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CAPE Action Research Student Engagement Project 2009/2010-2011-2012

CAPE's charter describes integration and individualization as cornerstones of the program. The integration program evolved over time culminating with Total integration as Humanities and Sciences in September 2009. This involves intertwining objectives from various subject disciplines and presenting them in a context-rich environment. It literally calls for the breaking of the school day into two significantly large time slots, one for Humanities and one for Sciences, with physical education and second language time as separate smaller units of time somewhere within the day. All other subjects are integrated into either one or the other or both. Obviously, some topics lend themselves for integration more easily with one or two curriculum areas than with others. For example, environmental issues might fit better within the sciences while political systems clearly work better when tied to social studies. Student assessment has been re-thought to mirror the teaching model. In plain language, integration builds fine arts, environmental studies, comparative religions, comparative political systems, research studies, public speaking, debates, technology, and much more into a holistic learning experience that is tailored to each student skill level, attitudes and interests while making provisions for student decision-making, albeit limited. This learning environment fosters not only creativity, innovation, critical and divergent thinking, explorations and more but also self-esteem, collaboration, respect for others, a sense of belonging and of being valued.

A review of student achievement data indicate that past efforts in increasing student achievement through integration and individualization seemed to have worked relatively well. For example, the PAT results for the acceptable standard indicate a successful program while the achievements of grade 3 students in the excellence standard fall below CAPE standards. Year end exams and year end marks are outstanding, yet the increase in cumulative scores on CTBS cumulative score increase at year end does not echo this. Therefore, the school program, the AISI project, and teacher professional growth plans all focus on the same teaching philosophy, total integration, and aim to achieve the same goal, greater student engagement and therefore greater student achievement.

A review of the accessed literature, brought about the recognition of the benefits of using an integrated program. Not only did we draw from our experiences using integrated approaches, but the research information assisted in clarifying the approaches to integration for various learners. The research indicated that regular support for teachers by administrators and other teachers is a key factor in the success of integrated programming. For this reason, we have structured times for teachers to plan and communicate. There are opportunities to team teach. The principal is key in shaping and monitoring the program by demonstrating various integration strategies. There are opportunities for teachers to observe other professionals and dialogue about integrated practices. The research also indicates that students need to have a strong voice about how they learn. Because of this research and other information gathered through the zone meetings, we are using the student voice strategy to gather information about learning strategies.

Children have certain basic psychological needs; a need to achieve competence, a need to feel securely connected to others and worthy and capable of love and respect, and a need to have some control over their own activities. Children/students are most likely to become engaged in the learning process when the learning environment is compatible with those needs.

Therefore, when structuring schools for engagement, one must look at several factors:

- curricula at appropriate levels that challenge yet offer students opportunity for success,
- opportunities for student for decision-making,
- safe and caring school communities,
- instruction tied to student interests,
- psychologically and physically safe environments.

Many students do not find intrinsic value in the current curricula and prevalent classroom practices are of little interest or relevance. More importantly there is little if any connection between what is being taught and students' desired goals and personal interests. They also do not see the context as one that supports basic personal and social needs, self-determination, competency, and connectiveness to others. Combining the integration and the individualization structures an environment that is student-centered, supportive, challenging, safe, and meaningful, and conducive to student engagement and thus student achievement. Strategies include but are not limited to: decrease in repetitive activities which increase boredom, integrated activities that are designed to meet student interest, development of learning experiences within the community through field trips for the purpose of providing a learning environment, projects that relate to the world of work, and increased number of speakers and people of expertise to encourage and motivate students to be active community members, development of learning activities which reduce transitions and time lost between classes, more hands-on activities, greater balance of seat work and active learning, celebrations of learning 6 times/ year, p/t interviews structured as student showcasing personal work, portfolio development, learning experiences that combine objectives to balance areas of strength and deficit, choices of project output for students, and reflective PD on teaching strategies with integration.

The question that this project aims to answer is whether or not CAPE's Total Integration program increases student engagement and, therefore student achievement. The study group is limited to grade 4 through 9 students.

We believe that knowing each student's learning styles, needs, and emotional and social framework is crucial to the structuring of an environment that supports and encourages engagement. Knowledge of what constitutes an engaging environment and how to structure such an environment is fundamental. As a result, year one of this study is one of exploration, experimentation, observation, literature reviews, professional development, collaborative planning, mentorship, and collection of anecdotal records. Therefore, the best that can be said at the end of year one is that students did seem to become more engaged as the year progressed.

Year two & three saw the use of the SOS (Student Engagement Student Perspective), the school-generated Teacher Student Engagement Checklist (for a sample checklist, please see APPENDIX I), the CAT-4 (for a sample data collection table, please see APPENDIX II) and Star Math (for a sample collection table, please see APPENDIX III) to collect data on the percentage of students in grades 4-9 showing an increase in student engagement as determined by the students, the percentage of students in grades 4-9 showing an increase in student engagement as determined by the teachers, and increase in the percentage of students working at or above grade level (i.e. competent or proficient) in Language (reading, writing) and mathematics CAT-4 test and the percentage of students that show an improvement & the percentage of students that at or above grade level in the STAR MATH.

The two-year data indicate a significant increase in student engagement and an increase in student achievement, especially in year three. This suggests that there is a relationship between Student Engagement and Student Achievement at CAPE. More importantly, the data indicates that structuring an environment that is supportive of student engagement does foster greater student achievement and performance. Since the Total Integration is the framework within which all stakeholders operate, then it is logical to extrapolate that Total Integration supports student engagement and that this greater engagement fosters greater student achievement.

It is, however, to be noted that student achievement at CAPE is already quite high and therefore there is very little room for improvement. Use of a different achievement assessment tool, one that better measures assessment within this group of students, might yield more accurate results.

Furthermore, student enrolment increased significantly from year to year. This increase has most definitely affected our results since students new to CAPE need time to adjust to their new environment.

