea, experiment, or theory, such as examining a particular case or situation in depth, and considering its components
- Synthesizing and organizing ideas, information, or experiences into new, more comprehensive interpretations and relationships
- Making judgments about the value of information, arguments or methods, such as examining how others have gathered and interpreted data, and assessing the soundness of their conclusions
- Applying theories or concepts to practical problems or in new situations

Students also should be able to learn and develop in the following areas:

- Writing clearly and effectively
- Speaking clearly and effectively
- Thinking critically and analytically
- Analyzing quantitative and qualitative situations
- Using computing and information technology. In terms of the minimum technology requirements, the students need to possess ability to use software to write documents, use of graphing calculators, and use of spreadsheet capability to perform some calculations.
- Working effectively with others
- Learning effectively on their own

Students should be able to master their learning skills and self-confidence by doing the following:

- Understanding themselves

- Understanding people of other cultural, socio-economic, racial, and ethnic backgrounds
- Having multiple attempts at solving moderate to complex real-world problems
- Developing a personal code of values and ethics
- Acquiring a broad general education
- Acquiring job or work-related knowledge and skills

In addition, they need to acquire the ability to

- work independently,
- understand inductive & deductive reasoning, and
- focus and concentrate on a given topic where self-motivation, enthusiasm, and hard work are essential part of this task.

It is assumed that all potential college admission seekers have necessary language and writing skills to pursue any core courses.

5. Supplementary Preparations:

Advanced Placement (AP) courses are popular among high school students. Both students and parents are aware of the benefits that it brings to students in terms of time and money. In addition, majority of the high schools now offer AP course opportunities to their students. AP courses provide schools and teachers educate parents about the rigor and their expectations of AP classes so that students succeed in their college courses. The following are some of the suggestions for high schools:

- Introduce information about AP courses to parents through proactive parent meetings and workshops.
- Conduct teacher-parent workshops in layman's terms outlining AP courses, explanation of required study hours, and benefits of the program and of AP exams.
- Use an outreach worker charged with educating the students and parents about AP and college success.
- Create a college-going culture for the community.

The Advanced Placement (AP) program of the United States' College Board gives high school students and recent high school graduates exposure to college-level material by offering them AP courses. At the conclusion of an AP course, students have the opportunity to take the corresponding AP examination. The majority of colleges and universities are then able to grant college credit and placement to students who receive a qualifying score.

One of the benefits of the AP program is that AP prepares students for college-level work. Students should develop the academic skills and study habits necessary to succeed in a US college environment. Students increase their chances of getting into a competitive university. Colleges and universities know that students with AP experience are better prepared for college work, and consider them strong candidates for admission. It is a wise investment. Receiving a qualifying grade on AP examinations means students and their families will be saving time and money by earning course credits before entering a university. It gives the student a head start. More than 1,400 institutions in the U.S. alone

offer sophomore standing to students with qualifying grades on enough AP exams. The AP program offers a number of non-monetary scholar awards to AP students who have demonstrated outstanding achievement. AP courses offer the students the opportunity to widen their knowledge in a course of interest.

For the majority of students, their future educational and career choices become clearer during their time in high school. Studying in a subject of interest in greater depth can help the students make decisions about their future educational goals and help them become aware of the different opportunities in that field. While taking AP classes at the high school, the students will immediately have access to many of the educational opportunities that the University has to offer.

6. Methodology and Results:

In summarizing the perception towards college preparedness, survey findings are divided into six main categories. Finding in each category is documented making them self-informative using descriptive statistics.

Protocol

Responses were sought for the survey consisting of 52 questions similar to that of [5 & 10]. This current survey further includes additional questions to address students' preparation for college-level demands in reading, writing and mathematics/science from the Laredo/Webb county area from an area-wide sample of public-high-school teachers in core academic subjects, viz., mathematics/science, writing, and reading and from faculty members in a variety of academic disciplines at public and private colleges and universities that offer two- and four-year degrees and have comprehensive academic programs. In comparison with [5], the target population has been extended to accommodate all potential groups that influence or are at the receiving end of the perceptions. This study also covers other groups such as students, non students, and those who have graduated seeking employment at academic instructions during their lives.

