

In Search of the Future: Library Services Planning and the Prediction of Student Learning

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Educators rejoice! You find yourselves smack-dab in the middle of one of the most profound generational transitions in American modern history. That is, according to Neil Howe and William Strauss, who are among the first to articulate the deep cultural meaning of the shift from Generation X to what has now been coined the Millennial Generation, in their new book *Millennials Rising: The Next Great Generation*. According to the authors, Millennials (born in or after 1982) are "...more numerous, more affluent, better educated, and more ethnically diverse [than any other youth generation in living memory]." And more important, this new generation, surrounded by mixed moral messages and experiences wrought by the adult world, possesses a collective social sense that is nothing short of awe-inspiring. Millennials are optimistic, cooperative team players who accept authority and follow rules. They are protected, educated, and intelligent, and they believe whole-heartedly in the future and have tremendous confidence in their impact (as a generation) upon that future.

We're sure that most of us who have worked with young people over the last decade have anecdotal evidence of the

early signs of millennial emergence in higher education. Certainly, even before encountering Howe and Strauss's work, we had commented many times to colleagues that we've found students over just the past two years to be more respectful, polite, studious, and self-confident. We've all felt the tide turn in terms of proficiency with technology, the impact of the Internet on people's perception of the availability of information, etc. What we wanted to do with this project was to take some of the anecdotal and empirical evidence we have about the possible shifts in student attitudes, and see if we could make some accurate predictions about the future of student learning. In essence, we'd like to be able to design reference, instructional, and technological programs in our library that will anticipate the changing attitudes and learning styles of our students.

Methodology

We decided that a comparative content analysis would be the best approach for our research, reasoning that this methodology would provide us with some consistency as we attempted to validate our impressions of today's college stu-

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dents and to make predictions about future college students. Content analysis is a systematic review of a text or other communication medium that results in a quantification or classification of the content. In reviewing the content of specific professional journals for educators we hoped to find out whether or not our assumptions about college students at the end of the twentieth century were, in fact, based on quantifiable evidence from articles aimed at practicing teachers. And, if that turned out to be the case, we hypothesized that we could use the same methods of content analysis to anticipate certain characteristics of college students in the not too distant future.

We selected a time frame within which to conduct a content analysis based on the basic principal of child cognitive development defined by psychologist Jean Piaget. Piagetian and neo-piagetian theory holds that around the age of 11 or 12, children enter what has lately been called the “vectoral” stage of cognition, or the “last major qualitative shift in children’s thinking prior to adulthood” (Case 1987, 27). During this formal operational stage, children have developed the capability for abstract reasoning, speculation, deduction, and hypothesis. While the research in psychology is slim on the subject of exactly when attitudes toward the learning process become more or less fixed in a person’s cognition, most studies that examine the prevalence of certain learning styles in children are conducted with cohorts of 11–12 years of age. (See for example Burns 1998, Mills 1998, and Riding and Dyer 1983). It stands to reason that this is the accurate stage of development within which students have solidly defined for themselves an understanding of the learning process and their own preferences for and styles of interacting with content.

We chose to analyze the content of two leading journals in the field of K–12 education, *Clearing House* and *Educational Leadership*. Both of these journals publish high-quality current research reports, case studies, and trend analyses that are targeted for a practitioner audience. The audience was an important consideration in this study, because we wanted to analyze the content of the literature that made the most significant impact on actual practice within schools and classrooms during our focus periods. The first task of the content analysis was to attempt to understand the attitudes toward learning that we observe in students currently attending college. In using the term “attitudes toward learning” we include students’ preferred teaching and learning styles, their level of engagement in the learning process, the degree to which they take responsibility for their own learning, and their overall expectations of the

learning process. We also considered those social, political, and economic issues that were likely to have an effect on students, teachers, and schools.

Having defined the age range of our future focus cohort as 11–12, we chose 1992 as one year that many current underclassmen were attending middle school, and thus a good sample year to focus on what teachers during that attitude-forming period were learning about and sharing with one another regarding teaching and learning methodologies and styles. For the first part of our study, we analyzed every article written in each issue of *Clearing House* and *Educational Leadership* during 1992.

