

Final Report: A Comprehensive Assessment of Florida Virtual School

Financial investment does not automatically translate into improved student achievement. With approximately a third of the state's budget directed to public education, it is imperative that Florida make sound decisions as to these taxpayer funds. Programs that work must be identified, replicated, and enhanced; those that do not must be eliminated.

In this report, Florida TaxWatch examines the viability of Florida Virtual School as a credible alternative to traditional schooling as regards both student achievement outcomes and cost-effectiveness. Florida Virtual School earned high marks in both.

Virtual education was largely unheard of only a decade ago. Text messaging, MP3 players, podcasts and picture phones had yet to become commonplace. Debate on computer use in the classroom centered over whether these machines would or could replace the teacher. Instructional technology was truly in its infancy, a program of promise but still very much in development.

It was in this climate that an online school was conceived. Status quo educational outcomes for Florida K-12 students were unenviable, and state policymakers assertively sought vehicles for reform. Among them was a "Break the Mold" allocation in 1997 of \$1.3 million to design and implement a virtual learning model - now known as Florida Virtual School.

The two over-arching queries were:

- How does student achievement by FLVS students compare with that of students in traditional brick-and-mortar schools?
- Is instruction via FLVS a cost-effective approach?

Research findings to both queries were positive. FLVS students outperformed their statewide counterparts on two independent assessments, both the Florida Comprehensive Assessment Test and Advanced Placement examinations. They earned higher grades in parallel courses. And this was accomplished with less money than was typically spent for instruction in traditional schools.

The following pages of this report contain a series of accountings that elaborate upon these findings.

Table of Contents

- Acknowledgements, pg. 4

- A Synopsis of Florida Virtual School, pg. 5
 - The FLVS Program
 - Florida Virtual School Students
 - Florida Virtual School Parent & Family Support
 - Florida Virtual School Instructional Staff
 - Florida Virtual School Funding
 - Florida Virtual School Facility

- About This Study, pg. 8

- Elaborated Summary and Policy Implications, pg. 9

- Development and History of Florida Virtual School, 27

- FLVS Instructional Staff & Support, pg. 31

- FLVS Student Satisfaction, pg. 31

- Research: FLVS Data Analysis, pg. 33
 - Middle School Level Data Analysis
 - High School Level Data Analysis
 - FLVS Students' Online Activity and Their Achievement Level
 - FLVS Withdrawn Enrollment Data
 - AP Course and AP Exam Data
 - FCAT Data
 - GPA Data
 - Comparison of the Cost of FLVS to Traditional Public Schools

- Additional Research, pg. 81
 - Brief Literature Review on Virtual Schooling
 - Virtual Schools in the United States
 - Pros and Cons of Distance Education, Including Virtual School Education
 - International Research on Online vs. Traditional Education
 - The Future of Virtual Schooling

Acknowledgements

The Florida TaxWatch Center for Educational Performance and Accountability (CEPA) wishes to express heartfelt thanks to the AT&T Foundation (formerly BellSouth Foundation) for providing a leading grant which allowed the study to begin, as well as to UCompass for providing an additional contribution. Thank you for your vision, generosity and confidence in our work.

We would be remiss in not recognizing the important stage-setting that Florida Governor Charlie Crist has provided. His commitment to open records and public access allows the research processes necessary for intensive reviews to flow smoothly. It is a true contribution to ensuring the integrity of government in our state that benefits all taxpayers.

To that end, this report would not have been possible without the tremendous data gathering assistance and expertise of the Florida Department of Education, UCompass, and Florida Virtual School. We wish to thank the many who contributed to these efforts, but most especially the following teams and individuals whose integral involvement and leadership was essential to this study.

Florida Department of Education Data Administration Team

Ed Mansouri, President and CEO, UCompass

Florida Virtual School:

Julie Young, President and Chief Executive Officer

George Latimer, Chief Financial Officer

David Bass, Director of Information Systems and Support

Jamie Perreault, Database Administrator

Florida TaxWatch-CEPA Supporters

CEPA work is made possible through the outstanding contributions of the following sponsors, all of whom share a keen interest in improving the educational outcomes in our state toward enhancing the lives and livelihoods of all of Florida's taxpayers.

Darden Restaurants Foundation

IBM

Publix Super Markets Charities

Wachovia Foundation

SunTrust Banks of FL Foundation

Progress Energy

Verizon Foundation

Washington Mutual Foundation

A Synopsis of Florida Virtual School

Any Time, Any Place, Any Path, Any Pace

About Florida Virtual School

The FLVS Program

The Florida Virtual School (FLVS) is an on-line educational program that uses the Internet to provide course instruction to middle and high school students. Students log into the classes, access the lessons, and work on assignments and projects. They set their own pace but must maintain active involvement to continue in the course. Florida-certified instructors are utilized, and many of them also hold national certification through the National Board of Professional Teaching Standards. Teachers guide the lessons, assess student work and provide constructive comments and grades. They also communicate by telephone with students and their parents.

This design is the genesis of the school's motto,
"Any Time, Any Place, Any Path, Any Pace."

All courses are aligned with the Sunshine State Standards. Thus successful completion of a FLVS course reflects mastery of the applicable standards subsequently tested on the Florida Comprehensive Assessment Test (FCAT). Currently more than 90 courses are available.

Courses are configured by semester. Any course that is historically a year-long effort due to its scope and depth is constructed in two semesters. An example of this is Algebra I.

Academic integrity is a prime concern at FLVS, as it must be in any credible online educational environment. The school has a strict plagiarism policy and employs several quality control mechanisms to ensure authenticity of student work. Among them is the use of TurnItIn.com.

Unlike traditional schools, there is open enrollment in courses at FLVS. Thus students do not have to wait for the official start of a new semester to begin coursework. Guidance counselors are available to assist with general educational decisions, curriculum planning, and personal/social counseling. College planning tools and college entrance examination, scholarship, and financial aid information is provided in detail.

At this time, FLVS is not a degree-granting institution. Instead provision is made for the transfer of credit to the appropriate entity for high school exit, usually the student's local school.

The mission of the Florida Virtual School is to provide students with technology-based educational opportunities to gain the knowledge and skills necessary to succeed. The school shall serve any student in the state who meets the profile for success in this educational delivery context and shall give priority to:

1. Students who need expanded access to courses in order to meet their educational goals, such as home education students and students in inner-city and rural high schools who do not have access to higher-level courses.
2. Students seeking accelerated access in order to obtain a high school diploma at least one semester early.

Section 1002.37, F.S.

FLVS is fully accredited by the Southern Association of Colleges and Schools (SACS) and by the Commission on International and Trans-Regional Education (CITA). FLVS operates under the authority of a gubernatorial appointed board.

As a nationally recognized e-learning model, FLVS has earned numerous awards. Recent accolades include the 2006 EdNet Impact Award, the 2005 USDLA 21st Century Best Practices Award, the 2004 Excellence in IT Leadership Award from IT Florida, and the 2003 *Business Week* WebSmart Top 50 designation.

Florida Virtual School Students

Most FLVS students are part-time. That is, they take one or two courses at FLVS and the balance at a traditional school, be it private or public, including charter schools. Students may reside in Florida, another state or even another country. National (non-state) and international students, however, pay tuition and, when applicable, also pay fees for increased costs of shipping materials.

The student population at FLVS is diverse. About one-third of the student body represents minorities, with Hispanic and African-American heritage being the predominant minority groups.

Several clubs are available to active FLVS students. There is an award-winning, monthly newspaper written by FLVS students. Participation in regional, state and national academic competitions is encouraged, and several FLVS students have earned distinction through these forums.

Florida Virtual School Parent & Family Support

Evidence suggests that FLVS views parents as partners in student success and values family involvement. Parents are provided a Guardian Account that gives them 24-7 access to their child's submitted/graded assignments and to their personal grade book. Additionally, they receive a minimum of one telephone call per month from teachers, monthly progress reports emailed to the parent's account, and regular email updates from teachers. Extensive daily access to teachers is provided, with established hours of 8:00 a.m - 8:00 p.m. during the week and additional hours on the weekend.

Florida Virtual School Instructional Staff

All FLVS teachers are Florida-certified in the area in which they provide instruction. Nearly two-thirds hold advanced degrees, and many are credentialed by the National Board for Professional Teaching Standards (NBPTS). Though most are Florida residents, they actually reside all over the country, from Rhode Island to Oregon.

Full-time FLVS instructors are not unionized. There is a teacher salary schedule, with minimum and maximum established remunerations for 12-month contracts. Holidays, sick leave, and vacation time are provided, as is participation in the Florida Retirement System. Bonuses are available for instructors who reach student performance goals, meet Advanced Placement test score thresholds, earn NBPTS certification, and the like.

Adjunct faculty members are paid per their established part-time contracts.

Faculty members function in Learning Communities, which allows for scaleable growth. There is an Instructional Leader, a principal of sorts, who provides guidance and administrative oversight to approximately 55 teachers. Teachers have access to instructional assistants on a part-time basis. Currently there are four Learning Communities in operation at FLVS. Teachers are brought in at least once a year for statewide training.

Florida Virtual School Funding

FLVS is the only public school in Florida where funding is tied directly to student performance. Students must be enrolled, receive direct instruction, and successfully complete a FLVS course in order to generate funds through the Florida Education Finance Program (FEFP). Each half-credit course that is successfully completed generates 0.0834 unweighted FTE. Six courses per semester generate full-time funding.

FLVS receives no funding for most designated services. Thus the school has no appropriation for Exceptional Student Education, Supplemental Academic Instruction, transportation, capital outlay, or other significant funding streams. FLVS does receive an instructional materials allocation. These dollars are used for the actual development of online courses – not textbooks, as is the norm with traditional schools. FLVS also receives a modest appropriation to assist with costs associated with students who withdraw from the program. It also receives appropriations for teacher training and class size reduction.

Florida Virtual School Facility

FLVS is its own enterprise. Therefore, although it delivers its services via the Internet, the school must have office space to accommodate business essentials. These include, but are not limited to, administration, human resources, payroll, budget and finance, technical support, and the like.

FLVS has historically rented office space from Orange County Public Schools (OCPS). However, that district has informed FLVS that the space will no longer be available, and thus the school is seeking appropriate alternatives. Leased office space is funded through operational dollars since FLVS has no Capital Outlay appropriation.

About this Study

Recognizing the leadership that Florida took in implementing and expanding the nation's largest publicly funded virtual school effort to date, Florida TaxWatch—an independent, nonpartisan, nonprofit 501(c)(3) research institute—undertook this study in order to explore to what degree Florida Virtual School (FLVS) offers an efficient, taxpayer accountable alternative and supplemental system of education. The study was funded in part through the generosity and vision of the BellSouth Foundation (now the AT&T Foundation) and UCompass.

Florida TaxWatch's interest in FLVS stems from its mission to improve citizen understanding, government accountability, and taxpayer value. Within this three-pronged mission, the Florida TaxWatch Center for Educational Performance and Accountability focuses on research to encourage the wisest use of limited taxpayer resources towards the greatest outcomes, notably increasing student academic achievement across Florida's diverse and unique student population.

Core areas for study included an examination of student demographics and achievement as well as cost-effectiveness.

Florida TaxWatch utilized multiple data sets—including data from the Florida Department of Education, from FLVS itself, and from UCompass (a Florida company contracted to provide the technical support and system assistance for the FLVS network) to compare FLVS student success levels from the 2004-05 and 2005-06 school years with those of their counterparts in traditional school settings. Finance information from those years was also analyzed.

Three different sets of data for the 2004-05 and 2005-06 school years were employed in the analysis. The data provided by FLVS included student profiles, enrollment, final grades, and Advanced Placement (AP) exam scores. The data on student log activity were provided by UCompass. FLVS and UCompass data were merged based on unique student identifiers to analyze the relationship between student online activity and their achievement level. Student results from the Florida Comprehensive Assessment Test (FCAT), FLVS students' final grades from traditional courses, grade point average data, and financial allocations were provided by the Florida Department of Education. The data from middle and high school levels were treated independently to cast a more focused light on relative student performance. Unless otherwise specified or displayed, charts and tables in the report depict an average of the 2004-05 and the 2005-06 school years.

"In fits and starts, public education is undergoing a makeover of historic dimensions. The slogan adopted by the Florida Virtual School succinctly describes a compelling vision for a transformed education system, one in which 'any time, any place, any path, any pace' learning is delivered through modern technologies that are available today. Evidence to date convincingly demonstrates that, when used appropriately, electronically delivered education—e-learning—can improve how students learn, can improve what students learn, and can deliver high-quality state education leaders to think through the various policy questions, consider the implications, and adopt policies that will drive the technology in directions that effectively maximize student achievement—for all students."

Opening paragraph, 2002 Report of the
NASBE Study Group on
e-Learning: The Future of Education,
*Any Time, Any Place, Any Path, Any Pace:
Taking the Lead on e-Learning Policy*

Elaborated Summary and Policy Implications

Florida Virtual School experienced explosive growth and expansions since its inception in 1997 and scaled up to meet the challenge.

In 1997, FLVS opened with 77 enrollments in five courses. Since that time, it has grown to 113,900 enrollments in over 90 courses. It began as an online high school and has since expanded to include the middle school level. Its mission has been amplified by the Florida Legislature¹ to reflect a focus on access and acceleration for targeted Florida students. These students include, but may not be limited to, home education students, students in inner-city and rural high schools that may benefit from access to higher-level courses, and students seeking acceleration in order to graduate from high school at least one semester early.

Years From/To	Enrollment From/To	Gain	Percentage Growth
1997	0 to 77	77	Baseline Year
1998	77 to 225	148	192%
1999	225 to 1,100	875	389%
2000	1,100 to 3,900	2,800	255%
2001	3,900 to 8,900	5,000	128%
2002	8,900 to 11,500	2,600	29%
2003	11,500 to 14,000	2,500	22%
2004	14,000 to 31,000	17,000	121%
2005	31,000 to 48,000	17,000	55%
2006	48,000 to 68,000	20,000	42%
2007	68,000 to 113,900	45,900	68%

Business principles suggest that it takes significant agility and organization to accommodate growth and expansion of this magnitude. This is especially true in a climate of evolutionary regulations and ever-changing technologies.

Elements that have enabled FLVS to successfully meet the challenges have included:

- Steadfast support by the Florida Legislature;
- Stability of FLVS leadership, especially the President and CEO Julie Young, a nationally recognized e-learning expert;
- Sustained interest by the statewide business community;
- Powerful networking throughout the country;
- Consistent focus on its core mission: "To deliver a high quality, technology-based, education that provides the skills and knowledge students need for success in the 21st century."

At this pace, Florida Virtual School will exceed 200,000 enrollments within two years.

¹ See: Section 1002.37, F.S.

As Florida Virtual School is fundamentally a market-driven school choice program, evidence of increased enrollment to this extent is a positive indicator of the public's satisfaction with its programs and services. Thus it can be concluded that FLVS has met its burden of responsibility to be viewed as an asset by the people of this great state. Numbers alone, however, are not sufficient evidence to justify any program's continuation, as policymakers must base that decision on appropriate student outcomes and cost-effectiveness. (These issues are addressed later in this summary.)

The Florida Legislature has poised the school for success in scaleability by establishing FLVS as an independent school district, providing it with its own Board of Trustees, and empowering the school to be creative in its expansion efforts. This has led to some bold innovations, such as the franchise program and the recently announced Florida Virtual Global School.

This freedom to thrive, however, has not occurred without tensions among various entities. Public education – in all of its forms – is ultimately a joint enterprise among the federal, state and local governments. Since FLVS serves students from all over the state, these students may be leaving a local district, with all that that implies.

Policymakers must continue to weigh all relevant evidence and ultimately make decisions that best meet the needs of students and the state.

"There has been no shortage of solutions for improving the nation's public schools. School leadership, teacher quality, standards, testing, funding, and a host of other issues have crowded reform agendas. But an important trend in public education has gone largely unnoticed in the cacophony of policy proposals: the rise of a completely new class of public schools – "virtual" schools using the Internet to create online classrooms – that is bringing about reforms that have long eluded traditional public schools."

Bill Tucker
Chief Operating Officer
Education Sector

The students at Florida Virtual School were ethnically diverse, though not at the levels of traditional public schools throughout the state.

Students at Florida Virtual School represent every major ethnic group. However, minority populations at traditional schools were significantly higher than were evidenced at Florida Virtual School. This was especially true for African-American students, and to a lesser degree, for Hispanic students.

Group	African-American	Asian	Hispanic	Multi-Ethnic	Other	White, Non-Hispanic
Ethnicity of 2004-2006 FLVS Middle School Enrollments	5.9%	2.5%	8.0%	5.0%	3.6%	74.9%
Ethnicity of 2004-2006 State Middle School Enrollments	23.7%	2.1%	22.5%	2.5%	0.3%	48.8%
Ethnicity of 2004-2006 FLVS High School Enrollments	9.6%	3.9%	14.8%	3.5%	2.6%	65.6%
Ethnicity of 2004-06 State High School Enrollments	23.4%	2.4%	21.5%	1.5%	0.3%	51.0%

Florida is the fourth most populous state in the nation and certainly among the most diverse. Of the roughly 2.5 million K-12 Florida students, 53.3 % are minorities. Fifteen percent (15%) have a disability, and 9% have a heritage language other than English. Over 45% are eligible for the federal Free or Reduced Lunch program. More than 6% will be retained at least once in their public school experience.

While not all of these distinctions are necessarily relevant to the mission of Florida Virtual School, at least for today, the concept of diversity merits attention.

What is there about e-learning in general that fails to adequately entice minority students to participate at higher levels? Why do African-American and Hispanic students have a high withdrawal rate compared to their enrollment shares?

Some theorize that the answers to these questions rest with the notion of the digital divide. Perhaps that is true. But the great majority of FLVS students are part-time, taking just one or two courses. They spend the rest of their day on the campus of a comprehensive school site, where computers are available – to the universe of students, including minorities.

To glean a more in-depth understanding of this issue, Florida TaxWatch attempted to secure national data about minority participation in online learning programs. Hard data are simply not available at this time, as most states do not compile such figures. However, perceptual data from national experts suggested that participation hovers around 10%. Thus it would seem that Florida Virtual School is outpacing the country in its service to minority students. A third of their student enrollments (33%) are by minority students.

Of course, schools can always do better, and Florida Virtual School would be well-served by conducting further research in this area.

The students at Florida Virtual School represented various levels of academic proficiency but reflected a more narrowed student population than traditional sites.

It is sometimes characterized that students at Florida Virtual School are predisposed to success because of their perceived existing scholastic proficiency and relative affluence. The most objective data that were available on the topic of academic elitism was the cumulative grade point average (gpa) of Florida Virtual School students. By definition, the gpa statistic reflects grades earned both at FLVS and the school of origin. The data indicated that the average gpa for FLVS students was a 2.3, or a strong “C” average.

Because Florida Virtual School has a keenly defined mission in law, the program serves only those students “who meet the profile for success in this educational delivery context,” s. 1002.37, Florida Statutes. Thus students who need special programs or services because of disabilities, language barriers, or the like may not find enrollment in a FLVS course a suitable option. However, every case is handled on an individual basis.

It should be noted that students are required to have regular access to appropriate computer hardware and software in order to participate in FLVS coursework. Many do this from home; others utilize computers at the school of origin.

School success is a product of multiple variables, including, but definitely not limited to, ability and performance. Students may possess the essential knowledge, skills and abilities to master course content but choose not to do so. Most people have heard the comment, “Johnny doesn’t apply himself.”

This may or may not be the reason that 25% of the high school students at FLVS have a cumulative grade point average of 1.3 or below on a 4.0 scale. (The cumulative gpa reflects grades earned from all institutions from which the student took courses. Since most FLVS students are part-time, the majority of the sites contributing to the gpa would be other public schools.) Whatever the cause, it is true that FLVS students do not universally come to the program with outstanding records of achievement.

In fact, the school's gpa quadrants are fairly balanced: 25% particularly high, 25% particularly low, and the rest in the middle.

Yet FLVS high school students outperform their counterparts in two critical areas of measurement: test scores and grades earned in courses.

Policymakers must continue to disabuse naysayers of the notion that virtual education is only for the academically elite. The data suggest otherwise.

Middle and high school students at Florida Virtual School utilized the program in different ways and chiefly enrolled in courses needed to meet high school graduation requirements or to progress to the next grade.

Middle school students at Florida Virtual School tended to take more online courses than did their high school counterparts. The average was 4 per year. Ninety percent (90%) of their enrollments were in core academic subjects of English, mathematics, science and social studies. Therefore, it appeared that middle school students utilized FLVS as their primary learning site. This comported with school of origin information, which indicated that 76.1% of the middle school enrollments were from students who were home schooled. (Provision of educational services to home schooled students is part of the statutory mission for FLVS, per s. 1002.37, Florida Statutes.) Middle school enrollments represented 10% of the FLVS total.

High school students, on the other hand, averaged two enrollments per year, or one enrollment per semester. Thus FLVS enrollment was primarily a supplement to conventional educational services. This aligned with school of origin information, which indicated that 72.9% of the total high school enrollments were from traditional public school settings. Fifty-eight percent (58%) of their enrollments were in the core academic subjects of English, mathematics, science and social studies. Another 9.4% were in the area of foreign languages. The rest were in other subject areas required for graduation, such as health/physical education at 21.7%, and electives. High school enrollments represented 90% of the FLVS total.

Americans live in a menu-driven society where options are readily available in practically every aspect of life. "One-size-fits-all" is not a concept with which people are comfortable, preferring instead to make a selection from a range of offerings. Although public education has been somewhat slow to warm up to this idea, the trends from Florida Virtual School make a compelling case for personalized decision-making.

Since FLVS students are free to select a participation level that best meets their needs, the market drives the menu. The patterns that have emerged are natural to the market, generating one general trend for middle schoolers and another for those in high school. Perhaps just as important, though, is the fact that there is no “right” way. Students at both levels can and do break the mold.

The data also validate that students make good choices about their courses. They clearly select enrollments that will move them forward on their path to graduation.

Florida TaxWatch has a long history of encouraging competition as a means of increasing taxpayer value. Competition, in the form of educational choices for students and their families, can improve student outcomes. Policymakers should continue to embrace the concept of personalized educational planning and school choice options.

Students at Florida Virtual School earned higher grades.

Grades are a reflection of a constellation of factors, highlighted by ability and performance. Many variables contribute to a student’s final grade in a course. The facts presented in this study represented findings, not speculations about causes or connections. This is especially important to remember when considering the FCAT results. The facts provide a picture of the findings, not a statement of correlation or causation.

Florida TaxWatch approached the element of final course grades in two ways. The first was a comparison of the high school students’ performance against themselves, so to speak. The final grades of FLVS students were compiled for the 2005-06 school year. These were compared with the grades that those same students had earned in that subject area the year before at a traditional public high school. There were clear results. The findings were that FLVS students earned higher grades in their online courses than they had earned in courses in that same subject area in the traditional public school setting, as depicted in the following table:

Grade Earned in Subject Area w/Enrollment Pattern of Traditional Public High School (2005) to FLVS (2006)	Traditional Public School	FLVS
A	39%	55%
B	28%	27%
C	17%	12%
D	8%	3%
F	8%	3%

The second way that the element of final course grades was analyzed was quite different. The grades earned in high school subjects taken by students via FLVS were compared against grades earned in the same subjects by students in the traditional public high school setting. A letter grade to numeric grade conversion was utilized to determine these results.

In 2004-05, FLVS students outperformed their traditional school counterparts in nine out of ten subject areas. The one exception was the set of courses that represented art/visual arts, wherein both sets of students scored an average of 85% as their final grade.

In the 2005-06 school year, the grades earned in high school courses taken by students via FLVS were again consistently higher than those for students taking courses in the traditional public high school setting. FLVS students outperformed their traditional school counterparts in nine out of ten subject areas. The one exception was the set of courses that represented art/visual arts, wherein FLVS students averaged a final grade of 84% compared with traditional public school students who earned an 85%.

In a survey, FLVS students were asked this question: **How difficult is your FLVS course compared with coursework in traditional public schools?** This first-hand comparison of educational provision methods by students indicated: 36% found the FLVS course to be the **same** difficulty level as public school courses, 27% **more** difficult, 21% **less** difficult; with 15% not sure. Thus, although 63% of students perceived the FLVS course to be at the same or an increased difficulty level, they earned higher grades at FLVS.

There can be a natural suspicion when research reports examine grades in courses as a measurement of student success. Much has been written on grade inflation and subjectivity in the process. For purposes of this study, Florida TaxWatch acknowledges that the system is imperfect, but the same imperfect system is in use at both FLVS and traditional public schools.

The quantification of learning is a complex thing.

The basic structure is objective. A common grading scale is used, as is a common set of student performance standards. The Sunshine State Standards identify what students are expected to know and be able to do in all seven major content areas.

One cannot help but wonder what factors led to such impressive results of FLVS students outperforming their public high school counterparts. Although the scope of this project does not examine causal data of this nature, there are some identified elements that established research suggests may have been contributors.

Teaching and learning are scientifically intimate. Research studies of longstanding have stated that both the student and the teacher must be personally invested for maximized results. Since FLVS students are enrolled by choice, there is initial evidence of their disposition to positive learning outcomes. As they must log in every time that they wish to participate, another indicator of personal commitment is evidenced.

In the analysis of FLVS student participation data, Florida TaxWatch found a significant trend. The more times that a student logged into the FLVS course, the higher the final grade in that course was likely to be. The average number of log-ins for an "A" was 180.

Another student trend that signaled success was concentrated focus. The longer it took a student to complete a course, the lower the resulting grade for that course tended to be. The average number of active weeks for a grade of "A" was 18.62. The average number of active weeks for a grade of "F" was 42.32.

There was also evidence of considerable investment on the part of FLVS instructors. They sent an average of 38 personal emails to each student whose school of origin was a Florida public high school. They made regular telephone calls to students and their parents. They graded assignments quickly and entered results into the students' individual online grade books. They provided students with their teachers' telephone numbers and established long hours of availability, including weekends.

These examples show that personal investment by both students and teachers is part of the framework of the FLVS model.

A second factor that established research suggests may have contributed to these exemplary results is the level of teacher quality. FLVS recruits staff from all over the country, although each instructor is Florida certified. Considerable effort is expended in teacher training, as well.

A third research-based contributing factor is the structure of the teacher contract. Performance goals relative to successful course completion by students are established for each individual teacher. Those who exceed their goals are rewarded in the form of teacher bonuses. Those who do not reach their goals for two consecutive years face termination.

Based upon the data and these aforementioned examples of research-oriented strategies for success, it can be concluded that Florida Virtual School has met its burden of responsibility to be determined as a program that does indeed result in increased student achievement. This fact will be further articulated in the next section.

Students at Florida Virtual School earned higher test scores.

Student performance on standardized tests is affected by a number of variables – far too many to cite in this report. However, test results are significant in shedding light on program effectiveness when interpreted within an accurate context. They provide an independent yardstick by which to measure outcomes.

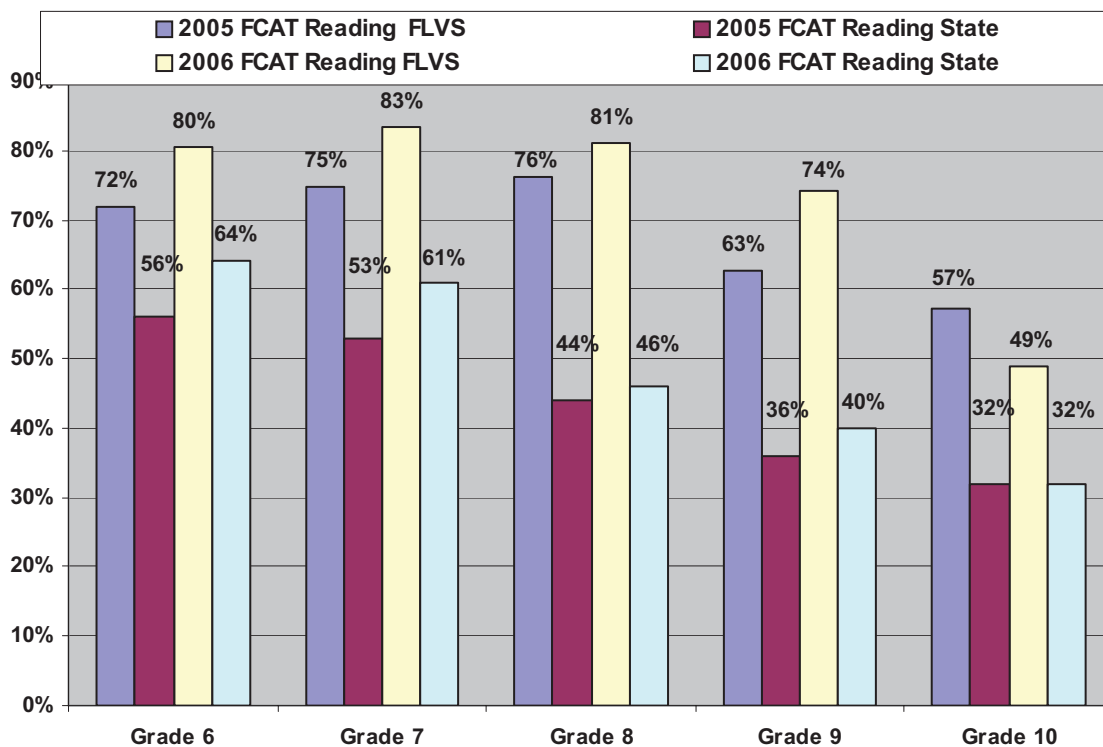
The facts presented in this study represented findings, not speculations about causes or connections. For purposes of analyzing the performance of FLVS students on standardized tests, two very different assessments were utilized: The Florida Comprehensive Assessment Test (FCAT) and Advanced Placement (AP) Examinations.