Success and Features of the Survey

One thousand (1000) specially designed survey questionnaires containing the items identified in [5] were distributed by four research assistants among the population domains considered in the study. In addition to rephrasing some questions of [5], the survey included area specific questions from mathematics, writing, and reading. 200 university/college faculty, 200 high school faculty, 500 university/college students, and 100 others participated in the survey. It is estimated that this survey takes approximately 20-25 minutes to complete. The response rate is better than 70%. This is a considerably high rate of return thus enabling us to conclude that the conduct of survey is very successful. Faculty, students, graduates, and others participated in the survey. The averages of the responses in each area for all population segments are separately analyzed and evaluated. The findings cover the following six main categories. Items numbered I to V are similar to that of [5].

- I. Views on students' preparation for college (Q1-Q6),
- II. Comparison of expectations and actual student effort (Q7-Q8),

- III. Impact of high-stakes testing on high-school teachers' classroom practices (Q9-Q13),
- IV. Academic requirements in a typical class (Q14-Q14),
- V. Views on high-schools and one's own institution (Q15-Q23),
- VI. Supplementary questions to determine the standards for intellectual development in mathematics (Q24-Q28), writing (Q29-Q33), and reading (Q34-Q52).

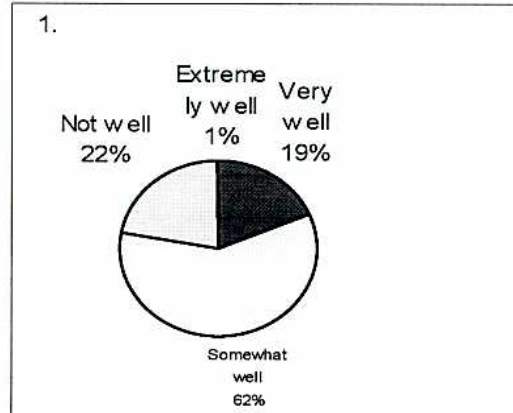
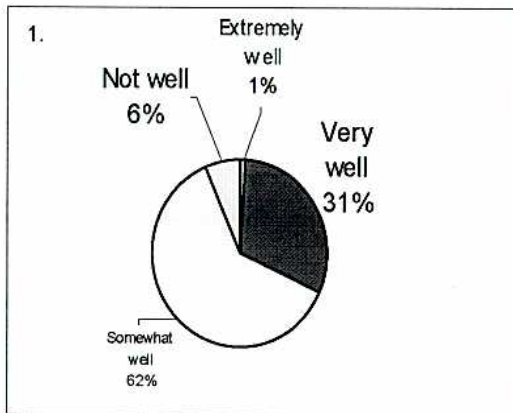
Survey Findings in Pie Chart Presentations

I. Views on Students' Preparation for College

1. How well prepared are your students for college-level work?

Faculty:

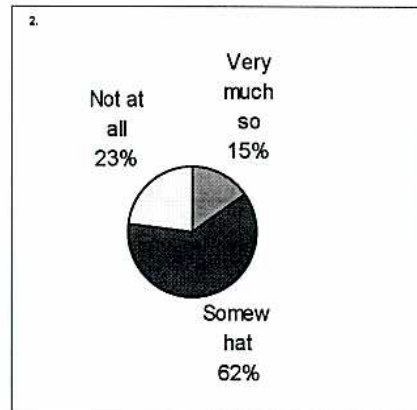
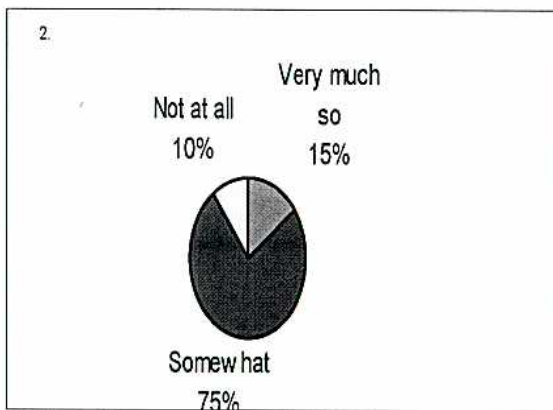
Students:



2. Are colleges generally successful in making their academic expectations clear to high-school teachers?

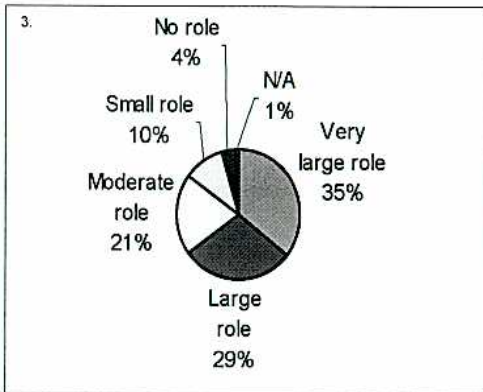
Faculty:

Student:

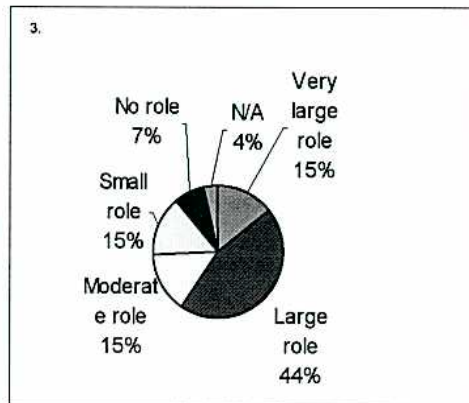


3. How great a role do parents of students of your students play in helping them become prepared for college?

Faculty:

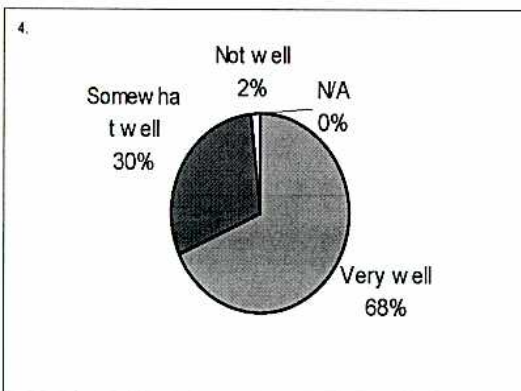


Students:

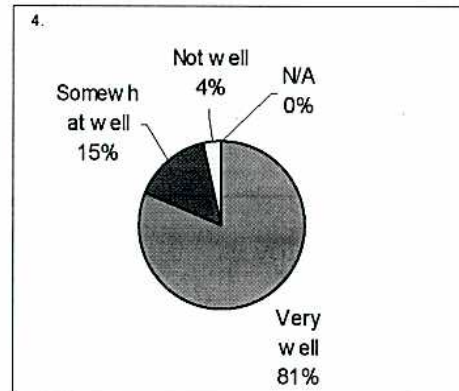


4. How well do you personally understand the level of preparation that is required for your students to succeed in college?

Faculty:



Students:



5. Considering the demands of college-level work, the level of preparation that students have for the following areas:

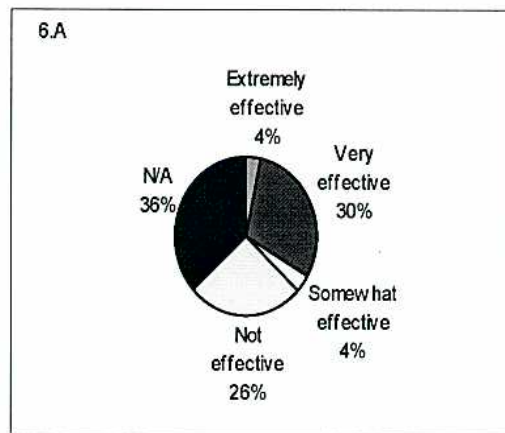
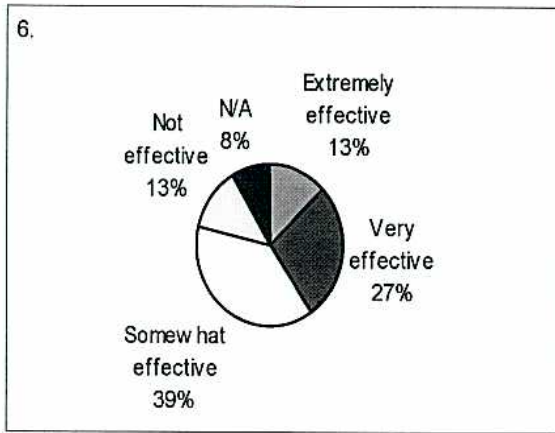
	Very well prepared	Somewhat well prepared	Not well prepared	Don't know
5 A. Oral Communication	20%	55%	25%	1%
5 B. Study habits	9%	47%	39%	4%
5 C. Science	5%	49%	41%	5%
5 D. Motivation to work hard	20%	46%	33%	2%
5 E. Mathematics	16%	47%	32%	5%
5 F. Ability to seek and use	18%	49%	30%	3%
5 G. Writing	14%	47%	36%	3%
5 H. Research skills	16%	46%	35%	4%
5 I. Reading/understanding difficult materials	16%	53%	29%	2%

