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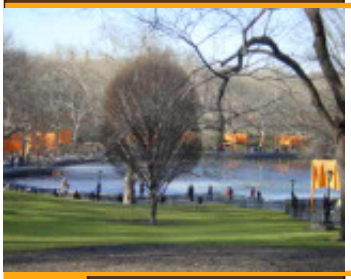

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Article Submissions

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About SCOPE

SCOPE Education Services is a not-for-profit, private, voluntary organization permanently chartered by the New York State Board of Regents to provide services to school districts. Founded in 1964 by school superintendents, it is a cooperative venture for sharing resources to deal with common concerns. It is governed by a Board of Directors of school superintendents and college representatives and serves as a regional School Study Council and School Board Institute.

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Future Themes for The Long Island Education Review:

Focus on the “Doctoral Research” of the New Generation

What is “Special” about Special Education

Technology and 21st Century Schools

Reducing Bullying in Schools

The Next Generation of Superintendents: Assistant Superintendents Speak Up

Editor’s Perspective

The Saber Tooth Curriculum

In 1939, J. Abner Peddiwell authored a thought-provoking, reflective work called The Saber Tooth Curriculum. Over seventy years later, I found myself referencing it (per the recommendation of the New York State Education Department) in my capacity as trainer of lead evaluators for teachers and principals. The main character of this satirical piece is New Fist, a Paleolithic man and the "original educational theorist." He called for a curriculum centered around courses in fish-grabbing, to answer society's need to combat hunger, horse-clubbing, to provide warmth from the skins of the wooly miniature horses that roamed the land, and tiger scaring, using fire that frightened the feared saber tooth tigers. But with the coming of the Ice Age, fish grabbing became difficult, given the new, muddied waters that camouflaged the "catch." The small, wooly horses took off for dryer environs and were replaced by the antelope, too fleet of foot to succumb to the "hobbled," human hunters' meager attempts to "steal their skins." And finally, the Ice Age rendered the saber tooth tigers extinct, replaced by the bears that had no fear of fire. New Fist, always the thinker, suggested a new curriculum. Such a curriculum included: net construction to catch the fish concealed by the murky waters, snare building to trap the speedy antelope otherwise elusive to man, and pit digging to eliminate the feared bears and threats to their society's future survival. And so the skeptics bellowed statements of resistance, "Our curriculum is already full...we have always done it this way, why change now...we have no time...we have no resources..."

Centuries later, man still looks to address hunger, provide warmth, and eliminate fear. We continue to "hunt" for the perfect curriculum to educate and to prepare our next generation. This issue of the Long Island Educational Review offers a wide range of articles that focus on trust and 21st century tools and technology that meet the demands of the contemporary classroom. Use them to reflect upon and to distinguish between things that are timeless components of success (trust) and those that are timely innovative practices of a new "age" (technology). The spirit and the word of the law behind today's reforms and revisions are also presented. As we once again face muddied waters with fish hard to see, antelope beyond our grasp, and saber tooth threats of the two and four footed variety, these written morsels will hopefully provide some food for thought to sustain you as we all venture forth to do battle against the challenges of a new day.

Carl Bonuso

Editor-in-Chief

From the Field

Transportation of Parentally Placed Students with Disabilities Farther Than Fifteen But Not More Than Fifty Miles[1]

By Susan Fine, Harris Beach, PLLC

Introduction - Framing the Issue

Boards of Education of New York State school districts are obliged to provide transportation to any student, disabled or not, who attends a nonpublic school within the distance limitations prescribed by New York Education Law § 3635(1). These obligations also pertain to students with special needs. However, for those students the mileage limits are substantially longer, fifty (50) miles. As superintendents and Boards seek to comply with the mandates of the law, it is important to understand these requirements as well as when they may not apply. The latter raises a series of issues that are frequently examined by hearing officers examining the needs of students with special needs.
This article examines applicable laws and recent case law in the evolving area of transportation of students with special needs. By offering this more complete view, the article attempts to provide guideposts to educators facing questions in this area of law.[2]

Statutory Foundation

Boards of Education are obliged to provide transportation to any student, disabled or not, who attends a nonpublic school of the parents' choosing within the distance limitations prescribed by New York Education Law § 3635(1)(a). The maximum distance such a student must be transported is fifteen (15) miles, as measured by the nearest available route from the home to the school. N.Y. Educ. Law §3635(1)(a).[3] The law permits an exception to this in cases where the voters of a district approve an extension of the fifteen mile limit.

Students classified pursuant to the Individual with Disabilities Education Act (IDEA), 20 U.S.C. §1400 et seq., must be transported considerably further. Under New York Education Law §4402(4)(d),[4] Boards of Education must provide transportation up to a distance of fifty (50) miles for parentally placed classified students who attend nonpublic schools in order to receive services or programs similar to those recommended by the Committee on Special Education (CSE). In other words, a district is obligated to transport a student with special needs up to fifty miles from the home school when a nonpublic school fulfils the essential components of the student's Individualized Education Program (IEP).

Decisions Defining the Details

Several New York State Commissioner of Education decisions provide guidance regarding circumstances under which transportation to students is not required pursuant to Education Law §4402(4)(d). Preliminarily and perhaps intuitively, the fifty mile limit in Education Law §§4402(4)(d) is not mandated for students who have not been classified by the CSE. See Appeal of Jane G., 38 Ed. Dept. Rep. 1 (1998). Similarly, students who have been declassified by the CSE are also ineligible for transportation pursuant to Education Law § 4402(4)(d). See Appeal of a Student with a Disability, 46 Ed. Dept. Rep. 102 (2006). These issues will frequently arise when a student who had been receiving services is no longer, yet has grown familiar with the school providing those services. Parents may make efforts to keep him/her there. Based upon the Commissioner's decisions, the home district is no longer required to provide transportation beyond the Education Law § 3635 statutory limitation when the student is declassified.

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[1] This article does not address transportation of students parentally placed in charter schools or in public school districts other than the students' district of residence.

[2] This article does not serve as a substitute for legal advice. Specific legal counsel on these issues should be addressed to your school attorney whenever they arise.

[3] Where a school district is providing transportation to a nonpublic school for students living within the specified limits, the school district shall designate one or more public schools as centralized pick-up points and provide transportation between those points and the nonpublic school to district residents who live to far from the nonpublic school to be eligible for transportation. N.Y. Educ. Law § 3635((1)(b)(i).

[4] The text of Education Law § 4402(4)(d) is:

> Notwithstanding any other provision of law, such board shall provide suitable transportation up to a distance of fifty miles to and from a nonpublic school which a child with a handicapping condition attends if such child has been so identified by the local committee on special education and such child attends such school for the purpose of receiving services or programs similar to special education programs recommended for such child by the local committee on special education.

Another category of students not eligible for transportation of greater than fifteen (15) miles are parentally placed classified students where the private placement does not provide any special education programs or services to the student. See application of a Student with a Disability, 32 Ed. Dept. Rep. 467 (1993). In that proceeding, the student, although classified, was attending a Montessori school that provided no special education services as part of its program.

Another Commissioner's decision, with somewhat unique facts, supports the same legal proposition. In Application of a Student with a Disability, 33 Ed. Dept. Rep. 712 (1994), a child with special needs was unilaterally placed in a nonpublic school outside the fifteen mile limit. The school district initially provided transportation. When that site closed, the district declined to transport to the new location, which was also outside the fifteen mile limit. The parents of the student argued that because respondent previously provided transportation for their daughter to the nonpublic school's original location outside of the statutory transportation limit, it was obligated to continue to provide similar transportation to the school's new location. The Commissioner disagreed, finding the fact that the school district mistakenly transported petitioners' daughter for approximately two months did not preclude it from declining to continue to provide such transportation in the future.

In addition, both of these proceedings make clear that the mandate of Education Law §4402(4)(d) does not apply where special education services are provided at the private school by the child's own school district, rather than by the private school itself.[5] In Appeal of a Student with a Disability, 33 Ed. Dept. Rep. 712 (1994), the Commissioner found that:

> the record reflects that the child was placed unilaterally in the nonpublic school by her parents, which provides no special education whatsoever. The special education services provided on site at the nonpublic school are arranged and paid for by respondent. Accordingly, the placement cannot be considered a school for purposes of transportation, as contemplated by Education Law §4402(4)(d).

Similarly, in the prior decision regarding the student attending a Montessori school, the fact that special education services were provided through arrangements made by the school district, and not by the Montessori school, precluded provision of transportation pursuant to Education Law § 4402(4)(d).

Decisions of the State Review Officer (SRO) make it clear that transportation beyond the Education Law § 3635 statutory limit should be denied if the student "does not attend the private school for the purpose of receiving special education services similar to those recommended by the CSE." See Application of a Child with a Disability, Appeal No. 07-082.

SRO decisions also provide helpful guidance on issues involving transportation of special education students. Specifically, these decisions offer guidance when analyzing how similar (or dissimilar) parent-selected nonpublic programs must be from programs recommended in the student's IEP in order for a school district to decline to provide requested transportation.[6] These decisions highlight the need to analyze each situation individually based upon the programs and services recommended for the student and those actually provided by the nonpublic school.

Application of a Child with a Disability, Appeal No. 99-002, is exemplary. That case involved an orthopedically impaired first grade student. The CSE recommended placement in a regular education first grade class with the related services of individual speech language therapy, individual occupational therapy, individual physical therapy, and adaptive physical education. The parent's objected to the placement and unilaterally placed the child in a Montessori school. The Montessori school did not provide any of the recommended services. The parents brought an impartial hearing seeking tuition reimbursement, transportation to the nonpublic school, and an order that the school district provide related services at the nonpublic school.

In his decision, the SRO determined that the nonpublic school provided no specially designed instruction or related services to the student, and was therefore not appropriate to meet the student's special education needs. The SRO also relied on Education Law §4402(4)(d) and stated, in part, that the section did not apply "because this child was not attending [the private school] for the purpose of receiving the special services or programs recommended by the CSE." Accordingly, reimbursement for transportation was not warranted. The decision followed earlier precedents set by the Commissioner of Edu-

[5] Pursuant to Education Law § 3602-c, it is the CSE of the school district in which the nonpublic school is located, rather in which the student resides, that determines what special education services will be provided through the formulation of an individualized education service plan (IESP). Nonetheless, the financial responsibility for these services remains with the student's school district of residence. Although there are as yet no decisions that directly address this question, it is reasonable to conclude that where a student is receiving special education services through an IESP, rather than from the nonpublic school, transportation pursuant to Education Law § 4402(4)(d) would not be required.

[6] Analysis regarding similarity of the CSE's recommended program to the nonpublic school's program is distinct from analysis of the appropriateness of either the IEP or the parent's unilateral placement of the student.

cation. See Application of a Child with a Disability, 33 Ed. Dept. Rep. 712 (1994); Application of a Child with a Disability, 32 Ed. Dept. Rep. 467 (1993).

In another case, the CSE recommended that a student receive a resource room program. The parents instead sent the student to a general education college preparatory school with class sizes of four to eleven students. Again, the parents brought an impartial hearing, requesting reimbursement for tuition and transportation costs.

Although the SRO agreed with the hearing officer that the IEP was procedurally and substantively inadequate, the SRO nonetheless denied the requested relief. The SRO found the student did not require the small class size at the nonpublic school in order to meet his special education needs. He further held that the student was not receiving specialized instruction at the private school in his classes, a school-provided tutoring program, or from his advisor. The SRO found that the services being received were dissimilar enough to those recommended by the CSE that reimbursement for transportation pursuant to Education Law §4402(4)(d) was not required. See Application of a Child with a Disability, Appeal No. 06-069.

Distinguishing Cases of Note

Two other proceedings appear very similar to these cases, yet yielded different results. Application of a Child with a Disability, Appeal No. 07-082 and Application of a Child with a Disability, Appeal No. 07-073 both involved unilateral placements at the Sappo School (Sappo). Sappo is a private school that has not been approved by the Commissioner of Education as a school with which districts may contract to instruct students with disabilities.

Appeal No. 07-073 involved an 11 year old sixth grade student classified due to a hearing impairment. The student was parentally placed at Sappo. The student's full scale IQ was in the high average range; however, he exhibited deficits in attention, executive functioning, reading and writing, visual motor integration skills, and social skills. The home school CSE recommended a general education program, with the support of consultant teacher services five times weekly for two hours and forty minutes per day in an integrated setting and five times weekly for forty minutes per day in a non-integrated setting, plus resource room services, a shared aide, individual hearing services, and individual occupational therapy. Extensive program modifications and accommodations, testing accommodations, and assistive technology were also recommended by the CSE. The parents disagreed with the CSE and sent the child to Sappo. They sought reimbursement for tuition and transportation costs through the impartial hearing process.

The SRO determined that the recommended program offered the student a Free Appropriate Public Education (FAPE). However, in analyzing the facts under the standard set by Education Law §4402(4)(d), the SRO found that Sappo provided the student with phonologically-based reading programs, resource room, occupational therapy and accommodations. In addition, the student attended classes with between five to seven students, "mitigating the need for a consultant teacher in reading language arts and a shared aide." Reference appeal No. 07-073, p. 15. Accordingly the SRO ruled that the student attended Sappo for the purpose of receiving special education services similar to those offered by the CSE, and that reimbursement for transportation was warranted.

In the other proceeding, a tenth grader classified as a student with a learning disability was also parentally placed at Sappo. The CSE had recommended placement in a 15:1 special class for all core subjects because the student had not done well in a collaborative model and a more restrictive placement was recommended by a neuropsychologist who had conducted an independent educational evaluation. Speech language therapy and specialized reading instruction were also added to the student's program. Again, the parents placed the child at Sappo and sought reimbursement for tuition and transportation costs. This time the District was successful in showing that Sappo's program was sufficiently dissimilar to the recommended program.

The SRO found that the IEP provided the student with a FAPE. Sappo provided the student with a phonologically based reading program, counseling, and a small student to teacher ratio, as had been recommended by the CSE. However, Sappo's classes were comprised of special education and non-special education students and were taught by general education teachers. Moreover, the student had access to a special education teacher only once per month. Sappo also did not provide any speech-language therapy. As such, the SRO found that Sappo's program was dissimilar to that offered by the District, and transportation pursuant to Education Law §4402(4)(d) was not warranted. See appeal No. 07-082, p. 10.

Distinguishing these two cases is important to understanding a District's obligations to provide transportation for unilaterally placed students with special needs. Most notably, the SRO relied heavily upon the distinction between the special class program recommended by the CSE and the instruction by general education teachers in an inclusive setting provided by Sappo, together with Sappo's failure to provide the related therapy services. These services were deemed critical to the student's IEP and thus, when not provided by Sappo, the placement was deemed dissimilar.

A point of reference on these cases is also helpful. Sappo was not an approved school for purposes of providing special education services. Yet, in the first case above, reimbursement for transportation was ordered. Districts should keep in mind that even when a placement is at a non-approved school, home districts may still be obligated to provide transportation or to reimburse a parent for transportation costs after-the-fact. The crucial questions are whether the nonpublic school provides the student with special education programs and services, and if so, how closely do those programs and services align with those recommended by the CSE.

Conclusion

Schools must provide transportation for their students who attend nonpublic schools. The distances required for transportation vary depending upon whether a student has special needs. Complicating matters, certain students with special needs may not be entitled to the more generous transportation limitations provided in Education Law § 4402(d)(4).

Districts must be familiar with these transportation limits and the restrictions on them as they make decisions affecting student placement and provision of services. Especially now, in challenging economic times, costs associated with fulfilling legal obligations related to transportation can be significant. Fundamental to the decisions in this area is the similarity of services provided by nonpublic schools selected unilaterally by parents vis-à-vis those offered by the home school.

Superintendents and Boards are encouraged to consider these basic rules, but also to consult their school counsel in advance of making any decisions. In that way, the services most appropriate for students and eligible transportation can be properly provided.

Susan Fine is a Senior Counsel at Harris Beach, PLLC practicing from the firm's Uniondale, New York office. Ms. Fine's practice focuses on special education and special education litigation matters.

Do Perceived Levels of Technology Training in High School and Computer Access in College Meet the Coursework Demands of College Students?

By Maria Esposito, Diane Impagliazzo, Roger Podell, J.D., Elsa-Sofia Morote, Ed.D., and Brian Brachio, Ed.D.

Abstract

The purpose of this study is to determine if students are receiving sufficient high school technology training and access to computers in high school and college to meet the requirements of college coursework. Over one hundred students who had graduated high school from the years 2001 - 2004 were surveyed from a college on Long Island, New York. A paired sample t test was performed to determine if high school computer skills training was preparing students adequately for technology use in college. An independent sample t test was performed to determine if greater access to computers in high school influenced their high school preparedness for technology use in college. An ANOVA was performed to determine if greater access to computers in college influenced technology use in college. Results indicate that students believe their high school technology training was insufficient in preparing them for the rigors of their college course requirements. Results further show that greater access to computers in both high school and college influence technology use in college. The results of this study will provide K-12 and higher education administrators information that can help guide their curriculum and computer allocation decisions.

a. Purpose

Today's college students require a high level of computer proficiency to meet the demands of their coursework and to prepare for a highly competitive job market in the information age. Change is an accepted part of a student's transition to college life, and technology is an integral part of that change. Colleges expect students to communicate, research, and learn using technology. Technology is rapidly being embedded into all disciplines as a means of preparing students for the 21st century workforce. A growing body of research has examined these changes and suggested actions educational leaders should take to help students prepare for the technological demands of higher education.