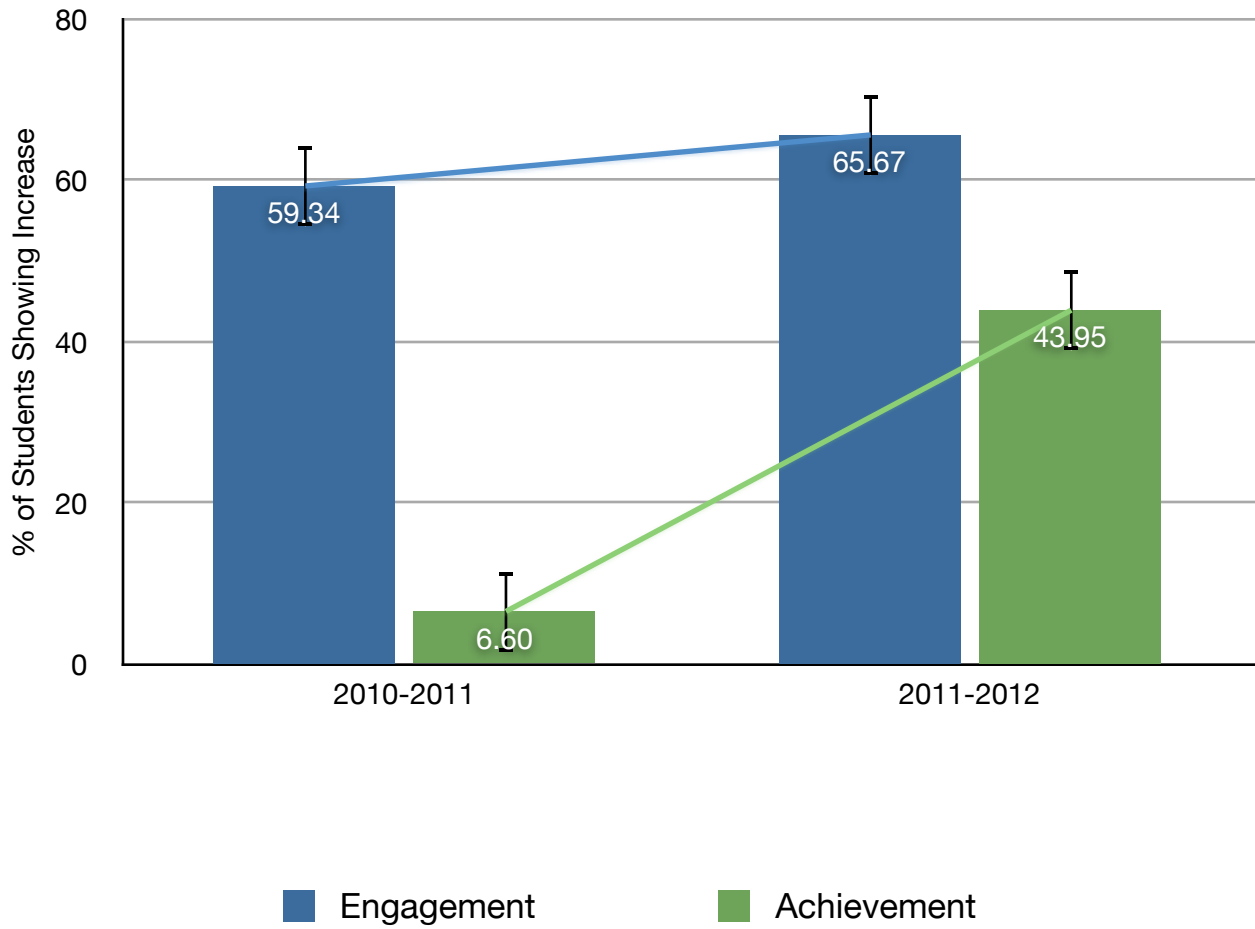
Teacher perceptions of student engagement levels seem to align with student perception of their own level of engagement particularly in year three of the study. This is of interest since personal perception is extremely difficult to quantitate accurately.

Further analyses indicate that Emotional Engagement average and individual scores are higher than the Social/Behavioral/Participatory Engagement, which are higher than the Cognitive/Intellectual/Academic Engagement as determined via the checklist. There also seems to be no significant difference among grades and between males and females in any of the data collected.

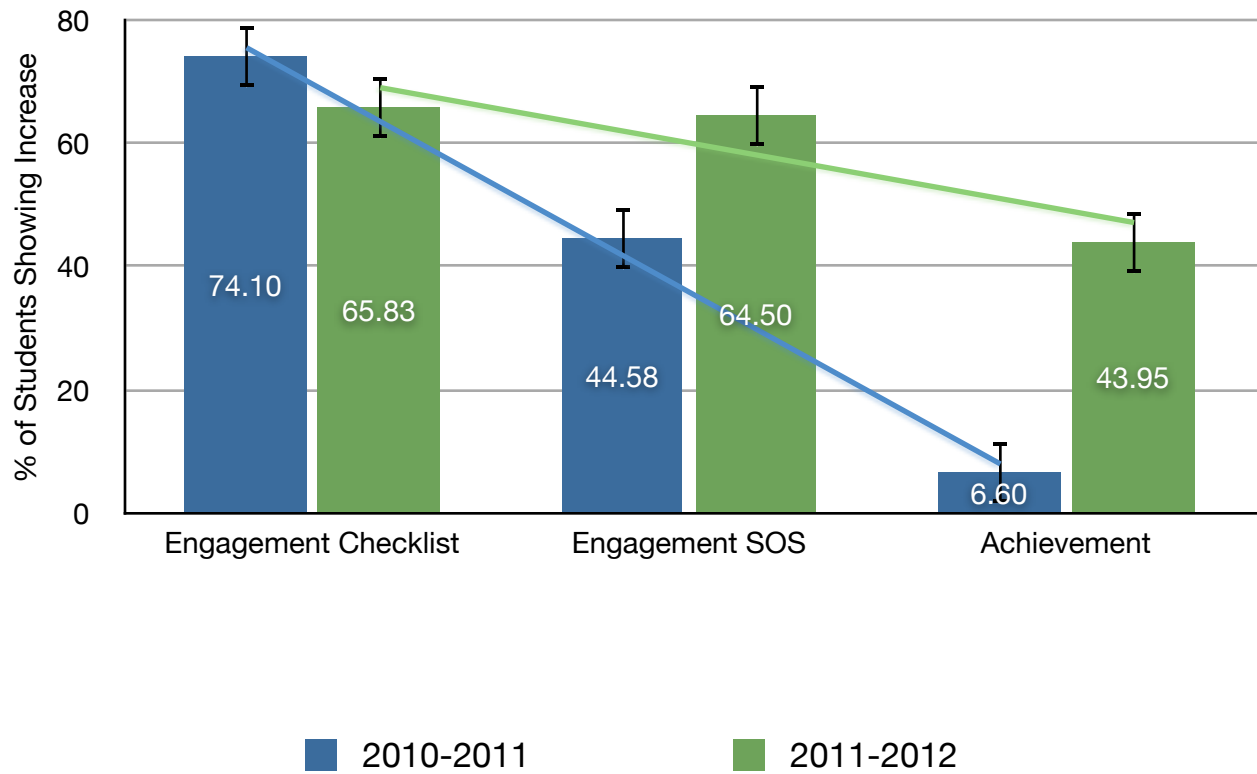
Data collected but not included in this study (please APPENDIX IV) indicate an astounding increase in student engagement and achievement among the kindergarten students and a very nice increase in both engagement and achievement among the lower elementary students in year two of the study.