6. How effective are guidance counselors in your school at doing the following?

6.A Providing appropriate advice on courses and preparation for college

Faculty:

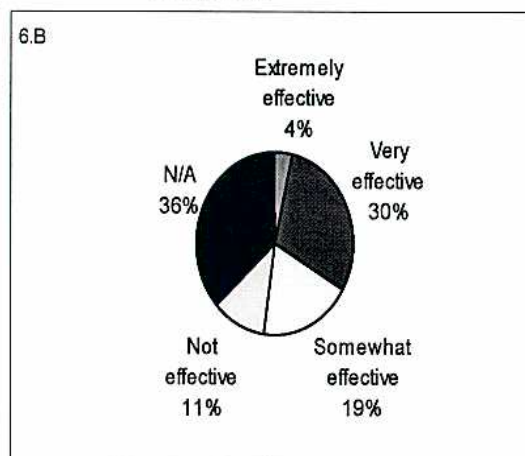
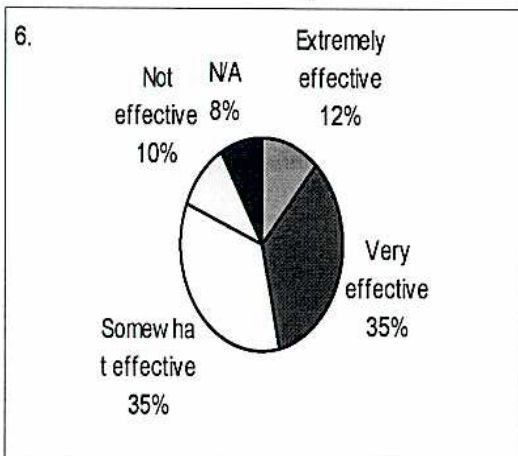
Students:



6.B Providing good advice concerning college options

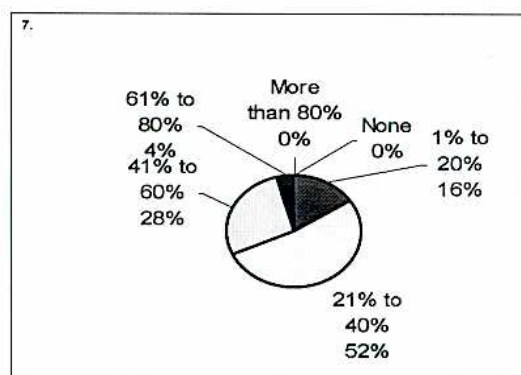
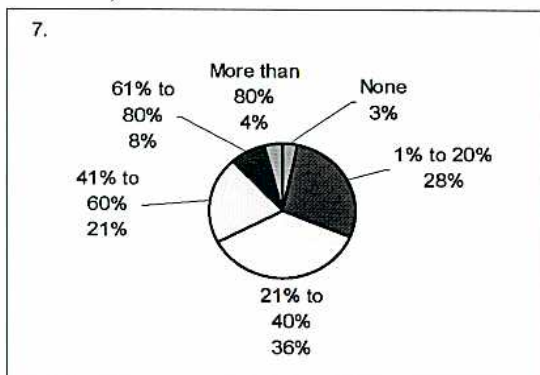
Faculty:

Students:



II. Comparison of Expectations and Actual Student Effort

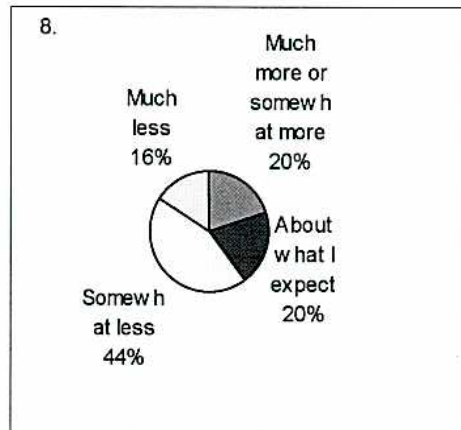
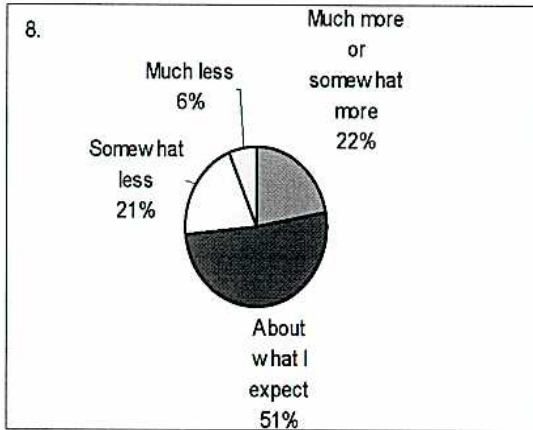
7. Percentage of class time spent reviewing materials and skills that should have been learned earlier grade for high school teachers (in high school for college faculty members).



8. What students do as compared with expectations?

Faculty:

Students:



III. *Impact of High-Stakes Testing on High-School Teachers' Classroom Practices*

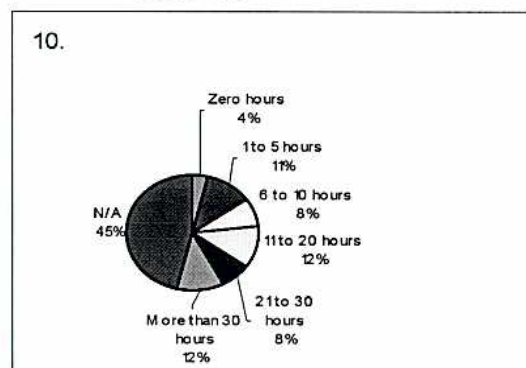
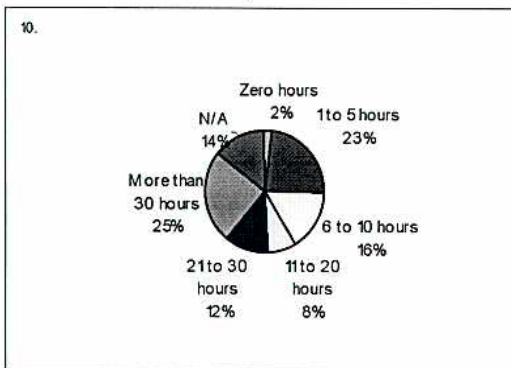
9. How much has testing related to the No Child Left Behind Act or other state or district high-stakes testing programs affected your teaching?

	Often	Sometimes	Never	Don't know
A. I am helped by having clearly specified learning goals for students.	41%	43%	7%	9%
B. I have to cut out some of the more creative elements of teaching.	44%	42%	5%	9%
C. I teach to the test.	56%	34%	2%	8%
D. I have to dumb down the material in order to concentrate on basics.	40%	39%	10%	11%
E. I must teach students material that is too difficult for them.	23%	49%	13%	15%

10. Thinking about a typical class, approximately how many hours in a school year do you spend directly preparing students in that class for high-stakes tests?