The second part of the study focused on our future cohort. Armed with an understanding of the trends and perspectives in education that informed the attitudes and motivations of current, observable students, we turned our attention to the prediction of future student attitudes. Middle school students who are the beneficiaries of educational policies and practice at the turn of the century will be entering college freshmen during the next 7–8 years. Thus we chose the year 1999 to conduct an identical and comparative content analysis of the same two journals chosen for the first part of our study.

We chose six broad but essential thematic areas of concentration common in educational literature within which to locate all of the concepts, practices, policies and theories we identified in the content analysis: Pedagogy, Learning, Assessment, Moral Education, Schooling, and Equity. Through analysis of all articles from every *Educational Leadership* and *Clearing House* during 1992, several key themes running through American education became clear.

Findings

The politics of schooling revolved around two major themes: multiculturalism and pluralism; and the deep need for transformational leadership following successful models from the world of industry, such as the Quality Movement. In light of the damning of the American school system that went on throughout the 1980’s, and in response to the advocacy of the Bush administration, state governments were beginning to view schools as businesses, fixable through traditional business tactics and market strategies, and educators were responding to the pressure for accountability.

But the politics of education take time to trickle down to classroom practices. In the early 1990’s it appears that though there was tension brewing between school boards and school administrators over student performance, the full impact of that tension had not yet hit the classrooms.

Teachers' philosophies and practice were still deeply affected by the neo-progressive movements that had taken place in educational research during the 70's and 80's.

The dominant trend in pedagogical research suggested the importance of student-centered teaching and learning. Constructivism, cooperative learning, problem-solving and critical thinking were important educational approaches that guided classroom practice. Emphasis was placed on deep student understanding of concepts at the expense of breadth of learning. Teachers were to be considered highly knowledgeable members of learning communities, rather than experts, and there was tremendous value placed on learning as a social practice, and a de-emphasis of the individualism that had so pervaded our culture during the 1980's.

Research on assessment focused on the need for assessment reform in the face of new understanding of testing bias and inauthenticity. In 1992, educators were just beginning to become aware of new state-based political movements toward accountability in schools, and the first new wave of state testing programs and performance assessments began to crop up.

Character education, civic achievement, and community pride were all moral messages that were taking strong root in school programs throughout the country, and diversity and multicultural awareness were now firmly a part of most curricula. The literature urges teachers to focus an enormous amount of attention on student cultural differences and the new concept of multiple intelligences. Students in the early 1990's appear to have learned, at least in part, within a true constructivist model: through discovery learning, problem-solving activities, encouragement of critical thinking, and cooperative classroom activity, students learned to actively make meaning of their subjects. This was an educational movement that sought to empower individual students with self-confidence and encourage a dynamic group environment emphasizing deep cultural and intellectual understanding. The literature does not however reveal an educational climate that sought to produce high standardized test scores—teachers were encouraging depth of understanding over breadth of content knowledge.

This picture is arguably consistent with the early stages of the Millennial Generation's interaction with the larger culture that has recently been described, and if we think about our personal experiences with current undergraduate students, we think we can see vestiges of the emphases they have learned to associate with the educational experience. Today's students are not detail people. Take the research process as a for instance. It is our observation that

students often find it difficult to follow very specifically detailed step-by-step or what they interpret as arbitrary instructions. But students today are far more comfortable than undergraduate students of the early 1990's were with the broad conceptual understanding of the process and the reasons behind conducting research and gathering sources. College students today are not particularly expert with computer technology. They understand how to mechanically use the medium, but they don't reveal an intellectual connection to using the computer as an educational tool. They don't really understand what the medium can do for them, beyond a vague notion (that only some embrace) that computers make their lives "easier". But our current students are more willing than ever before to admit (even loudly advertise) their shortcomings with the details of the research process and the use of computers. And in both formal classes and informal reference interactions, students are very comfortable with working cooperatively with students and instructors to engage in the intellectual process of critically retrieving information sources.