Data:

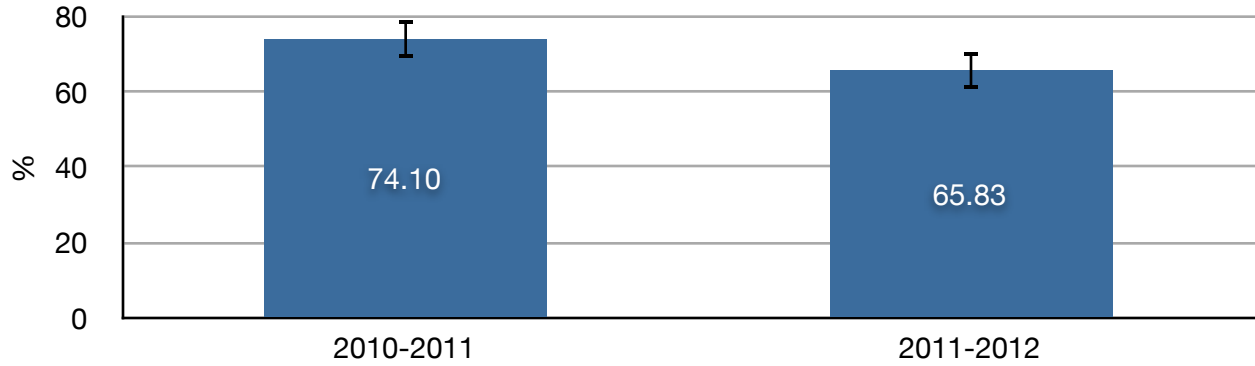
TWO-YEAR OVERALL ENGAGEMENT VS ACHIEVEMENT 4-8/9



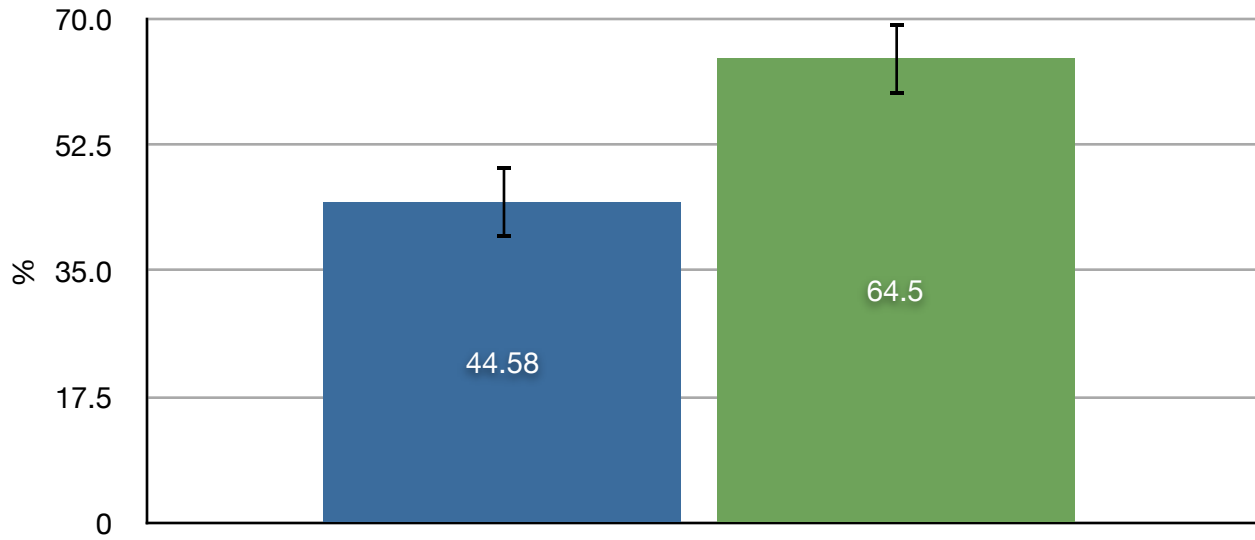
4-8/9 OVERALL TWO-YEAR COMPARISON: ENGAGEMENT VS ACHIEVEMENT