Faculty:

Students:

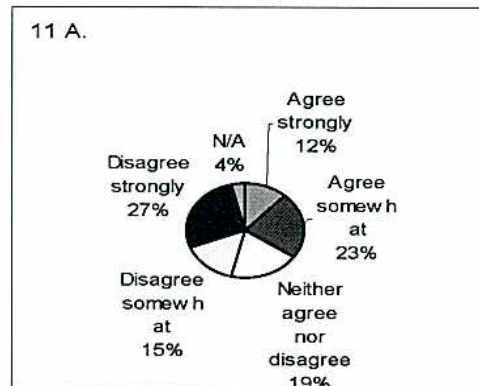
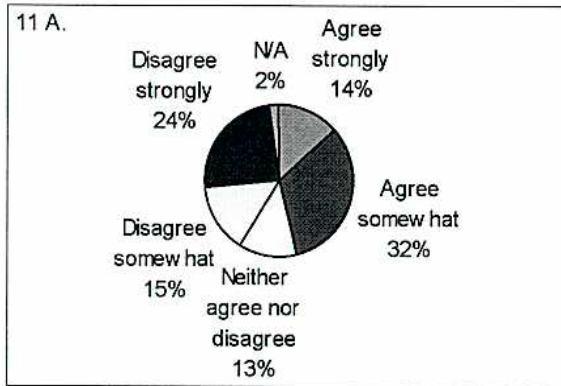


11. Agreement or disagreement with statements concerning high-stakes tests that apply to your students:

High scores on the tests indicate that a student is well prepared for college.

Faculty:

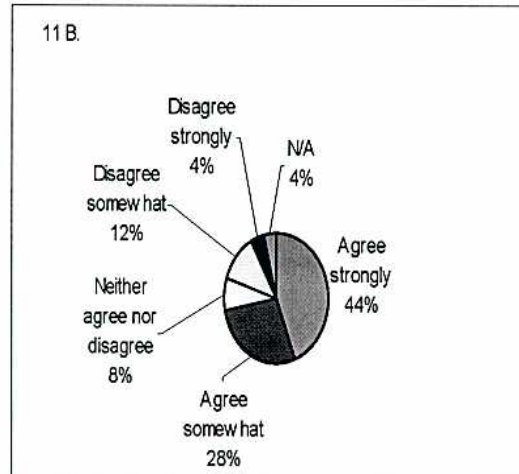
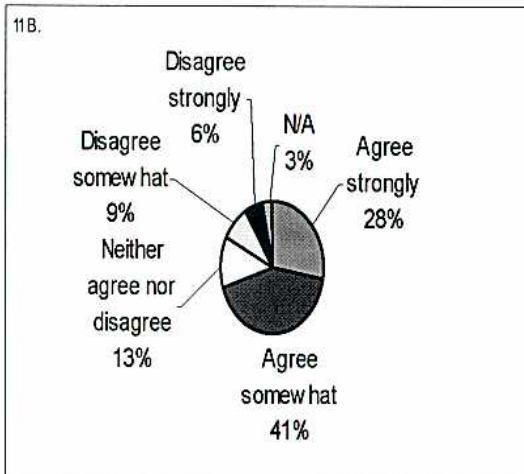
Students:



Test items do not reflect the kinds of intellectual demands expected in college

Faculty:

Students:

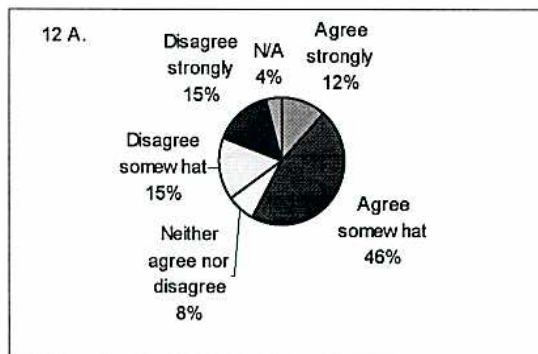
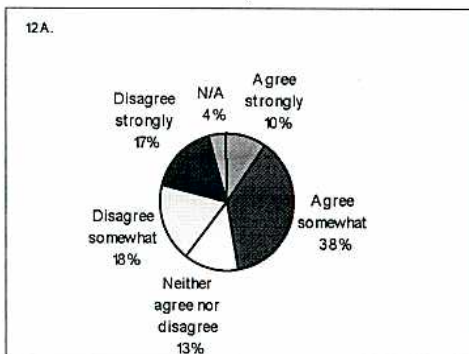


12. Views of the SAT/ACT and Advanced Placement (AP) tests:

SAT or ACT scores are good indicators of the preparedness of students for the academic demands of college.