The purpose of this study is to determine if high school technology preparation and access to computers in high school and college affect college students' use of technology. Data for this study was drawn from the initial study of Perceptions of Recent High School Graduates on Educational Technology Preparedness for College (Brachio, 2005). This study examines four computer skills: Creative (Power point presentations, graphics, digital camera and scanner use), Communication (email and the internet), Netiquette (equitable, ethical, and legal use) and Tools (word processing and spread sheets). The results of this study will provide K-12 and higher education administrators information that can help guide their curriculum and computer allocation decisions.

Research Questions

1. To what extent does high school preparation influence college technology use?

2. To what extent does access to computers in high school influence preparedness for college technology use?

3. To what extent does access to computers in college influence college technology use?

b. Perspective

New challenges for education

The technology revolution of the last two decades has radically changed the world in which high school and college students live. Educators are faced with the challenge of keeping pace with the exponential growth of technology by readying students for higher education and a global, information based workforce. Effective technology training and access to computers are essential to prepare high school students for the rigors of higher education, and college students for the requirements of 21st century jobs (McLoughlin, Wang, & Beasley, 2008).

During the 1990s, students entering college were a mixture of "Boomers, Gen-Xers, and Millenials," (Oblinger, 2003) who began placing greater importance on the use of technology in their education. As technology has developed, so have the expectations of college students, who today expect online instruction options and teaching techniques that involve multifaceted technology (Falk & Blaylock, 2010).

The 1990s produced the concept of the "digital divide," the gap separating people with and without computer access, which quickly became accepted into the technology literature. The gap was viewed as an equity issue, largely because students in lower income homes had substantially reduced access to technology. Federal, state, and local governments, along with K-16 schools, were given the task of bridging the divide and restoring equity (Blau, 2002). As early as 1994, then U.S. Secretary of Education Richard Riley suggested that expanding connective technologies would benefit students and make them viable workers in the competitive international economy. Senator Ernest Hollings, chairman of the Senate's Commerce, Science and Transportation Committee, stated that revisions to The Communications Act of 1994 would "ensure that all Americans, including students, minorities, low income persons and rural consumers, will be able to obtain access to the most advanced technologies possible" (Manzo, 1994).

As schools and government legislation began to adapt to the new technology that was becoming an integral part of the educational process and society overall, research into the influence of technology access and training became more active. Milheim (1995) found that students' previous experience with web-enhanced instruction made them more at ease with the use of technology in the classroom. Students with prior experience in web-enhanced learning successfully accessed materials, communicated electronically, and submitted assignments.

Blau (2002) found that access without proper training did little to increase effective use among technology users. Realizing the importance of K-12 technology training for the next generation of college students, teacher education programs have begun focusing on the International Society for Technology Education's NETS (National Technology Standards for Teachers) to prepare new teachers to enter K-12 classrooms ready to integrate digital technologies effectively (Kelly, 2002). Incorporation of technology into classroom lessons was found to greatly affect students' preparation for computer usage in college, while insufficient computer access led to inadequate preparation of students for college computer use (Finley & Hartman, 2004).

Educational administrators and policy makers who incorporate the NETS into their classrooms bridge an achievement gap in students that developed because some educators accepted the inevitability of technology integration and others refuted its place in classrooms (Banister and Ross, 2005).

The majority of research designed to determine student and teacher technology competencies relied on survey data (Collier et al., 2004). The research indicated that K-16 educators had difficulty assessing the technology skills of their students, and documenting technology skill development (Engstrom, 2004). Policymakers however should not assume that the biggest obstacle to preparing students for college is poor quality instruction. Rather, the biggest problem may be the lack of alignment between the structure of high school technology curriculum and the skills that colleges expect. By 2004, individual institutions of higher education had begun to develop procedures for identifying student computer skills (Gaide, 2004).

By 2006, college learning had evolved. Course content was frequently accessed through web-based discussion boards, and communication with instructors was typically done through email (Alghazo, 2006). Alghazo found that students without sufficient computer access stated their lack of access was a major obstacle in maintaining their desired work level.

The culture and content of higher education has changed radically from its "traditional" roots. Distance learning is prevalent, and students are expected to have computer skills necessary to meet the requirements of classes that rely heavily on technology as a teaching tool (Falk & Blaylock, 2010). Anachronistic skills, such as using a quill pen or a slide rule, have been abandoned, replaced by training in modern technology that students require for the jobs of today and tomorrow. Never before has the pressure on K-12 education for effective technology training been so great (McLoughlin, Wang, & Beasley, 2008).

Table 1 Subgroups

New Variables	*Subgroup*	*Alpha*
High School Creativity	PowerPoint Presentations, Graphics, Digital/Camera/Scanner	95.5
High School Communication	Email, Internet	95.2
High School Netiquette	Equitable, Ethical, and Legal Use	67.0
High School Tools	Word Processing, Spreadsheet	94.6
College Creativity	PowerPoint Presentations, Graphics, Digital/Camera/Scanner	81.2
College Communication	Email, Internet	79.3
College Netiquette	Equitable, Ethical, and Legal Use	89.3
College Tools	Word Processing, Spreadsheet	78.5

Overcoming fear

Interestingly, at a time when technology education needs to be at its highest levels, fear is one of the factors preventing it from achieving full effectiveness, and fear guides many of the decisions made about educational technology. School districts commonly block online sites that can be used for collaborative instruction, concerned that students will somehow be scarred through this contact, or that the district will be left open to liability. Conversely, educators fear that insufficient access will leave students in the United States behind, struggling to compete with countries more committed to technology integration.

In 1982, Dr. W. Edwards Deming published his revolutionary book *Out of the Crisis*, which detailed his plan to keep the United States out of an impending economic disaster. Deming's "principles for transformation" successfully revived the Japanese economy after World War II, and are broad enough to be applied to any field, including education. One of Deming's principles was "Drive out fear," and K-12 education can apply this concept so it can deliver the technology training and access necessary to prepare students for higher education. Deming wrote that a fear of knowledge was common, but prevented top performance. Removing the fear, freeing districts to allow broader communicative access, will increase effectiveness of technology use and lessen the gap between U.S. students and their global counterparts (Deming, 1982).

c. Method

In 2005, Brachio administered a survey to college students who had graduated high school from the years 2001 - 2004. Students had a range of majors, academic background and academic standing. Participation was anonymous.

Students were asked sixty-six Likert scale questions to determine their perceptions of how their high school technology training had prepared them for the college technology usage. Response categories ranged from strongly disagree to strongly agree for questions regarding both high school preparation and college usage, and yes/no question for each item to determine if the skill was self-taught. (To see complete survey, see Brachio, 2005, p.143 of dissertation). In addition, ethnographic questions about access to computers in high school and college were asked.

For this study, for the first subgroup, Creativity (Power Point Presentations, Graphics, Digital/Camera/Scanner), the Cornbach Alpha Reliability measured 95.5%. For the second subgroup, Communication (Internet, E-Mail), the Cornbach Alpha Reliability measured 95.2%. For the third subgroup, Netiquette (Equitable, Ethical, and Legal Use) the Cornbach Alpha Reliability measured 67%. For the fourth subgroup, Tools (Spreadsheet, Word Processing) the Cornbach Alpha Reliability measured 94.6%. (***See Table 1***)

For this study, eight new variables were created: High School Creativity, High School Communication, High School Netiquette, High School Tools, College Creativity, College Communication, College Netiquette, and College Tools. ***Table 1*** is a revised table including new variables based on the subgroups.

d. Data Sources

This study was conducted using data from the initial study of Perceptions of Recent High School Graduates on Educational Technology Preparedness for College (Brachio, 2005). This study was executed in a suburban, middle class liberal arts college. In this study, 134 college students were surveyed to identify their perceptions of the preparation they had received in high school for the technology skills they needed in college. The main purpose of this study was to determine the effect of high school preparation and access to computers on both the high school and college level on the actual college usage of technology by students.

Table 2 Paired-Sample t Test High School Preparation and College Usage of Technology (N~129)

	M	*SD*	*SEM*	*t*	*df*	*p*
High School Preparedness of Creative Technology	43.70	12.83	.96	-21.885	128	.00
College Usage of Creative Technology	64.65	16.37				
High School Preparedness of Communication Technology	59.60	15.02	1.17	-6.070	128	.00
College Usage of Communication Technology	66.72	8.81				
High School Preparedness of Netiquette Technology	31.12	6.27	.44	-5.320	127	.00
College Usage of Netiquette Technology	33.48	5.14				
High School Preparedness of Technology Tools	63.37	16.01	1.27	-6.042	122	.00
College Usage of Technology Tools	71.04	11.33				

e. Results

1. To what extent do students' perceptions of their high school preparation effect their college use of creative technologies, communication technologies, netiquette, and technology tools?

The results of ***Table 2*** present the findings using a paired-sample t test to determine if students' perceptions of high school preparation affected their technology use in college. The test was significant, meaning that the students did not feel they were prepared in high school for what they actually had to do in college in terms of creative, communication-based, netiquette, and tools-based technology. The results indicated that the mean for college computer use of creative technology (M = 64.65, SD = 16.37) was significantly greater than the mean for preparedness of high school creative computer technology usage (M = 43.70, SD = 12.83), t(126) = -21.89, p < .01. Eta square index of -1.92 indicated the effect size is large.

The results indicated that the mean for college computer use of communication technology (M = 66.72, SD = 8.81) was significantly greater than the mean for preparedness of high school communication computer technology usage (M = 59.60, SD = 15.02), t(128) = -6.07, p < .01. Eta square index of -.534 indicated the effect size is medium.

The results indicated that the mean for college computer use of netiquette technology (M = 33.48, SD = 5.14) was significantly greater than the mean for preparedness of high school netiquette computer technology usage (M = 31.12, SD = 6.27), t(127) = -5.32, p < .01. Eta square index of -0.472 indicated that the effect size is medium.

The results indicated that the mean for college use of computer tools technology (M = 71.04, SD = 11.33) was significantly greater than the mean for preparedness of high school computer tools technology usage (M = 63.37, SD = 16.01), t(122) = -6.04, p < .01. Eta square index of -0.544 indicated that the effect size is medium.

2. To what extent does students' access to computers in high school and college affect their college use of creative technologies, communication technologies, netiquette, and technology tools?

The results of ***Table 2.1*** present the findings using an independent sample t test. This test was conducted to determine whether access to a computer in high school had a significant effect on perceived usage of creative technology in high school. The test was significant t(122) = -3.005, p = .003. Students with access to 4 or more computers (M = 46.66, SD = 11.73) had a significantly higher level of computer access than students with only access to 1-3 computers (M = 39.95, SD = 12.55). Eta square index of .06 indicated the effect size was small.

An independent sample t test (***Table 2.2***) was conducted to determine whether access to a computer in high school had a significant effect on perceived usage of communication technology in college. The test was significant t(77.50) = -2.313, p = .023. Students with access to 4 or more computers (M = 62.56, SD = 12.21) had a significantly higher level of perceived communication computer access than students with only access to 1-3 computers (M = 56.23, SD = 16.19). Eta square index of .04 indicated that the effect size was small.

An independent sample t test (***Table 2.2***) was conducted to determine whether access to a computer in high school had a significant effect on the perceived usage of netiquette in college technology. The test was not significant t(122) = -1.268, p = .207.

Table 2.1 ***Independent Sample t Test High School Computer Access and Perceived Use of High School Preparedness for College***

	*Number of Computers**	*N*	*M*	*SD*	*SEM*	*t*	*df*	*p*
High School Preparedness Creative Technology	1-3	47	39.96	12.56	1.83	-3.005	122	.003*
	4 or more	77	46.66	11.74	1.34			
High School Preparedness Communication Technology	1-3	47	56.23	16.19	2.36	-2.313	77.50	.023*
	4 or more	78	62.56	12.22	1.38			
High School Preparedness Netiquette Technology	1-3	46	30.46	5.51	.81	-1.268	122	.207
	4 or more	78	31.87	6.27	.71			
High School Preparedness Technology Tools	1-3	44	58.14	15.87	2.39	-3.297	116	.001*
	4 or more	74	67.35	13.94	1.62			

*p < 0.05

An independent sample t test (***Table 2.2***) was conducted to determine whether access to a computer in high school had a significant effect on college technology tools. The test was significant t(116) = -3.29. Students with access to 4 or more computers (M = 67.35, SD = 13.93) had a significantly higher level of perceived computer tools technology than students with 1-3computer access (M = 58.13, SD = 15.86) Eta square of index of .08 indicated that the effect size is small.

3. To what extent does access to computers in college influence college technology use?

The results of ***Table 2.2*** present the findings using a one-way analysis of variance. A one-way analysis of variance was conducted to determine if access to a computer in college had a significant effect on creative, communication-based, netiquette, or tools-based computer usage in college. The independent variable computer access in college included three levels: personal home computer, family

College

Table 2.2 Mean Comparison of Personal Computer, Family Computer, and College Campus Computer Access and Different Types of Technology Use in College

		N	*M*	*SD*
College Use of Creative Technology	Personal Computer	96	65.97	11.48
	Family Computer	21	63.76	12.12
	College Campus Computers	15	54.87	15.89
	Total	132	64.36	12.54
College Use of Communication Technology	Personal Computer	94	67.41	7.82
	Family Computer	21	67.19	7.20
	College Campus Computers	16	61.56	13.69
	Total	131	66.66	8.78
College Use of Computer Netiquette	Personal Computer	95	33.44	5.29
	Family Computer	19	34.53	4.18
	College Campus Computers	16	32.63	5.00
	Total	130	33.50	5.10
College Use of Technology Tools	Personal Computer	93	71.02	11.42
	Family Computer	18	73.78	8.87
	College Campus Computers	13	67.62	13.04
	Total	124	71.06	11.29

		Sum of Squares	*df*	*Mean Square*	*F*	*p*
College Use of Creative Technology	Between Groups	1607.816	2	803.908	5.462	.005*
	Within Groups	18986.449	129	147.182		
	Total	20594.265	131			
College Use of Communication Technology	Between Groups	475.227	2	237.613	3.188	.045*
	Within Groups	9539.995	128	74.531		
	Total	10015.221	130			
College Use of Computer Netiquette	Between Groups	32.582	2	16.291	.622	.538
	Within Groups	3325.918	127	26.188		
	Total	3358.500	129			
College Use of Technology Tools	Between Groups	287.339	2	143.669	1.130	.326
	Within Groups	15380.145	121	127.109		
	Total	15667.484	123			

*p< 0.05

computer, and college computer access. The dependent variable was the type of computer technologies used in college: creative technology, communication technology, computer netiquette, and technology tools. The ANOVA was significant in two of the cases, College Usage of Creative Technology ($p = 0.005$) and College usage of Communication Technology ($p = 0.045$). The test was significant for college use of creative technology $F(2,131) = 5.462$, $p = 0.005$, and the test was also significant for college use of communication technology $F(2,130) = 3.188$, $p = 0.045$.

F. Educational Importance of the Study

Our analysis indicates that college students do not believe they are receiving sufficient technology training in high school for the requirements they face in college. Almost a decade ago, Blau (2002) determined that proper training was essential for effective technology use, but K-12 administrators appear to have not recognized this fact. Implementation of the International Society for Technology Education's NETS (National Technology Standards for Teachers) into teacher training should prepare K-12 teachers to integrate technology into their lessons, which should in turn raise the level of technology training in high schools. Colleges require students to be proficient in various aspects of technology use, including communication skills, writing and math tools, netiquette (including ethical use and cyber-bullying), and creative skills (including presentations and digital photography). The failure to align high school technology training with required skills for college, identified by Gaide in 2004, has still not been fully addressed. Lack of access to computers in high school also affected student computer usage in the creative, communication and tools areas. This confirms Alghazo's 2006 findings that insufficient computer access negatively influenced technology skills. School district and high school leaders can use these findings when making decisions regarding technology training and computer purchases. As recently as 2010, Falk & Blaylock noted that graduating high school students are expected to have the computer skills required by colleges and universities. As McLoughlin et al noted in 2008, there is an unprecedented level of pressure on K-12 teachers and administrators to provide effective technology training. Lack of access to computers on the college level also affected student computer usage. Higher education administrators can use this information when making decisions about providing students with increased computer availability, including providing students with laptops.

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AN INVESTIGATION OF 21ST CENTURY TOOLS IN STUDENT WORK

by Peggie Staib, Ed.D.
and
Camille Sullivan, Ed.D.

ABSTRACT

This study was an investigation into how educators in select Suffolk County school systems with access to 21st century tools engage students in work. Skills such as problem solving, individual creativity, collaboration, innovation, use of data collection groupware tools, adaptability and the ability to problem solve as necessary in the job market were studied. The purpose of this study was to determine how these tools are being used to promote student centered as opposed to teacher centered work.