% of STUDENTS 4-8/9 THAT SHOW an INCREASE in ENGAGEMENT: TEACHER CHECKLIST



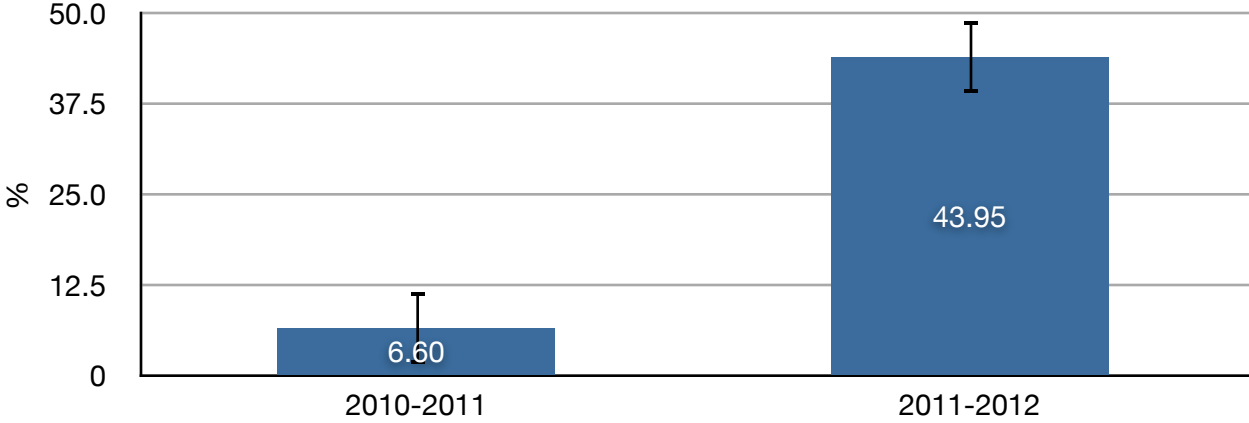
% of STUDENTS 4-8/9 THAT SHOW an INCREASE in SOS