By 1999, the articles from *Educational Leadership* and *Clearing House* reveal a significant, but complicated trend shift. The modern politics of schooling first hinted at in 1992 has now hit full-force, as we are all very aware. The articles we read are full of the standards and effectiveness rhetoric. State governments and the federal government have come down hard on teachers and school boards in the student performance and accountability wars that have raged throughout the last decade. The tension now comes clearly from educational researchers and teachers who dearly want to maintain the pedagogical strides they had made over the past 20 years, but must find a way to deal with theories and policies that are at odds with their own. Standards-based teaching assumes two key concepts: first, that the essential outcome of the educational experience is the success of the student body in standardized testing; and second, that there exists a core body of knowledge that all students must possess in order to be considered successful. These two concepts are at odds with the two fundamental underlying concepts that had driven educational research and practice since the 1970's: first, that the essential outcome of the educational experience is personal and cultural growth; and second, that there are multiple and diverse ways of understanding bodies of knowledge, and really what all students must possess for success is a body of tools for lifelong learning.

And so what we see in the articles published in *Educational Leadership* and *Clearing House* in 1999 is a great deal

more pressure being placed on both the students and the educational system. Teachers are still emphasizing student understanding, cooperative learning, and the radical techniques like whole language instruction and literature-based reading. But there is also tremendous attention given in the literature to teaching to standards, and it appears that while some teachers and schools have interpreted the standards movement to mean an abandonment of progressive methodologies in favor of rote learning of test items, most appear to have taken the new movement as a signal that the entire educational process must be shifted up a notch on the intensity scale.

Students in 1999 seem to have been exposed to more innovative instructional techniques and strategies, and more breadth of content than ever before. Students are now understood to have undergone a “shift in learning” that reflects the hypermedia culture. They appear to now be more aware of their own learning process, and pedagogy appears to be more transparent, particularly as students are exposed more and more to computer based educational programs. Schools in 1999 were emphasizing that to be literate in today’s culture no longer requires just the three R’s. We now recognize the importance of media literacy, representational literacy, and, of course, quantitative literacy and science literacy.

The articles argue that though school-age children are now highly proficient computer users (most understand the mechanics of computer use and even programming better than their teachers), it isn’t the existence of computers in the classrooms that has spurred real change: rather, the fundamental change, which clearly has evolved since our observations from 1992, is that in part because of computers and the new transparency of learning, students now feel actively involved in creating knowledge. This view is highly consistent with what would appear to be the characteristics of the first fully-developed millennial cohort as described by Howe and Strauss. They describe kids in school today as fully cognizant of (though not all together happy with) the tremendous pressure they and their schools are under. Millennial kids, they argue, are highly motivated perfectionists who, while they have a deep-seated respect for authority, are proficient at critical thinking, and see their generation burdened with proving the United States of the future to be a competitive intellectual force.

In the years between 1992 and 1999 a number of significant national and world events undoubtedly had an impact on society and played a role in changing the attitudes and expectations of school-aged children. These include

such political events as the election of Bill Clinton as President of the United States (1992), the Republican Party’s Contract with America (1994), and various scandals and investigations of President Clinton culminating in his impeachment (1999). Major acts of violence include the Oklahoma City bombing (1995) and various mass school shootings, including the tragedy at Columbine High School (1999). Technological advancements include the rapid growth of the Internet and the World Wide Web, especially its development as a commercial as well as an educational tool, throughout the 1990s and advancements in biological research that shook the foundation of human self-understanding for the future, such as the cloning of Dolly the sheep (1996).