It was concluded that although teachers were engaging students in the use of digital tools, the work was predominantly teacher directed and grounded in a Web 1.0 mode. Students were highly engaged, but not in the type of inquiry, collaboration, and public sharing that would be indicative of a Web 2.0 mode of instruction and student centered work.

Introduction

The purpose of the study was to investigate how educators in selected Suffolk County school systems with exceptional access to 21st century tools engaged students in work. It focused on what has been proposed as 21st century work, namely, skills such: as problem solving, individual creativity, collaboration, innovation, use of data collection groupware tools, adaptability, and the ability to problem solve that are necessary in the job market (Partnership for 21st Century Skills, 2005). Digital tools such as podcasts, wikis, blogs, Google documents, and Skype are now being used in the adult workforce for collaboration purposes. The core issue of this study was to determine how these tools were being used to promote student centered as opposed to teacher centered work. This means that the student, when he/she uses these tools, is doing something more than "answering the questions at the end of the chapter." Does the student search for answers to one's own questions, as opposed to the questions of the teacher? If the student is using Web 2.0 tools to answer the teacher's questions, then the basic culture has not changed, only the artifacts, i.e., a computer instead of a pencil.

The methodology for this study involved both researchers conducting site visits in two selected schools. Camille Sullivan acted as primary researcher at Middle School 1 and Peggie Staib acted as primary researcher at Elementary School 2. Each served the other as research assistant at each location. The method of data collection was heavily supported by the use of Web 2.0 technology tools. Site visits/observations, and collected digital public artifacts (i.e., presentations and reports on 1:1 laptop initiatives) that related to school practices which best prepare students for the twenty-first century were conducted. Staib and Sullivan were mentored by Frank L. Smith, Professor Emeritus, Teachers College, Columbia University.

Background

Twenty-first century skills are being touted as the gateway to careers that may not yet even exist (http://davidwarlick.com/wordpress/?page_id=2). Work as Americans have known it, aided and enhanced by the technological systems available to workers in 2000, has evolved further to include social networking and Web 2.0 collaborative tools that allow workers to interact with one another in ways that were barely imagined in 2000.

Ten years later, although a significant portion of the population and workforce use technology, some schools may not have embraced methodologies or digital tools to engage students in learning and most schools with technology use them in what would be considered Web 1.0 style, in which students acquire information but are not interactive. Pages are static and not dynamic. According to Claudia Willis, "American schools aren't exactly frozen in time, yet considering the pace of change in other areas of life, our public schools tend to feel like throwbacks. Kids spend much of the day as their great-grandparents once did: sitting in rows, listening to teachers lecture, scribbling notes by hand, reading from textbooks that are out of date by the time they are printed. A yawning chasm (with an emphasis on yawning) separates the world inside the schoolhouse from the world outside" (2006, p. 12).

According to the Partnership for 21st Century Skills ("P21"), which represents a broad alliance of organizations focused on education in the United States, instead of focusing solely on test performance of so-called basic skills, educators need to focus on learning in four related areas: core subjects and 21st century themes; learning and innovation skills; information, media, and

technology skills; and life and career skills. In short, schools need to redefine what they consider the "basic skills" (http://www.p21.org/).

Educational leaders are beginning to ask if schools and districts are engaging students in the content and skills necessary for students to be able to create, communicate, collaborate, and share globally (http://www.p21.org/). Steinberg (1998) refers to such student work as "project-based" learning, the style of work most evident in the adult Web 2.0 world of work. Some leaders are asking if schools and districts are preparing students to use digital tools and form habits of mind that foster P21 skills (http://www.p21.org/). According to Pink, "The future belongs to a very different kind of person with a very different kind of mind-creators and empathizers, pattern recognizers, and meaning makers" (2006, p. 95). Much attention is currently being given to how students function as digital "natives" in their personal lives in comparison with their school lives. Tapscott (2008), along with organizations such as the International Society for Technology Education (ISTE) are expressing concern about the disconnect between what is perceived as native vs. immigrant use of digital tools. While not commenting on the immigrant vs. native distinction, Steinberg noted, "For all of the noble efforts to make schooling more interesting, to use technology and important topics to get students more interested, far too many of today's students and adults view the school experience as something totally alien to the real world" (1998, p. viii).

The nature of student work may be simply what teachers direct students to do. Education Secretary Arne Duncan has declared that U.S. schools have not been preparing teachers with enough skills for a 21*st* century learning environment. Two-thirds of parents and 60 percent of middle and high schoolers agree, saying that teachers are failing to give students the right tools and training to thrive in the digital workforce, according to the report by Project Tomorrow, a national education nonprofit organization, and Blackboard Inc., a global leader in education technology. Thus, a major problem and focus of the researchers was to investigate how educators engage students in schoolwork.

Research Questions

The central research question guiding the study was:

How does a school that provides access to 21st century tools engage students and adults in work?

In order to address this basic research question, it was necessary to seek data related to a series of more specific questions, as noted below.

1. In what ways is student work created in the classroom reflective of the use of 21*st* century skills as identified by the Partnership for 21*st* Century Skills; namely, the use of Web 2.0 tools?

2. How do students use 21*st* century digital tools to create and share work inside of school?

3. How does the instruction in the school and activities of students who attend the schools reflect 21*st* century learning?

Significance of Study

Although many classroom teachers use software created for educational purposes, teachers seem to draw the line at the everyday technologies used by their students (and themselves) outside the classroom. Teachers, working as "digital immigrants," assume that students, who are more nearly "digital natives," are the same as they have always been, and the traditional methods that worked for teachers when they were students will work for students today (Prensky, 2001). Historically, access to educational hardware and software in classrooms has not guaranteed that teachers will use the tools in an effective way (Cuban, 1986). According to Cuban, "The impact of any technology pivots upon its accessibility, purpose, and use" (p.37). In addition, according to Yong Zhao, "Our children, in spite of the 'digital native' label attached to them, are not necessarily knowledgeable enough to fully participate in the virtual world. Yet most of our schools do not teach them the skills and knowledge required for safe and successful living in this new world" (2009, p. 132).

Conceptual Framework

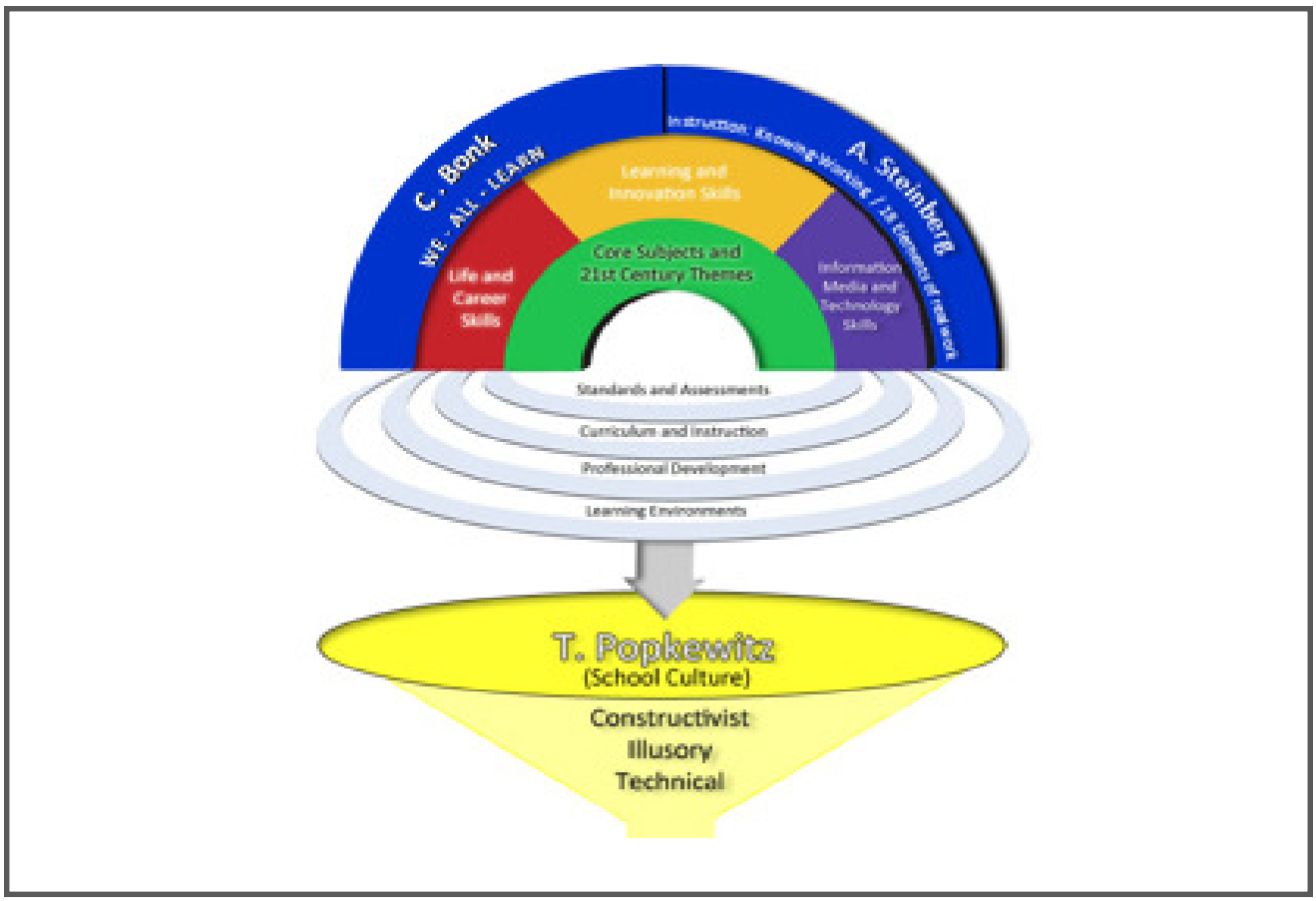
Four sources served as the basis for the framework of this study. First, is the P21 perspective on skills. Second, is Steinberg's notion of real work (1998). Third, are Bonk's WE-ALL-LEARN ten key trends for understanding the potential of technology's impact on learning in the 21*st* century (2009). Finally, is Popkewitz, Tabachnick, Wehlage's conceptualization of types of school cultures (1982). These four sources were used to construct a conceptual framework to guide the collection and analysis in the study. Steinberg and Bonk's frameworks were used to analyze the degree to which each school supported students in work that incorporated 21*st* century skills. Steinberg's questions uncovered the existence of real work, and Bonk's framework helped identify the digital resources that can be provided across educational sectors and geographic regions.

The following figure provides a visual rendition of the study's conceptual framework, as outlined above.

Finally, the researchers examined how the observed student work reflected the culture of each school. Popkewitz, et al. (1982) conceptualize types of school cultures as technical, constructivist, or illusory.

Real Work: Adria Steinberg

Steinberg argues that schools need to integrate academic and vocational learning and to connect school to the real world through project based approaches. She discusses student disengagement and ways to change the contexts for active learning that involve them in real-life issues.



In Steinberg's view, schools should provide students with an opportunity to practice a variety of contexts to learn academic skills that mirror those needed to navigate community and workplace life. Steinberg developed 18 design questions grouped into six categories that may be used to examine whether project-based learning addresses the key dimensions of what she considered to be essential. Steinberg believed that "it is unlikely that high schools will be able to capture the hearts and minds of adolescents unless teachers attempt to find ways to meet such standards" (p. 92). The following list presents Steinberg's 18 design questions.

Steinberg's 18 Design Questions

Authenticity

1. Does the project emanate from a problem or question that has meaning to the students?
2. Is it a problem or question that might actually be tackled by an adult at work or in the community?
3. Do the students create or produce something that has personal and/or social value beyond the school setting?

Academic Rigor

4. Does the project lead students to acquire and apply knowledge central to one or more disciplines or content areas?
5. Does it challenge students to use methods of inquiry central to one or more disciplines?
6. Do students develop higher order thinking skills and habits of mind?

Applied Learning

7. Does the learning take place in the context of a semi-structured problem, grounded in life and work in the world beyond school?
8. Does the project lead students to acquire and use competencies expected in high-performance work organizations?
9. Does the work require students to develop organizational and self-management skills?

Active Exploration

10. Do students spend significant amounts of time doing field-based work?
11. Does the project require students to engage in real investigation, using a variety of methods, media, and sources in their exploration?
12. Are students expected to communicate what they are learning through presentations and performances?

Adult Relationships

13. Do the students meet and observe adults with relevant expertise and experience?

14. Do students work closely with and get to know at least one adult, in addition to the teacher?
15. Do the adults collaborate on the design and assessment of student work?

Assessment

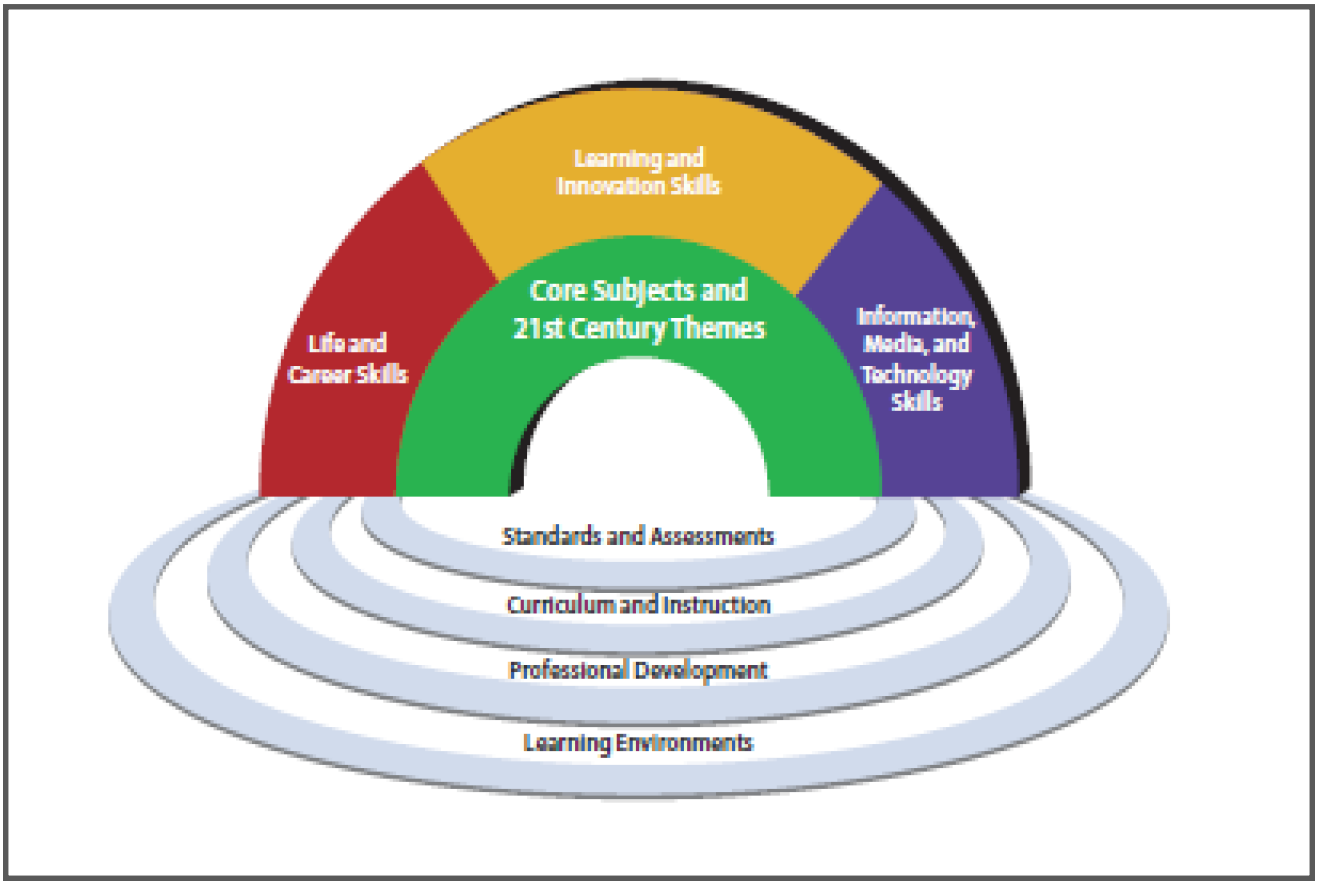
16. Do students reflect regularly on their learning, using clear project criteria that they have helped to set?
17. Do adults from outside the classroom help students develop a sense of the real world standards for this type of work?
18. Will there be opportunities for regular assessment of student work though a range of methods, including exhibitions and portfolios? (pp. 24-25)

The Partnership for 21*st* Century Learning (www.21stcenturyskills.org) has developed standards through which curricula could be developed to engage students in learning that prepares them for work not yet even conceived. Steinberg's ideas encompassed much of what is proposed by the Partnership as she calls for an education that would require students to learn and use intellectual tools applied in settings that are more like those encountered in everyday life. The P21 focus is on life and career skills; learning and innovation skills; information, media, and technology skills; and core subjects and 21*st* century themes. The Partnership recommendations for learning call for a blending of specific skill sets, content knowledge, expertise, and literacies. Furthermore, an innovative support system is necessary to help students acquire and master the multidimensional abilities required for living in the 21*st* century.