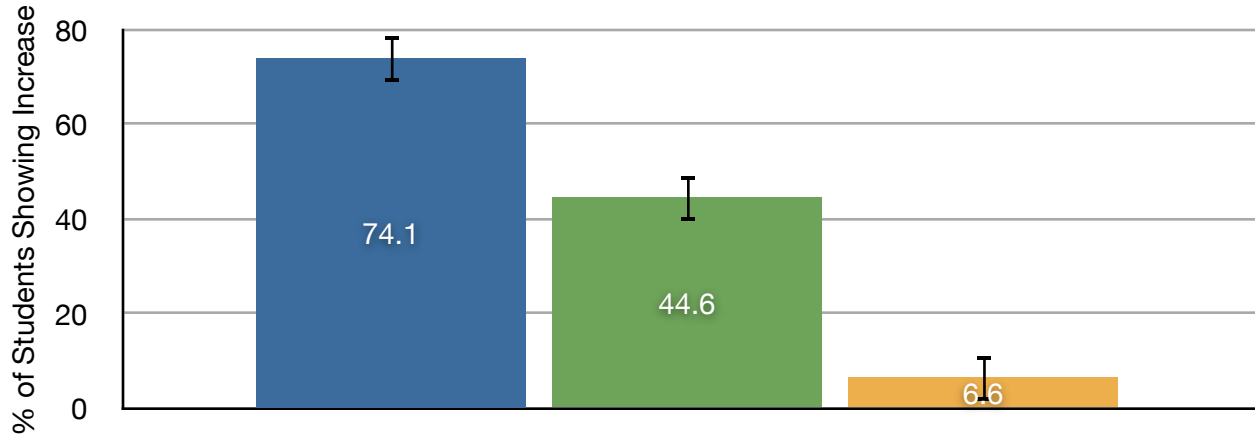
■ 2010-2011

■ 2011-2012

% of STUDENTS 4-8/9 THAT SHOW an INCREASE IN ACHIEVEMENT

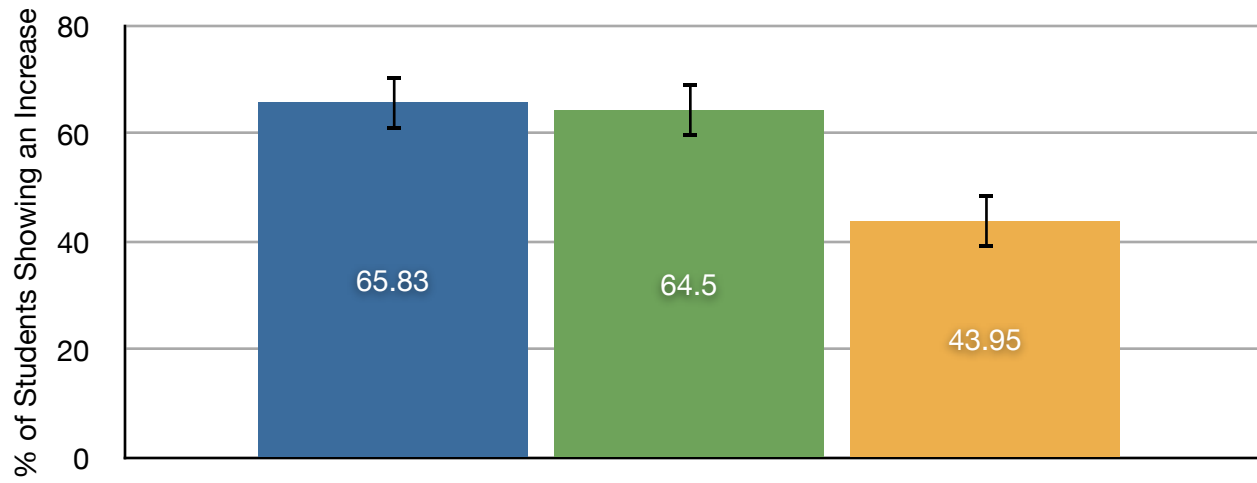


Grades 4-8 Student Engagement vs Achievement 2010-2011

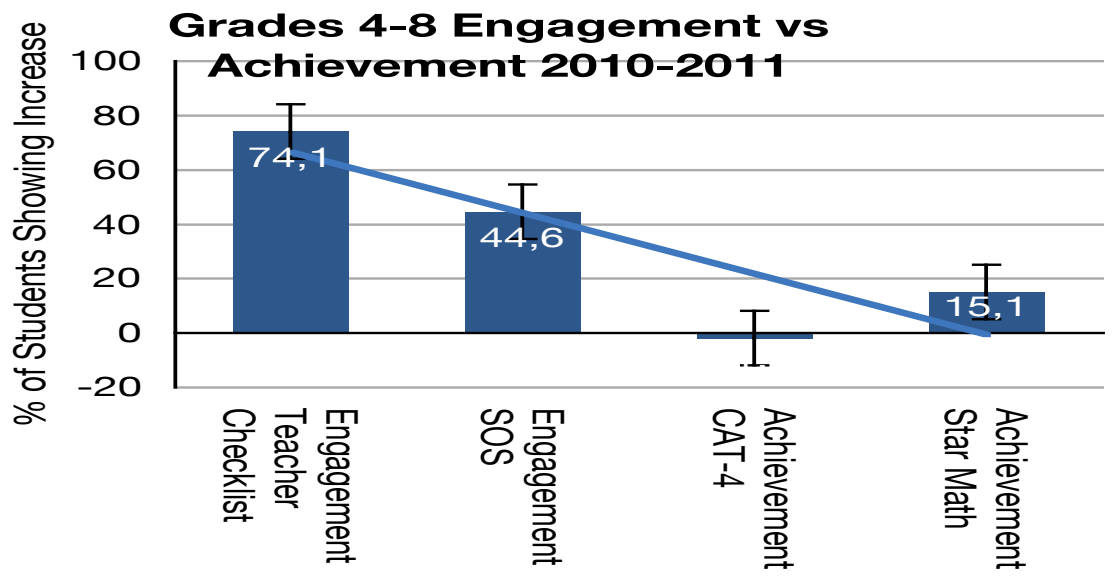


- Student Engagement Teacher Perspective (Checklist)
- Student Engagement Student Perspective (SOS)
- Student Achievement

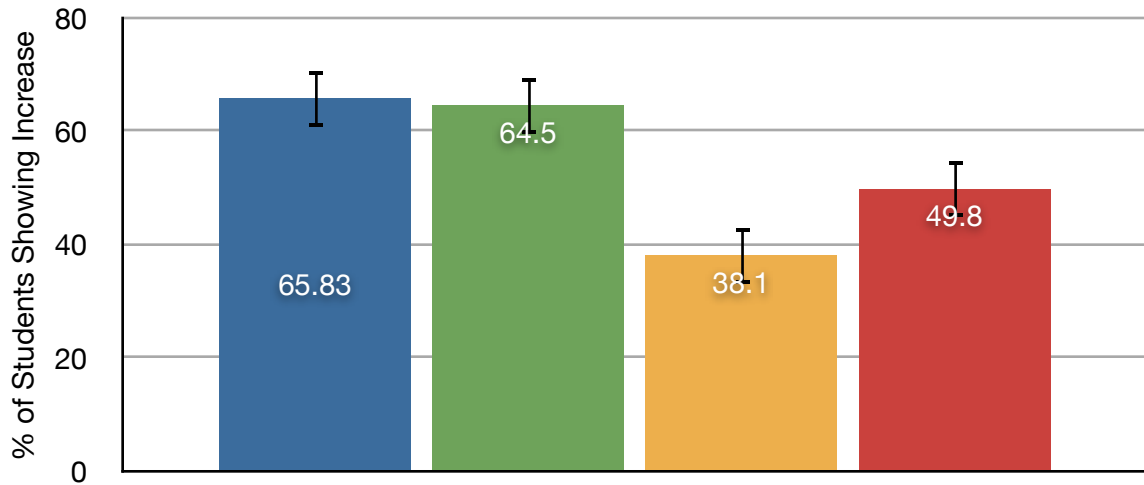
Grades 4-9 Student Engagement vs Achievement 2011-2012



- Student Engagement Teacher Perspective (Checklist)
- Student Engagement Student Perspective (SOS)
- Student Achievement