FCAT Results

FLVS students consistently outperformed their public school counterparts on both the Reading and Mathematics FCAT Sections.

The following chart compares the FCAT Reading scores for multiple grades across the 2004-05 and 2005-06 school years for both FLVS and Florida schools, statewide. After examining the data, the trends can be easily deciphered from the chart. As both groups advanced from 6th grade to 10th, there was a steady and consistent decline in scores over time by grade level in the statewide schools. In comparison, FLVS students not only consistently outperformed their counterparts in the analysis, but they achieved improvements throughout the middle school grades. Although they still scored higher than statewide averages, the only instance in this chart of a decline in a single grade over two years was found for the 10th graders from FLVS.

**FCAT Reading Scores for FLVS and for All Public School Students
% Scoring 3 and Above ("Passing" Score Range)**

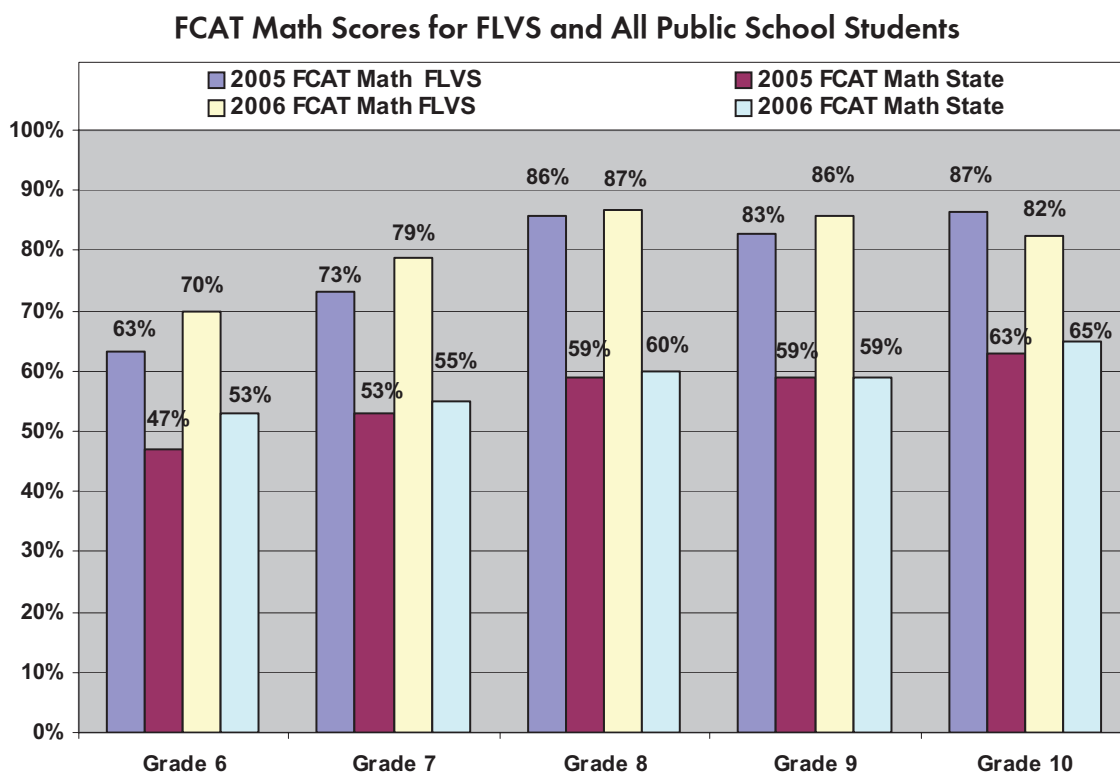


FCAT Math Scores for FLVS and All Public School Students

The following chart compares the FCAT Math scores for multiple grades across the 2004-05 and 2005-06 school years for both FLVS and Florida schools, statewide. The results were even more promising in mathematics than they were in reading. FLVS students continued to outpace their

statewide counterparts. The two exceptions to this were a 10th grade FLVS example, wherein there was a loss, and a 9th grade statewide example, where there was no improvement, nor was there a decline.

The chart demonstrates a constant, general increase in student achievement and understanding over time and grade levels for the Math portion of the FCAT for both FLVS and the state as a whole.



Special Notes: The 2004-05 and 2005-06 FCAT data for FLVS students provided by the Department of Education included all students who were required to take the test. It is important to note that it was not mandatory for private and home schooled students who were enrolled in FLVS to take the FCAT.

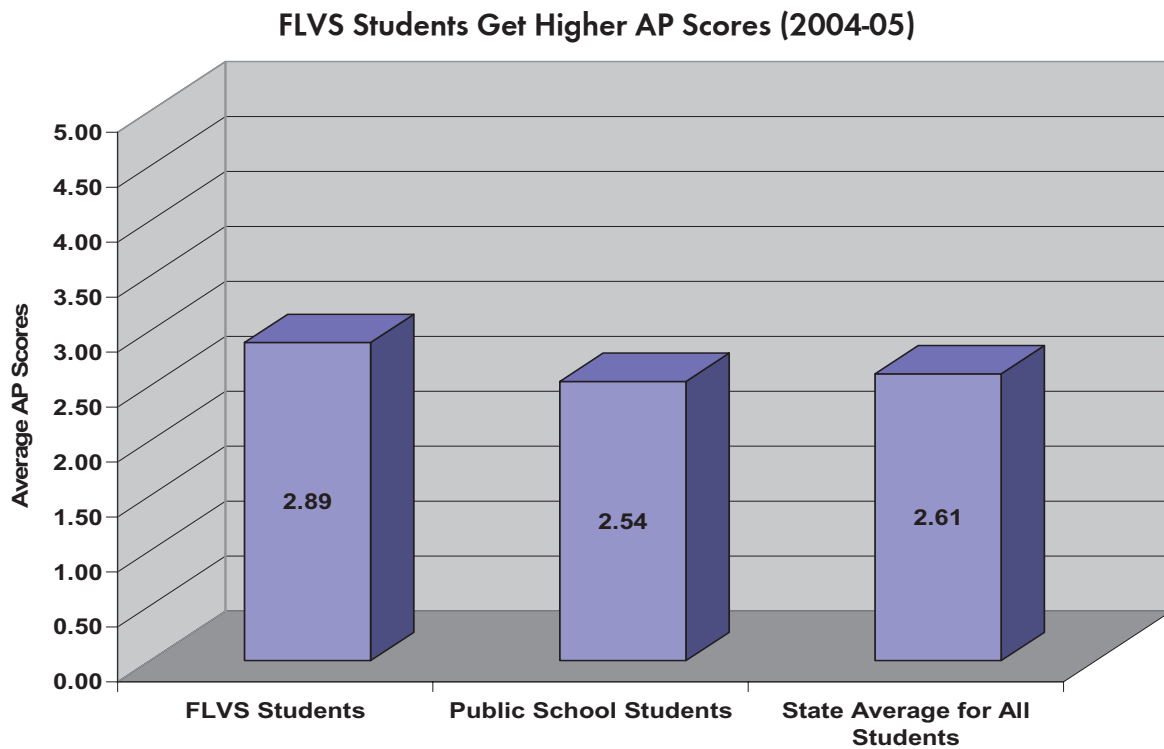
The statewide average data included the scores of FLVS students. Since the FLVS students consistently have a higher percentage of "passing" grades than do students statewide, this resulted in a positive adjustment for the state.

Advanced Placement Examination Results

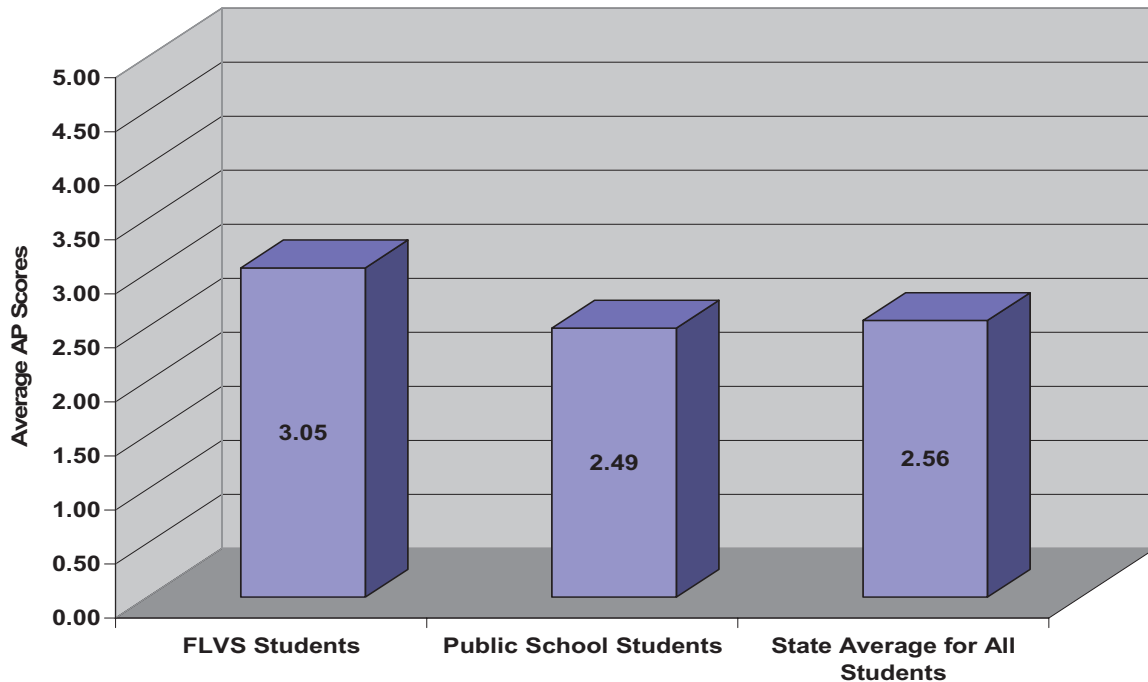
FLVS students consistently outperformed their public school counterparts on Advanced Placement Examinations.

There were 1,700 Advanced Placement (AP) course enrollments by FLVS students in 2004-05 and 1,900 in 2005-06. Eleven distinct AP courses were offered. Enrollment was highest in AP United States History, with 505 enrollments over the two-year period.

FLVS students outpaced the state both years, per the following charts:



FLVS Students Get Higher AP Scores (2005-06)



A student's score on an Advanced Placement (AP) exam is a strong, independent indicator for determining comparative effectiveness between instruction in virtual and traditional school environments. It is a comparable, standardized measure of success.

Validation of student success through independent assessments is powerful evidence of praiseworthy performance by Florida Virtual School. Again, it leads one to muse over factors that led to these results. The scope of this study did not attempt to identify specific causes, but the presumption is that the same factors that contributed to successful course completion also contributed to increased student test scores. The two are entwined.

The data regarding Advanced Placement examination findings are particularly compelling. These courses represent a national curriculum, and the tests are graded by experts throughout the country. Further, recent national research has indicated that students earning a score of 3 or higher in one or more of the AP exam core course areas of English, mathematics, science, or social studies were more likely to graduate from college in five years or less when compared to non-AP students.²

² Dougherty, Chrys, Lynn Mellor, and Shuling Jian. The Relationship Between Advanced Placement and College Graduation. National Center for Educational Accountability, 2006. 13 Sept. 2007 <http://www.just4kids.org/en/files/Publication-The_Relationship_between_Advanced_Placement_and_College_Graduation-02-09-06.pdf>.

This is no small fact. These higher scores—and thus increased likelihood of college graduation—can have a significant and important impact on Florida’s future economic viability. College graduates generate a large number of benefits to both students and the state. Students benefit from higher personal earnings, and the state benefits by having higher employment, enhanced tax revenues, and an increased gross state product. As an example, according to a report by the Census Bureau, over a lifetime, bachelor's degree holders earn approximately \$2.1 million, whereas high school graduates’ average roughly \$1.2 million.³

There are additional advantages to the state in the form of social savings through avoided costs of crime, welfare, and unemployment benefits. These elements entice new businesses and industries to come to Florida, which further supports a growing, vigorous economy.

Based upon the data regarding end-of-course grades and the independent validation through student test score results, Florida TaxWatch concludes that Florida Virtual School is a statewide program that results in increased student achievement. Florida TaxWatch also commends the school for its exemplary performance and for its contribution to Florida’s economic prosperity.

A significant percentage of Florida Virtual School students withdrew from their classes.

Decisions to withdraw from programs of choice like FLVS are based on a number of personal and educational factors, and many variables play a part in this final action. The withdrawal facts presented in this study represented findings, not speculations about causes or connections.

Florida Virtual School utilized an explicit withdrawal policy during the term of this study. A 28-day grace period was granted to all enrolled students. There was no penalty for students who dropped out within the grace period, which gave students an opportunity to see the content of courses and to make an informed decision. When students determined not to proceed with the courses, they were disenrolled, noted as “Withdrawn With No Grade.”

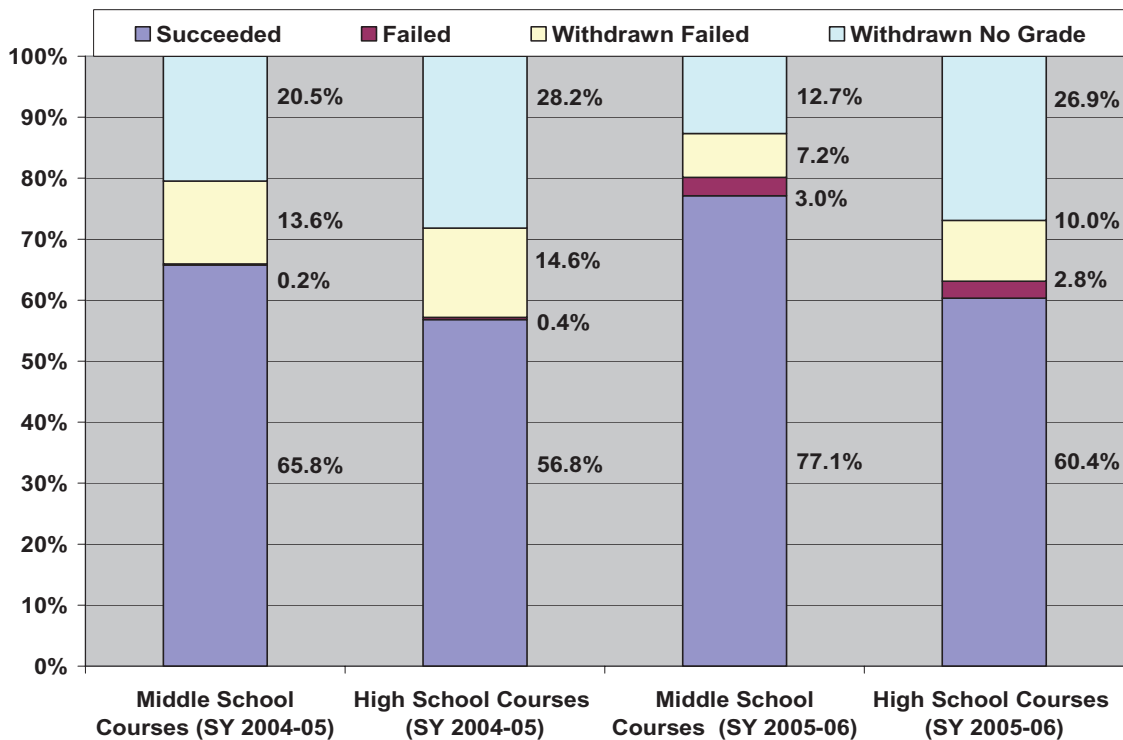
Students who dropped out after the grace period and without completing 50 percent of course assignments were noted as “Withdrawn Failed.” Those students received a “W” and were considered to have failed. If a student dropped out after completing at least 50 percent of assignments, he/she received an “F” as a final grade.

It should be noted that once a student had officially enrolled in a course, he/she was “in the system.” Some course exit notation had to be applied per statutory requirement. Thus the student either earned an actual grade in the course or was assigned a withdrawal code.

³ Day, Jennifer C., and Eric C. Newburger. [The Big Payoff: Educational](http://www.census.gov/prod/2002pubs/p23-210.pdf). Economics and Statistics Administration. U.S. CENSUS BUREAU, 2002. 13 Sept. 2007 <<http://www.census.gov/prod/2002pubs/p23-210.pdf>>.

The following chart depicts the overall summations of final course exit between the 2004-05 and 2005-06 school years for both middle and high school students. Although there were 20,000 more enrollments in 2006 than there were in 2005, the ratio of withdrawals decreased, as more students chose to remain in the courses until receiving a final grade. Nonetheless, the high school withdrawal rate of 26.9% was noticeable.

Middle and High School Course Enrollment by Final Status



At the middle school level, the subject area with the highest withdrawal rate was science, at 27.2%. The lowest withdrawal rate in a core curriculum subject area was in mathematics, at 16.6%. At the high school level, the subject area with the highest withdrawal rate was social studies, at 18.5%, and the lowest core curriculum subject area withdrawal rate was English, at 10.4%.

African-American and Hispanic students had high withdrawal rates compared to their enrollment shares.

As stated earlier in this report, the statutory mission of Florida Virtual School states the school is to “provide students with technology-based educational opportunities to gain the knowledge and skills necessary to succeed. The school shall serve any student in the state who meets the profile for success in this educational delivery context...” (s. 1002.37, *Florida Statutes*). The “profile for success” phrase requires longitudinal data to establish accurate trends over time. The characteristics and behaviors of successful students must be determined on the basis of multiple years of performance data and must be disaggregated for numerous variables. The same actions are essential for students who are unsuccessful in e-learning environments.

In other words, the “profile for success” is a continuous work in progress. It is driven by statistics. And one assumes that it would never be legislative intent to deny students programmatic access based strictly upon statistical success. Guide students? Yes, of course. Deny them? No, not on that variable alone.

Nobody prefers student withdrawals. They are costly in terms of human and financial resources and do not reflect the kind of student outcomes that the state seeks through the program. However, it is the nature of young people to try new things, and they often work out. Sometimes they do not.

What Florida Virtual School has done and must continue to do is examine all relative data and utilize them in attempts to minimize student withdrawals. FLVS is on the right track. In 2006, there were 20,000 more enrollments than the year before, but the withdrawals were reduced considerably. For the two years examined in this study, total middle school withdrawals went from 34.1% to 19.9%, which presents a substantial decrease. Total high school withdrawals went from 42.8% to 36.9%, a statistically significant decrease.

It should be noted that FLVS recently hired a full-time person to address the withdrawal issue.

Education via Florida Virtual School is a Bargain for Florida Taxpayers.

Florida Virtual School is funded through the Florida Education Finance Program (FEFP)⁴ as a special district. It is the only public school in Florida where funding is tied directly to student performance. Students must be enrolled, receive direct instruction, and successfully complete a FLVS course in order to generate funds through the FEFP.

Unlike traditional schools, FLVS does not provide specialized academic services, such as Exceptional Student Education and Supplemental Academic Instruction and, therefore, does not receive funding for these services. FLVS is also not a recipient of funding for “brick and mortar” driven supports such as school construction, transportation, breakfast and lunch programs, or teacher “out-of-pocket” expense reimbursements (Florida Teachers Lead).

FLVS does not receive any school property tax money since it does not have any local taxing authority. The school does receive some additional state dollars through the FEFP to compensate it for its lack of taxing authority. This funding totaled \$2.6 million in FY 2007. FLVS also receives some in-kind contributions from public schools and schools districts, such as someone to supervise virtual school students using public school computer labs.

⁴ *Florida Education Finance Program (FEFP) - The FEFP was enacted by the Florida Legislature in 1973 to achieve the purpose of establishing a statewide policy that equalized funding and opportunities for all students in the state regardless of the school districts in which they lived.

FLVS does receive funding for instructional materials. Being an e-learning environment, FLVS utilizes these funds for the actual development of online courses – not textbooks as is the norm with traditional schools.

FLVS also receives funding for class size reduction, but this is solely for operational costs. Brick and mortar schools receive funding for both operational (FEFP) and capital outlay functions to build school facilities that will house more classrooms. In this analysis, the FLVS funding for class size is included in its total cost.

The absence of capital outlay funding is another reason why the per student cost of FLVS compares quite favorably with traditional schools. FLVS does have costs for office space and equipment for staff but has to use operational dollars to pay for these expenses.

During the time period examined by this study, all school districts, including FLVS, also received funding for teacher training. However, this specific allocation was discontinued following the 2005-2006 school year.

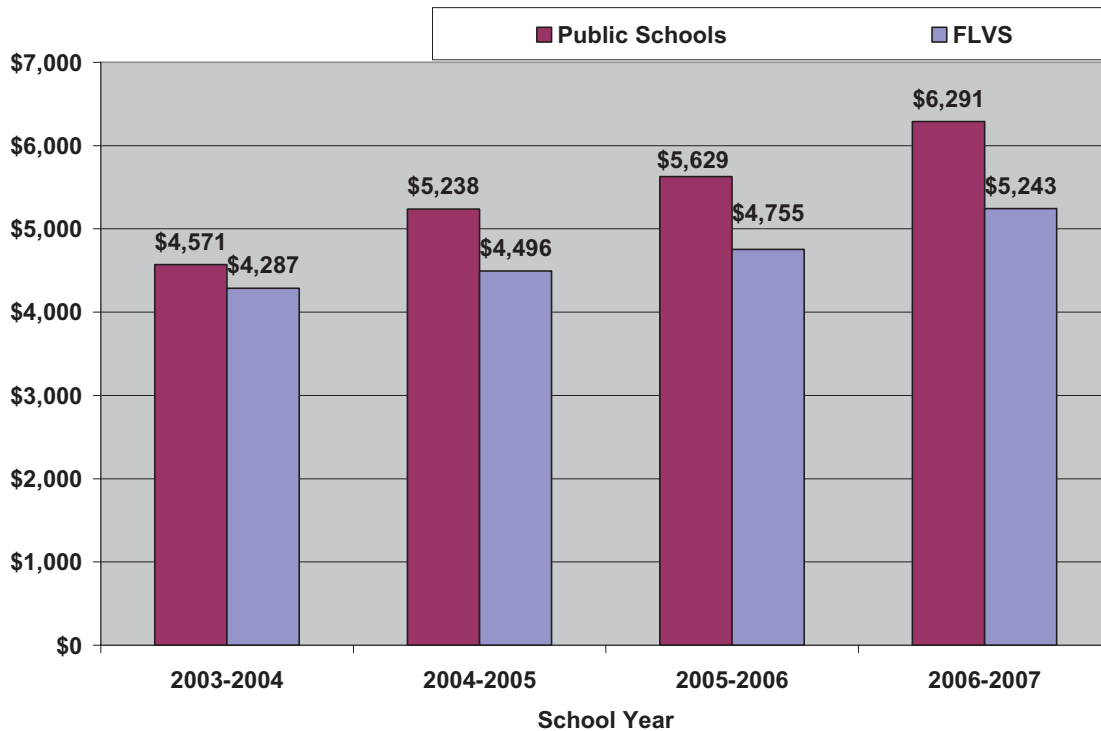
Additionally, in 2006, the Florida Legislature revised the FEFP to increase FLVS FTE funding by a factor of .114 (added to the base factor of 1) to provide funding for costs associated with students who enroll in, but do not complete, an FLVS course.

As depicted in the following chart, for this past school year, a public school weighted FTE⁵ cost \$1,048 more than a FLVS weighted FTE. Plus, the State had no increased expenses related to transportation or school building, maintenance or repair.

⁵ Full Time Equivalent (FTE) - An FTE student is one student enrolled in a program funded by the Florida Education Finance Programs (FEFPs) for an entire school year, or its equivalent of two whole semesters. A weighted FTE (WFTE) is an FTE that has been multiplied by program cost factors that recognize the differences in the costs of providing different educational programs, such as Exceptional Student Education classes.

The chart below depicts the total per student FEFP for FLVS and for public schools in general. FLVS per student funding in all cases was less than that of public schools.

Total Per Student FEFP Funding for FLVS and Public Schools



In exchange for this reduced investment, students made better grades and had higher test scores.

It is hard to argue with better results for less money. While people may debate the level of savings provided through Florida Virtual School – and Florida TaxWatch acknowledges that such debates are fairly frequent – common sense dictates the obvious. FLVS has no physical facility for students. Thus, of the \$242,405,295 spent last year on new school construction, none of it was spent directly on FLVS. Of the \$483,032,198 spent on student transportation, none of that was spent directly on FLVS either, and so on.

In return for these decreased expenditures, FLVS produced students who earned higher grades and made higher test scores than their public school counterparts.

This final finding of cost efficiency for Florida Virtual School satisfies the basic expectation of taxpayers that the State will fund effective educational programs. FLVS gets solid student achievement results at a reduced cost to the State.

Florida TaxWatch has extensively reported on the need for the State to direct Florida’s limited resources to those educational programs that are proven to increase student

achievement in a cost-conscious way. Florida policymakers are honored for doing so through their support of Florida Virtual School.

Wise investments in education result in increased scholastic accomplishment, increased graduation rates, increased productivity, and increased workers' average earnings. Florida ultimately benefits from a more competitive labor pool from which business and government can draw to continue to ensure Florida's competitive position and the vitality of its economic development.

Development and History of Florida Virtual School

Florida Virtual School (FLVS) is one of the earliest examples of online educational provision of its kind. Since FLVS's inception, many states have formed online educational programs that follow Florida's example. FLVS was initially created as an experiment within two school districts (Alachua and Orange Counties) that included five courses—which eventually became the first five courses offered through the statewide program. These two counties worked together to develop the courses utilizing funding that was provided through a Break the Mold School Grant from the Florida Department of Education. Orange County was assigned the task of developing the curriculum and instructional aspects of the project, while Alachua was responsible for the parts related to general administrative duties.

When launched in August of 1997, the Florida Online High School was supported by the Florida Legislature, and corresponding appropriations of \$1.3 million were assigned. In the following year, as the program went state-wide, the Legislature allocated \$4.3 million for the project's expansion.⁶ This funding was multiplied over the next several years—finally becoming the first online school funded by state public education FTE monies.⁷ It is the only public school in Florida where funding is tied directly to student performance.

Participation in the school has increased dramatically over the years. Since the year 2000, any student from the 67 counties within Florida's education system has been allowed to enroll in up to six courses online or one online course in addition to six site-based courses.

Florida Virtual School History

■ The Web-based high school was initially a pilot project between Alachua and Orange County Public Schools.

- **1995-96** – The program that has evolved into The Florida Virtual High School (FLVS) originated as two distinct but uniquely similar on-line educational initiatives in Alachua and Orange County Public Schools. Both projects were conceived independently in their respective districts.
- During the summer **1996**, Orange County Public Schools piloted its “Web School” with five courses that ultimately became the first five courses offered by The Florida High School. Alachua County was in the preliminary development phase of their on-line project during this same timeframe.

⁶ Bigbie, Cindy L. & McCarroll, Walter J. (The Florida State University College of Education Center for the Study of Teaching and Learning). *The Florida Virtual High School Evaluation: 1999-2000*. (October 2000). (p 10)

⁷ Watson, John and Ryan, Jennifer (Evergreen Consulting Associates). (2006) *Keeping Pace with K - 12 Online Learning: A Review of State-Level Policy and Practice*. (p. 7)

- The Florida Department of Education acted as the catalyst in initially encouraging the partnership between Orange and Alachua Public Schools when Alachua applied to DOE early in the **1996-97** school year for a Break-the-Mold grant to support their on-line program effort.

In effect, the partnership between Orange and Alachua District to develop the virtual school was brokered by the DOE because of the similarities between the fledgling on-line projects in the two respective counties.

- In November **1996**, DOE provided the two districts with \$200,000 for initial funding under the Break-the-Mold grant.
- After forming the FHS alliance in the fall of **1996**, Orange and Alachua Counties each appointed a co-director to represent their district in developing and implementing the on-line high school. The co-directors informally divided the administrative responsibilities. Orange County assumed responsibility for the curriculum and instruction components of FHS, and Alachua County assumed responsibility for the general administrative aspects of the project.

■ In **1997**, the Florida High School officially began for the purpose of creating a complete diploma-granting high school online.

- Following an intensive period of planning and development during the first six months of 1997, FHS was officially launched in August 1997.

■ From **1997 through 2003-04**, funding was through specific legislative appropriations.

■ During the **1998-99** school year, 16 online courses were offered.

■ For the **1999-2000** school year, 36 online courses were offered.

■ In **2000**, the Legislature established a FLVS board of trustees to adopt rules, policies, and procedures; enter into agreements with distance learning providers; and acquire, enjoy, use, and dispose of patents, trademarks, copyrights, licenses, rights and interests.

■ In **2001**, the FLVS was administratively housed within the Commissioner of Education's Office of Technology and Information Services. The legislation also provided a mission statement.

■ The **2003** Legislature authorized franchise agreements, required the board of trustees to submit to the State Board of Education both forecasted and actual enrollments and credit completions for FLVS, including the number of public, private, and home education students served by program and by county of residence, and included the FLVS as a public school choice option for students.

■ In **2003-04**, FLVS funding transitioned from a grant basis to the Florida Education Finance Program (FEFP). (* see tables below)

■ The following table shows FLVS funding from 1997 to 2006.