WE-ALL-LEARN: Curtis Bonk

Bonk (2009) proposes tapping into the power of web technology to learn and teach in new ways. Using a construct called WE-ALL-LEARN, Bonk purports that education is now in the midst of a great shift in paradigm in what is viewed as necessary to include in today's curriculum. In his framework, Bonk takes into consideration all that the Partnership for 21*st* Century Learning calls for, and he places emphasis on the digital tools that are now available to accomplish work described by the Partnership as necessary for life in the 21*st* century. Bonk describes WE-ALL-LEARN as Ten Openers, a system of categorizing 21*st* century digital tools that teachers and students may use:

1. ***W***eb Searching in the World of E-Books-Google Book Search, Microsoft Live Search Books, Open Library, Global Text Project, One Million Book Project
2. ***E***-Learning and Blended Learning-NotSchool, Blackboard, Florida Virtual School, University of Phoenix, Capella, Walden University
3. ***A***vailability of Open Source and Free Software-Google, Yahoo!, Moodle, Sakai, Drupal, Creative Commons
4. ***L***everaged Resources and Open CourseWare-MIT,



Opencourseware Prototype System (OOPS), John Hopkins Bloomberg School of Public Health, Peer-to-Peer University

5. ***L***earning Object Repositories and Portals-Wikipedia, Encyclopedia of Life, Museum of Online Museums, Turning the Pages, Exploring and Collecting History Online (ECHO)
6. ***L***earner Participation in Open Information Communities-Wikimedia Foundation, Chinswing, YackPack, YouTube, TeacherTube, Global Nomads Group (GNG), Scribd
7. ***E***lectronic Collaboration and Interaction-Innocentive, Club Penguin, 1kg, ePals, iEARN, Flat Classroom, Groove, Sharepoint
8. ***A***lternative Reality Learning-Second Life, There.com, Final Fantasy, EverQuest, Halo, Ultima Online
9. ***R***eal-Time Mobility and Portability-Chumby, Flip, iPod, iPhone, Pulse, Cyworld
10. ***N***etworks of Personalized Learning-Facebook, Flickr, Furl, MySpace, Livemocha, Mixxer

Bonk sees learning through these "openers" as a way to engage students in a quest for knowledge. "Learning is no longer imparted from a teacher or trainer. In this new world, learning quests are purposefully chosen, self-directed, and immediate" (p. 69).

21st Century Skills

The type of learning required for life in the 21***st*** century where students have instant access to the Internet and information requires that schools integrate digital tools. The Partnership for 21***st*** Century Skills model focuses on curriculum, instruction, professional development, and standards and assessment. However, there is no suggestion as to how schools should be designed to accomplish the acquisition of these skills. The focus, instead, is on mastering specific skills that are supported through the development of standards and assessments, curriculum and instruction, professional development, and appropriate learning environments. The figure displayed to the left illustrates the framework used by the Partnership to illustrate their notions of learning in the 21st century.

School Culture: Popkewitz, Tabachnick, and Wehlage

For this study, the researchers were interested in the schools' definition of "work" and how it reflects the larger culture of the school. Popkewitz et al. defined the differences in these cultures of the schools as illusory, technical, or constructivist based upon their ways of defining knowledge, work, and authority. Popkewitz et al. revealed the notion that school culture overrides the intended meaning of any new practice. Schools differ in fundamental ways: in their cultural beliefs about knowing, work, and the exercise of authority.

In the Popkewitz model, students through their engagement in schooling learn the answers to the following three questions: What does it mean to know? What does it mean to work? What is the nature of authority? The chart below illustrates each.

Culture is central to the model of the framework presented above. Bonk provides a list of tools to look for; Steinberg gives a way of looking at the student activity in terms of it being real work or not; and Popkewitz provides a way of describing the nature of teacher/student engagement or student work as technical, illusory, or constructivist. If it is real work, according to Steinberg, then it is also most likely to be constructivist.

Procedures for Data Collection

This study took place through site visits and observations. The researchers communicated with each other using Google Docs.

The data were coded within a Classroom Observation Guide developed and piloted by the researchers to determine whether what was observed reflected use of the educational technology as it aligned with the concepts from Steinberg about real work and with Bonk in terms of what tools were evident. because

Analysis of Data

The works of Steinberg (1998), the Partnership for 21st Century Schools (2007), Bonk (2009), and Popkewitz et al. (1982) were used to create a framework to analyze

Constructivist	***Illusory***	***Technical***
Knowledge-Problem solving, integration of skills, inquiry of adult occupation	Knowledge- Non-academic, social mores	Knowledge – External and fragmented sequence
Work – Child-centered, creation of knowledge, pupil intent; collaborative; complex tools	Work – Routines and rituals, community culture is pathological	Work – Do as one is told, worksheets to show program compilation: in isolation; simple tools
Authority – Collaboration, "whole way of life," cultural politics. People act because they decide to: in order to….	Authority – Managers tell teachers and teachers tell students	Authority – Bureaucratic managers tell teachers, teachers tell students. People act on what they are told to do: because they said so.
Popkewitz model from Christopher Gitz, 2009.		

whether or not the data collected support that 21st century learning is taking place in the targeted grade level at each school. Finally, the culture of each school (technical, illusory, and/or constructivist) was determined.

Findings

The core issue of this case study was to determine how digital tools were being used to promote "student centered" as opposed to "teacher centered" work.

Evidence of 21st Century Skills

To address the question whether student work created in the classroom incorporates 21st century skills as identified by the Partnership for 21st Century Skills such as the use of Web 2.0 tools, the researchers looked for indicators of Curtis Bonk's WE-ALL-LEARN. There was evidence of several of Bonk's WE-ALL-LEARN descriptors in both schools. The laptops were used as a function of instruction giving students access to digital Web 2.0 tools. Although access was consistently offered in both schools, the use of the laptop was not consistently Web 2.0 based. Most of the time the instruction engaged students in using the laptops in Web 1.0 fashion. The observations revealed little evidence of the use of the laptops in ways that would represent Web 2.0 collaboration or interaction.

The observations revealed the teachers in both schools engaging students in the use of digital tools, namely, laptop computers with access to Web 2.0 in activities that reflected Web 1.0 fashion. Although the use of the laptop seemed well integrated into the instructional practices observed, there was no evidence that the teachers were using the laptops to engage students with Web 2.0 tools. The teachers used the tools, the laptops, interactive whiteboards, and the Internet as part of their teaching process to engage students in learning, but there was no evidence that there was any consistent use or engagement with Web 2.0 tools. The teachers appeared to have integrated the use of the tools in ways that seemed similar to how students might use these tools outside of school in terms of access, but it was noted that access to which sites and for what duration was very closely monitored and controlled by the teachers. In summation, there was no significant evidence of an intersection between Bonk and Steinberg.

To address the concern about whether students were engaged in instruction that reflects 21st century skills, the researchers examined the data for an intersection between Bonk's WE-ALL-LEARN and Steinberg's questions related specifically to authenticity, applied learning, active exploration, and adult relationships. Taken together, the data collected were summarized into quadrants to illustrate whether the kinds of work that students were observed engaged in having access to 21st century tools was indicative of being student centered use of Web 2.0 tools (active), student centered traditional use of Web 1.0 tools (passive), teacher centered use of Web 2.0 tools (active), or teacher centered traditional use of Web 1.0 tools (passive).

The analysis presented above established that there was little evidence to support the presence of relationships between Steinberg's 18 questions and Bonk's descriptors of Web 2.0 relative to the researchers' guiding questions for research in either school. Had there been evidence of the use of Web 2.0 tools by the teachers to engage students in "real work" as described by Steinberg, the researchers could have made a conclusion relative to this question. Instead, the researchers concluded that students were engaged in using their laptops and digital tools to engage in Web 1.0 work which was well executed, but not yet at a 21st century skill level. Engagement was high and had the students not had their own laptops with wireless Internet access, they may have been less participatory. Instead, the teachers were observed being able to facilitate the students' use of tools to actively explore them for the purpose of applying their knowledge in ways as were indicative of Web 1.0 use. With individual access to computers and the Internet, the teachers had the ability to engage students in immediate access to information which was observed as relevant to the learning activities, research, and even the rehearsal of skills, but not in a collaborative or networked way. Assignments incorporated all content domains and were integrated with examples of real-world applications, but were not generated from real world problems.

Data collected were examined to determine if the school cultures were constructivist, illusory or technical in engaging students and adults in using 21st century tools for work. To analyze this, the researchers considered the evidence collected to make a determination as to whether the tools were used to engage students passively as receivers of information in traditional ways, or actively using the tools to facilitate getting the information. During the extended time periods spent observing, scripts documenting the teachers' instruction provide evidence that learning activities were teacher directed. The instruction in both observed settings was directive in nature. The observed lessons revealed a teacher-centered active use of digital tools, but not in methods consistent with Web 2.0. Taken overall, these data show that knowledge acquisition was technical in nature, even when considering the non-traditional nature of what was observed in both settings.

When examined within the constructs of Steinberg and Bonk, it becomes obvious that although the instruction was effective, there was little evidence to support the notion that the students were engaged in using digital tools in the constructs of real-world, Web 2.0 ways. Having access to the digital tools, namely the laptops, did not guarantee that students would be engaging in the use of Web 2.0 tools or real work as described by Steinberg. The culture surrounding the engagement of students in this work was determined as technical in nature as described by Popkiewitz, et al. because the work was teacher driven as directed by the district and state.

Conclusions and Recommendations

Conclusion # 1 *Providing teachers and students access to digital tools, such as laptop computers or other mobile technology, per se does not lead to Web 2.0 teaching. Simply purchasing computers does not lead to Web 2.0 teaching or to changing the culture of a school from technical to constructivist.*

Recommendation

School districts that wish to move toward providing Web 2.0 use of technology need to make a firm commitment to providing financial support to professional and curricular development to shift the teaching and learning process to engage students as partners in their learning process: to shift beliefs about knowing and work in the classroom from the predominant technical perspective that shapes the way digital tools are used in instruction.

Professional development needs to shift from a "computer study" focused on making the computer work to "lesson study" with a focus on making the lesson work. For example, professional development could be focused more on helping students develop conceptual understanding instead of how to use a website and software to plug in collected facts. The focus needs to shift from simply using the digital tools, to how they might be harnessed as learning tools.

Teacher-centered instruction must shift to allow students opportunities to create their learning experiences using Web 2.0 tools that feature open inquiry, collaborative work, and social forums for networking and learning. Although the districts in this study have successfully provided the tools, namely laptops, and have made curricular adjustments to reflect the development of 21st century skills, the culture of the implementation was still Web 1.0 and technical in nature. Teachers apparently believe that the need to be accountable to the New York State Assessment program may hinder moving to a full constructivist culture. The freedom to develop project-based assessments that would be acceptable alternatives to the New York State Assessments might shift the culture from technical to constructivist work in the classroom.

Evidence of 21st Century Collaboration and Sharing

Research Question 2 focused on how students use 21st century digital tools to create and share work. Observations in both schools revealed that students were creating work using digital tools. Web 1.0 was well used. Each student interacted with his/her own computer to create his/her own work, but neither open inquiry in the search for knowledge nor collaboration among students was observed. Students were observed expressing bounded creativity when engaged in their multimedia projects, but they did not truly search for knowledge nor did they share their work using Web 2.0 tools such as a social network or blog or wiki. The work was created, saved, and stored in static folders and drop boxes that served as holding places for the work and provided access to view the work by the teacher and student. While the observed instruction was generally laudable within the context of the traditional school, the concern is that the student work did not engage students in classroom work in a Web 2.0 mode.

Conclusion #2 *Wireless access and 1:1 laptops gave teachers the ability to engage students in using digital tools to create and collaborate, but not in a Web 2.0 mode.*

Recommendation

The primary use of the digital tools reflected a Web 1.0 perspective, which did not involve collaboration or a give and take of information or feedback indicative of the use of Web 2.0 tools. In spite of notable efforts to use digital tools effectively, even high per pupil expenditures, 1:1 computer ratio, these efforts in these classes did not assure that instruction would be Web 2.0 oriented.

Conclusion #3 *To change the culture of a school to endorse Web 2.0 learning activities, the administration probably needs to be an active agent engaged in learning activities, and not just a provider.*

Recommendation

The ability for teachers to engage students in the use of digital tools to create and share work is reflective of the core beliefs of the Partnership for 21st Century Learning. However laudable their efforts may be, schools that use technology, specifically their website, to post activities that take place inside and outside of school are not demonstrating or modeling the use of Web 2.0 tools. It would be essential to have administrators and teachers use Web 2.0 tools that foster collaboration and creativity to have first-hand experience and develop their own skills. Modeling this behavior is necessary to be able to engage students in the use of these tools. It is critical that adults learn how these devices can be harnessed as learning tools. The laptops may soon be less favorable than a handheld device in providing access to collaborative tools. The problem will probably be, as in this study, that the students will use these devises for self-initiated inquiry, while following teacher directed procedures in the classroom.

Conclusion #4 *Contrary to the advice of experts on student work, such as Adria Steinberg, students were not engaged in digital work that reflected the real world.*

Recommendation

Given the nature of adult work as reported by Steinberg, the curriculum should be developed to integrate the use of digital, Web 2.0 tools in ways that reflect how the tools would be used in project based, real-world focused learning with an emphasis on bridging the perceived gap between how students use digital tools outside vs. inside of school, and to reflect the most current technology available.

Focusing on how to integrate laptops may become obsolete as more and more people are relying on handheld devices and digital tablets as tools of choice. Laptops, in and of themselves, may soon not represent the tool used most in the real world. In short, smart phones are replacing laptop computers for many people. Even students have broad access to such devices and use them in lieu of laptops.

Conclusion #5 *Students were not observed collaborating in a Web 2.0 mode.*

Recommendation

Collaboration is central to adult work in a Web 2.0 mode. There was next to no evidence that students were learning to collaborate.

Conclusion #6 *Teachers were not observed engaging students in what Steinberg describes as real world projects that are meaningful to adults outside the classroom.*

Recommendation

To promote such work in the classroom, staff and curriculum development need to focus more directly on skills related to the use of digital tools in project based, real world focused projects. Teachers need support to develop instructional practices that foster the use of Web 2.0 tools to help students construct knowledge using these digital tools. Districts committed to engaging students in the use of digital, Web 2.0 tools inside of school benefit by collaboration with adults in the domain and by applying their knowledge and skills in real world environments. Community projects facilitated through the use of digital, Web 2.0 tools could be a core component of the project-based learning environment. The use of Web 2.0 digital tools could give students access to adults outside of the school walls and perhaps globally. The findings support the view that instruction reflect 21st century learning skills proposed by the Partnership for 21st Century Learning, but that instruction did not incorporate Web 2.0 digital tools. Access to wireless 1:1 laptops as digital tools ensured that teachers were able to engage students in projects that connected them with opportunities to experience 21st century themes.

"In most communities today, students have far too few opportunities to work alongside adults on issues that adults take seriously. One of the consequences of this is that young people do not develop a sense of what is involved in accomplished performances or internalize a set of real world standards" (Steinberg, p. 82). The Partnership for 21st Century Learning advocates for educational structures that engage students as theorists have supported over time, but add new emphasis on the technological tools and access that are associated with the digital age. Today constructivist work as supported by Steinberg, needs to shift to include work with digital tools as described by Bonk.

Conclusion # 7 *Although the districts invested in professional development, the support observed was focused on use of hardware, software, and Internet resources that were limited to Web 1.0 application.*

Recommendation

School districts should invest in professional development to help teachers develop projects that incorporate 21st century skills that integrate the use of digital, Web 2.0 tools. Shifting to instructional processes that foster student-centered, inquiry based instruction should be a core focus of staff development. Projects should be developed as ongoing and should incorporate collaboration with peers and adults in the real world while meeting the standards and themes of the curriculum.

Implications for Education

To be successful in the 21st century, students will need digital proficiencies that may not be currently developed in the majority of schools. It is important to identify how all schools can make curricular changes to integrate digital, Web 2.0 tools into instruction so that students are prepared for real world work that requires digital proficiency. Educational institutions should make an effort to help those entrusted with educating students to develop digital proficiencies and to integrate 21st century skills within the context of standards and assessments that they are expected to teach. The ways in which students are engaged in using digital tools should reflect the ways in which those tools are used in the real world of work.

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Students Trust In Their Teachers and How It Influences Their Self-Efficacy And Achievement

By Jill Karp, Ed.D., Albert Inserra, Ed.D., and Elsa-Sofia Morote, Ed.D.

Abstract

This study investigates the relationship between adolescent perceptions of teacher expectations (affect and teaching effort) and academic self-efficacy (ability, context and effort) from two middle schools. How do teacher expectations affect student trust in the teacher; and how trust influences self-efficacy and achievement? A structural equation model is presented to show the interrelationship among variables with achievement as the dependent variable, suggesting that positive teacher expectations and student trust in their teacher is important for students to develop a positive self-efficacy and improvement in academic achievement.

Objectives or Purposes

While studies in the area of teacher expectations and adolescent academic efficacy exist, there is a deficit in examining whether the trust adolescents have in their teacher mediates the relationship between their reported expectations and their self-efficacy to do well in class.