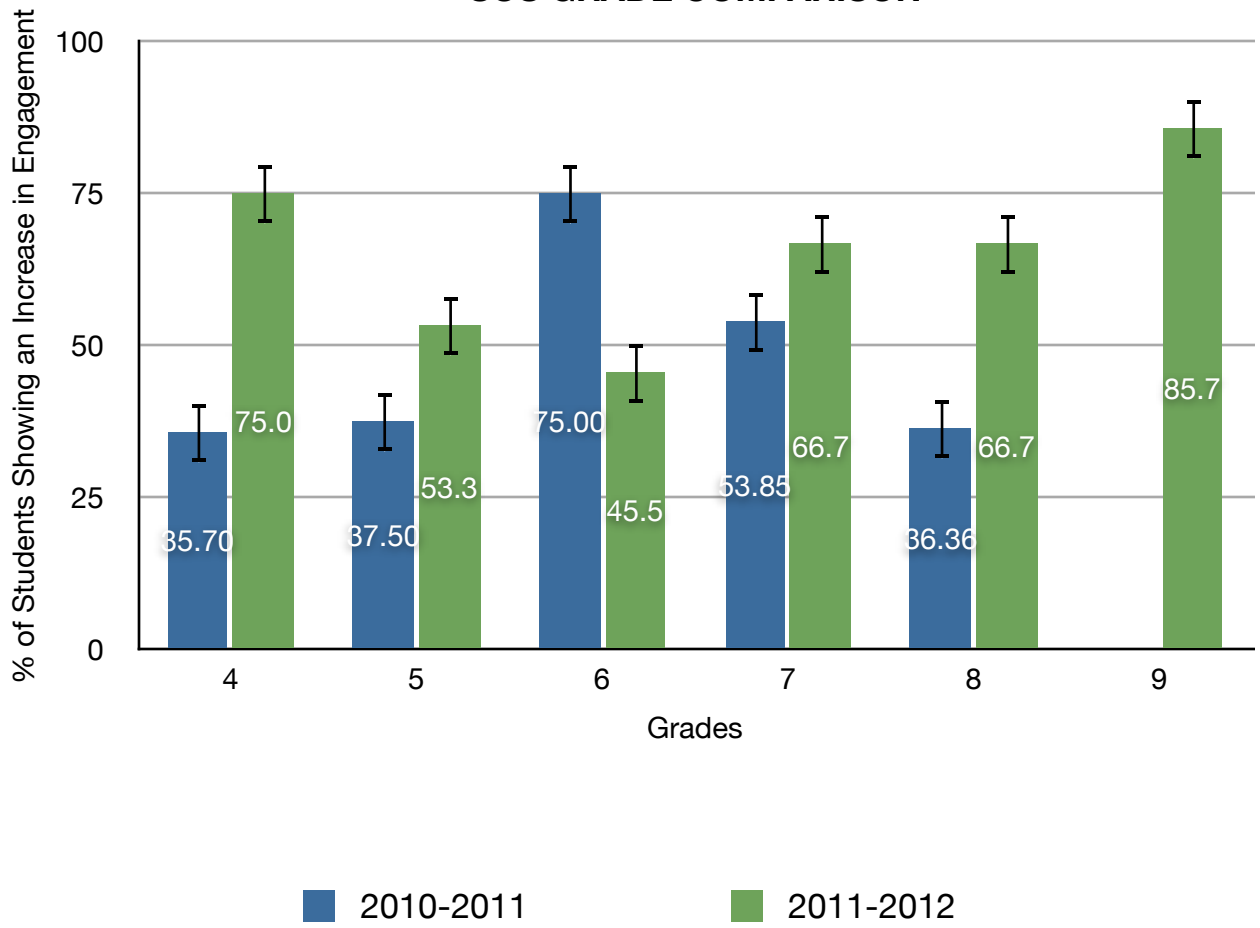


Grades 4-9 Engagement vs Achievement 2011-2012



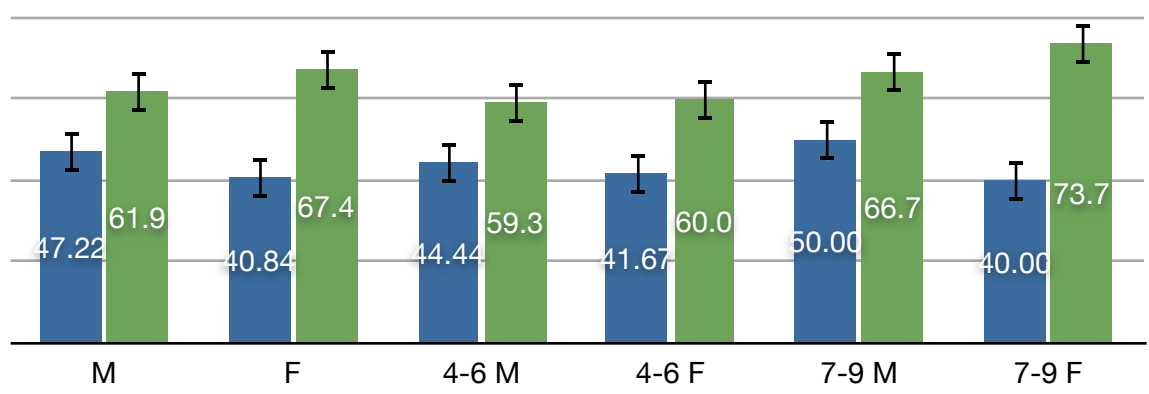
- Engagement Teacher Checklist
- Engagement SOS
- Achievement CAT-4
- Achievement Star Math

SOS GRADE COMPARISON



% of Students Showing an Increase in Engagement

SOS GENDER COMPARISON



■ 2010-2011

■ 2011-2012

Bibliography:

Anderson, Amy R., Christenson, Sandra L., Lehr, Camilla A. (2004). School Completion and Student Engagement: Information and Strategies for Educators.

<http://www.informe.org>. . . ., 2009 - informe.org

Abstract: The serious social consequences of not completing high school, increased vocational importance of high school and post-secondary education, and requirements of the No Child Left Behind Act reinforce the importance of successful school completion. Promoting successful school completion requires a shift in focus from status predictors of non-completion, such as race and SES, to student engagement at school and with learning over time. Students who are engaged—academically, cognitively, psychologically, and behaviorally—are more likely to complete school. If we monitor student performance and engagement, follow up with students and families when warning signs of disengagement appear, and focus on successful school completion for all students, including those most at risk for school failure, we will positively influence the successful school completion of students in our schools.

Chapman, Elaine (2003-09-00). Assessing Student Engagement Rates. ERIC Digest. ERIC Clearinghouse on Assessment and Evaluation ED482269.

<http://www.ericdigests.org/2005-2/engagement.html>

Abstract: Given the emphasis placed on levels of academic achievement in schools, the way in which students acquire knowledge through the learning process has become a primary concern. Several studies have highlighted the significant role that affective factors can play in learning (e.g., Mathewson, 1994; Wigfield, 1997), placing particular emphasis on student engagement. This Digest defines student engagement and describes various methods used to measure it, both in empirical research studies and at the classroom level. The most common way that student engagement is measured is through information reported by the students themselves. Other methods include checklists and rating scales completed by teachers, observations, work sample analyses, and case studies. In addition to asking the question of whether students are engaged in learning tasks, self-report measures can provide some indication of why this is the case. few studies have used summative rating scales to measure student engagement levels. Direct observations are often used to confirm students' reported levels of engagement in learning tasks. Evidence of higher-order problem-solving and metacognitive learning strategies can be gathered from sources such as student projects, portfolios, performances, exhibitions, and learning journals or logs. The efficacy of these methods hinges on the use of suitably structured tasks and scoring rubrics. Case studies allow researchers to address questions of student engagement inductively by recording details about students in interaction with other people and objects within classrooms. These accounts should describe both students' behaviors and the classroom contexts in which they occur.

de Frondeville, Tristan. (3/11/2009) Ten Steps to Better Student Engagement.

<http://www.edutopia.org/print/6124>

Abstract: The strategies for creating and managing high-quality project-learning environments are productive in any classroom. Here are ten ideas that you can start practicing in your classroom today to help you create more moments of flow: create an emotionally safe classroom, create an

intellectually safe classroom, create appropriate intermediate steps, practice journal or blog writing to communicate with students, create a culture of explanation instead of a culture of the right answer, teach self-awareness about knowledge, use questioning strategies that make all students think and answer, practice using the design process to increase the quality of work, and market your projects.

Kuh, George D. The National Survey of Student Engagement: Conceptual Framework and Overview of Psychometric Properties

Abstract: In general, the psychometric properties of the NSSE are very good, as the vast majority of items equal or exceed recommended measurement levels. Those items that are not in the normal range on certain indicators, such as kurtosis and skewness, are due to the nature of the student experience, not because of psychometric shortcomings of the instrument. The face and construct validity of the survey are strong. This is not surprising because national assessment experts designed the instrument and most of the items have been used for years in established college student assessment programs. In addition, we made improvements to individual items and the overall instrument based on what was learned from focus groups, cognitive testing, and the psychometric analyses on the results from the spring 1999 field test, the inaugural national administration in spring 2000, and the spring 2001 administration. The results seem to be relatively stable from one year to the next and non-respondents are generally comparable to respondents in many ways, though contrary to popular belief non-respondents appear to be slightly more engaged than respondents.