Year	Amount
1997-98	\$1.3 million
1998-99	\$4.36 million
1999-2000	\$3.8 million
2000-01	\$6.17 million
2001-02	\$6.17 million
2002-03	\$6.9 million
2003-04*	\$8.6 million
2004-05	\$14.5 million
2005-06	\$23 million

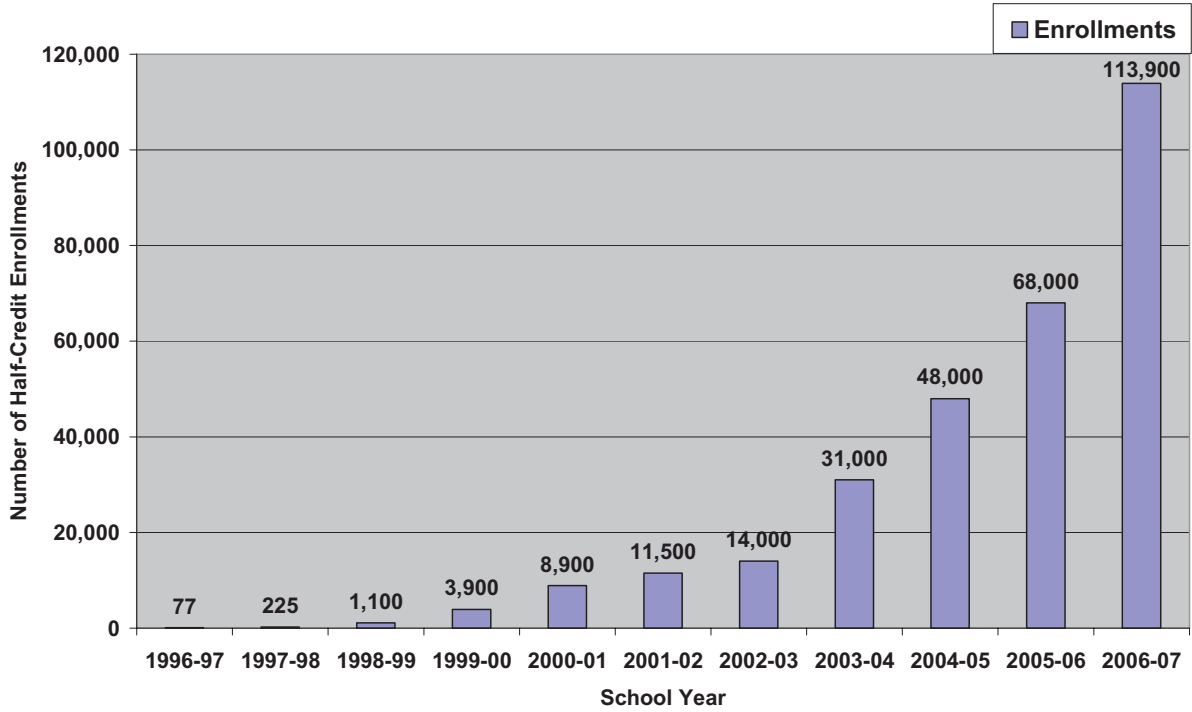
■ The **2003-04**, **2004-05**, and **2005-06** funding for the FLVS in the FEFP was as follows:

Year	# of Unweighted FTE	Amt/FTE	Total Funds (includes Categorical Funds)
2003-2004	1,764.23	\$4,859.02	\$8,572,428
2004-2005	2,791.72	\$5,191.43	\$14,493,007
2005-2006	4,360.84	\$5,269.71	\$22,980,352
2006-2007	5,966.60	\$6,262.57	\$37,279,341

■ In **2004**, the Florida Legislature in addition to the FEFP funding provided \$800,000 to FLVS to support activities associated with development and implementation of a grade six through eight curriculum and \$1,373 in District Cost Differential (DCD) Transition Supplemental funds.

■ The **2005** Legislature provided \$2,948 in DCD Transition Supplemental funds.

Chart 1. FLVS Enrollments have Increased Dramatically



In examining the past five years of enrollment figures, incredible growth has been evidenced.

Years From/To	Enrollment From/To	Gain	Percentage Growth
2002 to 2003	11,500 to 14,000	2,500 enrollments	22%
2003 to 2004	14,000 to 31,000	17,000 enrollments	121%
2004 to 2005	31,000 to 48,000	17,000 enrollments	55%
2005 to 2006	48,000 to 68,000	20,000 enrollments	42%
2006 to 2007	68,000 to 113,900	45,900 enrollments	68%

At this pace, FLVS will exceed 200,000 enrollments in less than two years.

FLVS Instructional Staff & Support

All FLVS teachers were Florida certified in the area in which they provided instruction. In 2007, more than 64% held advanced degrees, and 76 were credentialed by the National Board for Professional Teaching Standards (NBPTS). Though most were Florida residents, they actually resided all over the country, from Rhode Island to Oregon.

Full-time FLVS instructors were not unionized. There was a teacher salary schedule, with minimum and maximum established remunerations for 12-month contracts. Holidays, sick leave, and vacation time were provided, as was participation in the Florida Retirement System. Bonuses were available for instructors who reached student performance goals, met Advanced Placement test score thresholds, earned NBPTS certification, and the like.

Adjunct faculty members were paid per their established part-time contracts.

In 2007, there were a total of 615 direct instructional employees. Their classifications were as follows: 301 full-time instructors, 175 adjunct instructors, and 139 support staff.⁸ Additionally, there were six counselors, each assigned to 10,000 enrollments and about 50 teachers. An Information and Systems Support Team helped keep the system running while expanding it to fit further needs and enrollments. This team was comprised of one Chief Information Officer, 18 full-time staff, and four student interns. A Call Center staff (a new development in 2006-2007 that was aimed at assisting in the research and surveying of the targeted FLVS populations) also contributed to the delivery of online education to Florida Virtual School students.

Teachers are brought in at least once a year for statewide training.

UCompass was contracted to provide the technical support and system assistance for the Florida Virtual School network. It was their duty to help users navigate its internal systems, as well as ensure the capacity and connectivity of its servers and networks.

FLVS Student Satisfaction

Throughout the last few years, FLVS has contracted with Optimal Performance, Inc., to conduct a Student Survey, a Parent Survey, a School Survey, and a District Survey in order to gather data about the quality of FLVS services. Some findings from the most recent student surveys are noted as follows:

Why do students enroll in FLVS courses while still enrolled at a site-based facility? The reasons given by respondents were: 27% to take an extra course; 10% to take a course not offered by my school; 15% to balance academic and extra-curricular; 13% to raise a course grade; 1% hospital/homebound; and 35% Other.

⁸ Julie Young (President/C.E.O. FLVS). *Florida Virtual School: Virtual Vision 2007*. (pp 4, 11)

Of the “other” responses, some explanations included: a desire for an extra challenge, their parent was not comfortable with their child attending public school, disciplinary repercussions such as exclusion from in-state schools, constant family travel, or that the students moved from Florida to a different state and wanted to complete a FL high school education.

How difficult is your FLVS course compared with coursework in traditional public schools?

The first-hand comparison of educational provision methods by students indicated: 36% found the FLVS course to be the **same** difficulty level as public school courses, 21% **less** difficult, 27% **more** difficult; with 15% not sure.

What is the quality of your FLVS course compared with coursework in traditional public schools? The first-hand comparisons by students showed: 30% found the **same** quality, 48% found **higher** quality, and 6% **less** quality; with 16% not sure.

The student responses to these latter two questions clarifies, somewhat, the perceived degree to which the challenge of online courses compares to public, brick and mortar ones.

Other queries: When asked about the level of computer familiarity attained prior to their FLVS experience, most students answered that they had large amounts of both computer and internet experience before taking virtual classes (73% and 79%, respectively).

Only 3% of respondents used an internet connection of 28k or less; 51% used DSL & 33% a Cable Modem. The survey recognized the lack of response by drop-outs as a flaw in discovering if technological barriers contributed to their decision to leave the program. Ninety-five percent of respondents said that the technology was either “**very easy**” or “**easy**” to use. The rest listed problems that referred to obstacles such as the clarity of instructions, cookies timing out too quickly, continuity of assignments (many sites for one assignment), login issues, or understanding where to turn assignments in.

When prompted with, “My experience with FLVS [technology],” only 37% of the students responded that they **rarely**, if ever, have technological errors or problems; whereas 57% said that they **often** encounter problems and 6% responded that their problems were much **more often**. Of these problems, 44% are resolved within 24 hours, 23% in 2-3 days, and 4% in greater time, with 29% saying that they never have problems.

Middle School Level Data Analysis

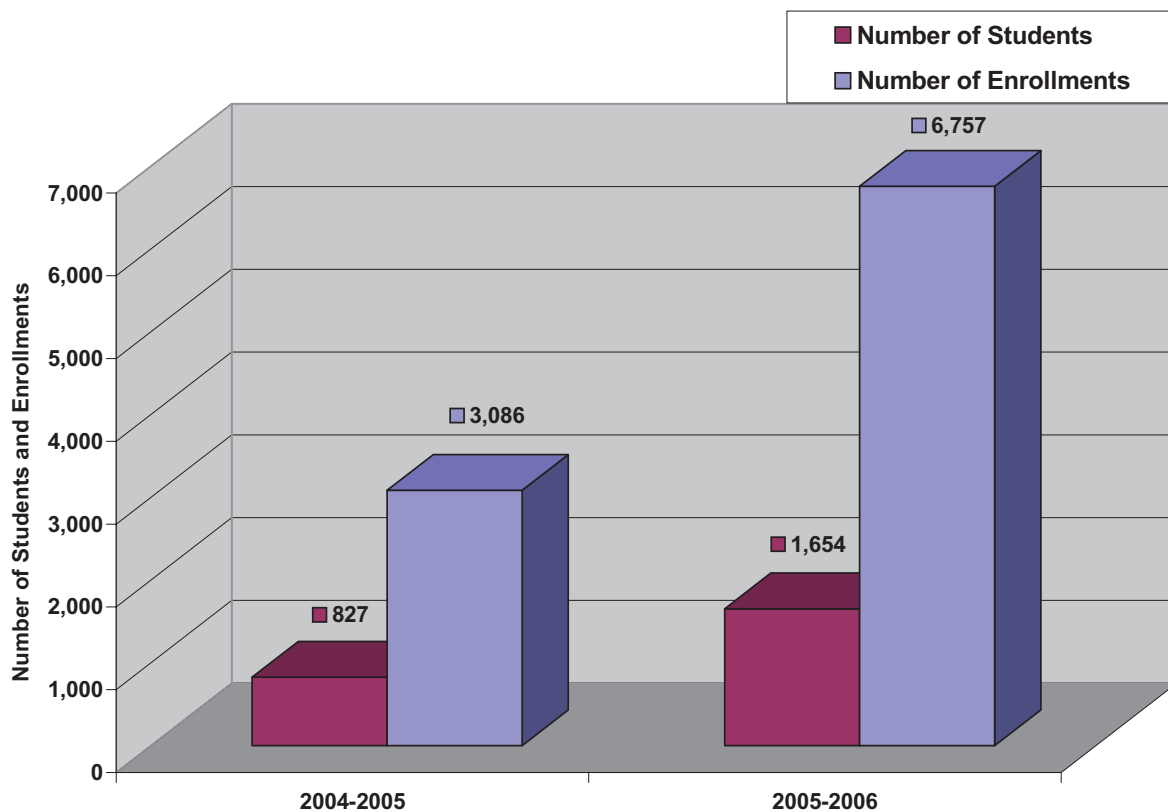
Student Demographic and Enrollment Data Analysis

In this section enrollment data by number of students, school type, and course subject using the pooled data of two school years have been analyzed. Student demographic indicators such as gender and ethnicity have also been presented.

Number of Middle School Students and Enrollments

The number of students enrolled in middle school level courses more than doubled between the two school years depicted below. During this same span, the number of enrollments increased from three thousand to almost seven thousand. However, despite the sharp increase, middle school level enrollment in SY 2005-06 was only ten percent of the FLVS total enrollment.

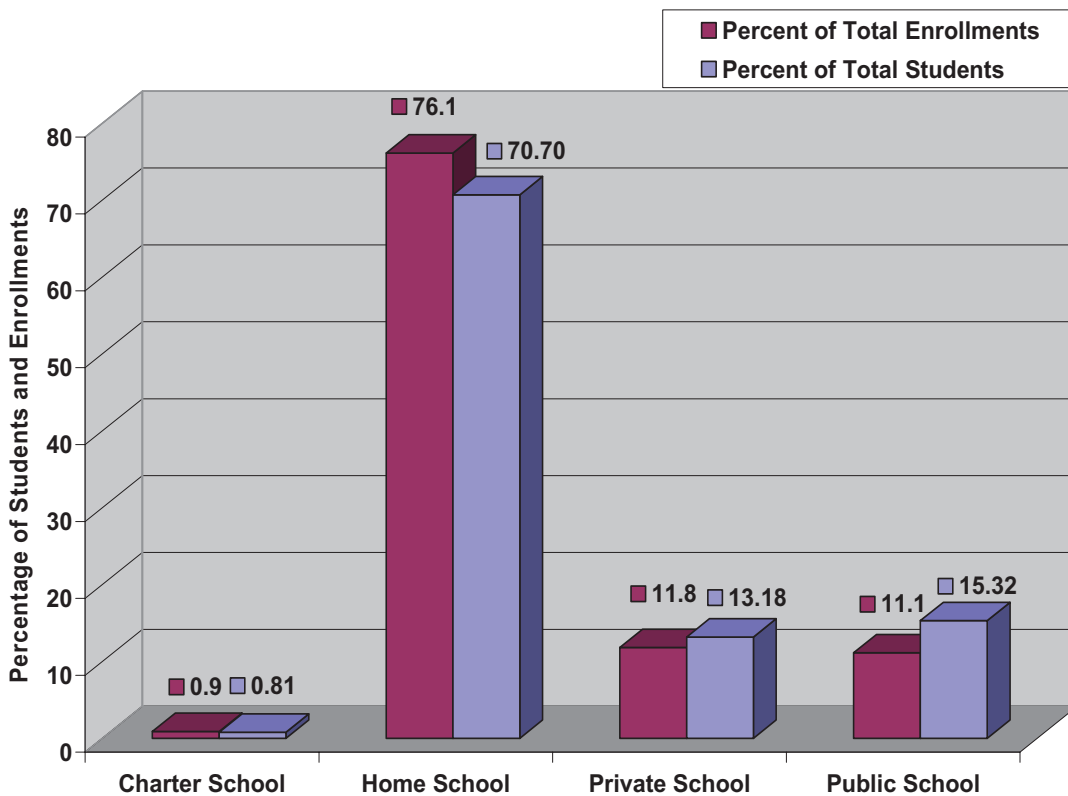
Chart 2: Number of Middle School Students and Enrollments



Percentage of Middle School Students and Enrollments by School Type

The vast majority of middle school students that were enrolled to take online courses from Florida Virtual School in both years originated from home school environments. Public and private school children each accounted for a modest amount of the total. This was mainly due to the lack of a credit-based system for middle school grades. Charter school students represented less than one percent of all students and enrollments. (Charter schools are public schools. Their data has been culled to provide more specific information.)

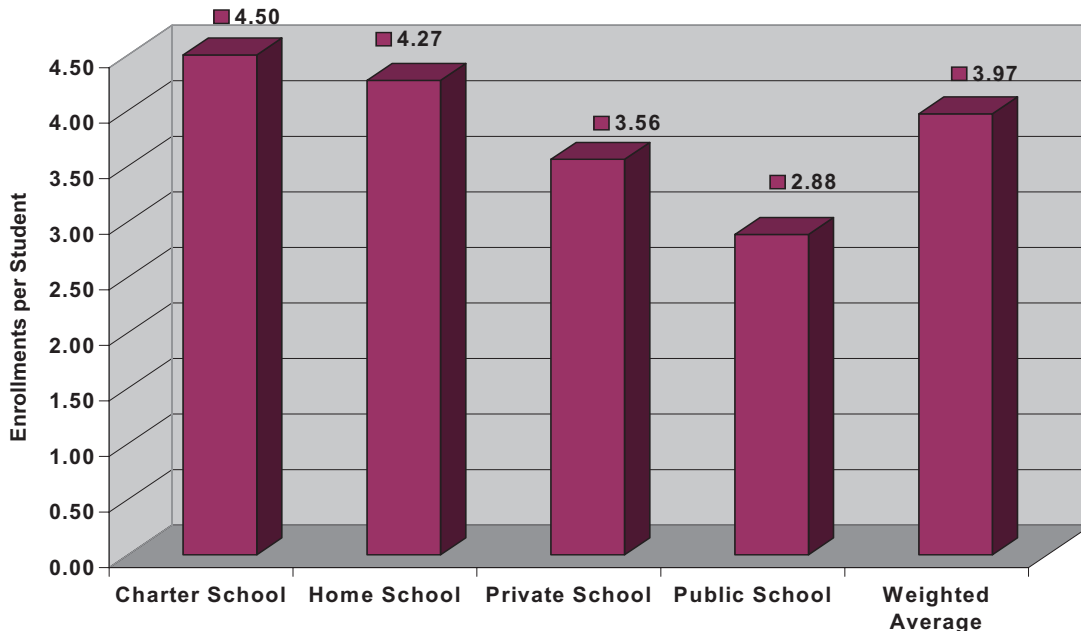
Chart 3: Percentage of Middle School Students and Enrollments by School Type



Annual Enrollments per Middle School Student by School Type

The average middle school student who was enrolled in FLVS took four courses. Home schooled and charter school students had over four enrollments per year while traditional public school students had less than three enrollments.

Chart 4: Annual Enrollments per Middle School Student by School Type

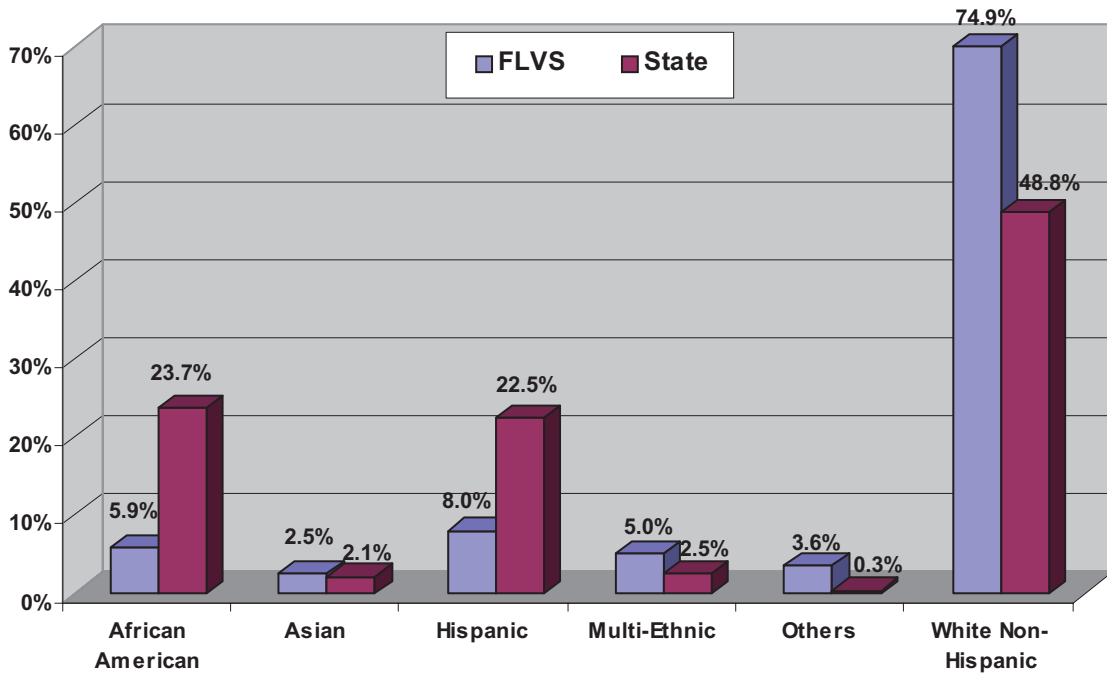


Note: The enrollment per student at the middle school level was nearly two times higher when compared to the high school course enrollment per student.

Percentage of Enrolled Middle School Students By Ethnicity and Gender

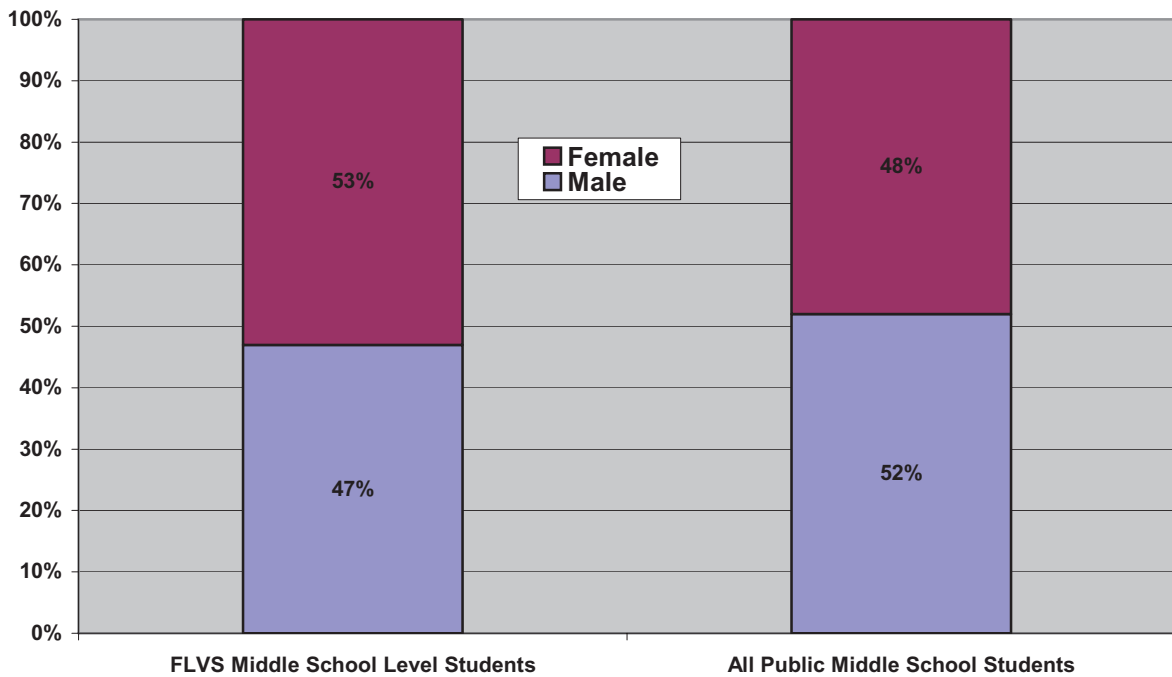
As shown in the two charts that follow, nearly 75% of FLVS middle school level enrollments were by White, Non-Hispanic students, compared to 48.8% in traditional public middle schools. A slight majority (53%) of FLVS middle school level enrollments were female students.

Chart 5: Percentage of Enrolled Middle School Students by Ethnicity



(Note: Student ethnicity enrollment at the high school level was considerably more diverse.)

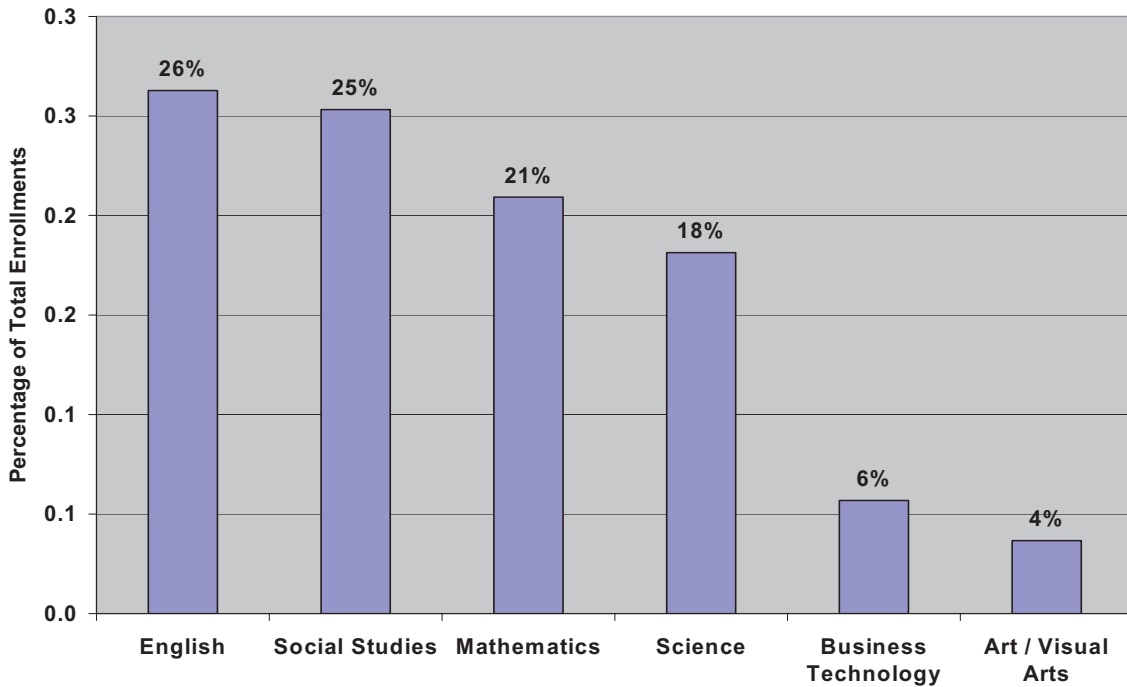
Chart 6: Percentage of Middle School Students by Gender



Middle School Course Enrollments by Subject

The largest proportion of middle school level course enrollments was in English (26%). Social studies represented a nearly equal percentage (25%). Mathematics courses were the third most popular courses (21%), and science courses were fourth (18%). Electives such as business technology and art had the smallest number of enrollments (6% and 4%, respectively).

Chart 7: Middle School Course Enrollments by Subject



Thus it would appear that middle school courses at FLVS are most often taken to fulfill a core curriculum academic requirement.

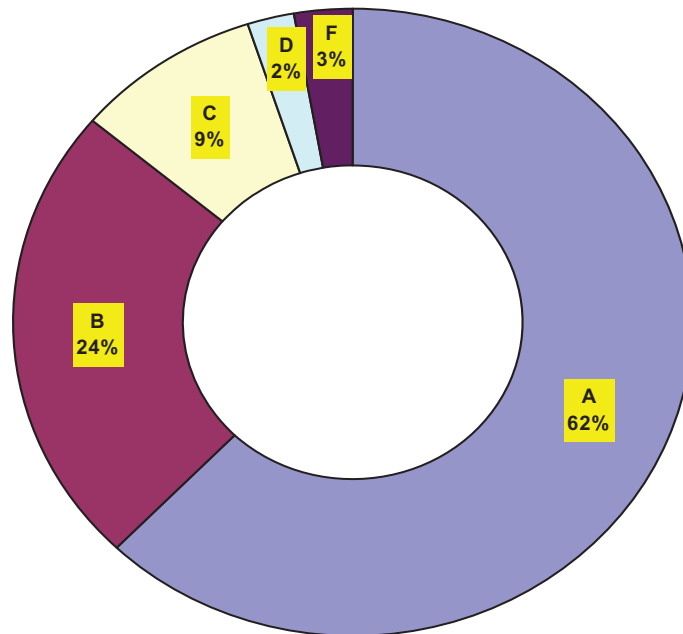
Student Achievement Data Analysis

In this section, the final grade for all middle school level courses by average distribution, course subject, segment, and school type was analyzed. The purpose of this was to see how middle school students performed in online courses in general and whether their performances varied by course subject, segment, and school type.

Average Final Grade Distribution for Middle School Students

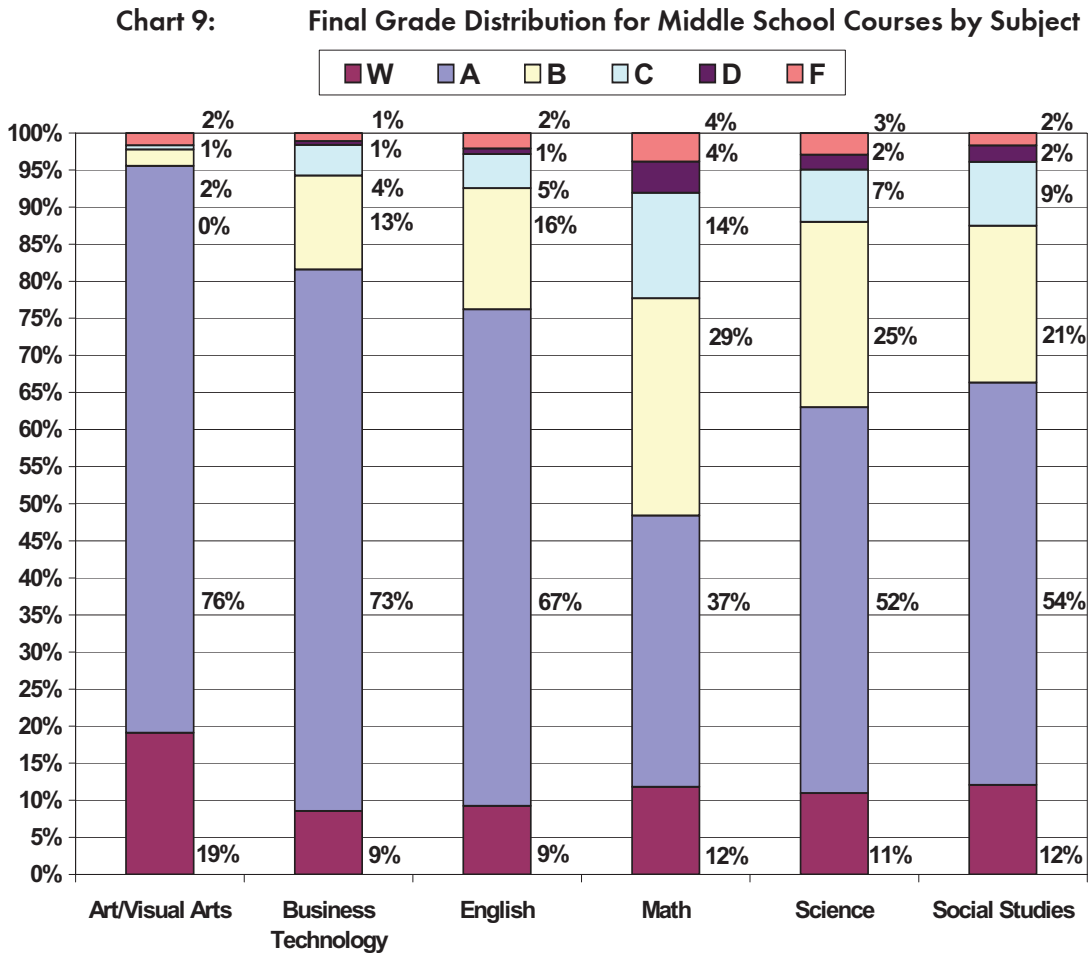
The chart below depicts the average grade distribution over the two school years for all subjects, rounded to the nearest percentage point, for those students who enrolled and completed at least 50% of assignments for each course. Actual findings were: Eighty-six percent (86.0%) earned a final grade of "A" or "B" (62.3% and 23.7%, respectively). The remaining 14 percent received a lower grade: a "C" or "D" (8.9% and 2.3%, respectively) or an "F" (2.7%). (A total of 11.1 percent of withdrawn students who dropped after the 28-day grace period were not included in the chart below because they completed less than 50% of course assignments.)