Research that contributes to a deeper understanding of how differential teacher behaviors have on adolescent learning and achievement can lead to improved practices which, in turn, may lead to higher student achievement and academic performance. Additionally, administrators can use the information generated from this study to assist in the development of relevant professional development programs and focus and create instructional goals which concentrate on the effects of subtle teaching behaviors in the classroom on adolescent students' efficacy and achievement.

The purpose of this study was to investigate the relationship between adolescent perceptions of teacher expectations on the dimensions of affect, teaching effort, and their reported academic self-efficacy on the aspects of ability, context and effort from two middle schools. Further, this study examined whether the level of trust adolescents have in their teacher mediates the relationship between their perceptions on the dimensions of teacher expectations, the aspects of academic self-efficacy and achievement.

Theoretical Framework

Teacher Expectations

Cooper's Expectation Communication Model (1979) was significant because it focused on the circumstances surrounding teacher interactions, which he claimed were as important as the frequency of the behaviors. The model suggested that teachers formed differential expectations for their students, which led them to differential behavior in the classroom. He suggested that teachers may discourage student initiations, control the climate of the classroom, and the feedback provided to the students (Cooper, 1979). Cooper and Good (1983) revised the model by including student perceptions of differential teacher behavior. Cooper and Good (1983) suggested that it was not just the teacher's behavior that was significant but also the ways in which students interpreted this information. This model recognized that it was the quality of the interactions with students that were particularly important not necessarily the quantity.

Academic Self-Efficacy

Self-efficacy beliefs are rooted in Bandura's Social Cognitive Theory, which is ingrained in "a view of human agency in which individuals are agents proactively engaged in their own development and can make things happen by their actions" (Pajares, 2002, p. 3). From this theoretical perspective, this means that the way people interpret their past behavior informs and alters their future behavior (Li & Dunan, 2005). According to Pajares (2002), Social Cognitive Theory states that external factors, such as economic conditions and educational and familial structures do not affect human behavior directly. Instead, they affect it to the degree that it affects peoples' aspirations, self-efficacy beliefs and emotional states.

Trust

Although the research on trust in schools has been limited, Bryk and Schneider (2002) formulated a three-level theory of relational trust. This theory is based upon Robert Putnam's research on democratic institutions. Byrk and Schneider (2002) state that Putnam argues, "civic engage-

ment depends on the nature of social ties among community members, in particular their level of interpersonal trust" (p. 13). They also drew on James Coleman's theory of social capital. He claims that social capital is abstract and is purposefully between people in social networks. He believes that the network, which is created and has a high level of trustworthiness, maintains the norms desired to have a meaningful relationship (Byrk & Schneider, 2002). Byrk and Schneider's (2002) three-level relational trust theory includes an intrapersonal level, interpersonal level and an organizational level. These levels, taken as a whole, help explain relational trust as an "organizational property in that the elements are socially defined in the reciprocal exchanges among participants in a school community and its presence (or absence) has important consequences for the functioning of the school…" (Byrk & Schneider, 2002, p. 22).

Methods, Techniques and Modes of Inquiry

Students from two middle schools located in a large school district in Suffolk County, Long Island, New York were invited to participate in a survey to collect data for this study. Each middle school has a population of approximately 800 students in grades six-eight; where the majority of students (85%) are Caucasian. Eighth grade students were the subjects of this study. Each middle school has approximately 280 eighth grade students.

A total of approximately 250 in both schools, responded to a survey about their perceptions of their current English teacher's expectations. The first middle school (A) has two female English teachers teaching the eighth grade population and the second middle school (B) has two male teachers teaching this subject in the eighth grade. All four teachers teach regular English classes.

Permission was obtained from the Superintendent of Schools to conduct research in the two identified middle schools in the Suffolk County school district. In late October, the researcher administered the questionnaire to the eighth grade students in both middle schools. Eighth grade students were surveyed about their teacher's expectations, their own academic self-efficacy and their trust in their teacher in their English class. ***Table 1*** shows the list of variables and their reliabilities included in the survey.

To ensure that all of the classes include similar students, the researcher obtained each student's seventh grade New York State English Language Arts score. This score was used to ensure that similar groupings exist among the classes participating in the study. The researcher computed F values to determine if the differences were significant among the groups of students in the study. The results determined that there was no significant difference among the groups. Following the data collection, the researcher obtained each student's first quarter grade to use to determine achievement.

Correlations were computed to determine the relationship between the students' perceptions of teacher expectations and students' reported academic self-efficacy with achievement. Trust was added into this correlation matrix once all of the correlations for the other variables were performed. The researcher then determined if trust mediated the relationships between the variables using partial correlations.

Results

How do teacher expectations on the dimensions of affect and teaching effort, academic self-efficacy on the aspects of ability, context and effort, mediated by adolescent trust relate to academic achievement?

A structural equation model was created including trust to analyze influences using student academic self-efficacy as the dependent variable. It is represented in Figure 1. Figure 1 displays the following influences utilizing the standardized beta weights: value .17 is the contribution of teacher expectations variable of affect on self-efficacy, value .43 is the contribution of trust on efficacy and value .06 is the effect of teacher effort on efficacy. This prediction has an R2 = .36, which indicates 36 percent variance of students' academic self-efficacy is explained primarily by trust, teacher effort and affect. Although teacher effort has minimum impact on student efficacy, the combination of teacher effort and affect predicts 51 percent of the variance of trust and trust has an impact on student academic self-efficacy. It is important to note that the model also illustrates the strong influence student academic self-efficacy has on achievement which predicts 29 percent of the variance of achievement.

Figure 1 also displays the significant relationships among the variables. There is a very strong relationship between teacher affect and teacher effort with a correlation of .63, which indicates 40 percent of the variance that teacher affect relates to teacher effort.

Table 1. Variables in the Survey

Scale	Number of Items	Raw Score	Alpha Coefficient
Teacher Expectations *Affect*	7	7-35	.657
Teacher Expectations *Teaching Effort*	6	6-30	.639
Trust	6	6-30	.841
Self-Efficacy *Ability*	7	7-35	.728
Self-Efficacy *Context*	7	7-35	.755
Self-Efficacy *Effort*	7	7-35	.716

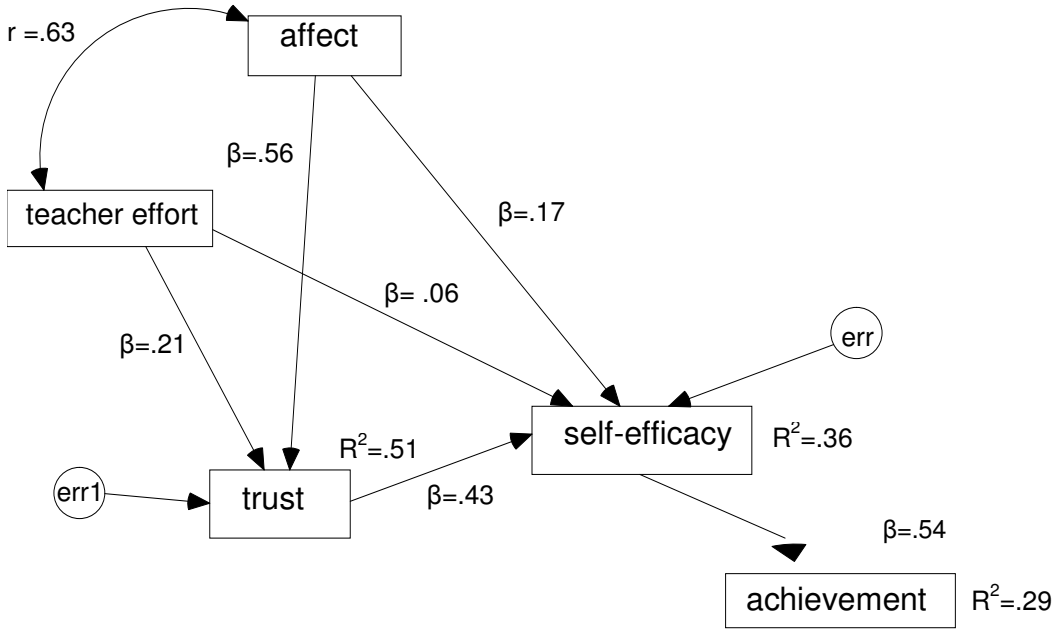

Figure 1. Structural Equation Model

Significance of the Study

The results of this study found that student ability and student effort have the most impact on academic achievement when trust is present in the environment. Long et al. (2007) conducted a study where the results concur with the results from this study. They found that the students who had high interest in their subject contributed significant effort to succeed in school. They found that student effort impacted their achievement and their self-efficacy. Roeser et al. (1996) found similar results. According to the researchers, results suggest that adolescents who have a positive sense of school belonging and high academic self-efficacy are more likely to achieve higher grades than those who do not.

Additionally, adolescent trust in the teacher is closely related to teacher effort and teacher affect in the classroom. This illustrates that positive teacher effort and teacher affect in the classroom are important for students to develop trust in the teacher. When the correlational analysis was conducted holding the trust variable constant, the relationships between teacher effort and affect, student effort and context, and student effort and ability were significant; however, they became less significant without the presence of trust mediating these relationships. This is evident in the study conducted by DeCremer and Tyler (2007). They found that people are willing to reciprocate kind behavior of the authority figure if they believe that the authority is acting fairly. The behavior that they exhibit is their willingness to support and to cooperate with that authority (DeCremer & Tyler, 2007). In this case, people are interpreting the authority's behavior as valuing and respecting them. Accordingly, Gregory and Weinstein's study (2008) indicated that positive teacher qualities (more caring and higher academic expectations) predicted student willingness to trust and to cooperate with the teachers. According to Wooten and McCroskey (1995) trust in the educational environment is affected by the way the teacher communicates with the student in daily interactions. If the student perceives that the teacher has the student's best interest in mind, then the level of trust is likely to increase (Wooten & McCroskey, 1995).

Recommendations

It is important that we know what helps students achieve success in the classroom. Adolescents experience growth in all aspects of their emotional and cognitive life, which impacts their daily lives, especially academics. This study attempted to ascertain the variables that influence students' self-efficacy and achievement in the classroom. The results show that the teacher does have an impact on the adolescent student, specifically in the way she/he creates the classroom environment. The findings show that the more affective the classroom, the more likely the student trusts the teacher and the more likely the student is to develop a positive self-efficacy which leads to academic achievement. It is also recommended that teachers make every effort to build trust in the classroom as the data suggest that students'

trust in their teacher leads to positive student efficacy and achievement. This investment in the relationship will allow the student to take risks and put forth more effort that will lead to achievement.

It is recommended that school building leaders and teachers are cognizant of the impact the classroom environment has on adolescent students. As such, additional recommendations include:

- Teachers should become aware of the affective classroom environment and ensure that all student emotional needs are being met.

- Teachers should try to connect with students individually to ensure that adolescents feel that they have an opportunity to bond with the teacher to help increase trust which will ultimately increase their effort and achievement in the classroom.

- Teachers should build trust in the classroom by creating an environment where students feel that they can take risks .

- Educational leaders from higher education settings as well as K-12 district and building leaders have a responsibility to develop teachers who can create an affective environment which will build trust; thus, student self-efficacy and achievement in the classroom will rise.

- Administrators should provide common planning time and opportunities for teachers with the same students to collaborate with each other in order to share information about students to best meet their needs in the classroom.

- It is essential that teachers and administrators explore the research about affective classroom environments and hire teachers who can be sensitive to students' needs but hold high expectations for student achievement.

- Educators should identify students who are at-risk and utilize non-traditional methodologies to support not only their academic success but their emotional needs as well.

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Designing a Program for Individuals with Autism Spectrum Disorders: What Every School District Should Know

By Eric Shyman, Ed.D.

Abstract

With the diagnosis of Autism Spectrum Disorder (ASD) increasing in the United States along with the national push toward inclusive education for all students, public school districts on Long Island are increasingly providing within-district programs for individuals with ASD in public schools. This article will provide a potential framework for designing and implementing a successful and effective program for individuals with ASD across the age span in a public school setting using principles and practices supported by the extant literature.

Introduction

The diagnosis of Autism Spectrum Disorders (ASD) appears to be increasing both nationally and internationally (Safran, 2008). In the United States, educational legislation such as the Elementary and Secondary Education Act (ESEA), formerly known as No Child Left Behind (NCLB) as well as the Individuals with Disabilities Education Act (IDEA) are increasingly calling for more inclusive opportunities for individuals with disabilities, including ASD (Simpson, de Boer-Ott, & Smith-Myles, 2003). As such, school districts around the country appear to be attempting to design and implement quality programs that service individuals with ASD within the physical space of public school buildings and classrooms. Because individuals with ASD present with complex behavioral, academic, linguistic, and social patterns, designing a program that meets all individuals' needs while maintaining accessibility to the least restrictive environment (LRE) is distinctly challenging (Ryan, Hughes, & Katsiyannis, 2011).

ASD is characterized as a neurodevelopmental disorder that affects the behavioral, linguistic/communicative, and social functioning of individuals. In its current form, the diagnosis, falling under the umbrella of Pervasive Developmental Disorders, is characterized into five subtypes, three of which comprise what is colloquially known as the autism spectrum: Autistic Disorder (AD), Asperger's Disorder (AspD), and Pervasive Developmental Disorder- Not Otherwise Specified (PDD-NOS) (Dillenburger, 2011). In coming years, however, it is suggested that the current means of characterizing the diagnosis of ASD is going to change from a subtyped organization to a spectral organization, with all such diagnoses being labeled as *Autism Spectrum Disorder* (Swedo, 2009). How this re-characterization will affect schools directly has yet to be determined. However, it is possible that the number of individuals classified as *Autistic* in schools will increase, furthering the already pressing need for quality programs for children with ASD.

Given that the increase in individuals with a diagnosis of ASD is already evident and the impending change in diagnostic practices draws ever closer, it is imperative that school districts, including teaching faculty and administrators, begin to put an increasing amount of effort into designing quality programs for students with ASD. Considering such issues both before and during the implementation process is not only likely to increase the quality of education and service provision for deserving individuals, but will also increase districts' return for their investment in such a program, including more satisfied parents, well-used budget revenue, and a direct hand in the productive future of the villages the districts serve. This article will propose a series of literature-supported suggestions that schools should consider when designing a program for individuals with ASD. Issues included are: student selection, hiring and training of teachers and roles of support staff, educational approaches for children with ASD, use of consultation, and administrative support.

Components of a Well-Designed Program for Individuals with ASD

Student Selection

Because students on the autism spectrum are vastly diverse in behavioral, academic, and social topography and functioning, determining particular criteria for student involvement in district programs is imperative. Anecdotally, it is all too common for programs to accept formerly externally educated students back into district schools only to find that their individual needs are far too challenging for the staff to handle, forcing a reevaluation of appropriateness for the program. This unfortunate process can cause grave emotional hardship for the families, distinct strain for the program staff, burdensome application processes for the administration and, most importantly, disservice to the student who must now make another transition after an unproductive period of time (Benson & Karlof, 2009; Center & Steventon, 2001; Author, 2011). This deleterious administrative situation, however, is likely to be ameliorated, if not entirely avoided, by a process of criteria selection in which the district evaluates and decides which students would be most

appropriate for the program in its current state. As programs grow and become more effective and established, these criteria could and should change to be open to more challenging students. However, it is important that the program is honest with its current means of service and staffing, and choose only students that can directly benefit from the program. Ultimately, the goal of programs for children with ASD should be to seek to service as many students as possible, regardless of specific level or topography of challenge, without risking further exclusion as a result of selection. The process of student selection should not be used as a means of determining which students do or do not "belong" in public school, but should be used to determine which students can be adequately supported by the current state of the program, and what the district needs to do in the coming years to be able to support an increasing amount of students with varying challenges.

Furthermore, with legislation continuing to push for inclusivity of all students to the greatest extent possible, a primary goal of in-district programs for students with ASD should be to provide an inclusive environment (Eldar, Talmor, & Wolf-Zukerman, 2010). First and foremost, a valid and workable definition of inclusion should be determined. Because IDEA does not use the term inclusion but, rather, *least restrictive environment* (LRE), it is important that this concept be incorporated into any definition of inclusion. For the purpose of this paper, inclusion will be defined as access to a general education classroom with the availability of any necessary supports that can reasonably be made available in such an environment, in order for the student to observably participate in any and all activities of that classroom. Supports, in this case, can mean 1:1 assistance, motivation systems, modified classroom work and materials (including alternative materials), available environmental accommodations, as well as any other necessary provision.

Equally as important, however, is the determination of what is sought to be accomplished by inclusion in the typical classroom. Inclusion does not have to take place all day and for all activities all of the time. It is reasonable for teams to decide that certain students will only be included for certain portions of the day based on what is happening in the respective classrooms at those times. The important aspect, however, is that the means and purpose of inclusion is planned *before* implementation.