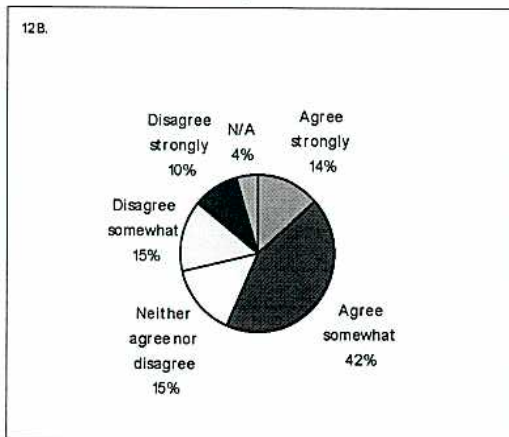
Faculty:

Students:

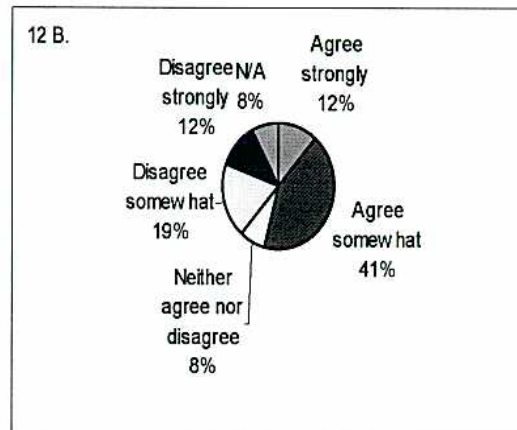


Students who pass Advanced Placement (AP) tests have already indicated that they can do college-level work.

Faculty:

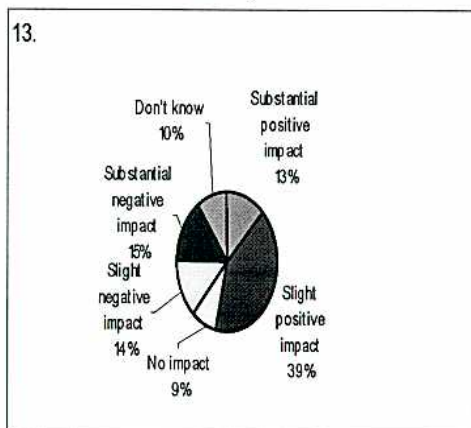


Students:

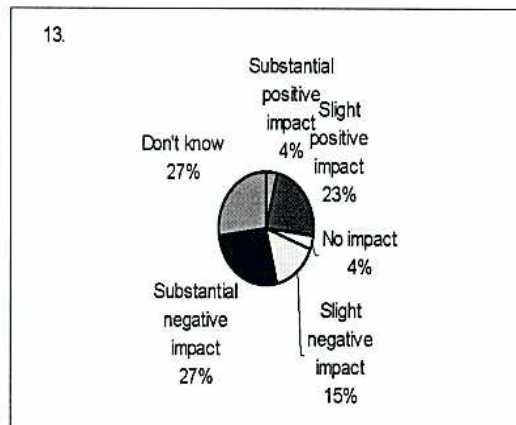


13. College faculty members' views on the impact of outcomes testing on student preparedness (responses only of those saying their institutions drew most heavily from states that required such testing).