Chart 8: Average Final Grade Distribution for Middle School Students



Final Grade Distribution for Middle School Courses by Subject

Chart 9 shows the two-year composite of the grades earned by subject. At 76%, more students earned an "A" in art than in any other class. The least percentage of "A" grades was earned by math students, at 37%. The highest percentage of "F" grades earned was in the area of math, at 4%. The fewest "F" grades were earned in business technology, at 1%.

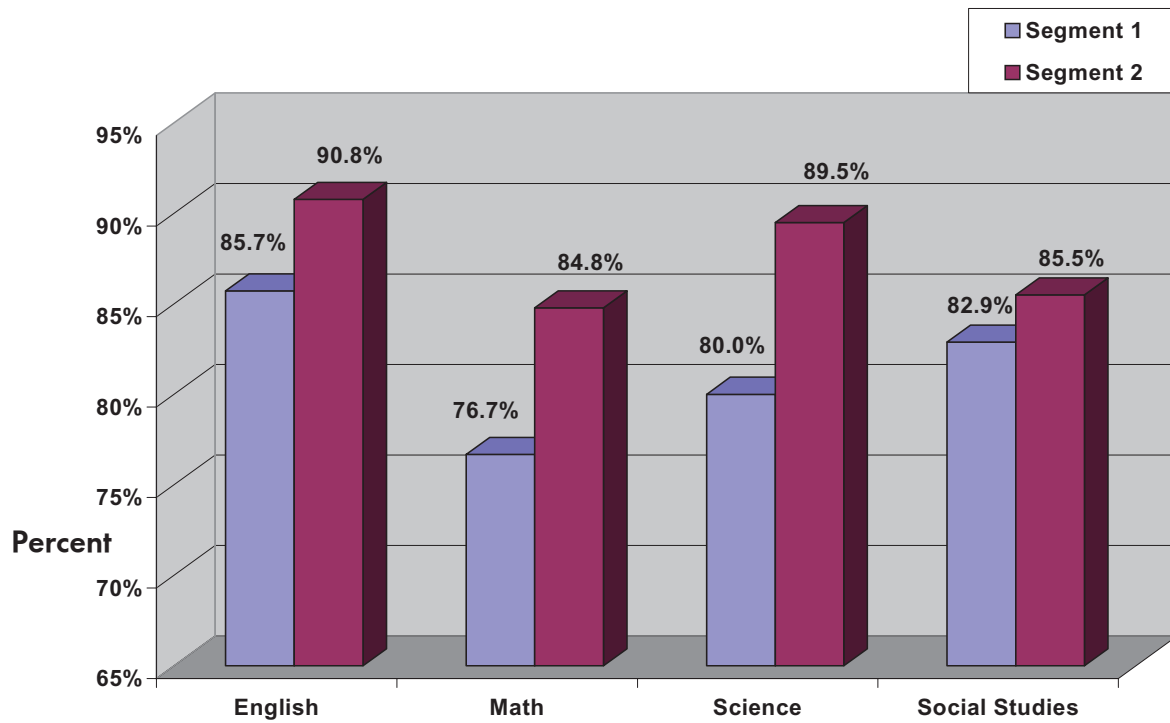


If one were to view grades of "A" and "B" to be classified as high performance, the success rates would be as follows: business technology has the highest at 86%, English is second at 83%, art/visual arts is third at 78%, science is fourth at 77%, social studies is fifth at 75%, and math is last at 66%.

Percentage of Middle School Students Earning Grades of A or B by Sequential Semester

One measure of student achievement success was academic improvement over time. This was determined by examining student grades from courses that were offered sequentially in two parts, classically viewed as Semester 1 and Semester 2. Data were examined to find out which students improved their grades from the first part to the second. On average, improvement was noted in all four subject areas, with science showing the strongest gains.

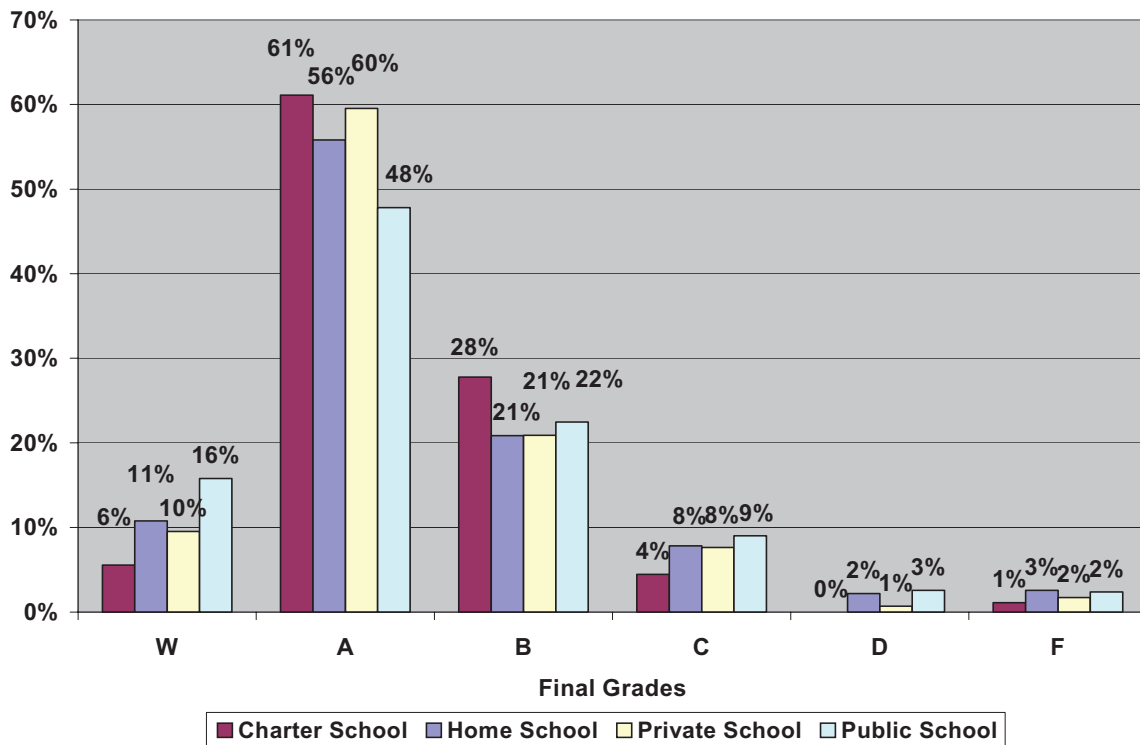
Chart 10: Percentage of Middle School Students Earning Grades of A or B by Sequential Semester



Distribution for Middle School Courses by School Type

The grade dissection can be taken further to indicate which school type of origin performed best in which online courses. In terms of school-type performance, charter schools seemed to outperform the rest, with 61% receiving grades of "A." (It should be noted that charter schools are public schools but were separated to increase specificity.) Private schools came in a close second at 60%, home schools third at 56%, and public schools last at 48%. Since charter schools had only 90 course enrollments, their numbers may not be as reliable as the others. The data also show that the public school students have the highest withdrawal rates (18% total) and the charter schools the lowest (7% total) of the four school types.

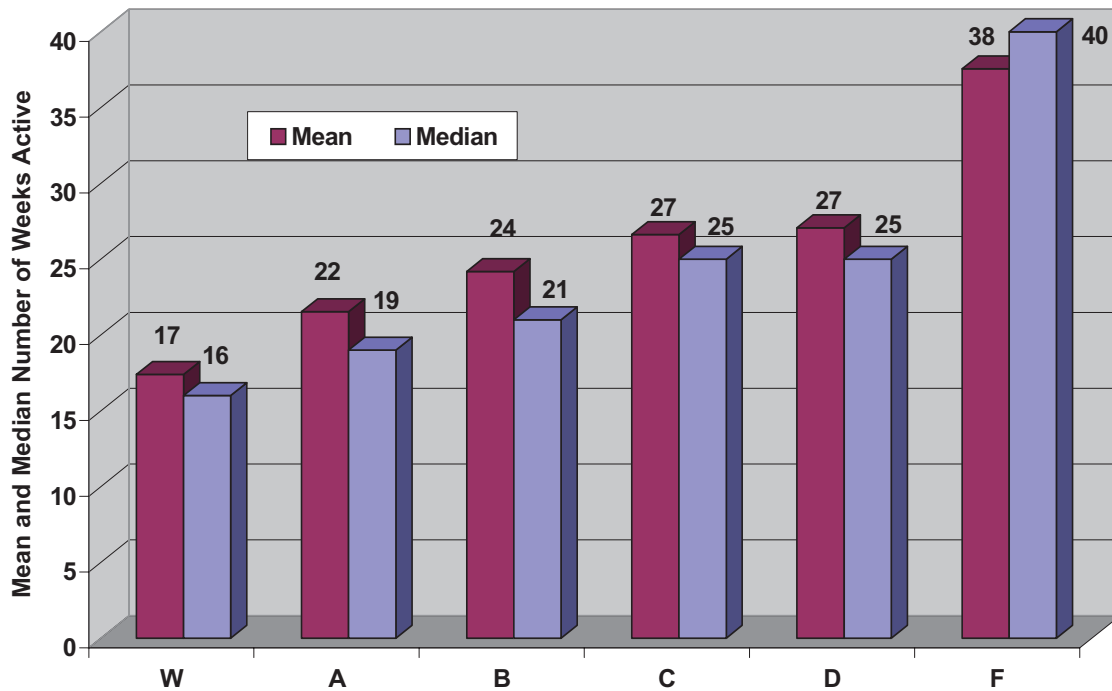
Chart 11: Grade Distribution for Middle School Courses by School Type



Number of Weeks Active by Final Grades for Middle School Students

The chart below shared a telling story about student success. The longer that a student took to complete a course, the lower the resulting grade for that course. This might be attributed to a number of factors. First, it could be assumed that a student that took more time to complete a course required more assistance in understanding and relating to the material being taught. Another explanation might have been that their diligence or concentration on the course was not as focused as their counterparts that scored a higher grade. Other, less frequent, reasons might stem from medical problems, familial disputes, or other outside circumstances that were mentioned in the Student Surveys taken by many of those who had enrolled in the courses.

Chart 12: Number of Weeks Active by Final Grades for Middle School Students



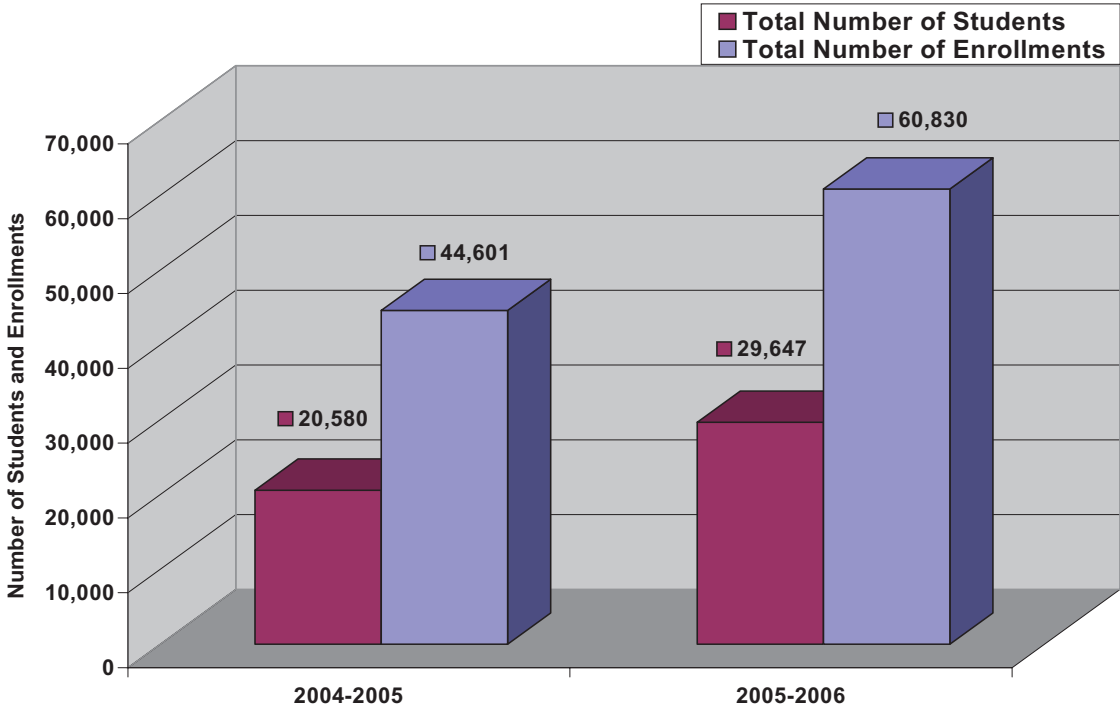
High School Level Data Analysis

High School Student Demographic and Enrollment Data Analysis

Number of High School Students and Enrollments

The number of students taking Florida Virtual School courses at the high school level rose by nearly ten thousand over the two year period, while the number of course enrollments rose by over fourteen thousand.

Chart 13: Number of High School Students and Enrollments

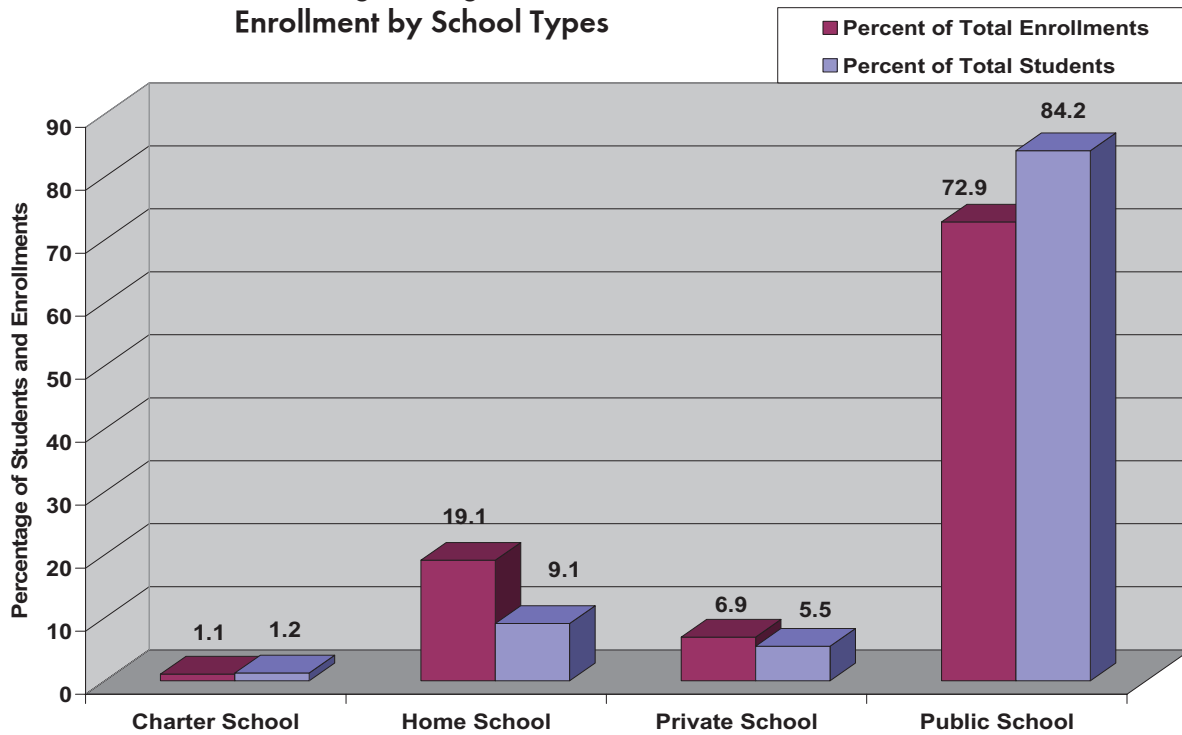


This period is but one example of the explosive growth experienced at the school since its inception.

Percentage of High School Students and Enrollments by School Type

Unlike middle school students, where home-schooled children characterized the largest majority, public school students represented the largest percentages of participants and enrollments in high school FLVS courses. Home-school students made up the second largest proportion, with private school third, and charter school students last in students and enrollments. It should be noted that charter schools are public schools but have been separated for additional specificity.

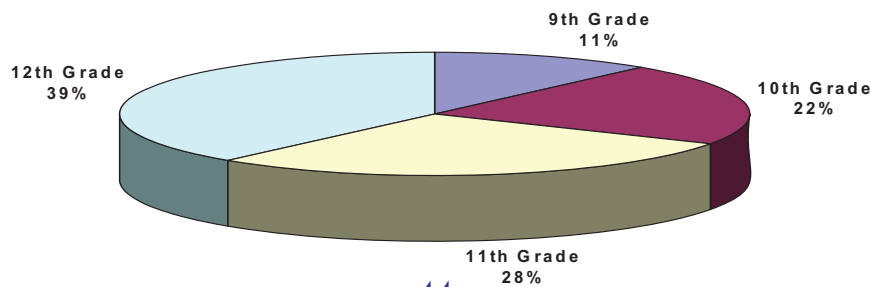
Chart 14: Percentage of High School Students and Enrollment by School Types



High School Course Enrollment by Grade in School

Of the high school students enrolled in FLVS, 39% were 12th graders, 28% 11th graders, 22% 10th graders, and 11% were 9th graders. Thus enrollment in FLVS seems to grow as students progress toward graduation.

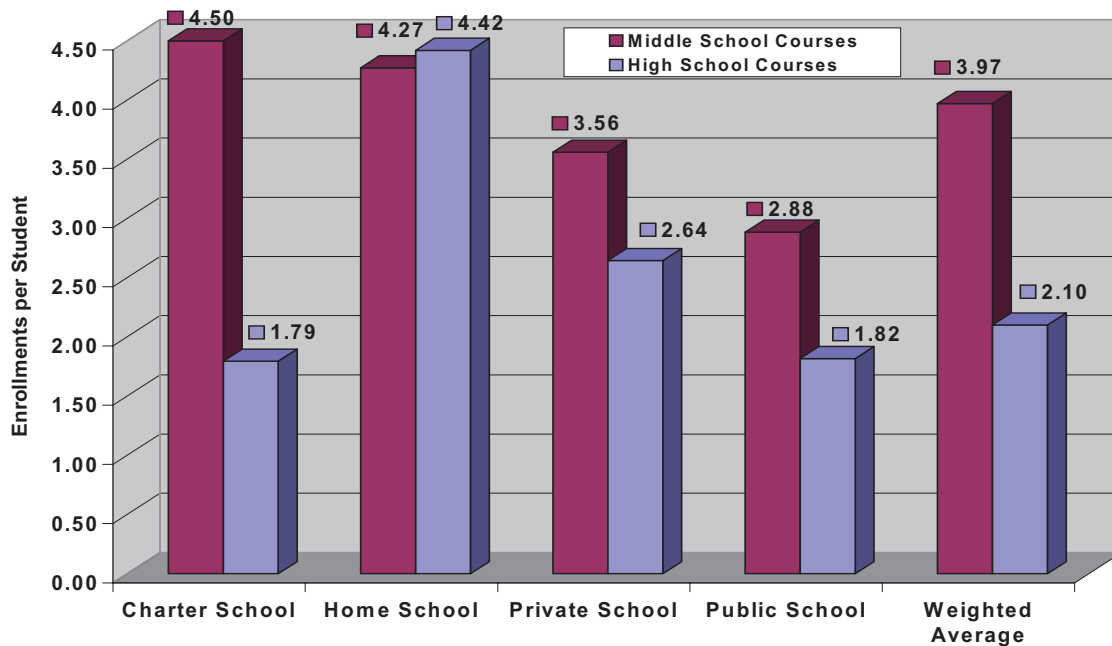
Chart 15: High School Course Enrollment by Grade in School



Enrollments per High School Student by School Type

As shown in the chart below, the average high school course enrollment per student was approximately two for the school years analyzed. The same ratio for the middle school level was four enrollments. The differences between school types and levels of schooling are most apparent in charter schools, with middle school students enrolling in nearly three times as many courses as their high school counterparts. Both public and private school students averaged about a one-enrollment difference, favoring middle school participation. The only time that high school student enrollments outnumbered middle school students was in the home school category; but this was only by a slim margin.

Chart 16: Enrollments per High School Student by School Type

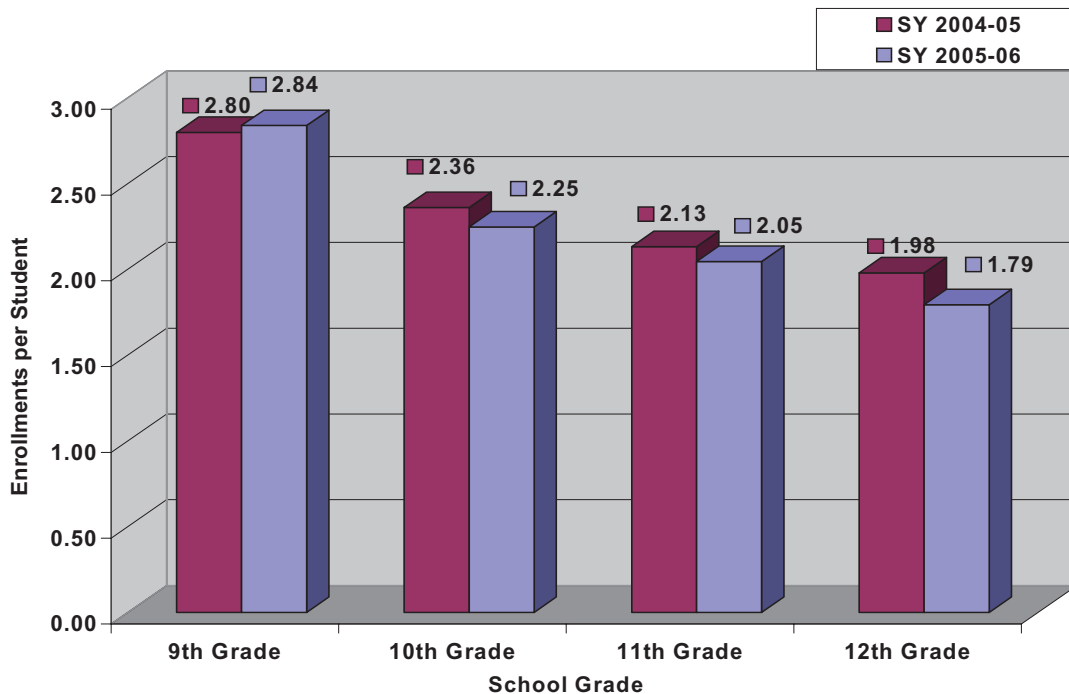


In short, the data show that high school students generally take online courses as a supplement to their traditional studies and enroll for one course per semester. Conversely, middle school students tend to utilize the opportunity as a replacement for core curriculum provided through other venues.

Enrollments per High School Student by Grade in School

The lower the high school grade level, the higher the number of FLVS courses each student is likely to take. As the following bar chart shows, 9th grade students average nearly three courses while 12th graders average closer to two. This may be a result of middle school students moving onto high school work.

Chart 17: Enrollments per High School Student by Grade in School

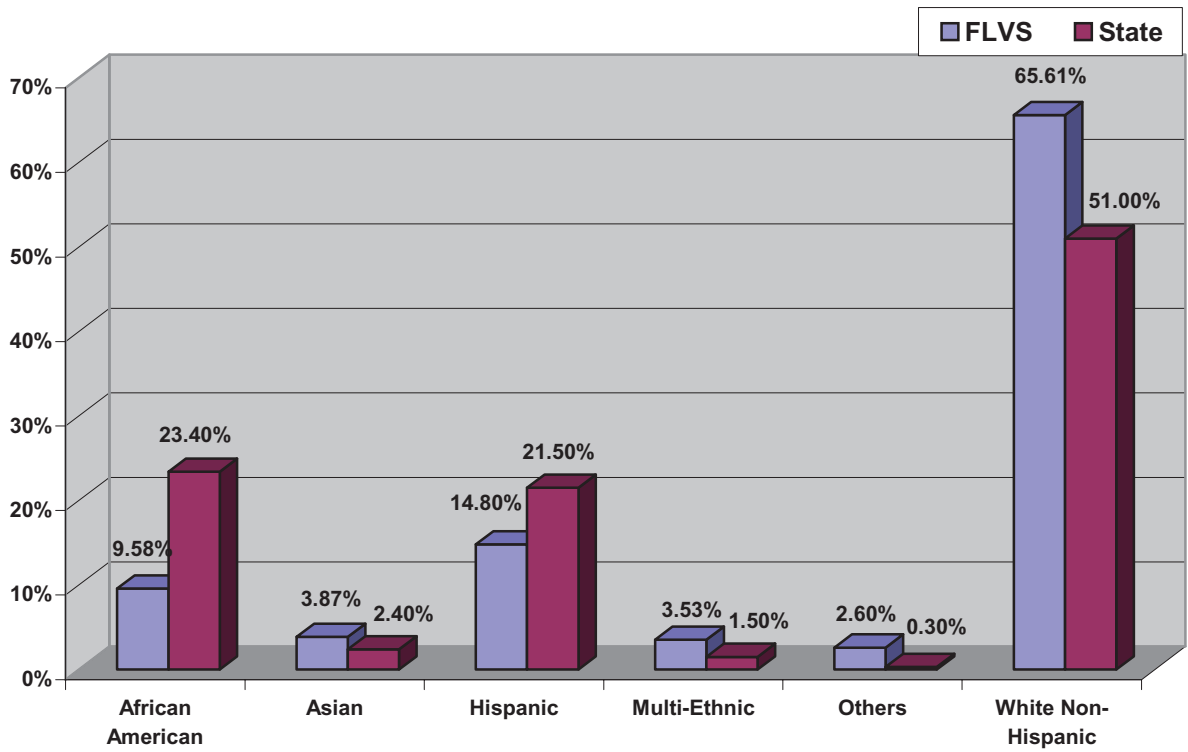


Percentage of Enrolled High School Students by Ethnicity

Like the middle school group, White- Non-Hispanic students comprise the largest ethnic group of high school students at nearly 66%. This is significantly higher than the state average for high schoolers, which is 51%. However, the percentage reflects the national profile and is higher than several other states.

Hispanics represent the second highest proportion of students in FLVS at almost 15%, followed by African-Americans at about 10%, Asians almost 4%, Multi-Ethnic at 3.5%, and "Others" at about 2.5%. African-American students are the least represented compared to their ethnic proportion of the entire state student population.

Chart 18: Percentage of Enrolled High School Students by Ethnicity

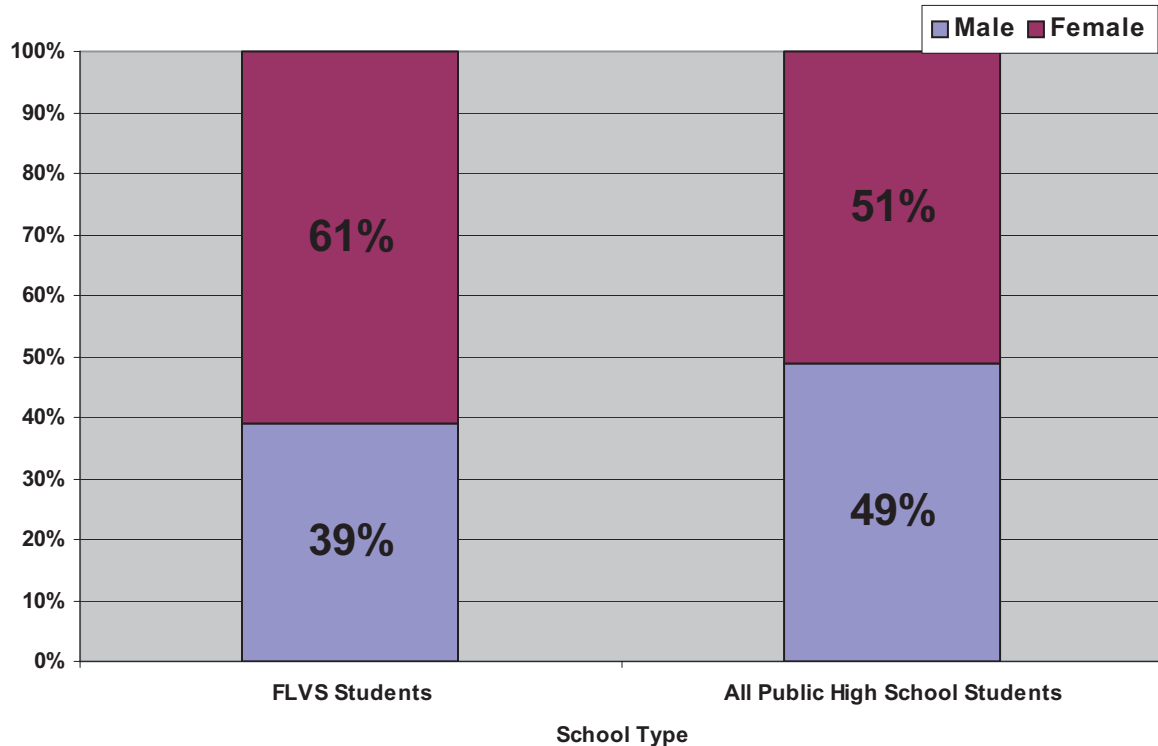


Although the high school student population is more diverse than the middle school population, issues of access should continue to be studied.