The following characteristics should be considered when determining criteria for student acceptance into a program:

Behavioral Considerations. As aforementioned, students on the spectrum bear a wide range of behavioral challenges and topographies, with some presenting as significantly inactive and avoidant and others being hyperactive and potentially self-injurious and aggressive. When programs are designing and implementing programs, availability of behavioral support should be at the forefront of the discussion. If districts contend that they are able to provide adequate support for students with the potential to be aggressive and self-injurious (e.g., physically capable and staff who are well-trained in the principles of intervention for severe behaviors, as well as a clear policy for physical intervention in potentially dangerous and/or crisis situations) then the program can plan to include individuals with the potential of severe physical behaviors (Ducharme & Shecter, 2011). However, if the district is not entirely comfortable with its ability to systematically support students with the potential of severe physical intervention given the current state of the program, then it is important that the district does not include students who display such behaviors in the program. As there are alternative placements that are well-equipped to handle students with these specific challenges, the most ethical decision is to provide a student with the most appropriate placement available at a given time.

Academic Considerations. Determining at what academic level the student can be included and what capability the district has to provide such a service is an imperative consideration when approaching the academic inclusion of students with ASD. All students should be included to some degree, with the intention of working toward full inclusion for all students in the district program. However, the only realistic means of achieving this goal is by systematically approaching the process with increasing successful initiatives until all students are receiving the appropriate level of accessibility of inclusive environments (Kurth & Mastergeorge, 2010). Therefore, ensuring that there are students in the program that are likely to be able to be included relatively quickly and successfully is important groundwork for such a program to lay. Though schools are topographically changing in many respects, content teachers and general education teachers may be more resistant or feel less prepared to handle individuals with disabilities, especially those who connote complexity, such as ASD (Avramidis & Norwich, 2002). Therefore, beginning with students that have a high likelihood of success in inclusion can be an important means of constructing a quality infrastructure for the inclusion of more challenging students in the future. Students with more positive academic potential can help content and general education teachers become more comfortable with the process of inclusion as well as provide the most effective service for students who may be otherwise excluded as a result of other considerations (such as behavioral or social challenges).

Social Considerations. Social considerations are particularly important when administering student selection. Because school is, in many significant ways, a social endeavor, the social well-being of students is as much a responsibility of teachers as is their academic and behavioral well-being (Mazurik-Charles & Stefanou, 2010). As the ultimate goal of these programs is to maximize inclusive opportunities, socialization is an imperative consideration. Since socialization is largely based on linguistic and communicative function, however, committees must also determine by what means the students most effectively use language. Therefore, speech and language pathologists (SLPs) can be of significant utility when determining the means of social support necessitated for a student in an inclusive

environment. The role of social functioning and social support should be held to the same aforementioned standards determined for behavioral and academic considerations.

Teacher Hiring and Training

Perhaps the most important decision to be made regarding an effective program for individuals on the autism spectrum is what teachers should be hired and in which classroom they should be placed (Mason & Schroeder, 2010). This section will focus on aspects of effective teachers specifically for individuals with ASD, as it is proposed that the teacher selection process for this specialized group of students should be different than the selection process of other teachers.

Experience. While experience is an important matter for the selection of all teachers, the great diversity found amongst individuals on the spectrum must be specifically considered when evaluating a teacher's experience. Directly related to districts' decisions regarding student selection, it is important that teachers are chosen according to the students selected while maintaining focus on how the program will grow. It is imperative that teachers are evaluated not just in terms of whether or not they have worked with students on the autism spectrum in the past, but what types of students specifically. The following is a sample of questions interviewing committees may want to consider (and adapt accordingly) when evaluating the appropriateness of a teacher for a program in ASD. Questions are also equipped with an annotation of what specifics should be considered by the committee:

1) In what setting has the candidate worked most with students on the autism spectrum?

There are many settings in which these students receive services. Clinic-based programs are often intensive and effective, but are likely to cater to students who are more severe and are likely to use a "home-grown" curriculum as well as provide limited opportunity for inclusion. Teachers who come from these settings may be well-prepared in terms of certain paradigmatic approaches (namely behavioral approaches), but may not be as familiar with the workings of a typical school setting. Teachers whose experience comes mainly from home-based programs may lack the expertise of a classroom as well as have a different view and practice of parental interaction. This should be strongly considered.

2) With what types of students specifically have the candidates worked with in the past?

Similarly to above, the specific type of student (e.g., behavioral topography, academic involvement, social functioning) can strongly determine what types of students for which this teacher is likely to be most effective. That is not to suggest that a teacher cannot grow and gain new experience, as any good teacher should and could. However, for an initial program that hinges significantly on early success, teachers' comfort levels and abilities at the start of a program are of high priority and should be carefully considered.

3) What are the candidate's thoughts and philosophies regarding physical interaction?

Because students on the spectrum may be more likely to engage in severe physical behavior, it is important to gauge both a teacher's comfort level with and philosophy toward physical intervention. NYS has clear regulations regarding physical interventions that significantly affect such programs (see later section). District policies may also play a role in this characterization. It is imperative that the teacher's philosophies and practices coincide with that of the district if a precarious situation is to be avoided.

4) What are the candidate's thoughts regarding parental interaction?

Students with ASD may be more likely to have parents who are extremely involved in the educational process (undoubtedly with variation in this blanketed statement), and who may seek more consistent and detailed information regarding progress and functioning. While maintaining strong ties and trust with the students' parents is invaluable, it is also important to maintain some level of professional boundaries. Related to Question 1, the setting of the teacher's prior experience may play a distinct role in their approach to this question. Teachers who have a strong background in home-based settings may not have as much of an understanding of the boundaries between parent and teacher, while clinic-based settings servicing students with more severe disabilities may also allow more of a direct parent relationship with the classroom staff and teachers. Again, districts should have clear policies regarding this type of interaction, but finding a teacher that has a natural match to the policy is an advantage.

Professionalism. Professionalism is a consideration that must be applied to all candidates for any job in a school (Mason & Schroeder, 2010). However, it becomes distinctly important in ASD programs for particular reasons. Classrooms for individuals with ASD are different types of environments than the typical classroom setting, and even other types of self-contained special education classroom settings. An increased ratio of teacher to student may lead to a larger presence of adults in the classroom, all of whom play different roles. Some staff members will work directly with students academically while others will engage in more supportive types of work such as materials making, curriculum organization, and general support. Specialists such as speech/language pathologists and occupational/physical therapists may be more involved, and teachers as well as support staff may be given directions, suggestions, and consultation from a variety of professionals (Ruble, Dalrymple, & McGrew, 2010). This situation can cause

difficulty and confusion, and if improperly handled, can be one of the most cantankerous situations in a classroom (Author, 2010). Therefore, only those candidates who show clear ability to act and pursue such situations both respectfully and professionally should be considered.

Paradigmatic Approaches. While there will be more on this topic in a later section, the specific approaches sought to be used by programs must also be considered in the hiring process of teachers. A common (if not the most common) practice used in programs for individuals with ASD are behaviorally-based, often referred to (though somewhat misapplied) as Applied Behavior Analysis (ABA) (Simpson, 2008). It is important for the hiring committee to gauge whether the teacher is unequivocally committed to behaviorally-based approaches, or whether the teacher would be open to using other types of approaches such as sensory integration, language based interaction, relationship-based approaches, as well as other types of available educational modicums (Simpson, 2008; Author, 2012).

Experience with Data-Based Decision Making. As the ever-growing imposition of evidence-based practices looms over all facets of schooling, the importance of data-based decision making is imperative in all legitimate programs (Ball & Trammell, 201) including those for students with ASD. However, it may be more likely that instructional teams make decisions based on perceptions, history and anecdote rather than data (Thomas, 2010). While this is only a nascent, if not entirely unfamiliar concept in the context of public schools, it is likely more common in intensive external schooling environments. However, it is also a concept that is largely misunderstood and misused. The purpose of data collection is not as much in the collection as in the analysis of the data collected so appropriate decisions can be made. Because students on the spectrum have such a wide range of challenges between them as well as a more likely pattern of inconsistent responding within themselves, the analysis of the data collected is an imperative part of any successful program. Teachers chosen for such programs must not only be familiar with data collection strategies, but also data analysis and decision-making based on the analysis.

The Role of Expertise and Knowledge of ASD. The concept of "expertise" in a field such as ASD can be misleading. While many individuals in the field may possess an extensive working knowledge of ASD based on various experiences and personal "research," it is imperative for districts to understand and respect the idea that ASD is still a very much misunderstood disorder. Therefore, teachers presenting themselves as "experts" in ASD (whether or not this word is actually used) should be viewed dubiously. More importantly, teachers who demonstrate a desire to continue to learn about both the disorder itself and emerging treatment and intervention options but clearly have a strong foundation in issues regarding ASD are more desirable.

Teacher Support and Oversight

Because all districts are working within the constraints of teacher contracts and teacher unions, the issue of teacher support and oversight must be considered carefully and within the context of each individual district's teacher contract. However, it is important that districts determine a permissible and acceptable way to keep a close oversight on classrooms servicing students with ASD. As established, individuals on the spectrum can present with distinct challenges, often severe in nature, and the maintenance of ethical treatment is of utmost priority. Despite any teacher's experience and level of knowledge, human emotion can play a major role in effective teaching and appropriate application of instructional methodologies (Center & Steventon, 2001; Embich, 2001). Frustration can be powerful, and a careful balance of both professional and emotional support must be available to all classroom staff.

A clear hierarchy of both authority and support should be delineated in any district. Aside from the typical models of teacher mentors, programs for individuals with ASD should be structured as follows:

Central Administration Representative

- Provide ultimate authority and decision-making regarding program
- Provide direct support to building administrator(s) that house(s) program
- Be the ultimate receptor of concerns regarding program administration
- Provide somewhat regular direct or indirect "check-ins" of teachers

Building Administration

- Provide direct support and building-based authority to teachers and support staff
- Provide impartial conflict resolution for issues arising between teachers and support staff
- Provide "second-line" support regarding issues involving teachers and parents
- Be the "face" of administrative support for the program to the school community
- Review and attend to all incidents of severe behavior (including physical intervention)
- Provide regular direct "check-ins" of teachers

Classroom Teacher

- Provide direct support to parents and support staff (TAs, teacher aides, monitors, etc.)
- Provide direct training and "first-line" support for support staff and parents
- Be the ultimate decision-maker in day-to-day matters of classroom operation

Paraeducators/Support Staff

- Provide consistent feedback to the classroom teacher

Reporting and Check-Ins. The potential incidence for the need of unorthodox and more extreme behavioral interventions and reactions are increased in classrooms for individuals with ASD. While in some rare cases such interventions may be necessary, it has been well-documented that extreme measures or inappropriate responses to more severe behaviors may be more likely to be misused in such classrooms (Ryan, Robbins, & Peterson, 2009). As a result, it is imperative for the program to have its own system of reporting and check-ins for all occurrences of severe behaviors, especially those in which *any* form of physical intervention is necessitated. The definition of "severe" behaviors should be created and implemented by the individual programs with guidance from state regulations, but should be a permanent fixture in all students' Behavior Intervention Plans, as well as any literature or written policy documents involving the programs.

"Check-ins" can be an informal process by which administrators visit classrooms and talk to all staff members regularly to ensure that the processes and approaches being used in the classrooms adhere to ethical and moral standards, and that nothing unnecessary or undesirable is occurring. As with any informal practice, there is always a risk of dishonesty or reluctance in relaying information. Therefore, it is important that these "check-ins" occur regularly enough and in various forms in order to maximize the likelihood that an accurate "total picture" is being achieved.

Reporting is another safeguard that should be implemented by administrations that act in favor of all parties. Particularly useful in the documenting of severe behaviors, with or without physical interaction or injury, reporting can ensure that all incidences that should be documented are so. While the method of reporting is, again, at the discretion of the specific district, the following portions are recommended for all reports:

1) Narrative Description of Incident(s) (including names of ***all*** involved parties)- allowing for a narrative description will provide the opportunity for details involving the incident, should the details need to be re-addressed or re-presented for any reason.

2) Witness to Event/Witness to Report- requiring witnesses to both the event and the report will increase the accuracy of the event itself as well as the reporting of it. Particular attention should be paid by the reviewer to whether the same witnesses are being used continuously. If this is the case, other staff members' perspectives and accounts should be sought.

3) Date/Time/Method of Contact- if the incident involves a student. It is important that the student's parents are contacted. Requiring the specific information of the contact ensures that this procedure was implemented.

4) Pictorial/Narrative Description of Injuries- if the incident resulting in injuries for any involved parties, they should be described in detail (as well as with use of a "body" diagram to indicate the parts of the body on which injuries were sustained). Of ultimate importance, however, is that there is an administrative review (preferably with signature verification) of the report. Documentation of events is useful only if those events are evaluated by those in authority. The nature of the events should be critically evaluated, as well as the frequency of such events. If similar severe events are reported frequently, further investigation is warranted.

Educational Approaches

Once the preparatory issues for the program have been completed and the staff, classrooms, and materials are in place, the ways in which the classroom will function becomes the most significant issues to resolve. Issues such as paradigmatic approaches or methods of teaching, means of data collection, analysis, and decision making, as well as types of curriculum used pose great challenges to the implementation of such classrooms. This section will address these issues using the available extant literature as a framework.

Paradigmatic Approach

Fewer debates garner such fervent opinions as the question of "best practice" for individuals with ASD. While bold claims are made on many sides, an earnest look at the research indicates that there is no single approach that can be seen as "best" for individuals with ASD (Simpson, 2008). Being that the needs and challenges of individuals with ASD are so variable, this makes intellectual sense. However, the field of education seems to be conducive to the establishment of paradigmatic factions, and these factions can have a distinct influence on the way programs for students with ASD is approached. While the ultimate decision of what paradigm or paradigms to which a program will subscribe is up to the individual decision makers, this section will seek to provide a comprehensive list of educational applications available for use in such programs.

Behaviorally Based

Most, if not all methodologies of educating individuals with ASD have a behaviorally-based component to it, if they are not centered entirely upon the behavioral perspective. Because behavioral challenges are central to the characteristics of individuals with ASD, this is an imperative component to any effective methodology. Dillinburger (2011) correctly clarifies that Applied Behavior Analysis (ABA) is not a form of autism treatment, but rather a methodological approach that predates the diagnosis or application to individuals with ASD. Furthermore, Schreibmann (2007) goes so far as to say ABA is not a teaching methodology at all, but rather a research methodology. However, it is important to accept that, despite the accuracy of the above characterizations, the principles of ABA (e.g., functional assessment and application of consequential events in the form of reinforcement and punishment and the emphasis on those behaviors that can be operationally defined) are commonly applied to educational approaches to individuals with autism, and are often used as being synonymous with an autism treatment. The specific methodologies discussed in the program

that employ behaviorally based principles are: Discrete Trial Instruction (DTI) (Smith, 2001), incidental teaching (Charlop-Kristy & Carpenter, 2000), Positive Behavior Supports (PBS) (Carr, Dunlap, Horner et al., 2002), Pivotal Response Training (PRT) (Koegel, Carter, & Koegel, 2003), Picture Exchange Communication System (PECS) (Bondy & Frost, 1994), Treatment and Education of Autistic and Communication Handicapped Children (TEACCH) (Schoepler, Mesibov, & Hearsey, 1995), Learning Experiences: An Alternative Program for Preschoolers and Parents (LEAP) (Strain & Hoyson, 2000), and Social Communication/Emotional Regulation/Transactional Support (SCERTS) (Wetherby & Prizant, 2000).

Relationship-Based/Emotional-Based

An alternative (or perhaps complementary) view to the behavioral model for understanding and educating individuals with ASD comes from a perspective that regards the challenges in ASD from the standpoint that such individuals lack the ability to initiate and foster appropriate emotional relationships with other individuals. From this approach, stereotypical behavior is not seen as something to be "corrected" reactively, but environments should be set up to nurture normal (or as close to normal as possible) social interactions that foster brain development from the younger ages. As such, while behavioral approaches are sufficient in changing behaviors after difficulty has already been identified, it does not sufficiently account for the development of individuals in the younger stages before deficits have been so well-established (and perhaps engrained in habit). Furthermore, relationship-based approaches are likely to criticize behaviorally-based approaches as being hyper-focused on operational behaviors only (that is, only those that can be observed and measured), whereas there may be just as much validity in nurturing those concepts that cannot be as readily operational such as emotions and thoughts. Such approaches in this category are Developmental Individual Difference Relationship Model (DIR)/ FloorTime (Greenspan & Wieder, 2006), Relationship Development Intervention (RDI) (Gutstein, 2004), Social Communication/Emotional Regulation/Transactional Support (SCERTS) (Wetherby & Prizant, 2000).

Language Based

Because language and communication development is a central issue in ASD, and research shows that language may develop differently for individuals with ASD, particular attention to language intervention must also be considered (Hummel & Prizant, 2010; Siegel, 1997; Prizant, 2003). Specific methodologies that approach intervention from a language-based perspective should be explored. Such methodologies include Applied Verbal Behavior (AVB) (Sundberg & Michael, 2001), Social Stories (Gray, 2000), PECS (Bondy & Frost, 1994), incidental teaching (Charlop-Kristy & Carpenter, 2000), and Scripting (Krantz & McClanahan, 1998), Social Communication/Emotional Regulation/Transactional Support (SCERTS) (Wetherby & Prizant, 2000), and Augmentative and Alternative Communication (AAC) (Mirenda, 2003).