Mihailidis, Paul & Ray Hiebert. Media Literacy and Student/Teacher Engagement. Academic Exchange Quarterly, Fall 2006, ISSN 1096-1453, Volume 10, Issue 3
<http://www.rapidintellect.com/AEQweb/cho3471j6.htm>

Abstract: Media literacy education aims to enable students to critically and analytically engage with media. Teacher/Student engagement in the classroom enables students to enhance their learning experiences by providing them the atmosphere and interaction they need to be actively involved in their learning process. The tenets of teacher/student engagement and mutuality, when applied to the concept of media literacy education, reveal how media literacy education can be enhanced in the classroom.

Skinner, Ellen A.; Belmont, Michael J. Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. Journal of Educational Psychology, Vol 85(4), Dec 1993, 571-581.
<http://psycnet.apa.org/?fa=main.doiLanding&doi=10.1037/0022-0663.85.4.571>

Abstract: On the basis of a new model of motivation, the authors examined the effects of 3 dimensions of teacher (n = 14) behavior (involvement, structure, and autonomy support) on 144 children's (Grades 3–5) behavioral and emotional engagement across a school year. Correlational and path analyses revealed that teacher involvement was central to children's experiences in the classroom and that teacher provision of both autonomy support and optimal structure predicted children's motivation across the school year. Reciprocal effects of student motivation on teacher behavior were also found. Students who showed higher initial behavioral engagement received subsequently more of all 3 teacher behaviors. These findings suggest that students who are behaviorally disengaged receive teacher responses that should further undermine their motivation. The importance of the student–teacher relationship, especially interpersonal involvement, in optimizing student motivation is highlighted. (PsycINFO Database Record (c) 2010 APA, all rights reserved)

Klem, Adena M. & James P. Connell. Engagement and Achievement. *Journal of School Health* September 2004, Vol. 74 No. 7 Article first published online: 9 OCT 2009

<http://onlinelibrary.wiley.com/doi/10.1111/j.1746-1561.2004.tb08283.x/abstract>

Abstract: Studies show students become more disengaged from school as they progress from elementary to middle to high school.14,” By high school as many as 40% to 60% of students are disengaged. In order to promote student engagement, some conditions must exist, high standard for academic learning and conduct, meaningful and engaging pedagogy and curriculum, professional learning communities among staff, and personalized learning environments. Schools providing such supports are much more likely to have students who are engaged and connected to school.

Voke, Heather (February 2002/Number 28). *Motivating Students to Learn*.

ASCD Retrieved November 12, 2005, from <http://www.ascd.org/publications/newsletters/infobrief/feb02/num28/Motivating-Students-to-Learn.aspx>

Abstract: Studies in the 1980s and '90s showed an alarming number of students disengaged from the instruction taking place in their classroom (Meece & McColskey, 1997). This lack of engagement was especially pronounced for adolescents and minorities attending schools in metropolitan areas (Goodwin, 2000). Although research attests that students are most likely to be engaged in learning when they are active and given some choice and control over the learning process—and when the curriculum is individualized, authentic, and related to students' interests—surveys of classroom practices reveal that instruction emphasizing student passivity, rote learning, and routine is the rule rather than the exception (Goodlad, 1984; Yair, 2000). A growing body of research points to the essential role that student engagement plays in the learning process. It also indicates that some schooling environments are more effective than others at promoting student engagement—and that some common educational practices may actually promote student disengagement. Policymakers and educators must understand the importance of student engagement in the learning process, as well as the conditions that promote or discourage its development. Policymakers in particular must be attentive to the ways that well-intentioned education policies, such as high-stakes testing, may constrain educators from creating environments that support student engagement.

Yazzie-Mintz, Ethan *Voices of Students on Engagement: A Report on the 2006 High School Survey of Student Engagement*

www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED495758

Abstract: What is the purpose of schooling in high schools today? Is it to get students to pass classes and standardized tests, get a high school degree, and move on? Or is it to engage students deeply in learning, to plant seeds of intellectual interest that will carry students into the next stages of education and work? On the High School Survey of Student Engagement, many students say that their primary purpose for being in high school is to get a degree and go on to college, but many also say that, while they are in high school, they want to be intellectually, academically, socially, and emotionally engaged with the life and work of their high schools. The current educational environment is shaped by a sharp focus on accountability; in this context, passing rates, graduation percentages, and standardized test scores are the most common barometers of high school success. But the students who participate in HSSSE are looking for something more in their high school experience: to be actively involved in their learning, to be intellectually challenged, to be taken seriously as individuals, and to mean something within their high school communities. When given the

opportunity, students are very clear and eloquent in their beliefs about schooling and education, and their voices — as expressed through the HSSSE survey — can be effectively used to bring about important changes in the cultures, structures, and practices of individual high schools. HSSSE data indicate that students believe there is much work to be done in high schools to create actively engaging teaching and learning communities for all students. Students seem to become less engaged as they move through their high school years. There are gaps in levels of engagement that deserve attention: girls tend to be more engaged in high school than boys; White and Asian students report being more engaged than students of other races; students in honors and advanced classes appear to be much more engaged than special education students, with general and vocational students in the middle; students of lower socioeconomic status report being less engaged than students of higher socioeconomic status. These gaps are important to focus attention on, and to close. There needs to be more research investigating the potential link between the engagement gap and the achievement gap. Certainly it is possible that engaging students more actively in the life and work of high schools will have an effect on levels of achievement; this is an important issue still to be studied.

Zhao, Chun-Mei & Kuh, George D. Adding Value: Learning Communities and Student

Engagement. RESEARCH IN HIGHER EDUCATION Volume 45, Number 2, 115-138, DOI:10.1023/B:RIHE.0000015692.88534.de

Abstract: This study examines the relationships between participating in learning communities and student engagement in a range of educationally purposeful activities of first-year and senior students from 365 4-year institutions. The findings indicate that participating in a learning community is positively linked to engagement as well as student self-reported outcomes and overall satisfaction with college. learning communities - college students - student development - student engagement - effective educational practices - integrative learning.