Percentage of FVLS and All Public High School Students by Gender

Females account for 61% of virtual school students and 51% of the total traditional school student population.

Chart 19: Percentage of FVLS and All Public High School Students by Gender

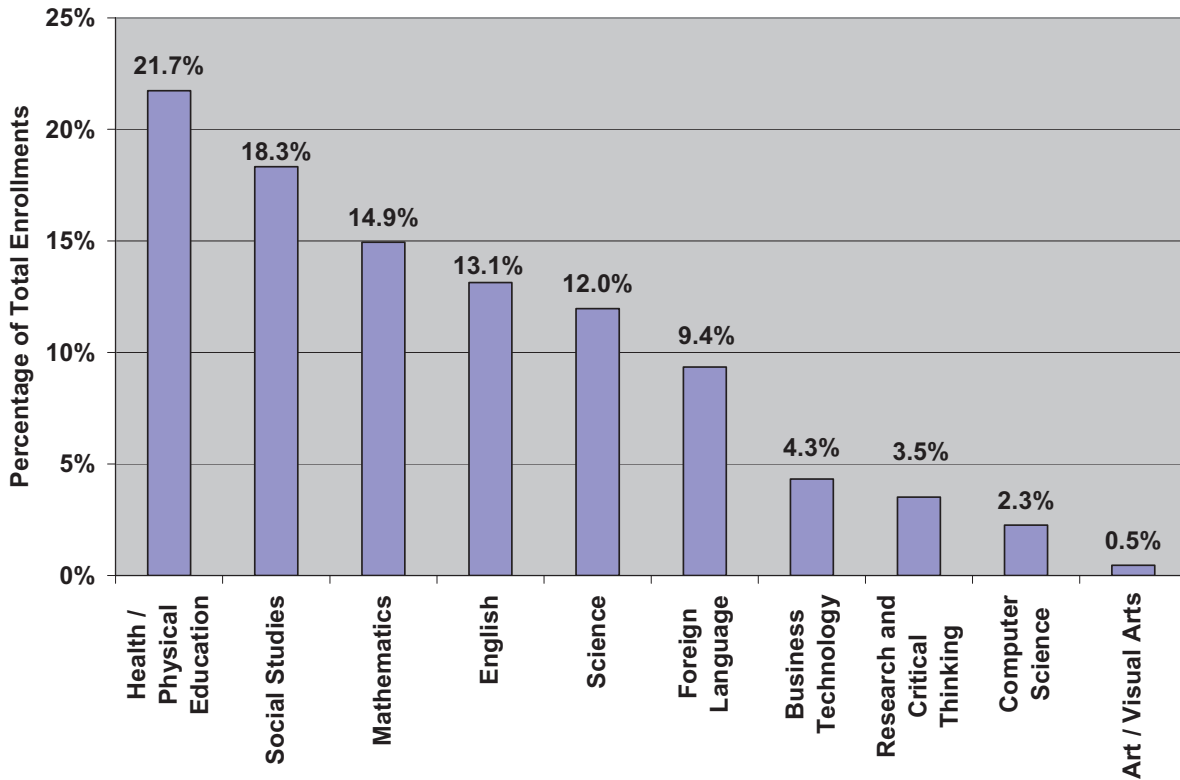


Note: The fact that the number of women in the technology sector is disproportionately small may have led to a myth that females are not as technologically savvy as their male counterparts. Despite higher return in Information Technology (IT) jobs, women are underrepresented in IT-related fields at the college level and in the IT workforce. The data here correlated with the fact that Florida Virtual School is helping female students to position themselves in this sector of the economy and the world, becoming extremely adept and proficient in the face of advancing technologies. It is likely that a positive Virtual School experience will change the participation rates of women in both IT education and IT workforce.

FLVS High School Course Enrollments by Subject

The largest percentage of course enrollments for the high school level are in health/physical education classes at 21.7%. This is followed by social studies at 18.3%, mathematics at 14.9%, English at 13.1%, science at 12.0%, foreign languages totaling 9.4%, business technology at 4.3%, research & critical thinking at 3.5%, and computer science at 2.3%. The courses representing the lowest percentage of enrollments are arts-related classes (0.5%).

Chart 20: FLVS High School Course Enrollments by Subject



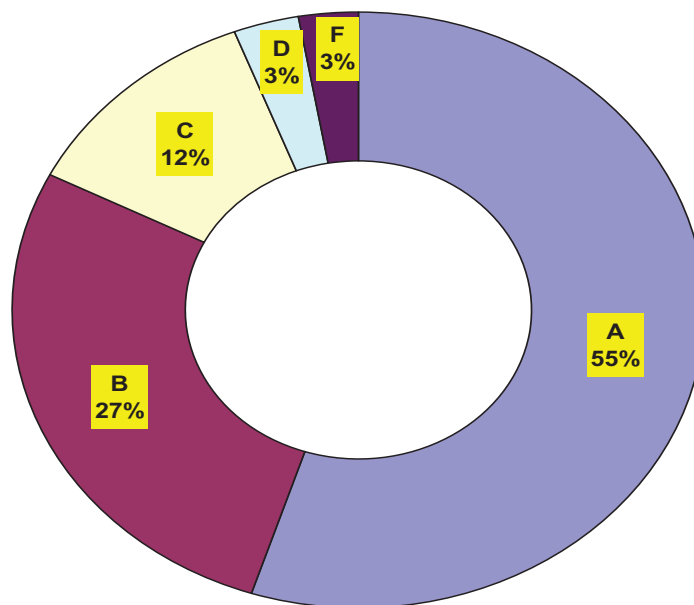
High School Student Achievement Data Analysis

Final grade information for all high school level courses was analyzed in this section. Included were average distribution, course subject, segment, school type, and course duration. A comparison of student performance as evidenced by final grades in virtual and traditional courses was also conducted.

Average Final Grade Distribution for FLVS High School Students

Eighty-two percent (82%) of high school students earned a grade of "A" or "B" in their FLVS courses, at 55% and 27%, respectively. Another 12% earned a grade of "C." Only 6% earned a "D" or an "F," at 3% each.

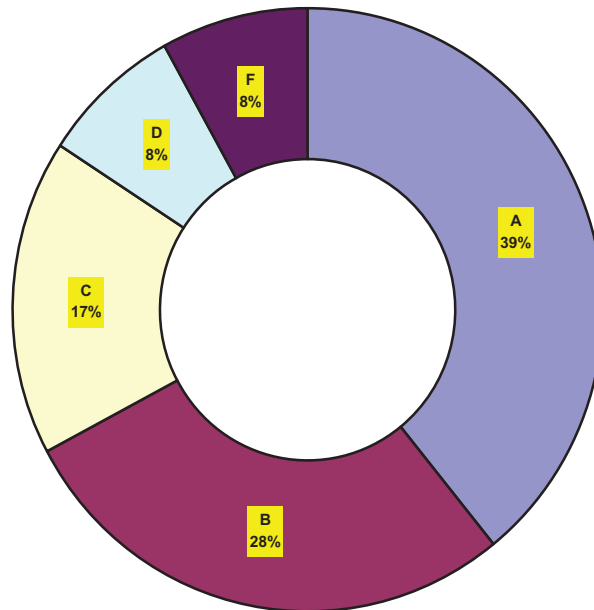
Chart 21: Average Final Grade Distribution for FLVS High School Students



FLVS High School Students' Grades in Similar Courses Taught at Traditional Schools

Chart 22 depicts the grades that FLVS high school students earned in courses they took in 2004-05 at traditional high schools, in a subject area in which they subsequently enrolled in an online course during 2005-06.

Chart 22: FLVS High School Students' Grades in Similar Courses Taught at Traditional Schools



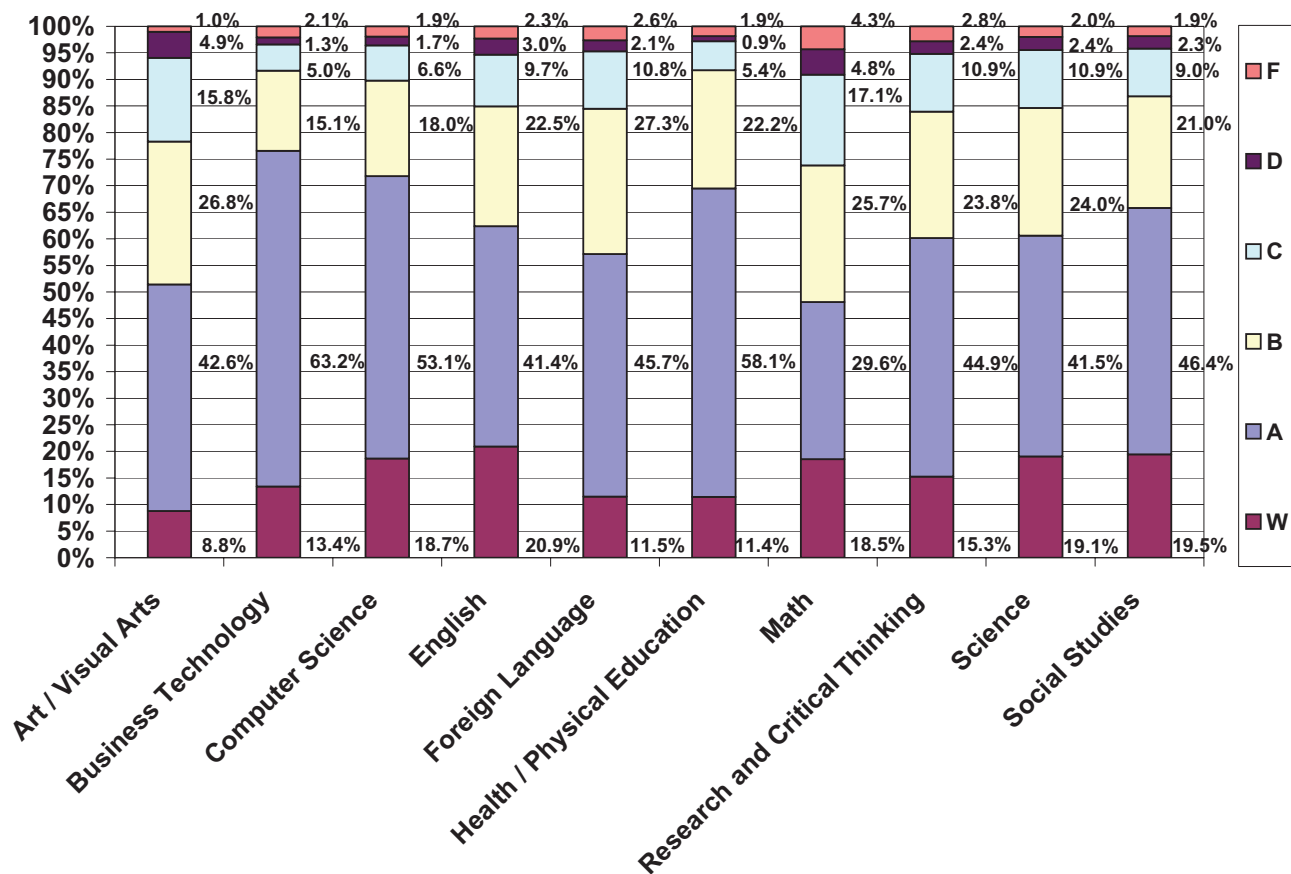
When compared with the information from Chart 21, it is clear that Florida Virtual School students received higher grades from online courses than from traditional courses. Fifty-five percent of FLVS students earned an "A" in their FLVS course, compared with thirty-nine percent (39%) earning an "A" in their traditional school course. Other grade data were as follows: "B" - 27% via FLVS/28% at traditional school; "C" - 12% at FLVS/17% at traditional school; "D" - 3% at FLVS/8% at traditional school; and "F" - 3% at FLVS/8% at traditional school.

Final Grade Distribution by High School Course Subject

As depicted in the following chart, the subject in which the highest percentage of students earned a grade of “A” was business technology, at 63.2%. In core academic subjects, the area was social studies, at 46.4%. The subject in which the lowest percentage of students earned a grade of “A” was math, at 29.6%.

Mathematics was also the area in which students earned the highest percentage of low performing grades, with 4.8% earning a “D” and 4.3% earning an “F.”

Chart 23: Final Grade Distribution by High School Course Subject



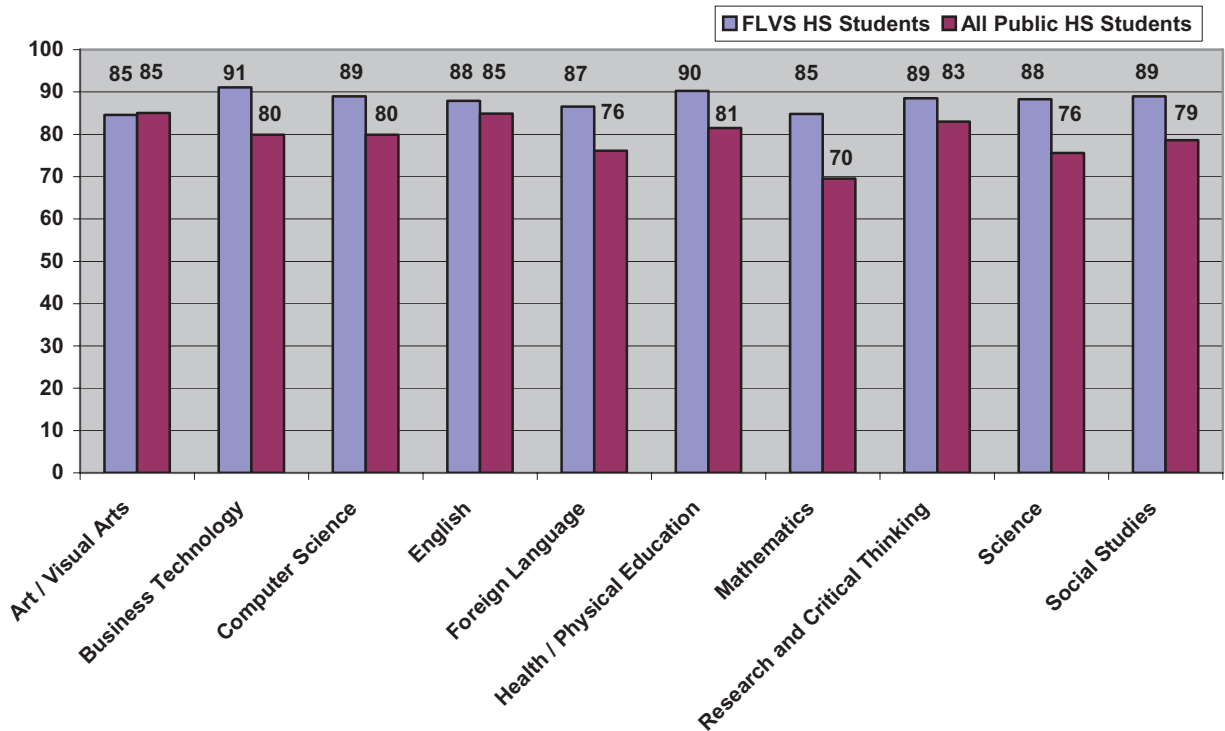
The highest percentage of course withdrawals (averaged over the two semesters) was in the area of English, at 20.9%. The lowest withdrawal percentage was in the area of art/visual arts, at 8.8%.

Average Final Grade by Subject for FLVS Students Compared with All Public High School Students For SY 2004-05

In the 2004-05 school year, the grades earned in high school courses taken by students via FLVS were consistently higher than those for students taking courses in the traditional public high school setting. FLVS students outperformed their traditional school counterparts in nine out of ten subject areas. The one exception was the set of courses that represented art/visual arts, wherein both sets of students scored an average of 85% as their final grade.

Note: A letter grade to numeric grade conversion was utilized to determine these results.

Chart 24: Average Final Grade by Subject for FLVS Students Compared with All Public High School Students for SY 2004-05

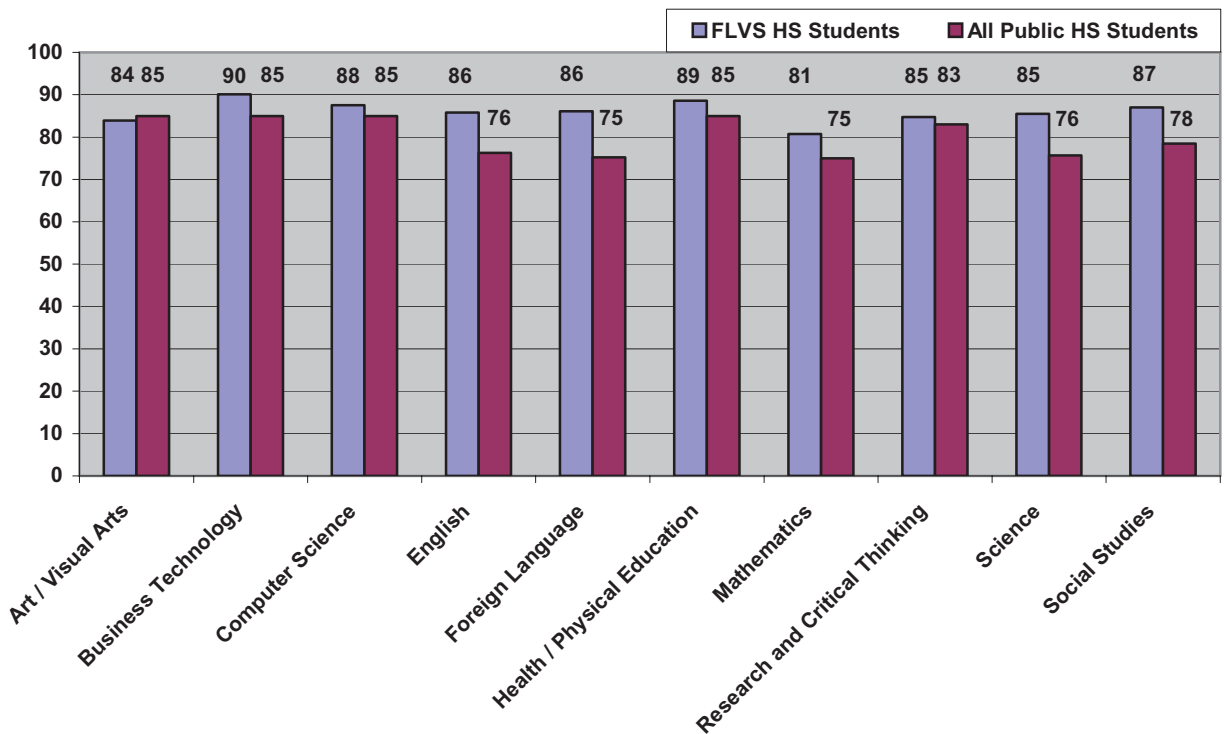


Average Final Grade by Subject for FLVS Students Compared with All Public High School Students For SY 2005-06

In the 2005-06 school year, the grades earned in high school courses taken by students via FLVS were again consistently higher than those for students taking courses in the traditional public high school setting. FLVS students outperformed their traditional school counterparts in nine out of ten subject areas. The one exception was the set of courses that represented art/visual arts, wherein FLVS students averaged a final grade of 84% compared with traditional public school students who earned an 85%.

Note: A letter grade to numeric grade conversion was utilized to determine these results.

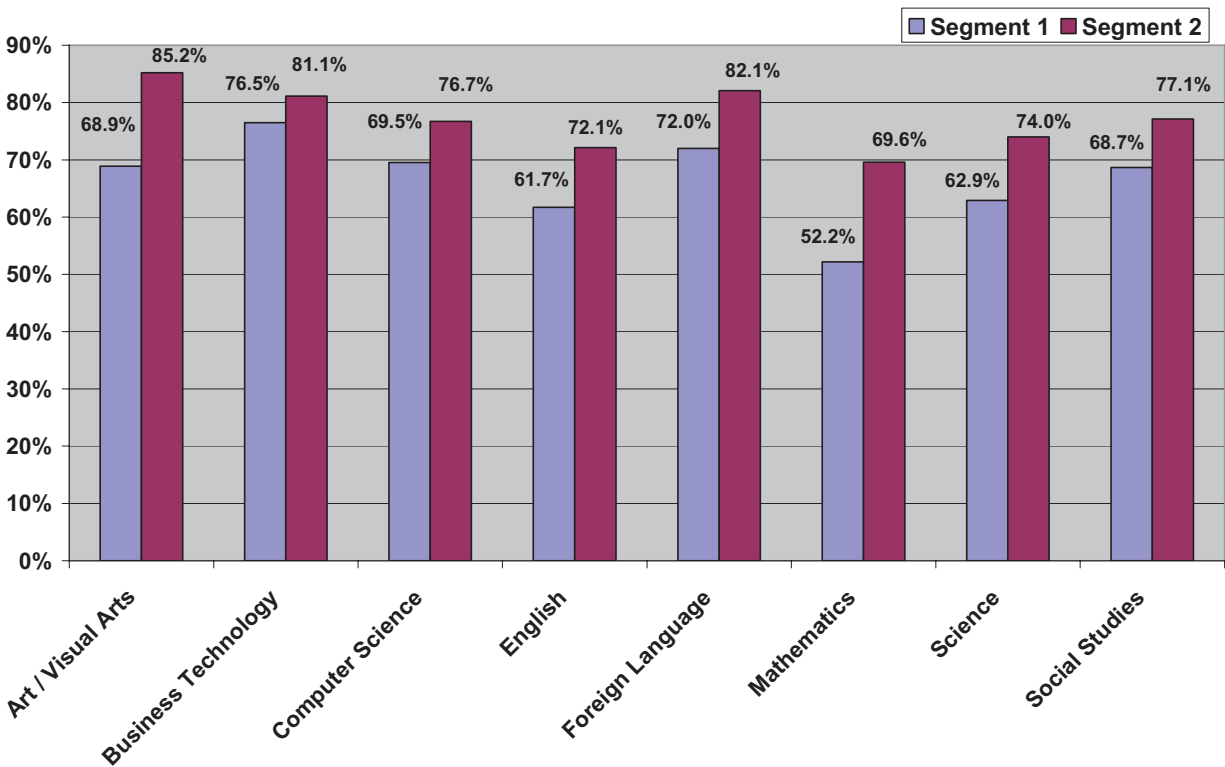
Chart 25: Average Final Grade by Subject for FLVS Students Compared with All Public High School Students for SY 2005-06



Percentage of Florida Virtual High School Students Earning Grades of A or B by Sequential Semester

One measure of student achievement success was academic improvement over time. This was determined by examining student grades from courses that were offered sequentially in two parts, classically viewed as Semester 1 and Semester 2. Data were examined to find out which students improved their grades from the first part to the second. On average, improvement was noted in all subject areas, with mathematics showing the strongest gains.

Chart 26: Percentage of High School Students Earning Grades of A or B by Sequential Semester

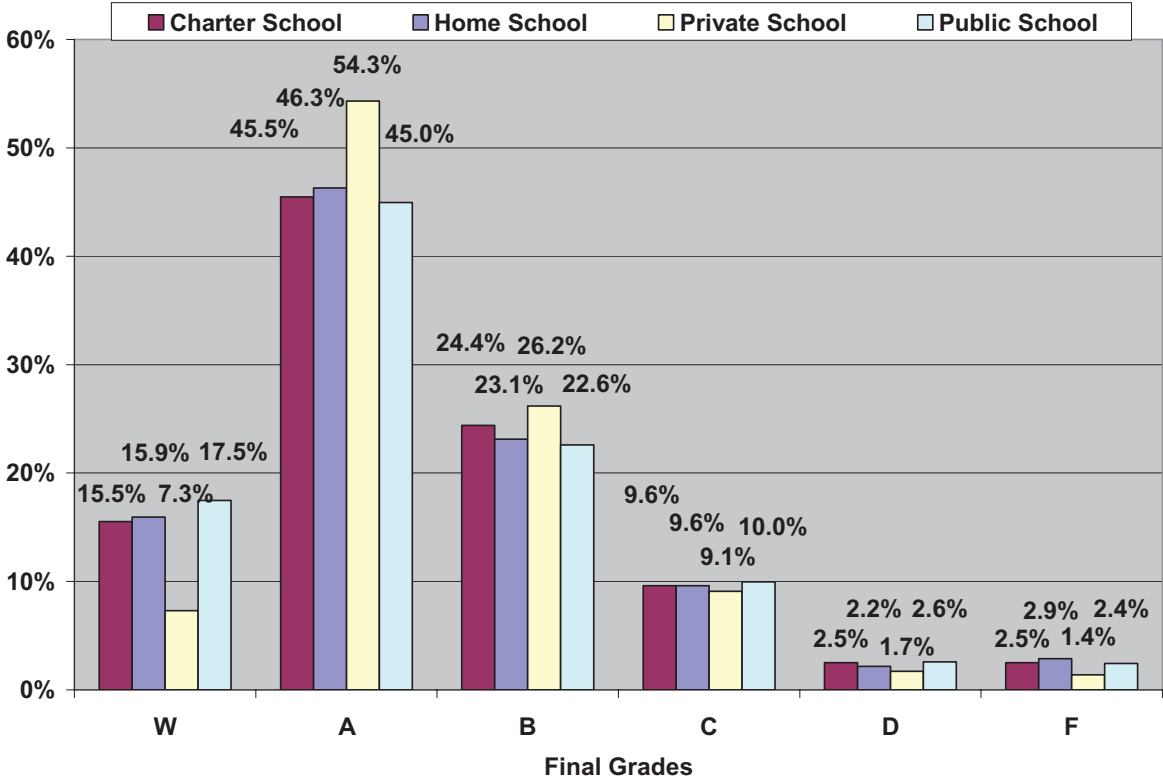


Grade Distribution for High School Courses by School Type

In terms of performance by type of school of origin, students from private schools outperformed the rest, with 54.3% earning a grade of "A." The other schools of origin were within 1.5 percentage points from one another in terms of earning an "A." It should be noted that charter schools are public schools, but have been separated for specificity purposes. Also, since charter schools had a limited number of course enrollments (1,123) compared to the others, their numbers may not hold the same level of validity.

Public school students represented the highest percentage of withdrawals at 17.5% of their FLVS total. Students whose sites of origin were private schools had the lowest withdrawal rate, at 7.3%.

Chart 27: Grade Distribution for High School Courses by School Type



FLVS Students' Online Activity and Their Achievement Level

The correlation among student log-in numbers, minutes spent online, active weeks, and teacher emails with student outcomes.

The aforementioned student achievement data clearly indicate a high success rate for FLVS students in online courses compared to traditional ones. In this section, some relevant factors affecting student achievement in the online setting were analyzed. Correlation coefficients between some indicators on student online activities and their final grades were measured. The elements that were compared across final grades included the number of log-ins to the system each student had, the number of minutes spent logged onto the system, and the number of emails received by the students.⁹ All of these correlation coefficients were statistically significant at the 0.01 level (2-tailed test).

The following provides an explanation of the various student activity functions' relevance to this study. First, the number of log-ins responds to the notion that those who have a higher rate of participation in the system will be working harder and more often. The exceptions to this statistic are students who log on and off numerous times in a day, perhaps achieving little productivity, due to frustration, short attention span or continuous distractions from the assignments by outside influences.

The second factor, the number of minutes logged onto the system, correlates to the amount of dedication and/or effort put into attempts to complete the assignments. Again, there are exceptions. These include students who are logged on less because they have an accelerated pace of work and learning or the converse of this description. Also sometimes students log on and neglect to log off—thereby exponentially diluting their log-in minutes statistic, and others that struggle to efficiently/effectively navigate the system's functions.

A second part of this factor is based on the number of weeks active. As opposed to the minutes logged on, the more weeks a student takes to complete a course, statistically the lower the resulting final grade will be. This dual occurrence can be explained by the idea that a diligent student that gets a better grade spends more time on the assignments and completes them in a shorter overall time span.

The third element is the number of emails received by students, which is interpreted in the opposite manner—students who receive excessive numbers of emails have demonstrated issues with performance and productivity. This is based on the assumption that the teacher would send more emails to those who do not keep up with the pace of the assignments or those who ask more questions in order to understand the assignments. The exception to this is if the increase of email

⁹ Two correlations that were developed, but will not be used in this analysis, involved the number of assignments submitted and amount of email sent by each student. The "mail sent" data was not significant and the "assignments submitted" does not make a large impact on the grade of the student.

correspondence helps the given student understand the material more clearly, thereby succeeding in realizing the tool's intentions.