Faculty:



Students:



IV. Academic Requirements in a Typical Class

14. Indicate the frequency that each activity is performed in your classes.

	Weekly or more often	A few times a month	Less than once a month	Never
A.	19%	50%	25%	5%
B.	47%	33%	17%	3%
C.	4%	30%	51%	15%
D.	53%	30%	12%	5%
E.	47%	33%	17%	3%
F.	62%	26%	9%	2%
G.	36%	35%	25%	4%
H.	55%	29%	12%	4%
I.	39%	34%	23%	3%
J.	75%	16%	7%	2%

- | | |
|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| A. Write a 1-to-5 page paper. | B. Work with other students on projects. |
| C. Write a paper of more than 5 pages | D. Memorize facts, ideas, or methods. |
| E. Analyze basic elements of an idea, Experience, or theory | F. Apply theories or concepts to practical problems or in new situations. |
| G. Make a presentation in class. | H. Judge the value of information, arguments, or methods. |
| I. Work on a project that requires integrating ideas or information from various sources | J. Participate in class discussions. |

V. *Views on High-Schools and One's Own Institution*

Questions 15–23 are pending compilation of collected data.

An additional feature of this survey is that supplementary questions were added to measure the standards for intellectual development sought in Mathematics, Writing, and reading:

VI. *The Standards for Intellectual Development in Mathematics, Writing, and Reading*

Questions 24–52 are pending compilation of the collected data.

7. Conclusions and Future Work:

The standards discussed in this article will provide a new vision and the extent of skills required for college courses—a vision whereby students can develop intellectually by learning central core concepts in settings that employ a rich variety of instructional and learning strategies. To provide a more concrete illustration of these standards, the listed textbooks may provide a set of problems that brings their mastery of the subject into action and to compete with fellow students to achieve higher educational objectives and standards. Organizing regular faculty and teacher seminar forums in in-service training days provide a more comprehensive understanding of core contents needed for student development and success in higher education programs. Extension of K-8 curricula through instructions is much needed in this effort. Schools should not prepare students to the tests rather let the students develop the required knowledge and skills through carefully designed series of lessons and activities. According to [13], a majority of the nation's parents think “things are fine” as far as their children's mathematics and science education goes. This is not the case when it comes to high school students preparedness for college programs.

There will be significant outcomes and benefits after the full implementation of these guidelines. Some of them are listed below:

- Attraction of new students to higher education will increase.
- Retention of students will improve from their initial successful completion of college entry level courses.
- Both of these groups of students will show a significant increase in students earning perfect attendance records.

- Academic achievement (GPAs of 3.3 or above) for students will be enhanced while their capabilities to outperform minimum requirements will improve.

Adhering to these guidelines will require a serious commitment to recruiting talented students, encouraging them to pursue career pursuits, providing necessary facilities and academic services, and ensuring a smooth transition from the high school to the University. Another issue is to reform some of the subjects being taught. For example, College Algebra and Calculus reforms have received much attention nationally. At the 2006 Joint Mathematics Meeting held in January 2006 [9], it was discussed that problem solving, communication, and group works to address these problems in the direction of algebra reform conference.

If the school authorities are able to take appropriate measures for the delivery of the entire TEKS curriculum in their respective schools, graduating students would be ready for the college core courses. John Folks, superintendent of the North-side Independent School District (NISD), one of the top state school districts, said the state's high school curriculum, while rigorous, is still not aligned with what colleges expect. "There are probably a high percentage of kids that could pass the exit-level TAKS that might need college remediation," he said. "If we can do a better job of making sure the high school curriculum prepares students for what colleges need, I would be open to it, but we have an awful lot of accountability measures in place now." This situation may be a grim reality, but it is a reality. The situation is further exacerbated by the immature implementations of the accountability system, which forces schools to spend more and more time to provide test reviews and remediation for passing tests such as TAKS. These review sessions are offered in direct competition with time for instruction and time for planning and development of more rigorous lessons and instructional activities.

Due to the comprehensive nature of this survey, some participants have expressed that the questions posed in this survey are too broad and generalized nature. They also expressed that the questions are too subjective and opinion-based to be able to derive any useful qualitative or quantitative data from them. A problem that is encountered was that the survey necessitated approval from the University, two area school districts, and LCC main and south campus before it is conducted. It is also found out that during the summer months most of faculty members and students were not with in the campus.

Acknowledgements:

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this survey by United Independent School District (UISD), Laredo Independent School District (LISD), Laredo Community College (LCC), and Texas A&M International University Institutional Review Board (IRB).

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