_____, _____. Fostering Student Engagement in Learning
<http://www.betterteacher.org/Student-Engagement/index.asp>

Abstract: The best method for fostering student engagement is to have students become active participants in the learning process. Simply put, individuals are motivated to participate in those activities, which they find inherently rewarding. Reward may fall into two categories: 1) those that are intrinsic to the activity, such as eating a preferred food or playing a “fun” game and 2) those are extrinsic to the activity, such as receiving praise or some type of honor that is unrelated to performing the actual activity. While at first these rewards may seem unrelated, in actuality they are often intertwined in any given activity. For instance, a student who is diligently painting a picture for art class may find this an enjoyable activity (intrinsic reward) while, at the same time, receiving praise from the teacher (extrinsic reward). It is also true that what may be rewarding at one point in time does change. Thus, while playing a new game might be rewarding the first few times, and therefore a source of motivation it can lose its impact after the novelty wears off.

McKinnon, David. (1997) Curriculum Innovation Involving Subject Integration, Field-Based Learning Environments and Information Technology: A Longitudinal Case Study of Student Attitudes, Motivation and Performance.

http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED408350&_ERICExtSearch_SearchType_0=no&accno=ED408350

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(article)

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Drake, Susan, M. (2007) Creating Standards-Based Integrated Curriculum: Aligning Curriculum, Content,
Assessment, and Instruction

Tomlinson, Carol Ann and Jay McTighe. (2006) Integrating Differentiated Instruction & Understanding by Design
(Connecting Content and Kids)

Bennett, Barrie and Carol Rolheiser. (2001) Beyond Monet: The Artful Science of Instructional Integration

Student feels valued, a contributing member of the school community.								
Student feels free to voice opinions and concerns.								
Student feels that he/she is respected, and treated fairly.								
Student feels that he/she has a voice in the learning.								

APPENDIX II

STUDENT ACHIEVEMENT: CAT-4 (grade ***) Norm-Referenced (Canadian Norms)

Class/Grade: ****		Fall	Spring	Increase
		(%)	(%)	
Language	% of Students at Grade Level i.e. Competent	Reading		
		Writing		
		Composite		
	% of Students above Grade Level i.e. Proficient	Reading		
		Writing		
		Composite		
	Percentage At or Above Grade Level i.e. COMPETENT or PROFICIENT	Reading		
		Writing		
		Composite		

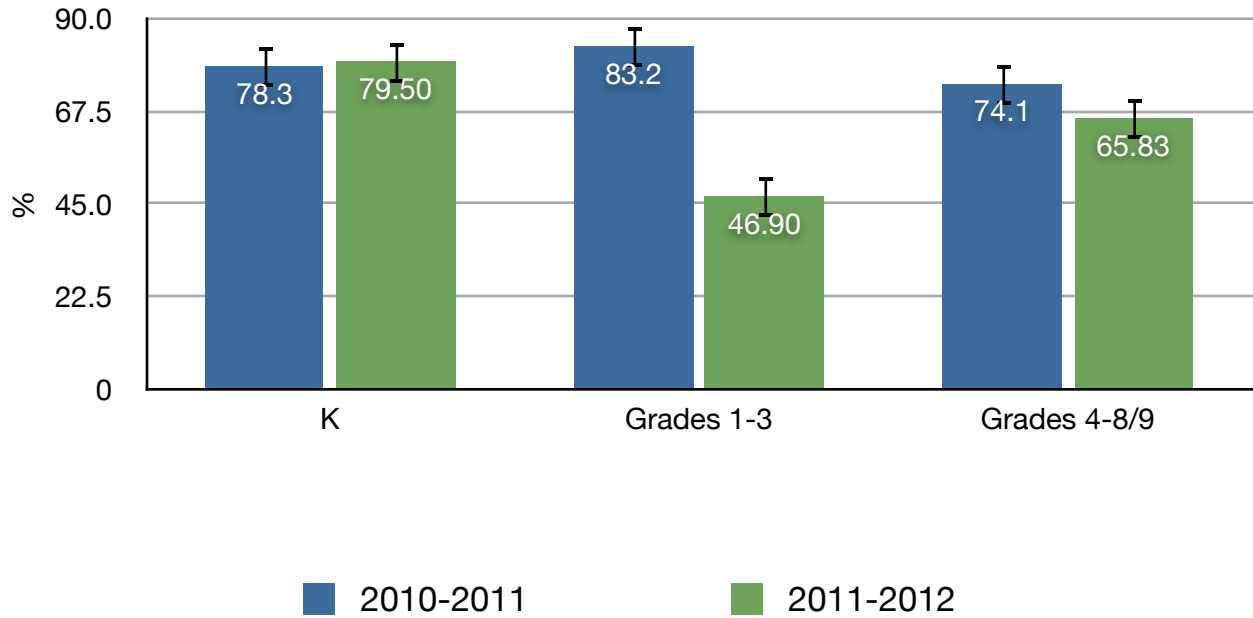
Class/Grade: ****		Fall	Spring	Increase
		(%)	(%)	
Mathematics	% of Students at Grade Level i.e. Competent	Mathematics		
		Computation/ Estimation		
		Composite		
	% of Students above Grade Level i.e. Proficient	Mathematics		
		Computation/ Estimation		
		Composite		
	Percentage At or Above Grade Level i.e. COMPETENT or PROFICIENT	Mathematics		
		Computation/ Estimation		
		Composite		

APPENDIX III

201*-201*		
Grade	% Percentage of students that show an improvement in the STAR MATH over the course of the year.	% Percentage of students that at or above grade level in the STAR MATH.
1		
2		
3		
4A		
4B		
5A		
5B		
6A		
6B		
7A		
7B		
8A		
8B		
9A		
9B		
OVERALL		

APPENDIX IV

% of STUDENTS THAT SHOW an INCREASE in ENGAGEMENT: TEACHER CHECKLIST



% of STUDENTS THAT SHOW an INCREASE in ACHIEVEMENT