All three of these data components have their own restrictions to application, but each also has its own answer to these restrictions. For example, log-in occurrences are faulty if a system is incompatible with a student's computer, thereby logging him/her out, having the cookies expire, etc., and forcing the student to log in numerous times. But the fact that the student would log in repeatedly would speak to a desire and dedication to learn. The amount of time spent online can be controlled for, since the system is designed in such a way that if there is inactivity for two hours, then the student is automatically logged off. "Emails received" data may be flawed by a teacher's aspiration to assist students over and above their colleagues, sending out more mailings to students, diluting the total number to a higher rate. The foreseeable instances of this occurring are low; therefore the restriction may be excused as minimally influential upon the overall statistic.

Student Log -Ins

Chart 28 illustrates the correlation between a student's grade level and the number of log-ins per two-semester course. In general, log-in numbers decreased as students progressed through the grades in school. (Mean = the Average; Median = Middle Number)

Chart 28: Student Log Incidence Per A Two-Semester Course by Grade Level

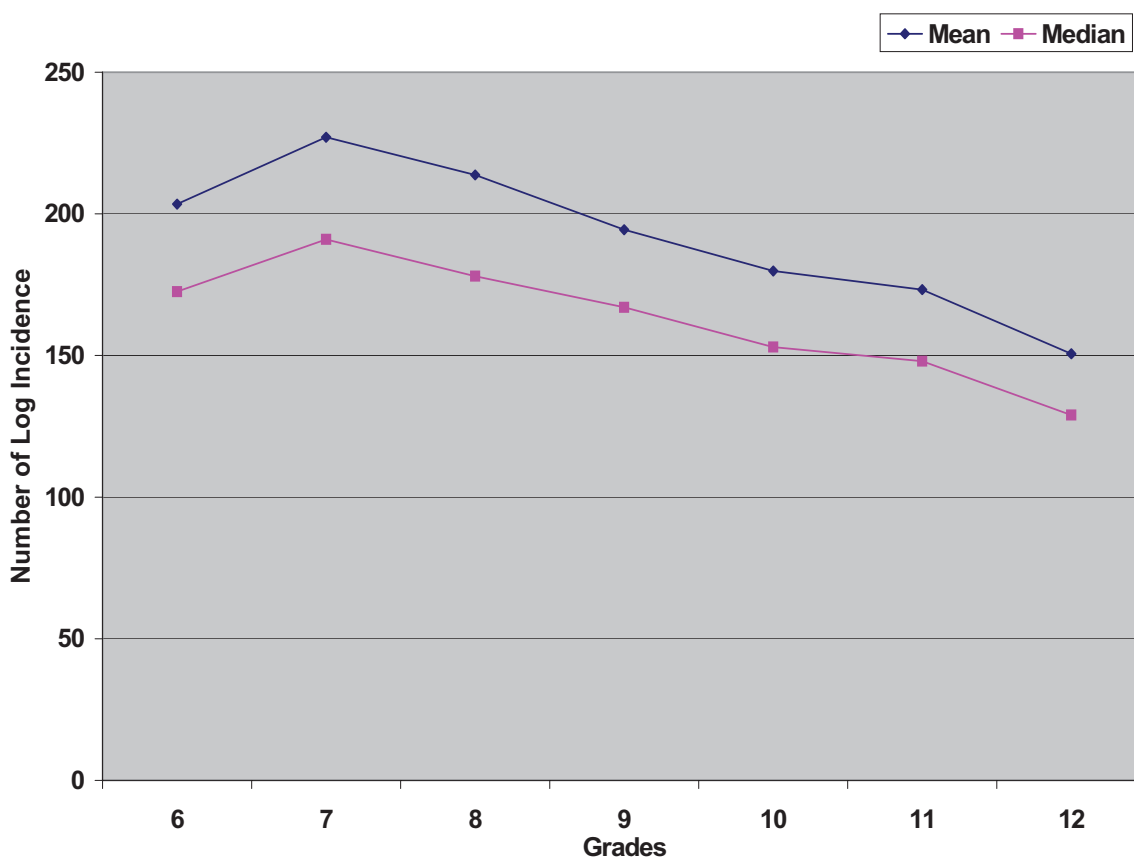
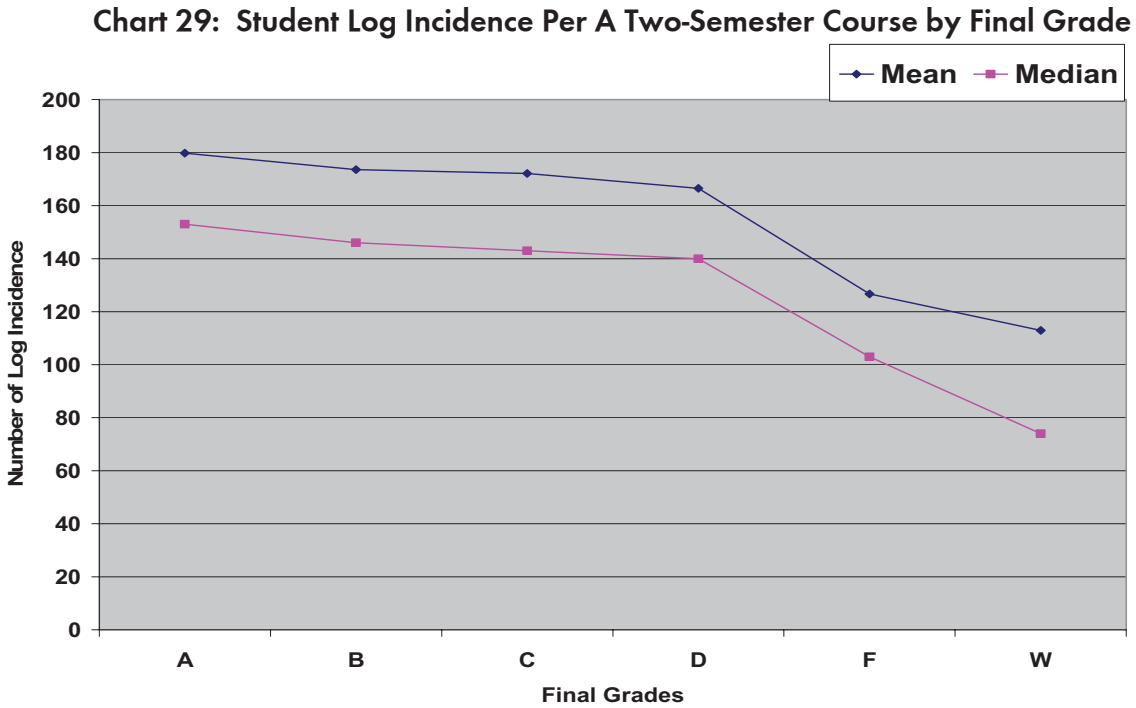
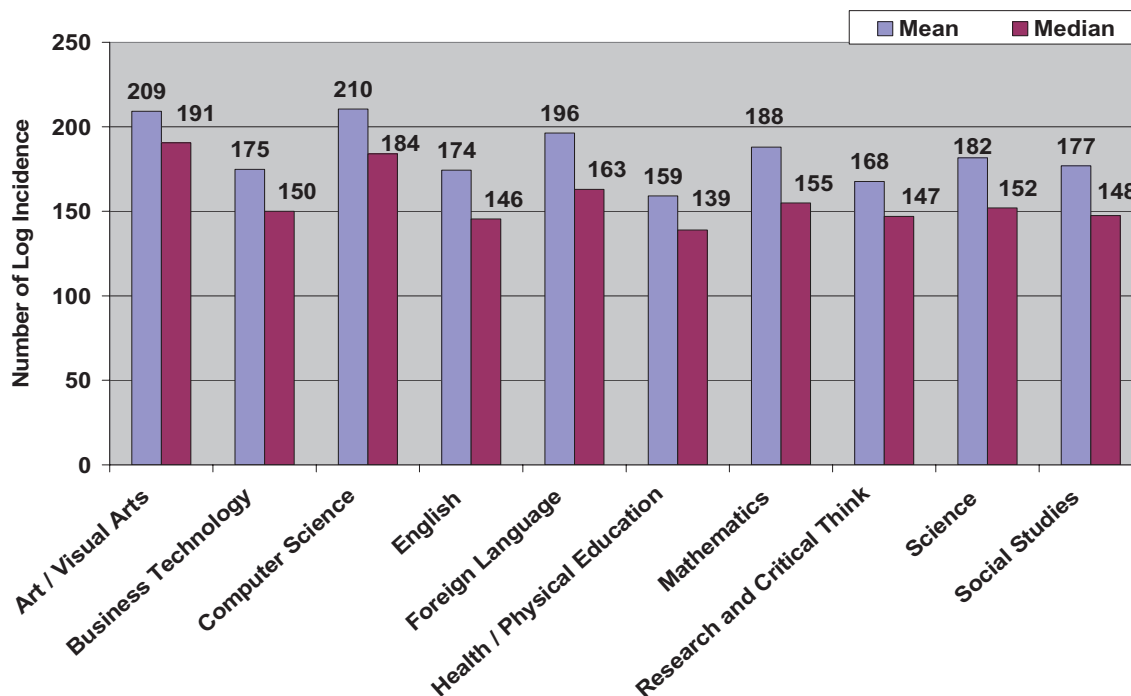


Chart 29 depicts that the more times a student logged into FLVS, the higher the final grade was likely to be. (Mean = the Average; Median = Middle Number)



Typically, the courses with more log incidences could be linked to those courses that had the highest achievement rates and final grades.

Chart 30: Student Log Incidence Per A Two-Semester Course by Course Subject

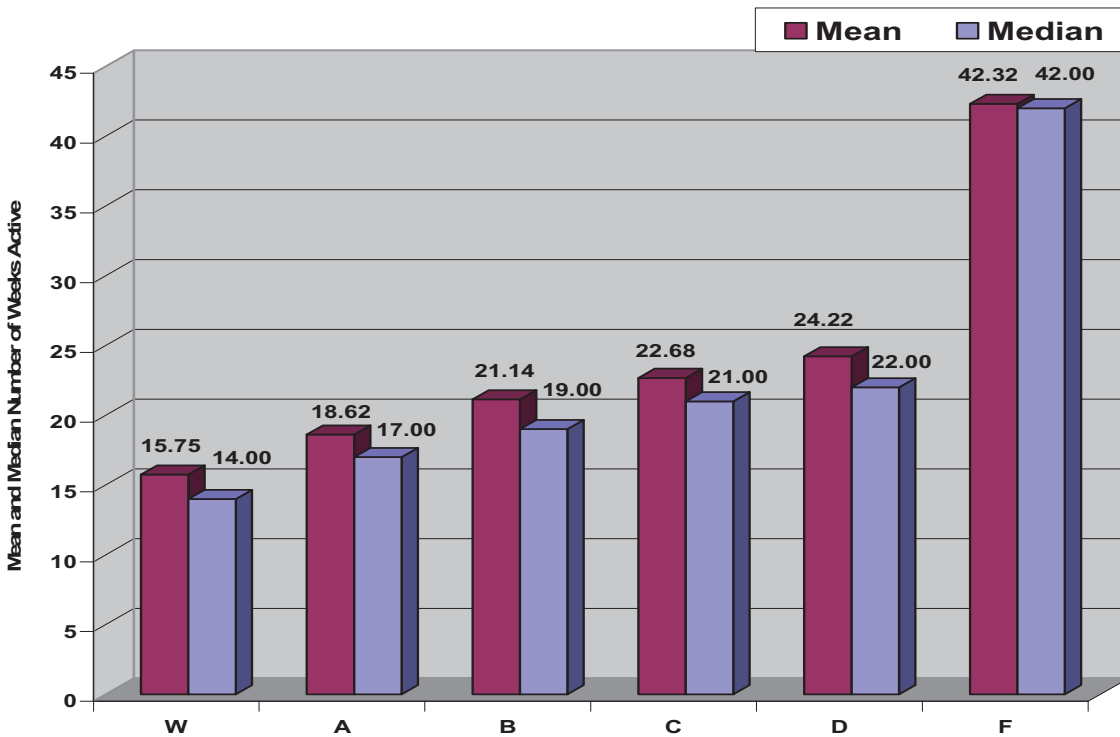


Number of Weeks Active

A relationship existed between student achievement and the number of weeks a student was active in the FLVS network. The longer it took a student to complete a course, the lower the final grade was likely to be. One theory that might explain this statistical trend acknowledges that the system allows each student to take as much of the term/segment as necessary to complete the course. However, the longer the student takes, the more each lesson is spaced out. Thus the knowledge stored in the memory of the student may be diluted, resulting in work of lesser quality.

The chart below again shows that the longer that a student takes to complete a course, the lower the resulting grade for that course. The trend for high school is less defined than that of middle school students. Since this trend is the same across both levels of virtual schooling, it can be determined that this factor is a key part in predicting student outcomes. (Mean = the Average; Mode = Middle Number)

Chart 31: Number of Weeks Active by Final Grades



Number of Log-Ins, Minutes Online, & Teacher Emails

The following table summarizes the three main factors by school of origin type. (It should be noted that charter schools are public schools but have been separated for specificity of research.)

Summary of the Three Main Factors of Student Performance by School Type

School of Origin Type	Log-Ins	Minutes OnLine	Mail Received
Charter	157	2,592	26
Home	154	2,696	29
Private	172	3,013	35
Public	143	2,618	38

FLVS Withdrawn Enrollment Data Analysis

In order to fully portray student success in online courses, it was important to analyze data associated with students who withdrew.

In this section, findings reflected a detailed analysis of FLVS withdrawal data. For the term of this study, FLVS granted a 28-day grace period to enrolled students. There was no penalty for students who dropped out within the grace period, which gave students an opportunity to see the content of courses and to make an informed decision. Should students determine not to proceed with the courses, they are disenrolled, noted as "Withdrawn With No Grade."

"Withdrawn failed" data included students who dropped out after the grace period and without completing 50 percent of course assignments. Those students received a "W" and were considered to have failed. If a student dropped out after completing at least 50 percent of assignments, he/she received an "F" as a final grade.

Middle and High School Course Enrollment by Final Status

Chart 32 depicts the overall summations of final course exit between the 2004-05 and 2005-06 school years for both middle and high school levels. There were many more students and enrollments in courses; but, the ratio of withdrawals decreased, as more students chose to remain in the courses until receiving a final grade.

Chart 32: Middle and High School Course Enrollment by Final Status

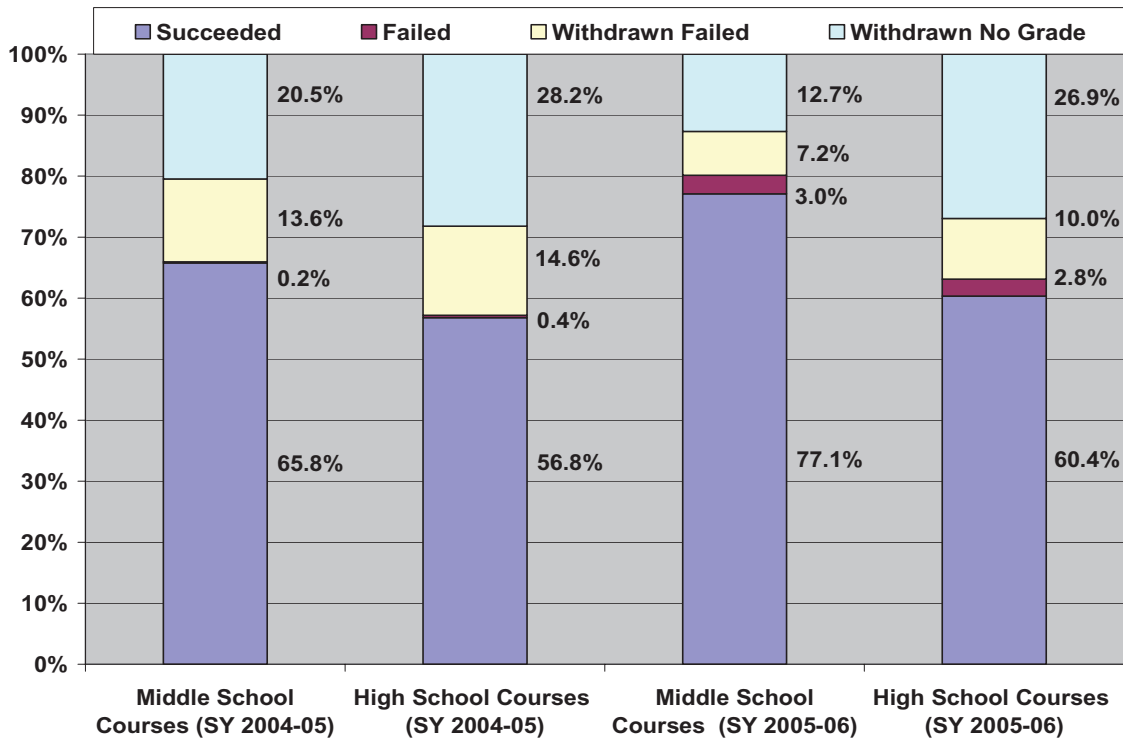


Chart 33 depicts the breakdown by percentage of the total enrollments per course, as compared to the breakdown by percentage of the total withdrawals (both “withdrawn failed” and “withdrawn with no grade”). For example, English courses represented 26% of middle school FLVS enrollments, while also accounting for 19.4% of withdrawals. Science classes showed the largest disparity between the two percentages, representing only 18% of enrollments but over 27% of all course withdrawals. The data suggest that students had a relatively higher withdrawn enrollment in science and business technology.

Chart 33: Middle School Course Enrollments and Withdrawals by Subject

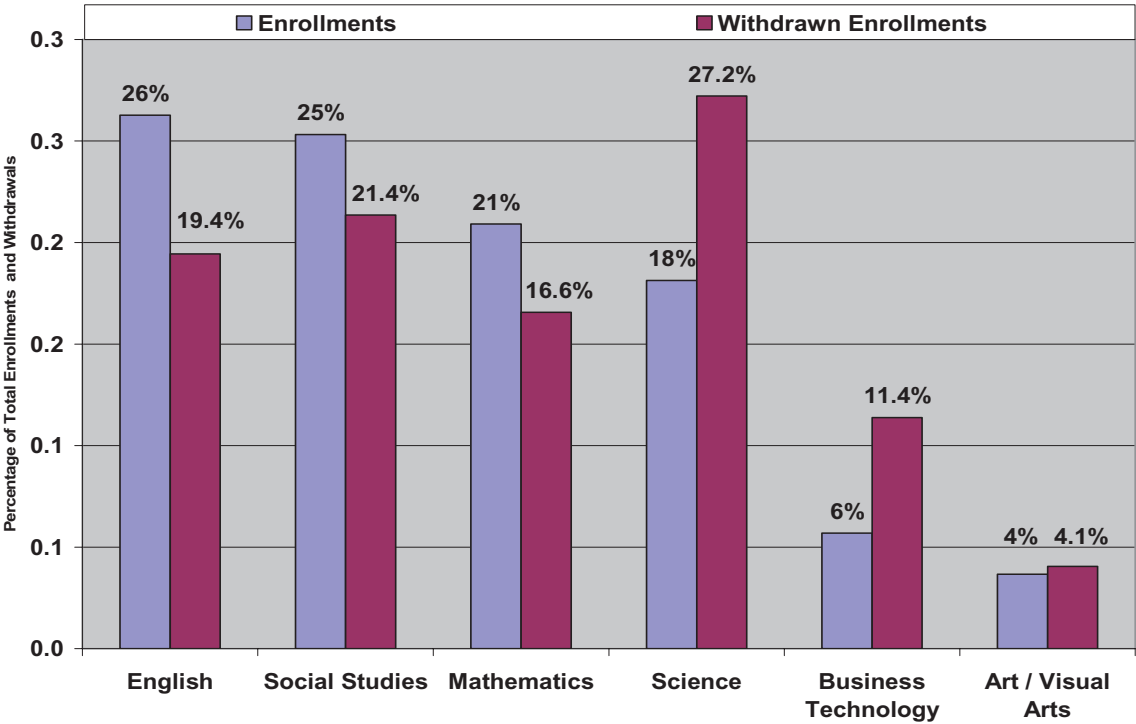
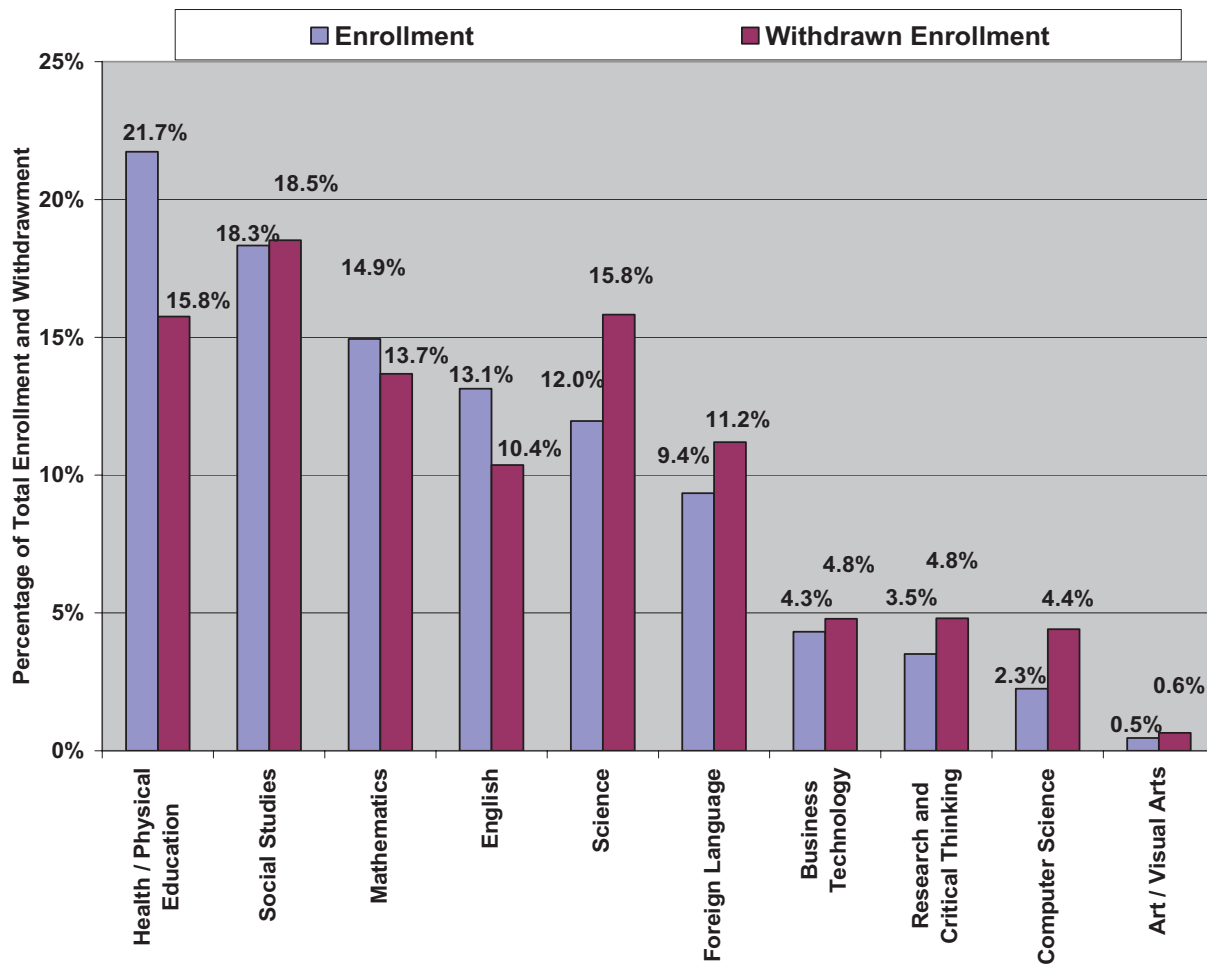


Chart 34 examines these same data fields, applied to high school courses. Data revealed that health and physical education classes were the largest proportion of course enrollments, at 21.7%. Social studies courses represented the largest percentage of withdrawals at 18.5%. Science classes had the largest discrepancy between the enrollments and withdrawals, 12% and 15.8%, respectively.

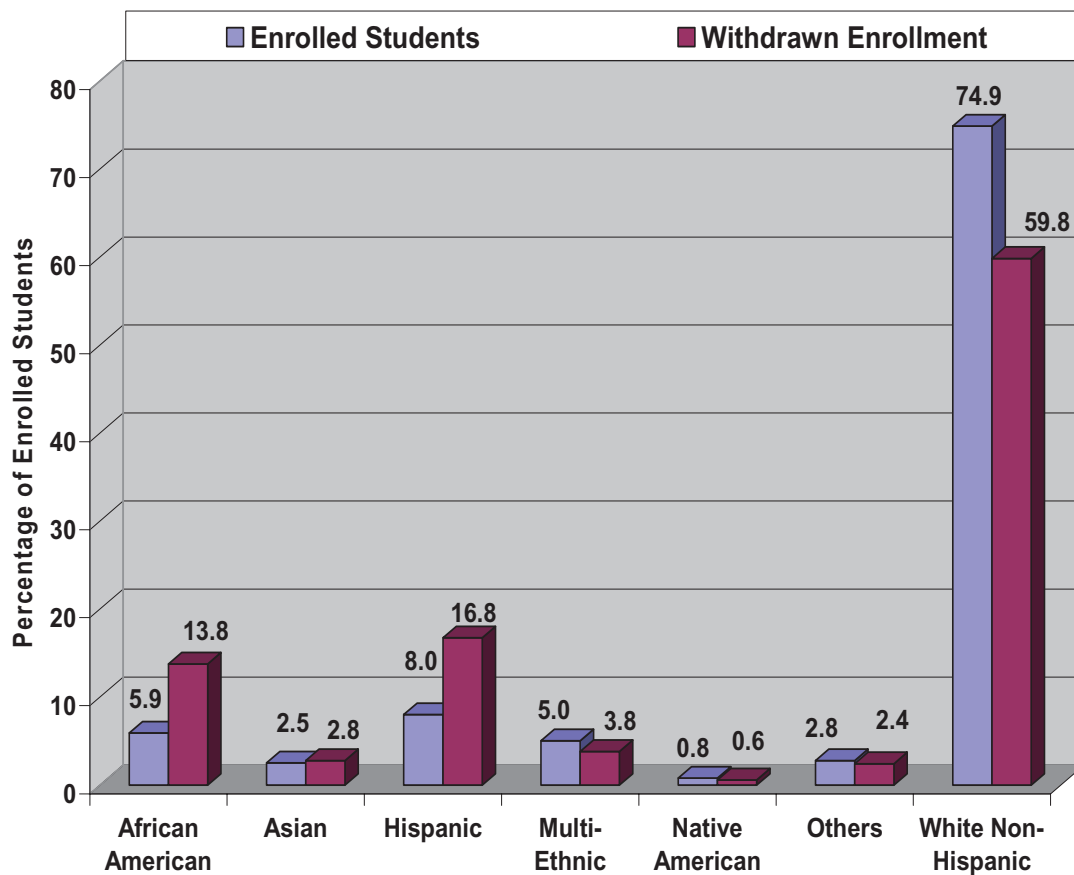
Chart 34: High School Course Enrollments and Withdrawals by Subject



Data were examined relative to the cumulative withdrawal totals for all ethnicities across both levels of schooling. White, Non-Hispanic students represented a majority of the withdrawals, at 59.8%. Hispanics accounted for 16.8%, African-Americans for 13.8%, with the balance distributed among other populations.

Chart 35 shows that African-American and Hispanic students have high withdrawals compared to their enrollment shares. This suggests that more Minority students are interested in online courses; but they drop-out after only a short Virtual school experience.

Chart 35: Percentage of Enrolled Students and Withdrawn Enrollments by Ethnicity



Since FLVS is funded based on successful FTE completions, it is important to minimize withdrawals. Otherwise, it will create a financial burden on the school and adversely affect services provided to students who successfully complete their classes. We should note that FLVS recently hired a full-time person to conduct a survey on withdrawn enrollment in order to better understand factors behind the relatively high drop-out rate in some classes.