Technology Based

With the incessant advancement of technology becoming more relevant in schools, focusing attention on such advancements with respect to methodological approaches for individuals with autism is becoming increasingly important. Methodologies involving less sophisticated technological means such as video modeling (Bellini & Akuillan, 2007) can be explored, as well as more involved technologies such as augmentative and alternative communication (AAC) (Mirenda, 2003), PDA applications, and interactive whiteboards (Goldsmith & LeBlanc, 2005).

Sensory-Based

Some theorists contend that ASD may also have to do with a variety of sensory perception problems. From this standpoint, some of the behaviors associated with autism may be less connected to functions of behavior and more related to an inability to integrate sensory stimuli from the environment in an appropriate way, resulting in overstimulation. As a result, if methodologies focus on enhancing sensory processing and integration, reduction in behaviors resulting from overstimulation may be observed. The most common application of this theory is Sensory Integration Therapy (SIT) (Snider & Rodriguez, 1993).

With such vast options and emerging levels of support for a number of lesser known approaches, programs for individuals with ASD provide one of the most important settings in which such approaches can be applied, monitored, and evaluated appropriately, making the importance of such settings invaluable to the field's advancing understanding of how to best educate individuals with ASD.

Data Collection, Analysis, and Decision Making in Theory

With the ever-increasing mandates of evidence-based practices (EBP), schools are under unprecedented pressure to account for both teaching methodologies and student progress, especially with regard to the meeting of state academic standards and IEP goals (Ball & Trammell, 2010). This practice is equally as important in a program for individuals with ASD. As the progress and performance of such individuals can be so variable the only ethical and prudent way to make decisions is based on data. Data collection and analysis, however, poses its own set of challenges, as well as a variety of methods from which one could choose. The purpose of this section is to emphasize the importance of data collection and data-based decision making as well as present basic methods of data collection that are likely to be viable for use in a self-contained classroom setting.

Data Collection

Data collection is the process by which pieces of information including the occurrence of overt behaviors, accuracy of responses, and engagement in environmental demands is recorded in a systematic quantitative or qualitative manner. This information is merely the *first* step in a process by which particular questions are investigated. In the case of education, the main question usually involves whether a student is responding positively to a particular method of instruction or intervention. It is important to note that data collection alone is not indicative of a systematic

means of investigation, and cannot be used as a standalone means of accountability. Analysis of some kind must take place in order for the data to take on any meaning.

Data Analysis and Data-Based Decision Making

Data analysis is the process by which the data gathered during the data collection phase are studied for relationships, trends, and evaluation of change. There are a variety of ways to analyze data ranging from simple visual inspection of graphs to more complex statistical analyses. Determining how data are to be presented for analysis is an important question when considering data analysis, as the means of representation is likely to determine the type(s) of analysis to be administered. Data may be represented visually or pictorially, such as line graphs, bar graphs, and/or scatterplots, numerically or mathematically such as calculating simple descriptive statistics such as means, medians, and/or modes in a chart, or more complexly such as mean comparisons, Pearson correlations, predictive values/ r-squares, as well as a variety of other techniques.

The most important part of the data process, and the culmination of its ultimate goal, is to make decisions based on the data analysis. That is, using this approach, educational teams are not making important educational decisions based simply on their own perception(s), but rather on the information provided by a systematic and, in most cases, quantitative means of characterizing student performance.

Data Collection, Analysis, and Decision Making in the Classroom

As clearly exhibited, reliable and appropriate data-based decision making is entirely reliant on an accurate and systematic implementation of the data collection and analysis process. This process is becoming ever more important as it is not only the most ethical and unbiased way to make decisions (assuming that the process is sufficient), but legislation is also increasingly mandating decisions to be made according to this process.

Data Collection

When it comes to data collection in classrooms, a vital balance between practicability and accuracy must be struck. Data are only useful if they are accurate, and sound decisions can only be made based on data that have been collected and analyzed in a reliable way. Therefore, it is important to work within the limitations of data collection in a typical classroom to design and implement a process that can best capture students' performance and experience without interfering with the main purpose of the classroom, which is to provide educational opportunities. Three main forms of data collection are suggested for use in classrooms for children with ASD for event-based behaviors and time-based behaviors, respectively: (1) frequency data collection; (2) partial interval data collection in a per behavior time sample; (3) temporal data collection (duration/latency).

Frequency data collection is a method of data collection for event-based behaviors that simply counts the number of times a behavior occurs. While there are subtle differences in the technical definitions between *number data collection* and *frequency data collection*, those differences are irrelevant to this level of discussion. Accurate frequency data can provide a detailed level of data by specifying the amount of times the behavior(s) actually occurred. However, accurate frequency data collection is entirely dependent on behaviors that can be quantified in terms of a beginning and an end, and occur at a moderate enough rate to be counted correctly, which can be a challenge.

In order to counteract the potential weaknesses and ultimate risk of inaccuracy of frequency data collection, it is most recommended that *partial interval data collection* organized in a per behavior time sample is collected for event-based behaviors. Using this type of data, time is divided into a series of equal intervals (these intervals must be tailored specifically to the student using a timeframe in which it is likely that the student will *not* engage in a behavior) and whether a behavior occurs or not is recorded. While this type of data collection will not provide the same level of detail as frequency data collection (it only indicates whether or not a behavior occurred, not the number of occurrences), it is significantly more practicable in a classroom setting, and will provide detailed enough data, if implemented correctly, to reliably make data-based decisions.

For temporal-based behaviors, or those based in time measurement (e.g., time on task, time transitioning, time engaging in severe behaviors such as tantrums), the best, and frankly only viable option is duration or latency. Duration measures the amount of time that a behavior occurs (e.g., from the moment the student begins to engage until the moment the student disengages), while latency measures the amount of time it takes for a student to respond to an environmental cue (e.g., from the moment the cue is given until the moment the student responds to that cue appropriately). Both frequency data collection and partial interval data collection are inept at capturing the temporal characteristics of such behaviors; therefore they would be unworthy of being used for data-based decision making.

Data Analysis and Data-Based Decision Making

In order for the data to be used appropriately, determining the method of data analysis is imperative. However, this process bears the same caution as data collection in terms of the necessity to choose a means of analysis that is both practicable and translatable to educational decision-making. In most cases, pictorial representations such as graphs indicating the trends in responding are a reliable and practicable means of decision-making, and in some cases basic descriptive statistics may also contribute to the systematization of decision-making. In the case of frequency data collection, totaling the number of occurrences per day and transcribing that number to a line graph is generally sufficient, whereas partial interval data collection must be translated into a percentage in order to be meaningful (# of intervals with occurrences or

non-occurences ÷ total number of intervals x 100), with the percentage being marked on the graph. Using a line graph will give the educational team a meaningful visual representation of progress and responding in real time. It is equally as important, however, that data are analyzed periodically using a relevant time frame- that is, not too frequently or infrequently. Data analysis looks to evaluate change over time, and enough time must be provided to observe a true change in behavior (or lack thereof). If too much time elapses without analysis, educational teams run the risk of missing opportunities to make decisions and intervening quickly enough when needed. Conversely, if too little time is allowed and analysis occurs too soon, the team runs the risk that interventions are changed too quickly without a true opportunity to take effect. Therefore it is suggested that a multidisciplinary team meet in some form once per month per student in order to analyze the graphs for each matter on which data are being collected. It is important to note, however, that visual inspection, though practicable and generally reliable, is a largely informal and less systematic means of analyzing data and may be more subject to experience, perception, and interpretation than other more quantitative forms of analysis (Ximenes et al, 2009).

Once data are collected, graphed, and analyzed, decisions should be made and documented in some way. While this process is entirely individualized and centered around what the data reveal, the most important factor to keep in mind is that the decision made should reflect the information provided by the quantitative (and/or systematically collected qualitative data) even if that information is counter-intuitive or anathema to what the team, or individual members of the team believe or perceive. The purpose of data is to minimize bias, and the only means of truly allowing this to happen is to use them as the basis for decision making.

Roles of Support Staff

As many programs for students with ASD involve a variety of professionals, it is important to clarify the roles of each member of the team. Research indicates that role conflict and its positive counterpart role clarity play a significant role in the satisfaction and mental well-being of staff in classrooms (Author, 2011). Therefore, designing a program with role clarity in mind is a positive proactive step. This section will deal primarily with the two most common forms of support staff in classrooms for students with ASD, paraeducators (defined as Teacher Assistants, Teacher Aides, and 1:1 monitors, though districts may use different characterizations) as well as behavior/autism consultants.

Paraeducators

Paraeducators are defined as staff members whose positions are either instructional in nature and/or who provide other direct services to children, youth, and/or their parents, or staff members who work under the direct supervision of teachers or other professional practitioners who are responsible for determining educational needs for individuals and groups of students, designing and implementing programs and services, and assessing student performance and progress (NRC, 1998). The commonality of using paraeducators for direct service and support has been steadily increasing, and this trend is quite obvious when it comes to classrooms servicing children with ASD (Giangreco, Yuan, McKenize, Cameron, & Fialka, 2005; Warger, 2002). Therefore, since the field has come to rely so heavily on the services of these individuals, it is important to characterize what roles they should and should not play in the classroom. In New York State teaching assistants must gain certification at one of three levels, and are the only paraeducators that may participate in direct academic instruction in service delivery, where as teacher aides do not require certification, but may not be involved in direct academic service delivery. While the language of these regulations often causes confusion, it is generally at the discretion of individual districts and contractual agreements as to what academic service delivery means. Once determined, however, it is imperative that the expectations, roles, and responsibilities as well as hierarchy for supervision for paraeducators of all types are clearly defined and communicated. In any case, close supervision of paraeducators must be implemented by the classroom teacher to ensure that all policies, procedures, and protocols are being followed correctly.

Use of Consultants

While the issues involving the consultation model are far larger than what can and should be sufficiently addressed in this context, there are overarching issues that must be addressed and planned for when designing a program for students with ASD. The consultation model can be defined as a form of indirect service delivery in which an individual or group of individuals with particular expertise provide suggestions, feedback, and assistance in a variety of forms to support teachers and teams in appropriately managing and targeting student difficulties including behavior intervention plans, data collection and analysis procedures, IEP goals, and programmatic protocols (Sheridan, Swanger-Gagne, Welch et al., 2009). While there is ample evidence supporting the consultation model in the extant literature, it is clear that there are practical issues that many districts and programs encounter when attempting to successfully implement a consultation model. First and foremost, similar to the issue raised regarding paraeducators, the roles and responsibilities of the consultant must strike a balance of being clearly determined from the beginning of the service delivery, however flexible enough so that the individual needs of particular teachers, teams, and, ultimately, students can be adequately met. It is clear that different people respond to and seek different types and levels of support. Therefore, a form of clear communication and feedback between the consultant and the team need be established. This system of feedback can come in the form of periodic progress meetings with the team or representatives of the team as well as in written form, such as questionnaires or surveys. However such feedback is facilitated, it is imperative that there is opportunity for it.

A pressing issue in the field of consultation is the *Board Certified Behavior Analyst* (BCBA/BCBA-D). To characterize in detail what the BCBA is, the website of the Behavior Analyst Certification Board can be consulted (http://www.bacb.com/index.php?page=4). However, it is crucial to emphasize that obtaining a BCBA in no way indicates expertise in the area of ASD. It is further important to point out that the BCBA is not recognized as a certification in New York State, and BCBA holders do not necessarily hold additional valid qualifying credentials such as NYS Teaching Certification or NYS Licensure in Psychology. Therefore, districts must be equally as cautious when determining which consultants should be sought for service in their programs, and not mistake the holding of a BCBA as a necessary qualifier for expertise. The guide provided for interviewing teachers can be adapted for consultants as well. However, it is important to recognize that achieving a qualification in behavior analysis is not indicative of any specialized knowledge of ASD as a disorder or other instructional practices, and should not be assumed by administrations.

Administrative Support

The roles of administrators are complex and often confounded by hierarchical structures and subdivisions of departments. However, when committing to a specialized program for a particularly complex and only somewhat recently visible type of student, entire administrations must put forth a clear presence of support (Murtadha-Watts & Stoughton, 2004). As the general "tone-setters" in districts, both building and central administrators have an uncanny ability to determine which programs will be supported by faculty and parents and which will not. This section will delineate some essential concepts that must be embodied by administrations in order for programs for students with ASD to be successful: awareness, visibility, protocol and patience with progress.

Awareness

Awareness is an important factor in determining the success of any new and novel program in education. Schools often have deep-seated cultures that are difficult to disrupt, and any potential changes to the culture can cause a significant disturbance in the climate and morale of the organization. Cultures may also be more sensitive to changes when such changes are perceived as furtive or unexpected (Murtadha-Watts & Stoughton, 2004). Therefore, when districts are planning to design and implement a program for students with ASD, it is important that this intention is publicized, particularly to members of the schools in which the programs will be housed. With inclusion as the ultimate goal of any such program, garnering support from as well as providing support to the everyday participants in the direct environments is imperative. This awareness should be facilitated from all levels of administration with both building level and central roles in order to present a united front of support.

Visibility

Once programs are established, it is important that administrators maintain visible involvement in the programs and classrooms. Visible involvement can serve many advantageous purposes: (1) a direct show of support for the program and for the student; (2) an awareness of the issues, positive and negative, that are significant in the program; (3) an ability to actually *see* what the students and the classrooms are like so perceptions can be based on observation and not simply the relaying of indirect information; and (4) an overall safeguard that the classroom is run in an ethical and appropriate fashion by ensuring that matters are being closely watched and monitored for all participants. High levels of visibility will enable trusting relationships to be built with staff and parents alike, reinforcing the idea that when conversations about such programs take place between any members, they take place based on real information.

Protocol

Because new programs are likely to present new challenges and confusion, framing programs for children with ASD in written form (always with the caveat that such policies can and will change with demand) can be a strong safeguard. Protocols should include such sections as a mission statement (with inclusion and accessibility at its center), as well as an indication that the individuality of all members of the program and school will be respected. It should also, however, include some of the main issues that are likely to arise in dealing with children with ASD such as parental involvement/observation, meetings and progress reporting, data collection and analysis, consultation, roles and responsibilities, and handling of severe behavior.

Patience with Progress

Patience is the most important component of any new program, and administrators must model this virtue with the programs so the culture at large follows suit. Undoubtedly programs for children with ASD will be wrought with challenges and setbacks as much as they provide examples of success and inclusion. However, these challenges must always be handled with the goal of progress at the forefront. Opportunities for faculty and staff to express concerns and ask questions about the program(s) will allay the tension of un-involvement, and will also allow the culture to observe those "in charge" dealing with the programs with patience and good faith. Consistently reinforcing the idea that kids with ASD can be challenging and difficult to understand but have an equal right to inclusive schooling can slowly but surely change the schools' culture from suspicion to acceptance.

Conclusion

Clearly there is a need for effective and successful district programs for children with ASD. With research consistently indicating that diagnoses of ASD continue to increase as well as the consideration of difficult financial positions of schools, it is only logical that districts will become

increasingly pressed to provide programs for these students that are both fiscally sound and educationally effective. However few programs, if any, are ever successful without a general framework for implementation. The purpose of this article was to provide a general framework for designing a program for individuals with ASD. Undoubtedly and inarguably, far more research is needed in this field to truly evaluate models and modes of classroom design and service delivery. However, designing sound programs from the beginning can only be a propitious means of further evaluation and meaningful research. Therefore it is the overall message of this article that these programs should continue being developed, but should do so in a more organized and thoughtful fashion as it is the only true obligation of any school program to ethically and effectively meet all needs of all students under their purview.

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Courtocopia

Part 1: Legal Turmoil in New York Over New Evaluation Procedures

Part 2: Update: U.S. Supreme Court Decides Student Questioning Cases

By James I. Brucia, Ed.D.

Part 1:

Legal Turmoil in New York Over New Evaluation Procedures

A legal and political battle for power is currently underway between two major players in the delivery of education services in New York State. Representing the education establishment are the Board of Regents, the Commissioner of Education, and the New York State Education Department (NYSED). Representing teachers' interests is the New York State United Teachers (NYSUT) union. NYSUT, joined by the Islip Teacher association, East Greenbush Teachers Association, and Greenburgh Teachers Association filed suit against the Board of Regents, Commissioner, and NYSED. At conflict is an interpretation of a new statute and accompanying regulations governing evaluation of classroom teachers and building principals. Implementation for teachers in grades four through eight is set to begin this school year (2011 - 2012) and for all teachers and principals in 2012 - 2013.

Known as the Annual Professional Performance Review (APPR), the statute creates procedures in which classroom teachers and building principals receive a single composite score for their yearly performance. This score is obtained by combining specific percentages based on student achievement on state tests (20%), locally derived measures of assessment (20%), and observations plus evaluations throughout the year (60%). Based on this composite score, a classroom teacher and / or building principal will be rated into one of four categories: (H) Highly Effective, (E) Effective, (D) Developing, or (I) Ineffective. Implementation is being delayed because NYSUT's suit has challenged the validity of certain provisions in the statute and regulations, and seeks to invalidate them.