Discussion

From the observations we have made through the content analysis medium, coupled with the analysis put forth by Howe and Strauss, the coming generation of college students, which can be thought of as a product of deep political and intellectual tensions fought throughout the last 15 years, will be a force like no other in recent memory. The college students who we observe today as conscientious, intelligent, cooperative, and humble, though still lacking in the fundamental understanding of just what intellectual inquiry is all about, will give way to a new type of student. In 5–7 years we will begin to see students who are very used to high-pressure academic settings. They will possess a much broader repertoire of content knowledge, and they will expect us to take basic content knowledge for granted. They will expect alternative instructional strategies, and they will expect to be given a good deal of individual latitude to work cooperatively toward self-discovery.

Future students will certainly have tremendous facility with technology. They will have benefited from the new Information Literacy standards adopted by library media professionals all over the country that encourage library instruction programs in K–12 schools with goals that previously were scarcely addressed at the college level. But most importantly, the literature indicates that students will have a significant understanding of computer technology as a tool subject to criticism and interpretation just as is any other educational text. Twelve-year old students today have much more than a mystical understanding of computer technology. As with the rest of the educational complex, they are taught to recognize how educational technology and how indeed the Internet itself is designed and how best to interact with it to achieve desired results. This is a marked

Table 1 – Occurrences of Selected Educational Issues in Articles from Professional Journals

	1992	1999
Performance-Based or Standards-Based Assessment	15	37
Moral Education (Service Learning, Civic Achievement, Personal Connection to Subject Matter, Caring)	27 (Service Learning=0)	120 (Service Learning=8)
Shifts in Learning (Constructivism, Engagement, Motivation, Cooperative Learning)	20	74
Shifts in Pedagogy (Individualized Learning, Multiple Intelligences)	14	20
Politics of Schooling (Shared Decision-Making, TQM, Site-Based Management)	140	78
Multiculturalism and Tracking	17	13

shift from previous student cohorts, who were still trying to cope with mechanical difficulties and the mystique of the Information Superhighway—often without guidance from teachers who feared or did not understand technology themselves.

Conclusion

We began this project with many questions about the potential value of our methodology. In doing a content analysis of articles in professional journals from 1992 would we, in fact, be able to identify certain educational trends from the early 1990s that would have influenced the expectations of current college students? Could the characteristics we recognize in today’s college students have developed directly from those trends? Would we find substantial differences between the educational trends of 1992 and 1999? Having completed this study, our answer is a qualified yes. At the very least our findings warrant further investigation. Our content analysis of *Clearing House* and *Educational Leadership* does show substantial differences between articles from 1992 and 1999 with the more recent articles focusing much

more heavily on standards-based assessment, moral education, and constructivist learning and the earlier articles focusing on multiculturalism and the politics of schooling (see Table 1). We do see a connection between the prominent educational issues of 1992 and the characteristics we see in many of today’s college students.

One factor that is missing from our study is the fact that an increasing number of college students are non-traditional. For the purposes of this paper, we have defined college students of the immediate future as those who are currently 11–12 years old. While the addition of older college students lessens our ability to make predictions about the characteristics of future students, at most of our institutions we can expect that for the foreseeable future a core group of freshmen will be coming to college directly from high school.

It remains to be seen whether or not our predictions about the next wave of college students prove to be accurate. In any case, we hope that we have begun to raise questions that all of us in higher education, and especially those of us in libraries, should be asking about how we can plan now to meet the needs of our future students.

Table 2 – Occurrences of Selected Educational Issues in Articles from Professional Journals by Specific Journal

	<i>Clearing House</i>		<i>Educational Leadership</i>	
	1992	1999	1992	1999
Performance-Based or Standards-Based Assessment	13	26	2	11
Moral Education (Service Learning, Civic Achievement, Personal Connection to Subject Matter, Caring)	22 (Service Learning=0)	109 (Service Learning=5)	5 (Service Learning=0)	11 (Service Learning=3)
Shifts in Learning (Constructivism, Engagement, Motivation, Cooperative Learning)	16	63	4	11
Shifts in Pedagogy (Individualized Learning, Multiple Intelligences)	12	14	2	6
Politics of Schooling (Shared Decision-Making, TQM, Site-Based Management)	133	76	7	2
Multiculturalism and Tracking	6	8	11	5

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