Advanced Placement (AP) Course and AP Exam Data Analysis

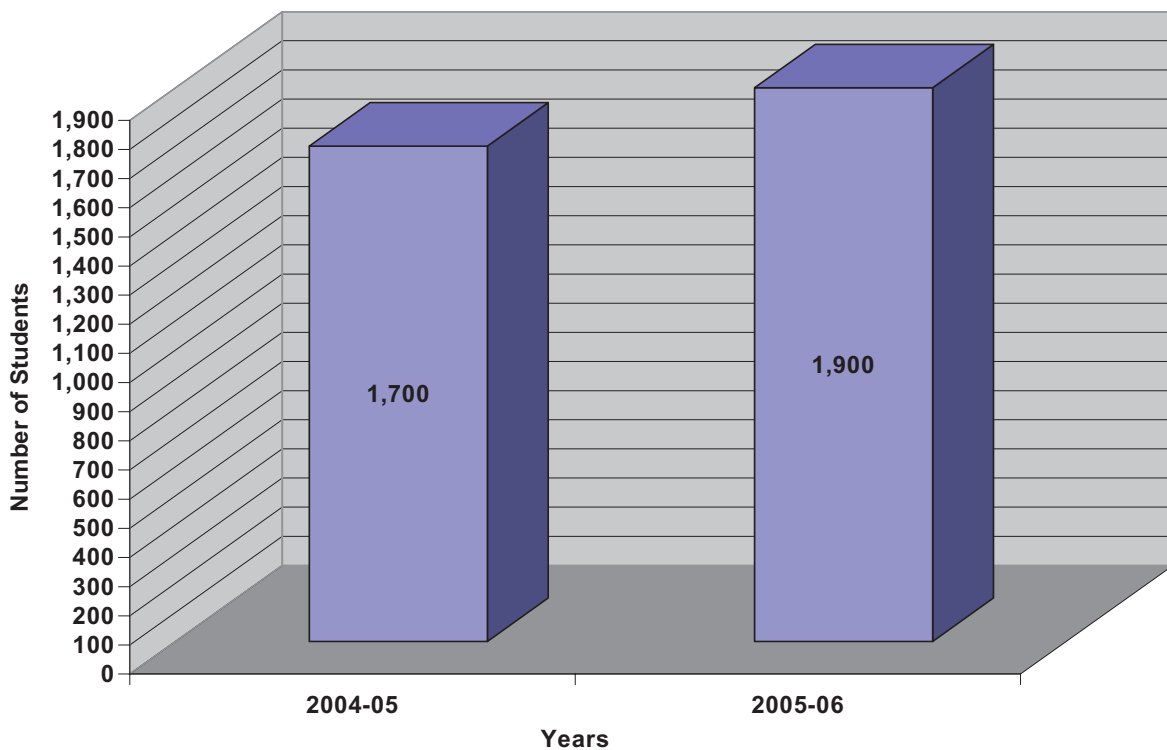
A student's score on an Advanced Placement (AP) exam is a strong, independent indicator for determining comparative effectiveness between instruction in virtual and traditional school environments. It is a comparable, standardized measure of success.

In this section, AP level course enrollments and AP exam data for FLVS students were analyzed in concert with statewide results. FLVS AP scores were compared with the state average for both the 2004-05 and the 2005-06 school years.

AP Course Enrollments by Years

Chart 36 depicts the AP enrollment for the two years of the study. There was an increase of 200 enrollments in Advanced Placement courses between the 2004-05 and 2005-06 school years.

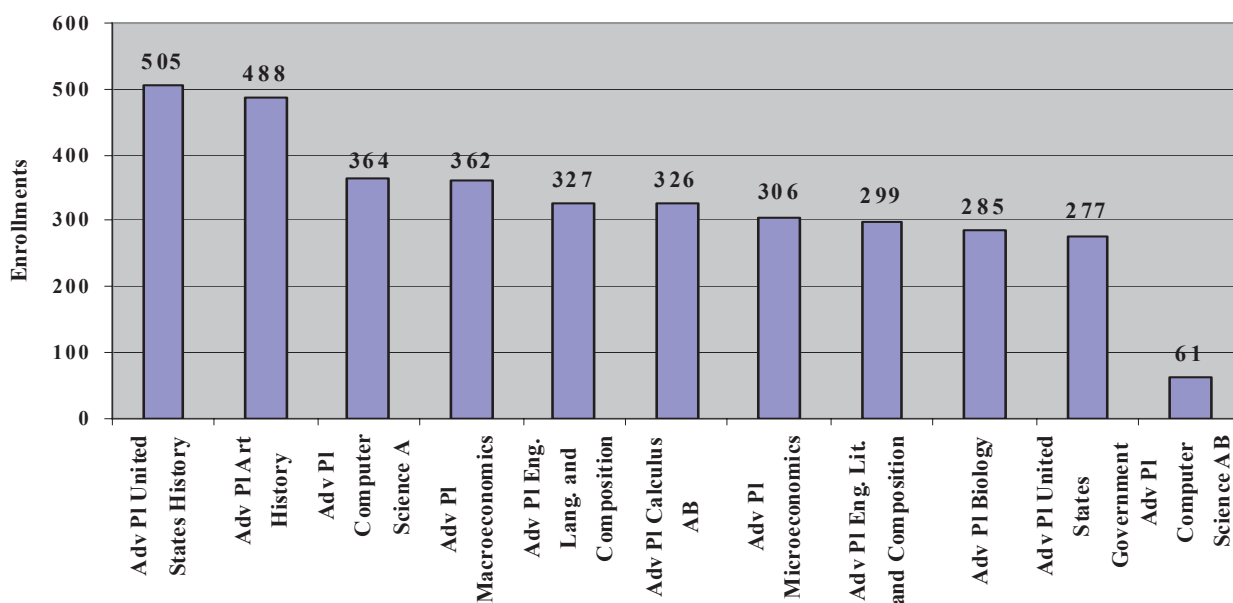
Chart 36: AP Course Enrollments by Years



AP Course Enrollments by Subject

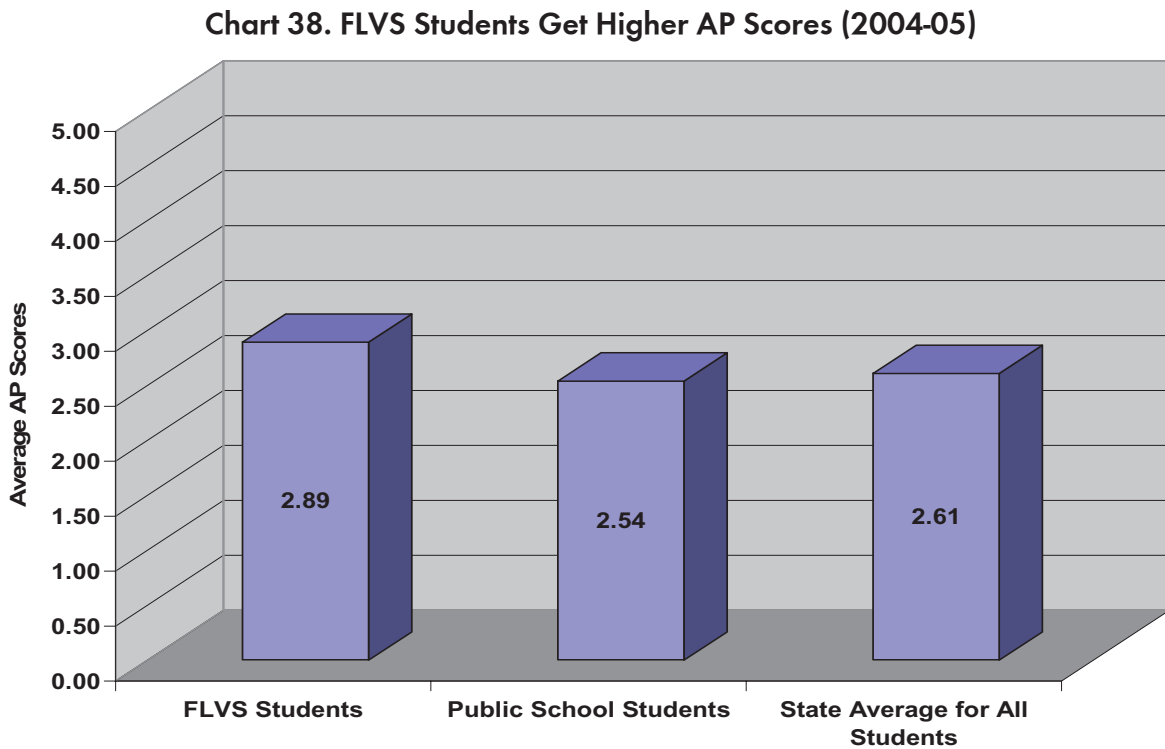
As depicted in Chart 37, Advanced Placement United States History had the highest enrollment over the two-year span, with 505 participants. Advanced Placement Art History followed closely behind with 488. The lightest enrollment was Science AB, at 61.

Chart 37: AP Course Enrollments by Subject



FLVS Students Outperformed the State in 2004-05

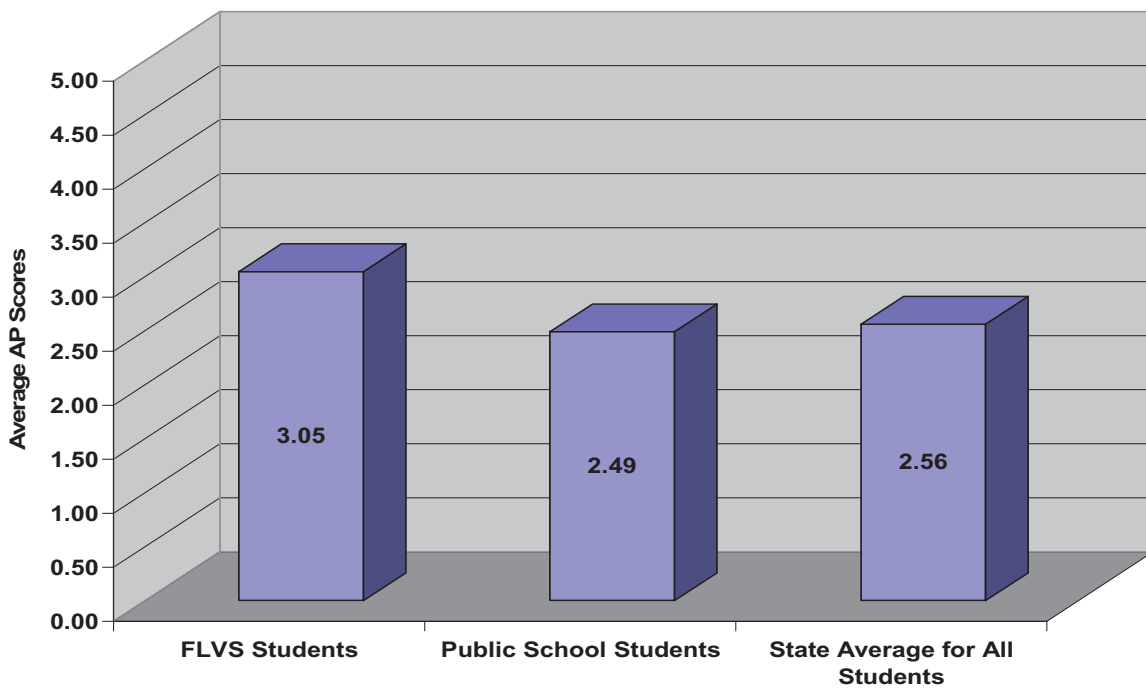
Chart 38 illustrates the performance of FLVS students on the AP exams for 2004-05 compared with that of Florida students in traditional schools. The Florida Virtual School students' AP scores from the 2004-2005 school year were considerably higher. They also helped elevate the state average score.



FLVS Students Outperformed the State Again in 2005-06

The following school year saw similar statistics, with the FLVS scores slightly increasing and the traditional public schools' scores decreasing. The drop by traditional public schools resulted in an overall reduction of the statewide average in Advanced Placement scores. The 2005-06 found the average FLVS AP Exam score to be over 3.0, the established passing score.

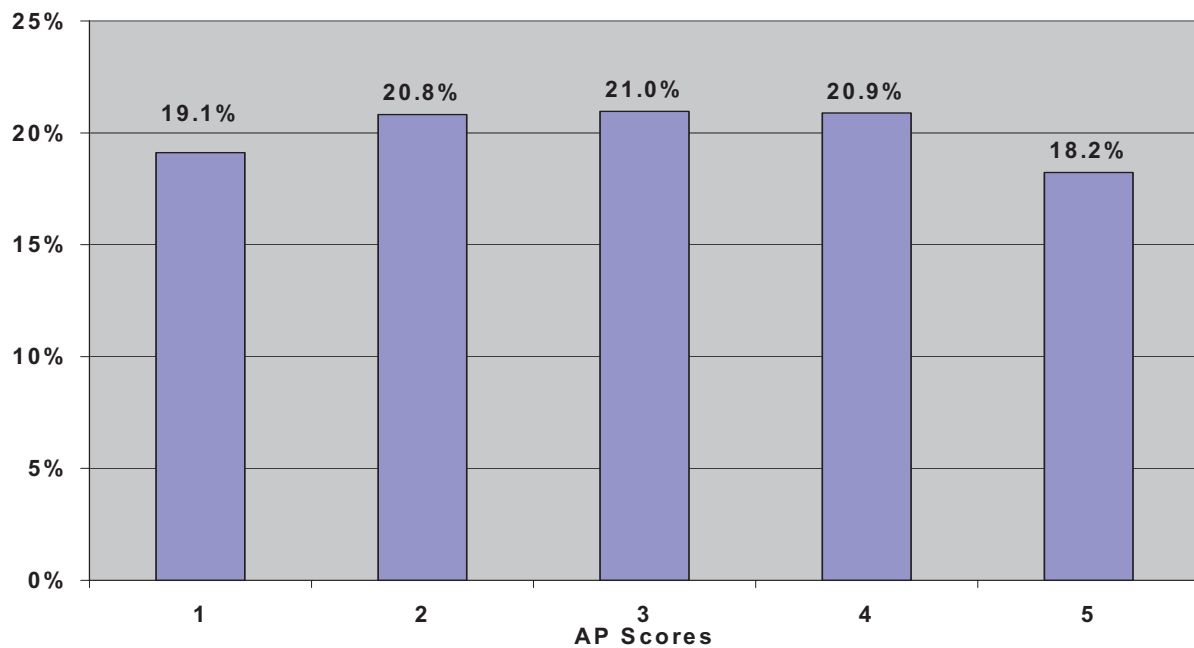
Chart 39: FLVS Students Get Higher AP Scores (2005-06)



The Percentage Distribution of AP Scores for FLVS Students

The AP course results for FLVS students were evenly distributed, when using a score of three as the average grade for the mean of expectations. Sixty percent (60%) of FLVS students scored three or above on AP exams during the school years 2004-05 and 2005-06.

Chart 40: The Percentage Distribution of AP Scores for FLVS Students



FLVS Students' FCAT Data Analysis

Results from the Florida Comprehensive Assessment Test (FCAT) were analyzed in this section. Scores for FLVS students who completed at least one online course were compared with overall scores from the statewide public school system in Florida.

The 2004-05 and 2005-06 FCAT data for FLVS students provided by the Department of Education included all students who were required to take the test. It is important to note that it was not mandatory for private and home schooled students to take FCAT.

Both the FCAT Reading and FCAT Math sections were examined. Future studies may be warranted for the Science category in this comparison, as it was officially added to the FCAT in the 2006-07 school year.

Readers should be cautioned on the interpretation of this information with the following caveats: First, there are many factors affecting student achievement on the FCAT. Correlation does not equate to causation.

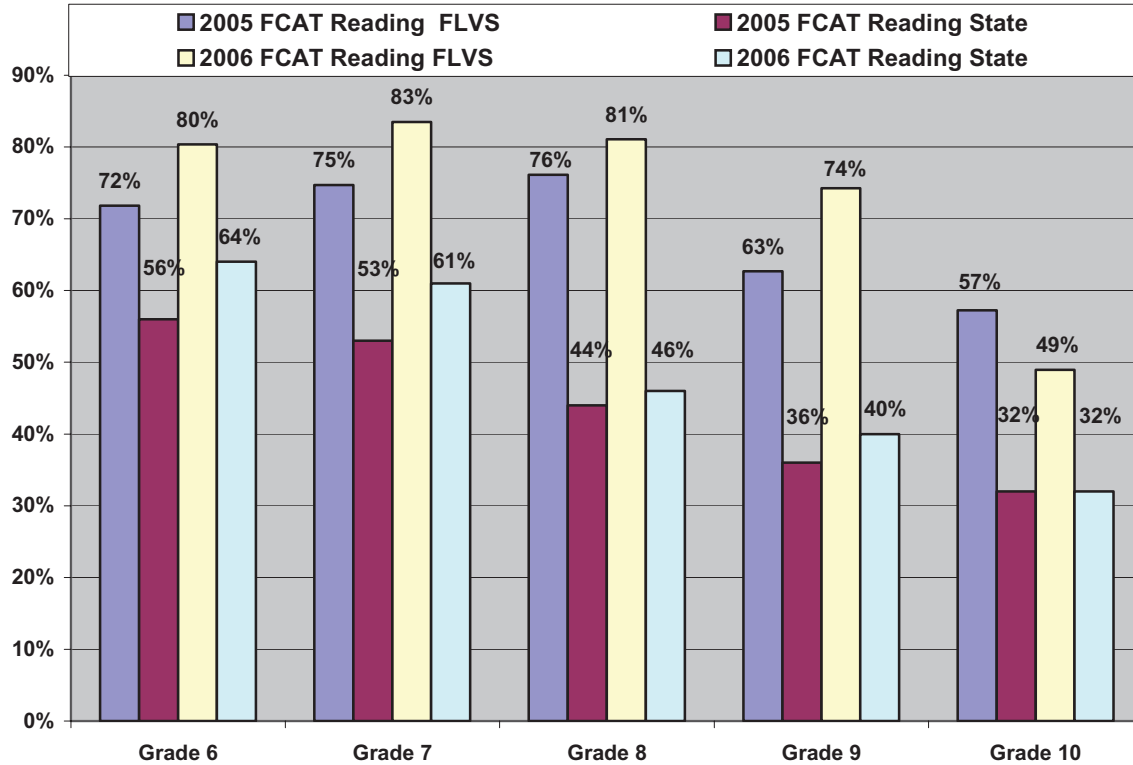
The facts presented in this study represented findings, not speculations about causes or connections. This is especially important to remember when considering the FCAT results. The facts provide a picture of the findings, not a statement of correlation or causation.

Second, the statewide average data included the scores of Florida Virtual School students. Since the FLVS students consistently have a higher percentage of "passing" grades than do students statewide, this resulted in a positive adjustment for the state.

FCAT Reading Scores for FLVS and All Public School Students

Chart 41 compares the FCAT Reading scores for multiple grades across the 2004-05 and 2005-06 school years for both FLVS and Florida schools, statewide. After examining the data, the trends can be easily deciphered from the chart. As both advanced from 6th grade to 10th, there was a steady and consistent decline in scores over time by grade level in the statewide schools. In comparison, FLVS students not only constantly outperformed their counterparts in the analysis, but they achieved improvements throughout the middle school grades. Although they still scored higher than statewide averages, the only instance in this chart of a decline in a single grade over two years was found for the 10th graders from FLVS.

**Chart 41: FCAT Reading Scores for FLVS and All Public School Students
% Scoring 3 and Above ("Passing" Score Range)**

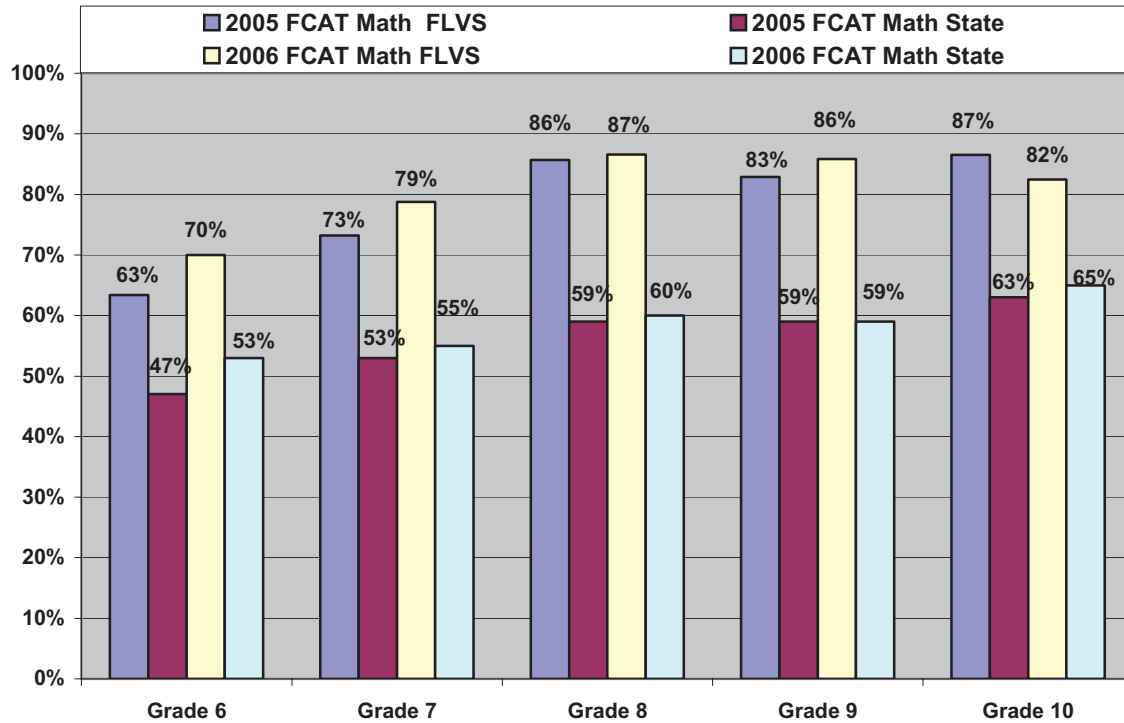


FCAT Math Scores for FLVS and All Public School Students

Chart 42 compares the FCAT Math scores for multiple grades across the 2004-05 and 2005-06 school years for both FLVS and Florida schools, statewide. The results were even more promising in mathematics than they were in reading. FLVS students continued to outpace their statewide counterparts. The two exceptions to this were a 10th grade FLVS example, wherein there was a loss, and a 9th grade statewide example, where there was no improvement, nor was there a decline.

The chart demonstrates a constant, general increase in student achievement and understanding over time and grade levels for the Math portion of the FCAT for both FLVS and the state as a whole.

Chart 42: FCAT Math Scores for FLVS and All Public School Students



Grade Point Average (GPA) Analysis

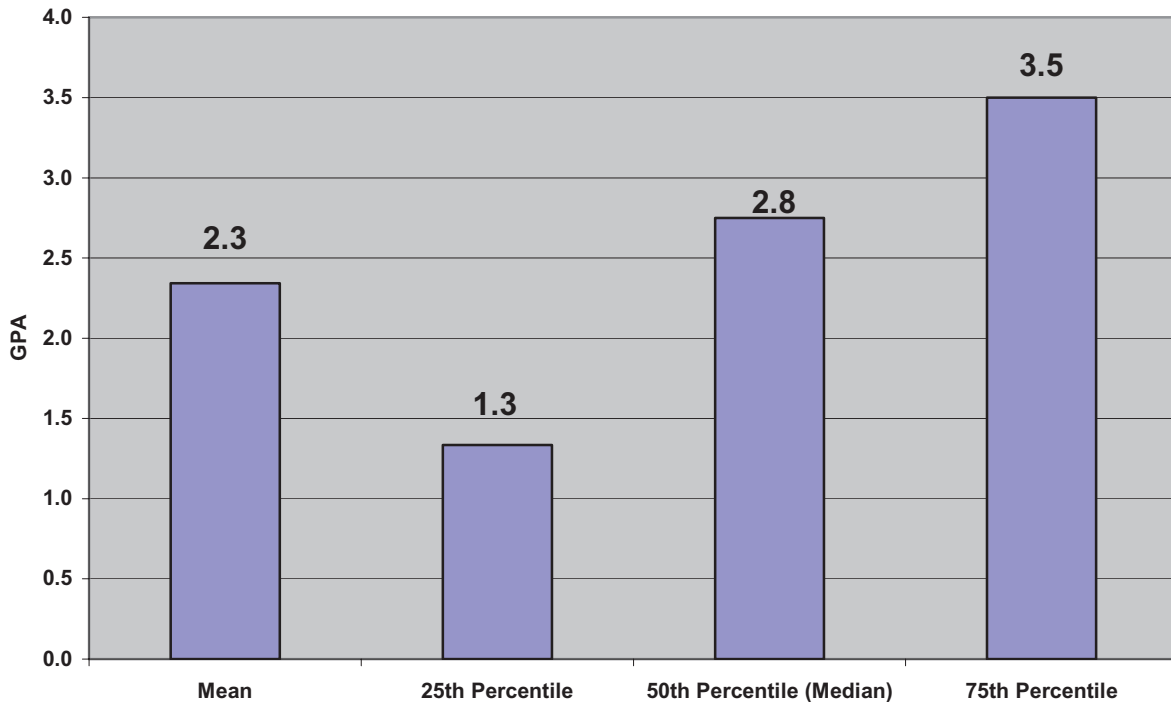
Cumulative Grade Point Average (GPA) data for FLVS students was analyzed for this section. This was done to address the issue of whether FLVS students were disproportionately academically inclined. Data were provided by the Department of Education.

Note: Grade Point Average (GPA) is a common educational statistic used for comparative purposes. For this study, the conventional unweighted 4.0 scale was utilized. The GPA was computed by applying points to letter grades per the following scale: A=4, B=3, C=2, D=1, and F=0. The sum total was then divided by the number of courses taken by the student.

FLVS Students' Grade Point Average Data

Chart 43 shows that the average GPA for a FLVS student was 2.3. Fifty percent of the students had up to and including a 2.8.

Chart 43: FLVS Students' GPA



The Grade Point Average (GPA) data for Florida Virtual School students do not support an argument that FLVS students are selected on their stellar academic performance.

Comparison of the Cost of FLVS to Traditional Public Schools

The following analysis of the funding differences between Florida Virtual School (FLVS) and traditional public schools is a comparison of the per unit costs of the two systems. It compares the costs to Florida taxpayers for one student's education for one year. The analysis uses revenues provided, not actual expenses.

This analysis focuses on per student Florida Education Finance Program (FEFP) funding, which is lower for FLVS than it is for public schools. It also acknowledges that other costs, such as capital outlay, further increase the cost of traditional schools relative to FLVS. The analysis concludes that education through Florida Virtual School is a bargain for Florida taxpayers.

How FLVS is Funded

The Florida Virtual School program is funded through the Florida Education Finance Program (FEFP)¹⁰ as a special district. It is the only public school in Florida where base funding is directly tied to student performance. Students must be enrolled, receive direct instruction, and successfully complete a FLVS course in order to generate funds through the FEFP formula.

Unlike traditional schools, FLVS does not provide specialized academic services, such as Exceptional Student Education and Supplemental Academic Instruction and, therefore, does not receive funding for these services. FLVS is also not a recipient of funding for “brick and mortar” driven supports such as school construction, transportation, breakfast and lunch programs, or teacher “out-of-pocket” expense reimbursements (Florida Teachers Lead).

FLVS does not receive any school property tax money since it does not have any local taxing authority. The school does receive some additional state dollars through the FEFP to compensate it for its lack of taxing authority. This funding totaled \$2.6 million in FY 2007. FLVS also receives some in-kind contributions from public schools and schools districts, such as someone to supervise virtual school students using public school computer labs.

FLVS receives funding for instructional materials. Being an e-learning environment, FLVS utilizes these funds for the actual development of online courses – not textbooks, as is the norm with traditional public schools.

FLVS also receives funding for class size reduction, but this is solely for operational costs. Brick and mortar schools receive funding for both operational (FEFP) *and* capital outlay functions to build school facilities that will house more classrooms. In this analysis, the FLVS funding for class size is included in its total cost.

The absence of capital outlay funding is another reason why the per student cost of FLVS compares quite favorably with traditional schools. FLVS does have costs for office space and equipment for staff but has to use operational dollars to pay for these expenses. FLVS has been renting space from Orange County Public Schools, but the lease will soon run its course without the option of renewal. The 2007 Florida Legislature attempted to provide funding to secure a site, but this measure was ultimately vetoed.

¹⁰ Florida Education Finance Program (FEFP) – The FEFP was enacted by the Florida Legislature in 1973 as a means of achieving a statewide equalization policy for funding public education opportunities for all students, regardless of the school district’s socio-economic makeup.

During the time period examined by this study, all school districts, including FLVS, also received funding for teacher training. However, this specific allocation was discontinued following the 2005-2006 school year.

Additionally, in 2006, the Florida Legislature revised the FEFP to increase FLVS FTE funding by a factor of .114 (added to the base factor of 1) to provide funding for costs associated with students who enroll in, but do not complete, an FLVS course.

Cost Comparisons Per Weighted FTE

The table below compares FEFP funding per weighted FTE (wFTE) for Florida public schools and FLVS for FY 2004 through FY 2007. In all four years, the total cost per wFTE was substantially lower for FLVS than for others. For example, according to the most recent Florida Department of Education data, for the past school year (FY 2007), a public school weighted FTE cost \$ \$1,048 more than an FLVS wFTE.

This is a significant per unit cost differential. The percentage that the per public school student cost exceeded the per FLVS student cost varied slightly during the referenced years, ranging from 7% to 20% public school over FLVS.