The case, entitled New York State United Teachers et. al. v. Board of Regents et. al. (NYS Supreme Court, Albany County, Index No. 4320-11), has already completed the first stage. On August 24, 2011 Judge Michael Lynch of the New York State Supreme Court in Albany County, after receiving depositions from both sides, held a hearing with oral arguments, and issued a decision granting parts of NYSUT's petition and invalidating several significant portions of the statute because wording that calls for sections to be collectively bargained was not followed.

This decision "compounds the complexity of what was already a complicated and sensitive undertaking" said Robert Lowry, Deputy Director of the New York State Council of School Superintendents (EdVantage Blog, New York State Council of School Superintendents, http://nyscoss.org/2011/08/26, accessed 9/23/2011 11:08 AM) and forced SED to issue updated guidelines to all school districts pending final resolution of the dispute. The Regents have filed an appeal to the New York State Appellate Division which will be heard in coming months. Given the significance of this case, most expect whoever loses at this next level will appeal to the state's highest court, the New York State Court of Appeals.

This article outlines the events leading up to the lawsuit and discusses Judge Lynch's decision. In the next issue of Long Island Education Review the legal resolution which, as of now, is yet to unfold at the appeal levels will be discussed.

Brief Background:

On May 28, 2010 the Governor of New York State, Andrew Cuomo, signed Chapter 103 of the Laws of 2010 which added a new §3012-c to Education Law establishing a comprehensive evaluation system for classroom teachers and building principals. The law went into effect on July 1, 2010. A major reason for adopting this law was to improve New York's chances to receive a significant grant in the federal government's Race to the Top (RTTT) competition. In deciding winners, the United States Department of Education (USDOE) sent strong signals they would be looking for new evaluation systems created by states that took student

progress into account on standardized tests as part of a teacher's performance. State applicants were also rewarded if their proposals had strong buy-ins from teachers' unions. (Sean Cavanagh, "Race to the Top Winners Feel Heat on Evaluations," Education Week, September 14, 2011, pp. 20-21).

On August 24, 2010 the USDOE announced that New York was chosen as a winning state and would receive a RTTT award of $ 696,646,000. New York immediately set about creating regulations and guidelines to implement the new law. An advisory committee, formally named the Regents Task Force on Teacher and Principal Effectiveness was formed in September 2010 and worked through April 2011 discussing and agreeing to recommendations based upon the new §3012-c of Education Law. The Task Force was comprised of: teachers, principals, superintendents of schools, school board representatives, school district and BOCES officials, and other interested parties.

At the April 2011 Board of Regents Meeting the Task Force presented its recommendations. Afterward NYSED presented its recommendations which incorporated most of those of the Task Force. NYSED's staff was then directed to prepare draft regulations consistent with the meeting's discussions. These draft regulations were posted online seeking comments and reactions.

Actions were soon taken that affected some language in the draft regulations and understandings which the Task Force parties had when they left the discussion table. On May 13, 2011, New York Governor Andrew Cuomo weighed in by sending a letter to the Board of Regents that included four specific recommendations that he believed would "revive our education system to insure students perform better and succeed in their future careers. [My] recommendations . . . will help set the course. Now is our chance to make New York a leader in education performance." (http://www.governor.ny.gov/print.606 accessed May 17, 2011).

Specifically, the Governor recommended:

(1) Remove the explicit language prohibiting the same measure of student growth on state assessments from being used for locally-selected assessment measures and state measures simultaneously.

(2) Impose additional standards on school districts to improve the 60% of locally developed rubric requirements, to make evaluations more rigorous.

(3) Require a positive teacher evaluation rating be given only when the teacher receives a combined positive rating on both subjective and objective measures, such as student growth on statewide tests.

(4) Accelerate the timetable of implementing the evaluation system.

On the same day, after receiving the Governor's letter, Merryl Tisch, Board of Regents Chancellor, released a statement agreeing with the governor. She pledged her support and also indicated she would recommend to the entire Board that all four recommendations be included within the regulations for adoption at the Board of Regents meeting scheduled for Monday May 16, 2011 (http://www.oms.nysed.gov/press/ChancTischStatement.TeacherEvals.html Accessed May 17, 2011). At its meeting, the Board of Regents did adopt the new APPR regulations (including the Cuomo recommendations) to become effective July 1, 2011.

The teacher's union did not stand idly by while this activity was taking place. They supported the new regulations that were agreed upon through all the discussions at the Task force and expected that the Regents would approve those. They were not at all satisfied with Cuomo's suggested changes nor the Regents support of them NYSUT felt that changes of this significance had to be negotiated through collective bargaining as written in the language of the statute.

Governor Cuomo, eager to become part of the battle, issued a challenge to the teacher's union. Appearing on a New York City based radio station WOR on May 26, 2010, Cuomo forcefully said, "We're going to persevere and we're going to accomplish the goal. If there are lawsuits, there are going to be lawsuits and we'll win the lawsuits and we'll prevail." (Brendan Scott, "Gov calls teach bluff: Invites suits on new evaluation system," New York Post, May 27, 2011.)

On June 27, 2011 Judge Platkin signed a Show Cause Order brought by NYSUT seeking to enjoin (stop) NYSED from implementing certain adopted regulations which NYSUT claimed were approved without collective bargaining. On July 23, 2011 Judge Michael Lynch (NYS Supreme Court - Albany County) signed a letter ordering a briefing schedule allowing NYSUT and NYSED to submit depositions by August 8, 2011. On August 12, 2011 oral arguments were heard before Judge Lynch on the Show Cause Order.

The Provisions at Issue:

In his decision, Judge Lynch keyed in on five areas in the statute:

1. State Assessments: Up to 20% of a teacher's APPR score must be based on students' performances on state tests (Measure of Student Growth). A second 20 % (Local Measure of Student Achievement) must measure students' performances on other locally developed measures. The regulations give examples of "other" (local) measures. One of these is state tests. Thus, if a district chose to use state tests for the second 20%, it would mean that 40% of a teacher's performance score would be based on a standardized state measure. NYSUT strongly felt that this was not the understanding they and the Task Force had when discussions were completed. They stressed that the sec-

ond 20% had to be some other measure that was truly locally developed and negotiated. The judge agreed and declared that section of the statute invalid. He did leave a slight opening for a state test to be used for the second 20% score if it provides a distinctly different measure of student achievement and is negotiated.

2. Other 60 Points: Regarding the measure of classroom observations and professional growth, the so-called "Other 60 Points" in the composite score, the regulations called for up to 40% of that score to come from a principal's judgment after multiple observations. In addition, up to 5% may be credited for a teacher's professional growth goals. Once again, NYSUT objected claiming that the 40% value was prescribed by NYSED and not bargained collectively. Judge Lynch agreed and declared these sections invalid.

3. Appointment of Independent Evaluator: If and when NYSED monitors a district, the district will have to submit a corrective action plan and may have to appoint an independent evaluator. The regulations call for such evaluator to be appointed by the Commissioner. Judge Lynch ruled that the identity of the evaluator must be collectively bargained and, thus, invalidated that section.

4. Promotion, Retention, Tenure, etc.: The statute provides that ". . . annual professional review shall be a significant factor for . . . promotion, retention, tenure determination, termination . . ." (§3012-c[1]). Thus, both granting of tenure and denial of tenure must be performed in compliance with the statute. Judge Lynch ruled that the regulations (§§30-2.1[d] and 2.11[c]) are invalid due to the extent that they apply the statute only to the granting of tenure not to termination of a probationary teacher or denial of tenure.

5. Scoring Ranges: §30-2.6 (a)(1) established ranges of composite scores to declare a teacher or principal highly effective (91-100), effective (75-90), developing (65-74), or ineffective (0-64). Judge Lynch ruled that these scoring ranges may not allow for the 60-point category (i.e. Other 60 Points) to have a meaningful impact in the composite score and, thus, these scoring ranges as prescribed in the regulation are invalid.

After the decision was released, NYSED issued an updated Guidance Document, acknowledging the decision and giving advice to districts as to how to proceed during the time of appeals.

Impacts in Other Regions:

Although New York State's situation is receiving a great deal of attention, the issues are also being felt in other states who have been awarded RTTT grants. Significant amounts of grant funding are at stake and each state is feeling the difficulty of putting together teacher / principal evaluation plans in time to satisfy the RTTT criteria (Sean Cavanugh, "Race to the Top Winners Feel Heat on Teacher Evaluations," Education Week, September 14, 2011, pp. 20-21). Time extension was granted to Delaware by federal officials on its plan to tie teachers' ratings to student achievement. USDOE warned it could withhold up to $13.8 million of Delaware's $100 million award if the state fails to meet conditions of the extension.

Hawaii has created Zones of School Innovation containing struggling schools. State officials there are planning to pilot a new evaluation system in a number of struggling schools. The Hawaii State Teachers Association is expressing concerns that the pilot was moving forward without negotiations with the association. State officials have indicated that the pilot will follow the parameters of the RTTT plan. Stay tuned.

Finally, Rhode Island has an approved policy for evaluating teachers and principals. It requested and received an extension on creating a system tying teachers' rights to certification with positive evaluations. The Feds say $18 million of Rhode Island's $75 million award could be withheld if the state does not fulfill its revised plan.

So the pressure is on and the stakes are high. We will follow New York State's case closely and report the outcome in the next issue.

Part 2: Update

U.S. Supreme Court Decides Student Questioning Cases:

Readers may recall that two cases discussed in the previous issue of Long Island Education Review (Vol. 10, Issue 1, Spring 2011) revolved around issues of police coming into schools and, with cooperation of school administrators, questioning minor-aged students without having alerted parents or sought their permission. In one case involving the student being suspected of a crime, no Miranda warnings were issued. Both cases were heard by the U.S. Supreme Court but decisions had not yet been rendered as the Spring 2011 issue went to press.

Camreta v. Greene (Docket No. 09-1454):

Police, with cooperation of school officials, questioned a 9-year old female elementary student at school on suspicion of being sexually abused by her father. During early questioning, the student denied allegations against her father but, after two hours, admitted that the abuse took place. The student's mother was predictably outraged at not being notified prior to questioning and sued the police and school officials. When heard by the High Court, the issue that stalled the Court was whether police needed a warrant or parental consent at all to question students in school. In their decision, the Court emphasized that the student was now almost eighteen years old and would never again be in an underage situation regarding police questioning. Therefore, the Court decided it need not render a decision on the specific issue of this student being questioned, and the case became moot.

A moot case is "a matter in which a controversy no longer exists; a case that presents only an abstract question that does not arise from existing facts or rights." (Black's Law Dictionary, 9th edition, West, 2009, p. 1099)

This can be frustrating to those who follow cases and need to have these "abstract questions" decided so that future policies and strategies can be structured to comply with a court's guidance. Instead, because the student, in this case, was approaching the legal age of 18, the Court chose not to render a decision. Issues of whether or not the police or administrators should have notified parents or whether the student's constitutional rights were violated are still in question and not adjudicated. We must now wait until another case comes along disputing the same issue before a decision may arise. This could take years. In the meantime, school officials will have to use their best judgment and hope they do not run afoul of an attorney who will commence a legal proceeding challenging the administrator's decision.

J.D.B. v. North Carolina (Docket No. 09-11121):

J.D.B. is a 13-year old special education student who was questioned about a criminal matter at school by police with the assistance of a school administrator. During questioning J.D.B. admitted to breaking and entering several homes, stealing jewelry, a digital camera, and other items. The assistant principal convinced the student to "Do the right thing" and, thus, significantly aided the police in their questioning. As a result, his confession was used against him in further proceedings. Just as in the previous case, no parental permission was sought to question the student, no attorney was present, and no court order permitting the questioning was sought or obtained. Since the case involved a possible crime, the issue centered on whether or not the student should have been given a Miranda warning of his right to remain silent or to consult a lawyer prior to questioning. The police felt the warning was not necessary because the student was under legal age and the Miranda decision, in their view, applied to adults suspected of committing a crime. The North Carolina courts, where the case was initially tried, refused to exclude the boy's confession at trial.

The U.S. Supreme Court ruled, in a 5-4 decision, that age was relevant in determining whether a criminal suspect merits a Miranda warning. By not providing it, the police erred.

In an article in Education Week (Mark Walsh, "Education Issues Take the Spotlight in High Court," Education Week, July 12, 2011) summarizing this and other U.S Supreme Court cases, David S. Tanenhaus, a professor of history and law at the University of Nevada, Las Vegas discussed Justice Sotomayor's reasoning in writing the Court's majority opinion. Sotomayor, he notes, cites from several recent cases, one prohibiting the death penalty for juvenile offenders and another barring life in prison without the possibility of parole for juveniles committing non-homicidal crimes. Professor Tanenhaus feels that these cases led Justice Sotomayor to her "common-sense" conclusions.

Thus, the decision reversed J.D.B.'s delinquency finding in the lower courts and sent the case back to North Carolina to determine whether J.D.B. was in actual custody at interrogation - this time taking age into account.

These decisions, Camretra and J.D.B., underscore the advice and strategies to administrators by Courtucopia in the previous issue of Long Island Education Review:

- Know your school and district policies.
- Consult with your school district's attorney.
- Hold regular meetings with colleagues to discuss cases.
- Attend bar association meetings and other school law conferences.
- Do not go it alone.

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BOOK REVIEW:

Preparing Literature Reviews: Qualitative and Quantitative Approaches

Glendale, CA: Pyrczak Publishing, 2008, 3 ed. 192pp.

- By M. Ling Pan

At the height of American involvement in World War II, the noted publisher Alfred A. Knopf approached a rather famous cultural historian from Columbia University, Jacques Barzun. Knopf's overture to Barzun was not about addressing the state of the world at that time but, rather, what were his thoughts on the nature of teaching. Barzun was rather taken back, thinking that there were far more pressing concerns facing the state of civilization. However, Knopf would not retreat in his quest to have Barzun take up his challenge. Why, Barzun kept asking, do you want me to address this issue? Knopf responded that in light of the war, teaching is vital to the survival of civilization and education is the instrument by which knowledge for human understanding is conveyed. And besides, Knopf implored, "The substance of what we think, thought born in thought, must live in ink." No truer words were spoken and, as a result, Barzun took up his challenge and wrote a very popular work, *Teacher in America.*

Today, more than ever, writing, good writing, is critical to our future existence. The trouble is that many students on the undergraduate and graduate levels are poor writers. What we think must be conveyed in ink. The only way for students to become good writers is to write, which means practice, practice, practice. In many schools of education, professional teacher candidates are required to conduct an Action Research Thesis in which they study a real school or classroom situation. Action research is a systematic and orderly way for teachers to observe carefully their own practice and to develop a course of action that will improve their effectiveness. One of the building blocks for action research is for students to immerse themselves in reviewing academic literature and then write a comprehensive critique. How best can we assist them in preparing an effective, engaging, and well-written literature review is one element in writing their Action Research Thesis.

One recommendation for educators teaching an Action Research Thesis course is to utilize M. Ling Pan's *Preparing Literature Reviews: Qualitative and Quantitative Approaches*. It offers step-by-step instructions on how to analyze and detail the worth of the reviewed text.

The format of this book is extremely well organized. In addition to defining and giving examples of the differences between qualitative and quantitative reviews, the author delineates in an easy to follow approach, what a researcher would need to accomplish when investigating a specific topic.

In the chapter "Selecting a Topic for Review" readers are instructed to seek a topic of personal interest to investigate. This is excellent advice. Additionally, the reader is given advice on how to limit what might be too broad a topic.

When addressing how to begin one's research in the chapter entitled "Searching for Literature in Professional Journals" attention is focused on some of the more popular professional databases which can assist the researcher to the most relevant and recent research. This chapter did not fully address the need for the researcher to use mostly those sites that provided peer reviewed articles. It is extremely important that student researchers carefully screen and research the validity of any findings that have been published.

Additionally, the chapter on "Retrieving and Evaluating Information from the Web" focuses on using more general Web sources for retrieving information that might be included in a literature review. While the author is correct in that many of these sources are often more up-to-date than professional journals, the fact remains that without peer review, their validity is extremely questionable.

To be fair, Chapter 5 "Evaluating and Interpreting Research Literature" details guidelines that researchers should use if they do not have any formal training in research methods and might not be aware of the pitfalls of using information that is not linked with a professional organization.

An insightful chapter was "Taking Notes and Avoiding Unintentional Plagiarism." The reader is instructed on the specific pitfalls that a writer might encounter when distinguishing their work from that of an author they have researched.

The next six chapters instruct the reader on how to formulate a step-by-step outline when writing the first draft including editing and refining the text. Ling Pan provides a well documented plan.

The last four chapters assist the researcher on how to write the abstract, prepare a reference list, and the difference found in meta-analysis research. Caution should be noted here, in that the examples given in how to reference is based on the 5th Edition of APA and therefore are not necessarily still valid.

The last third of this book is devoted to an examination of literature reviews that are specific to qualitative and quantitative literature research, thus giving the researcher examples for each.

Pan's work is a very helpful manual. The text guides student researchers in a step-by-step approach to effective organizing, evaluating, and interpreting the research literature. Most importantly, it weaves its narrative around the critical importance of skillful writing as the basis for understanding and learning. It brings to light Knopf's initial message to Barzun and is a very useful additional resource for those conducting Action Research Theses.

Reviewed by Dr. Sam Carpentier and Dr. Chuck Howlett, Associate Professors, Education Division, Molloy College.

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