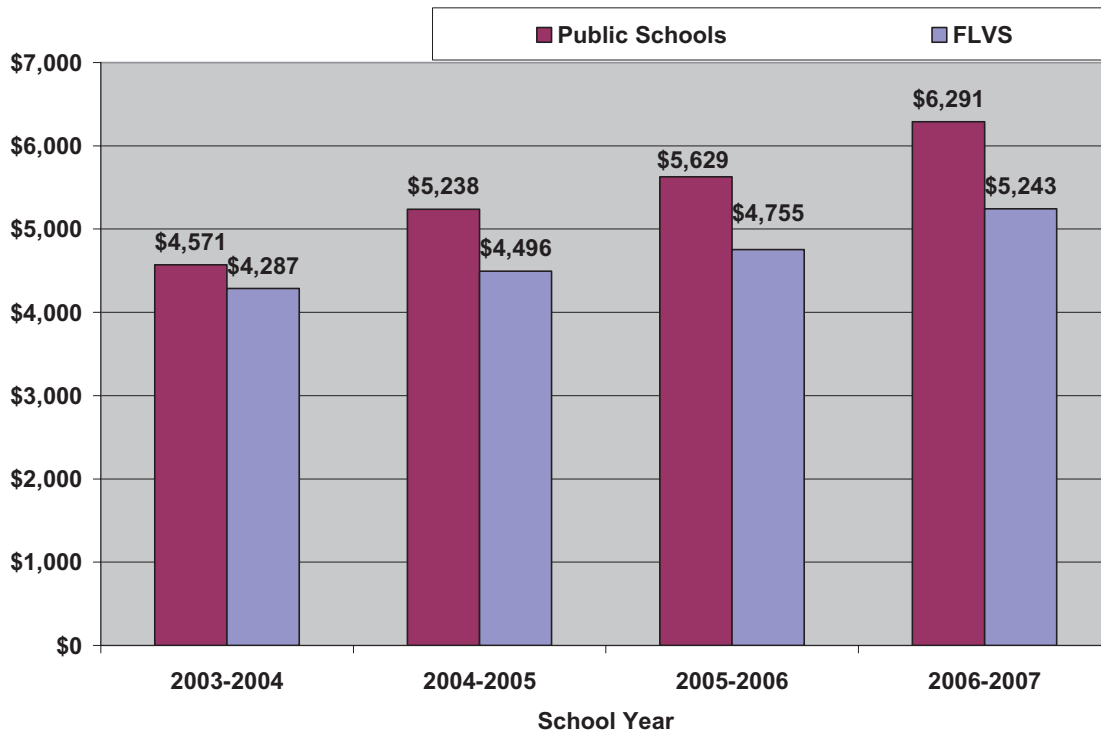
FEFP Funding per Weighted FTE

		2003-2004	2004-2005	2005-2006	2006-2007
Total State & Local Funding per wFTE	Public Schools	\$4,571	\$5,238	\$5,629	\$6,291
	FLVS	\$4,287	\$4,496	\$4,755	\$5,243
Dollar difference per wFTE		\$284	\$742	\$874	\$1,048
% Unit Cost Difference		7%	17%	18%	20%

Source: 2003-04, 2004-05, 2005-06 Final Calculation *Funding for Florida School Districts: Statistical Reports* & 2006-07 Fourth Calculation *Funding for Florida School Districts: Statistical Report* <http://www.fldoe.org/fefp/offrfefp.asp>

Chart 44 depicts the total per student FEFP for FLVS and for public schools in general. FLVS per student funding in all cases was less than that of public schools.

Chart 44: Total Per Student FEFP Funding for FLVS and Public Schools



FLVS Also Saves On Other Costs

In addition to lower per student FEFP costs, FLVS has no expenses related to transportation, building new facilities, or the maintenance or repair of existing facilities. Since all FLVS students are not full-time virtual schoolers—meaning that they attend other schools for part of the day—it could be argued that some small part of these public school costs are attributed to FLVS students. However, it is obvious that capital costs add to the relative savings of FLVS.

The amount of capital outlay funding varies considerably from year to year. The per student cost over the four-year period ranged from \$288 to \$718. Although all of this might not directly translate into FLVS savings, the total difference in per student costs is surely greater than the FEFP dollars shown in the above chart.

A large portion of the total capital expenses is for brick and mortar facility construction and management, including the Classrooms for Kids allocation that represents the capital outlay share of the Class Size Reduction Amendment’s costs for implementation.

FLVS does not receive any capital outlay funding for these purposes, but the school is a recipient of Class Size Amendment operating dollars as a part of the total FEFP. It should be noted that these

large sums of capital outlay appropriation will continue only until the facilities' goals for implementing the amendment are met.

The following table details these expenses. The state spent slightly more than \$2 billion on these in FY 2007.

Select Brick and Mortar Expenses

	2003-2004	2004-2005	2005-2006	2006-2007
New School Construction	\$99,101,081	\$2,255,802	\$113,345,571	\$242,405,295
Maintenance, Repair, Renovation	\$132,182,318	\$194,602,648	\$148,889,804	\$186,644,504
Special Facilities	\$55,050,235	\$71,374,645	\$54,970,000	\$27,531,199
Capital Outlay and Debt Service	\$15,878,480	\$15,878,480	\$30,000,000	\$21,100,000
Funds for Student Transportation	\$430,326,357	\$440,240,964	\$451,431,961	\$483,032,198
Classrooms for Kids	\$600,000,000	\$100,000,000	\$83,400,000	\$1,100,000,000
Total Capital Expenditures	\$1,332,538,471	\$824,352,539	\$882,037,336	\$2,060,713,196
Capital Expenditures per wFTE	\$475	\$288	\$306	\$718

Source: 2003-04, 2004-05, 2005-06 Final Calculation Funding for Florida School Districts: Statistical Reports & 2006-07 Fourth Calculation Funding for Florida School Districts: Statistical Report <http://www.fldoe.org/fefp/offrfefp.asp>

Conclusion

It is hard to argue with better results for less money. While people may debate the level of savings provided through Florida Virtual School – and Florida TaxWatch acknowledges that such debates are fairly frequent – common sense dictates the obvious. FLVS has no physical facility for students. None of the hundreds of millions of dollars spent annually for school construction and student transportation is needed for FLVS.

Even without including capital outlay funding, FLVS spends much less per student than traditional schools—more than \$1000 less in FY 2007. Capital outlay expenses make those savings even bigger.

In return for these decreased expenditures, FLVS produced students who earned higher grades and made higher test scores than their public school counterparts.

This final finding of cost efficiency for Florida Virtual School satisfies the basic expectation of taxpayers that the State will fund effective educational programs.

FLVS gets solid student achievement results at a reduced cost to the State.

Florida TaxWatch has extensively reported on the need for the State to direct Florida's limited resources to those educational programs that are proven to increase student achievement in a cost-conscious way. Florida policymakers are honored for doing so through their support of Florida Virtual School.

Wise investments in education result in increased scholastic accomplishment, increased graduation rates, increased productivity, and increased workers' average earnings. Florida ultimately benefits from a more competitive labor pool from which business and government can draw to continue to ensure Florida's competitive position and the vitality of its economic development.

Additional Research

Brief Literature Review on Virtual Schooling

Distance education has experienced a number of generations of technological advancement throughout the various stages of its history. These stages have included print, audio/video broadcasting, audio/video teleconferencing, computer aided instruction, and the currently expanding e-learning/online-learning and computer broadcasting/web casting movement. In nations around the world, the United States and European countries in particular, these offerings are available to students. Underdeveloped countries continue to utilize the radio as the primary source for distance learning provision, due to its availability, cost, and ability to reach across far distances. The following synopsis outlines the general development of the distance learning environment over time.

Distance Education by Mail

The first distance learning courses were primitive by today's standards. The initial extensive systems for distance learning date back to the late-19th and early 20th centuries. These consisted of written correspondences between the educator and the student, were print-based methods of delivery, or were offered through a variety of sources throughout Europe and America—Exeter College in England (1850), the Society to Encourage Studies at Home (Boston, Mass. in 1871), and Benton Harbor, Michigan (1923) are cited as early examples.¹¹ The main drawback to this method was the length of time between pupil-teacher communications.

Distance Education by Radio, Video, and TV

With the invention of video recording and radio communications throughout the early and mid-1900s, the field of distance education was greatly expanded. When television broadcasts were added to the options of media provisions, the opportunity to teach at a distance on a wider, more economical basis was realized. "During the 1960s era of expansion in distance education, television production was largely confined to studios and live broadcasts, which consisted of one broadcast to many students. The most widely noted criticism of this technique was that there was a lack of two-way interaction between student and educator. The lesser of the two major problems with this type of provision cited...was that the professional, highly academic, [and] expert teachers were not very captivating; and thus, the interest of the audience was largely lost and the perceived benefit of the process was diluted."¹²

¹¹ Marabito, Margaret (Director and founder of CalCampus). (1997). *Foundations of Distance Education*.

¹² Sherry, L. (1996). Issues in Distance Learning. *International Journal of Educational Telecommunications*, 1 (4), 337-365. University of Colorado at Denver

Online Distance Education

The PLATO system, developed in the 1960s, was the first computer-based educational program. [Don] Bitzer, an electrical engineer, collaborated with a few other engineers to design the PLATO hardware. He collected a staff ranging from university professors to high school students, few of whom had any computer background, to write the software.¹³ It went through several stages of development, including the expansion of the number of users, the number of access portals, the number of courses able to simultaneously operate, and the introduction of different interaction capabilities. The system was revived in the year 2000, with the PLATO® Web Learning Network (PWLN®) as part of the PLATO Learning Environment™ (PLE™).¹⁴

The United Kingdom founded the Open University system in 1969, tailored specifically towards adult learning across the continent.¹⁵ The Open University initially offered educational services through the radio and television, supplemented with print-based materials, videos, audiocassettes, and access to tutors. The use of new technologies, such as video cassette recorders and fax machines, in the 1970s and 1980s allowed for the expedited transmission of print-based materials between students or teachers in secluded locations by way of telephone lines, while the video cassettes allowed students to watch and listen to teacher-prepared lessons or educational movies and documentaries on television. Educators also utilized standard telephone lines and telephone voice conferencing as means for communicating with their pupils. As technology developed further, the Open University added the ability for learners to use computers, software, and the internet to receive instruction and communication in their educational endeavors.¹⁶

When home computers became available and affordable to the public in the 1980s, computer literacy courses opened the door to the realm of possibilities for the expansion of the concept to learn online. At first, these classes were taught in the classroom and based largely on textual resources and personal interactivity that instructed individuals on how to operate various modes of technological programs, such as Microsoft Power Point® and the internet. Today, these classes are offered online through universities/school districts—or can even be purchased at any given retail store that sells electronic media.

Colleges and universities had seized the initiative in organizing and utilizing online collaborative classrooms by the end of the 1990s. This was also around the time that the primary and secondary virtual schools began to sprout up in a number of states. Streaming media, online video access, and fast web site servers that matured during this period have made it possible for online education to thrive. These new outlets for learning allowed students to learn from their homes at their own pace and on their own schedule.

¹³ Wooley, David R. (1994). *PLATO: The Emergence of Online Community*. <http://thinkofit.com/plato/dwplato.htm> Accessed on 3/19/07

¹⁴ <http://www.plato.com/About-Us/Our-Technology.aspx> Accessed on 3/23/07

¹⁵ <http://www.open.ac.uk/about/ou/p3.shtml> Accessed on 3/23/07

¹⁶ <http://www.open.ac.uk/about/ou/p3.shtml> Accessed on 3/23/07

Virtual Schools in the United States

Through September of 2006, 38 states had either state-led K-12 online learning programs, significant policies regulating this online education, or both.¹⁷

National Snapshot :

- 24 states with state-led online education programs
- 26 states with significant state policies for online learning
- 12 states with neither a state-led program nor significant state policies

Several models for state-led programs exist, including:

- Within/under the state education agency (many, including Alabama ACCESS and Idaho Digital Learning Academy)
- Within/under the State Board of Education (Illinois Virtual High School)
- As an independent entity (Colorado Online Learning)
- As a separate local education agency or school district (Florida Virtual School)
- Housed in a university (University of California College Prep Online)

These models are not necessarily static; a program can evolve from one type to another. Advantages and disadvantages exist within each type of organization. The model most often utilized (a state-led program housed in the state education agency) offers the benefit of efficiencies and economies of scale, reduction of duplication of resources and expense across the state, and the ability to take advantage of agency offices and services, such as general counsel, public relations, and office space, often at reduced or no cost to the program. The chief disadvantage to being part of the state education agency is in possible complications arising from state regulations such as in-state acquisition and contracting policies. Another negative aspect is the need, or requirement, to relay decisions through a formal and perhaps lengthy bureaucracy, which can limit flexibility and growth.¹⁸

¹⁷ Watson, John and Ryan, Jennifer (Evergreen Consulting Associates). (2006) *Keeping Pace with K - 12 Online Learning: A Review of State-Level Policy and Practice*.

¹⁸ Watson, John and Ryan, Jennifer (Evergreen Consulting Associates). (2006) *Keeping Pace with K - 12 Online Learning: A Review of State-Level Policy and Practice*. (p. 8)

Pros and Cons of Distance Education, Including Virtual School Education

Distance education (the process of delivering education through a variety of means, including virtual schools' varying uses of technology, from one site to another) creates some advantages and disadvantages, as compared to traditional education. Advantages of distance education include offering the flexibility to meet specific needs, providing equity of educational opportunity to students in varying localities, low-cost alternatives, new learning experiences, and expanded resources.¹⁹ It would seem that every form of education is improved by the increased exposure and access to information, technology, and communication that is provided by distance education.

There have been many studies conducted on both the advantages and disadvantages of distance education. The major findings of these studies can be summarized as follows.²⁰

Major Advantages:

1. Online learning allows for one's own pace, place, time, and learning type, making education more of a personal endeavor as opposed to a group effort;
2. The savings on time and money in relation to transportation can be helpful, as are other cost savings;
3. Course availability is increased;
4. For shy or withdrawn students (as well as English Language learners), education can be maximized, as students are not required to be outspoken to get attention; and,
5. Older students can learn in their downtime, thereby enabling them to get a full-time job (especially important for families who need the extra income).

Major Disadvantages:

1. Online learning allows for those who are shy to remain in their shell and not become accustomed to social requirements, while also holding back those who do have enthusiastic personalities;
2. The opportunity and impulse to cheat is considerably multiplied, necessitating important quality control measures;
3. There may be too much student-to-student or teacher-to-student interaction, thereby taking away from time available for assignments;
4. Frustration may accumulate in those without the necessary skills to work in an online classroom setting. This may increase drop-out rates, incompletes, or the final grade due to the lack of ability to complete the designated tasks; and
5. The students do not have face time with an educator. One of the major questions is the effect that this has on the student—how much does a student lose from not being able to directly interact and be "shown how" by a teacher?

Benefits Outweigh Drawbacks:

¹⁹ Kerka, Sandra (1996). *Distance Learning, the Internet, and the Worldwide Web*. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH.

²⁰ Barry, Jacquie. *Check Out 10 Advantages and Disadvantages of Online Courses*. <http://www.educationtraininginfo.com/articles/e001-advantages-and-disadvantages-of-online-courses.htm> Accessed on 3/14/2007

A study conducted by North Central Regional Educational Laboratory (NCREL) found the following benefits of distance education:²¹

1. Making learning more interactive.
2. Enhancing the enjoyment of learning.
3. Individualizing and customizing the curriculum to match learners' developmental needs as well as personal interests. [Connect lessons to real-world experiences.]
4. Capturing and storing data for informing data-driven decision making.
5. Enhancing avenues for collaboration among family members and the school community.
6. Improving methods of accountability and reporting.

The NCREL study concludes that technology may transform the educational content and motivate students toward lifelong learning. The future of virtual education will provide numerous benefits to society—locally, nationally, and internationally. The local community can organize study groups more readily, the national student body can compare courses across systems and choose to take one course or another, and the international community will be enriched through the interaction afforded by the communal nature of the system. Business and governmental communities can only gain through the increased amount of computer literacy and communication skills developed through these means.

Disadvantages of distance education include sound and video that may be less than broadcast quality, reliance on learner initiative to work in a situation with less supervision than a classroom, the need for technical skills to work with the delivery technology, and the possibility of social isolation.²²

International Research Findings on Online vs. Traditional Course Student Achievement

Is there any difference between online and traditional courses in terms of delivering knowledge to students? Hundreds of studies have been conducted in an attempt to come to a concise conclusion on this issue. The most popular assumption is that there is no *significant* difference. Although there are numerous studies that have found significant differentiation between the learning of the online groups (either positive or negative), these analyses all seem to suffer from one type of bias or another, thereby nullifying their conclusions and not enabling them to be applied in a more generalized manner.

A review of research in distance education reported that 1,419 articles and abstracts have appeared in major distance education journals and as dissertations during the 1990-1999 period.²³ This indicates that there is no single answer to the question of the effect of distance education on student achievement. The only factor that seems to replicate amongst the various studies and holds steady is that experienced faculty are more effective than less experienced faculty.²⁴ Perhaps the

²¹ <http://www.ncrel.org/tplan/cbit/conclusn.htm> 10/2/2001 *Computer-Based Technology and Learning*. Accessed on 3/19/07

²² Kerka, Sandra (1996). *Distance Learning, the Internet, and the Worldwide Web*. [ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH](#).

²³ Berge and Mrozowski. (2001). *Review of Research in Distance Education, 1990 to 1999*. [American Journal of Distance Education](#), v15 n3 p5-19 2001.

²⁴ Machtnes and Asher (2000). *A Meta-Analysis of the Effectiveness of Telecourses in Distance Education*. [American Journal of Distance Education](#), v14 n1 p27-46 2000.

only truly strong conclusion emerging from previous empirical studies of distance learning is the "no significant difference" finding.²⁵

The 'no significant difference' finding has become accepted as fact in the policy community in particular, where at least some public officials have pronounced that the last...campus has been built.

Jamie Merisotis & Ronald Phipps
Change, Vol. 31, no. 3

"With few exceptions, the bulk of these writings suggest that the learning outcomes of students using technology at a distance are similar to those of students who participate in conventional classroom instruction."²⁶

T. L. Russell²⁷ deduced that there is no compelling evidence to counter R. E. Clark's²⁸ original claim (1983) that the system of educational delivery contributes little, if anything, to the outcomes of student achievement; and, therefore, that there are no advantages in favor of online distance education. In addition to these studies, there have been several other far-reaching meta-analyses that have reached the same general conclusion (e.g., those mentioned above; Jung & Rha, 2000²⁹; Schlosser & Anderson, 1994³⁰; Moore & Thompson, 1990³¹ & [Revised] 1997³²). But, according to some researchers, "[t]his type of research has long been known for its subjectivity, potential bias and inability to answer questions about magnitude of effects."³³ Therefore, they claim that the "no significant difference" findings are biased and unacceptable.

According to a study conducted in 2001 by Catherine Cavanaugh³⁴ that was partially in response to these critics, she analyzed 19 studies that she deemed valid and acceptable and found that there were no significant differences between grade levels, subject areas, ability levels, distance education technology, duration and frequency of use of distance education, or instructional design in relation to learning, with an overall statistical significance of +0.147. Although she found no significant difference, Cavanaugh did come to the conclusion that "[m]ore importantly, when implemented with the same care as effective face-to-face instruction, distance education programs can be used to complement, enhance, and expand education options for students, at least at intermediate, middle,

²⁵ Saba, Farhad (2000). *Research in Distance Education: A Status Report*. International Review of Research in Open and Distance Learning, v1 n1 Jun 2000.

²⁶ Merisotis, Jamie P. & Phipps, Ronald A. WHAT'S THE DIFFERENCE? *Outcomes of Distance vs. Traditional Classroom-Based Learning*. Change, vol. 31, no. 3; pp 12-17; May/June 1999.

²⁷ Russell, T. L. (1999). The No Significant Difference Phenomenon: As Reported in 355 Research Reports, Summaries and Papers. North Carolina State University.

²⁸ Clark, Richard E. (Winter, 1983) *Reconsidering Research on Learning from Media*. Review of Educational Research, Vol. 53, No. 4 pp. 445-459.

²⁹ Jung, Insung & Rha, Ilju (2000). *Effectiveness and Cost-Effectiveness of Online Education: A Review of the Literature*. Educational Technology, v40 n4 p57-60 Jul-Aug 2000.

³⁰ Schlosser, Charles A. & Anderson, Marcy Lagormarcino (1994). *Distance Education: Review of the Literature*. Iowa State Univ. of Science and Technology, Ames. Research Inst. for Studies in Education.; Iowa Distance Education Alliance, Ames.

³¹ Moore, M. G., & Thompson, M. M. (1990). *The Effects of Distance Learning: A Summary of Literature*. ERIC Document Reproduction Service No. ED 330 321.

³² Moore, M. G., & Thompson M. M. (1997). *The Effects of Distance Learning* (Rev. ed. ACSDE Research Monograph No. 15). University Park, PA: American Center for the Study of Distance Education, Pennsylvania State University.

³³ Robert M. Bernard, Philip C. Abrami, Yiping Lou, Evgueni Borokhovski, Anne Wade, Lori Wozney, Peter Andrew Wallet, Manon Fiset and Binru Huang. (2004). *How Does Distance Education Compare to Classroom Instruction? A Meta-Analysis of the Empirical Literature*.

³⁴ Cavanaugh, Catherine. The Effectiveness of Interactive Distance Education Technologies in K-12 Learning: A Meta-Analysis. International J. of Educational Telecommunications (2001) 7(1), 73-88.

and upper grades levels.” To rephrase this, she says that, if distance education is used in conjunction with on-site education, the benefits have the possibility of becoming statistically significant.

Cavanaugh also cites the logic and positions of the opposition. Abrami and Buras³⁵ state that learning at a distance is rarely of a better quality than traditional instruction; especially in consideration of the promotion of a higher level of achievement and complex skills. These limitations may arise as a result of a lack of social and intellectual interaction. Also, studies described by Moore and Thompson³⁶ indicate that the instructional format has little effect on student achievement as long as the method by which the information is distributed is appropriate for the content and timely teacher-to-student feedback is achieved.

Several researchers and theorists have concluded that the effects upon distance education are proven to be positive and encouraging. Among these thinkers is Holmberg, whose theory of distance teaching³⁷ asserts that distance teaching will support student motivation and promote learning pleasure and effectiveness only if learners are engaged in discussions and decisions and the program provides for real and simulated communication to and from the learners. As in any classroom, interaction lies at the center of education. Distance education is believed by these individuals (e.g. Chris Dede³⁸) to work very well and produce results as effective as traditional classroom instruction.

In an article by Merisotis and Phipps,³⁹ in which they study 40 original articles deemed acceptable by their standards, the authors shed light on the inadequacies of the majority of research conducted that attempt to decide the distance education and student achievement issue. Their review and study of previous articles led them to the determination that a majority of the literature related to the topic are opinion pieces, how-to articles, and second-hand reports that don't evaluate first-hand accounts or research with subjects. They also find that the amount of available research that is original is very limited. A caveat is placed on the “no significant difference” findings, since the overall quality of the research is questionable and thereby renders many of the findings inconclusive.

There is no conclusive evidence either in favor or opposition to distance education that cannot be refuted by the “no significant difference” position. In the end, there are very few studies that can be held to a standard that would allow for a generalizable conclusion to be developed. A majority of scholarly works depict a situation with very small differences—if any difference at all exists. This study of the Florida Virtual Schools can be seen as a template for such advancements and later conclusions in the research surrounding distance education.

³⁵ Abrami, P. C. Bures, E. M. (1996). *Computer-Supported Collaborative Learning and Distance Education*. AMERICAN JOURNAL OF DISTANCE EDUCATION, VOL 10; NUMBER 2, pages 37-41.

³⁶ Moore, M. G., & Thompson, M. M. (1990). *The Effects of Distance Learning: A Summary of Literature*. ERIC Document Reproduction Service No. ED 330 321.

³⁶ Moore, M. G., & Thompson M. M. (1997). *The Effects of Distance Learning* (Rev. ed. ACSDE Research Monograph No. 15). University Park, PA: American Center for the Study of Distance Education, Pennsylvania State University.

³⁷ Holmberg, Borje (1985) *The Feasibility of a Theory of Teaching for Distance Education and a Proposed Theory*. ZIFF Papiere 60. FernUniversitat, Hagen (West Germany). Zentrales Inst. fur Fernstudienforschung Arbeitsbereich.

³⁸ Dede, Chris. *The Evolution of Distance Learning: Emerging Technologies and Distributed Learning*. The American Journal of Distance Education, v10 n2 p4-36 1996.

³⁹ Merisotis, Jamie P. & Phipps, Ronald A. *WHAT'S THE DIFFERENCE? Outcomes of Distance vs. Traditional Classroom-Based Learning*. Change, vol. 31, no. 3; pp 12-17; May/June 1999.

The Future of Virtual Schooling

The future of online education is promising and limitless. As technology advances and improves on a daily basis, the variety of options that can be integrated into the process is expanding exponentially. Examples of this are Ipods, Palm Pilots, MP3 Players, Blackberries, and the iPhone—all new forms of technology that have emerged in the past five years or so that provide access to, or resources for, off-site educational purposes.

Online educational opportunities respond to a number of compelling student and state needs. Universal access can be established, eliminating disadvantages caused by limitations of course offerings at certain schools. Students for whom learning in a traditional setting has posed hardships or proven to be unsuccessful can be better served. Credit recovery programs can be provided, as well as increased coursework for acceleration purposes. All this can be accomplished at a cost significantly less than services delivered via traditional schools, a fact of great significance due to fiscal pressures.

Thus, as online learning has grown exponentially all across the country, virtual schools have expanded opportunities for students in a way that no other system of delivery can—allowing for a focus on student needs, while supporting school reform and redesign efforts. These benefits are also providing practitioners additional, largely unplanned, advantages with online learning: promoting 21st century skills and global citizenship.⁴⁰

Students of the current and next generation who have grown up with this extensive variety of technologies see national and global communication as second nature. Most of these children have been acclimated to these technologies for some time—at the least they are familiar enough with other equipment to the point that training or teaching through these new forms would be easy. “The goal will be to provide this in an affordable and widespread way...[and]...essentially duplicate traditional instructional methods...to better provide supplemental instructional materials that are commonly available online.”⁴¹

Today’s technological circumstances allow for the use of online facilities on an ever-expanding scale. The real-time capabilities of streaming video, chat rooms and instant messaging allow for instantaneous feedback to students from teachers, fellow pupils, or standardized assignments, such as multiple choice exams. “The proliferation of technology that utilizes electronic communication tools has brought correspondence instruction into the mainstream of educational delivery systems and has modified it in that interaction between student and teacher is more immediate and in some cases instantaneous.”⁴² Many instructors in today’s marketplace are being hired to teach solely online, but there are also a large number that teach both online and in the classroom, dividing their time as is individually deemed appropriate. Businesses also have the opportunity to take advantage

⁴⁰ Watson, John and Ryan, Jennifer (Evergreen Consulting Associates). (2006) *Keeping Pace with K - 12 Online Learning: A Review of State-Level Policy and Practice*.

⁴¹ Marabito, Margaret (Director and founder of CalCampus). (1997). *Foundations of Distance Education*.

⁴² Marabito, Margaret (Director and founder of CalCampus). (1997). *Foundations of Distance Education*.

of this technological movement, using online educational resources to reduce the costs related to training and inter- and outer-office interactions, such as board meetings.

Online learning is here to stay. It will continue to evolve as the technology allows.

There is a growing understanding that providing Web-based courses to middle grades and high school students works. Online courses have shown to be important to reach students who need:

- academic courses their school cannot provide;
- to retake courses for graduation;
- alternatives to traditional education;
- options to courses offered in their school; and
- access to courses because of physical disabilities.

SREB Educational Technology Cooperative Report on
SREB State Virtual Schools, August 2007

About Florida TaxWatch

Florida TaxWatch is a statewide, non-profit, non-partisan taxpayer research institute and government watchdog that over its 28-year history has become widely recognized as the watchdog of citizens' hard-earned tax dollars. Its mission is to provide the citizens of Florida and public officials with high quality, independent research and education on government revenues, expenditures, taxation, public policies, and programs, and to increase the productivity and accountability of Florida Government.

Florida TaxWatch's research recommends productivity enhancements and explains the statewide impact of economic and tax and spend policies and practices on citizens and businesses. Florida TaxWatch has worked diligently and effectively to help state government shape responsible fiscal and public policy that adds value and benefit to taxpayers.

This diligence has yielded impressive results: in its first two decades alone, policymakers and government employees implemented three-fourths of Florida TaxWatch's cost-saving recommendations, saving the taxpayers of Florida more than \$6.2 billion -- approximately \$1,067 in added value for every Florida family, according to an independent assessment by Florida State University.

Florida TaxWatch has a historical understanding of state government, public policy issues, and the battles fought in the past necessary to structure effective solutions for today and the future. It is the only statewide organization devoted entirely to Florida taxing and spending issues. Its research and recommendations are reported on regularly by the statewide news media.

Supported by voluntary, tax-deductible memberships and grants, Florida TaxWatch is open to any organization or individual interested in helping to make Florida competitive, healthy and economically prosperous by supporting a credible research effort that promotes constructive taxpayer improvements. Members, through their loyal support, help Florida TaxWatch bring about a more effective, responsive government that is accountable to the citizens it serves.

Florida TaxWatch is supported by all types of taxpayers -- homeowners, small businesses, large corporations, philanthropic foundations, professionals, associations, labor organizations, retirees -- simply stated, the taxpayers of Florida. The officers, Board of Trustees and members of Florida TaxWatch are respected leaders and citizens from across Florida, committed to improving the health and prosperity of Florida.

With your help, Florida TaxWatch will continue its diligence to make certain your tax investments are fair and beneficial to you, the taxpaying customer, who supports Florida's government. Florida TaxWatch is ever present to ensure that taxes are equitable, not excessive, that their public benefits and costs are weighed, and government agencies are more responsive and productive in the use of your hard-earned tax dollars.

The Florida TaxWatch Board of Trustees is responsible for the general direction and oversight of the research institute and safeguarding the independence of the organization's work. In his capacity as chief executive officer, the president is responsible for formulating and coordinating policies, projects, publications, and selecting professional staff. As an independent research institute and taxpayer watchdog, Florida TaxWatch does not accept money from Florida state and local governments. The research findings and recommendations of Florida TaxWatch do not necessarily reflect the view of its members, staff, distinguished Board of Trustees, or Executive Committee, and are not influenced by the positions of the individuals or organizations who directly or indirectly support the research.

Florida TaxWatch Values:

◆ Integrity ◆ Productivity ◆ Accountability ◆ Independence ◆ Quality Research



www.floridatxwatch.org

106 N. Bronough Street
P.O. Box 10209
Tallahassee, FL 32302

NON-PROFIT ORG.
U.S. POSTAGE
PAID
TALLAHASSEE, FL
Permit No. 409