

The University High School

Education for Lifelong Learning

Proposal submitted to the Austin Memorial Foundation

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The first wave of reform has broken over the nation's public schools, leaving a residue of incremental changes and an outmoded educational structure still firmly in place. The second wave must produce strategic change that restructures the way our schools are organized and operate. We've been tinkering at the margins of the education problem for too long. It's time now to get to the heart of the matter.

-David Kearns, former Deputy Secretary of Education¹

1. Proposal Summary

We are asking for funding to create a different and more compelling model for high school education in this country. We refer to this model as the University High School. It will be located in Charlottesville, Virginia, and will open its doors to students in the Fall of 1998. We believe that the University High School can serve as a prototype for a new type of learner-centered educational environment. The aim of the school is to provide the knowledge, skills and encouragement that will make students eager to take responsibility for their own learning and see the learning process as a difficult but immensely satisfying lifelong project.

The core philosophy and teaching methodologies of the school are consistent with much of the recent work on learning, education and organizational behavior². The school will offer a very rigorous academic program³. A high percentage of the faculty will hold advanced degrees in academic disciplines. The curriculum will stress the importance of learning information *in context* and will support this in a number of creative ways. In addition to interdisciplinary course work and a variety of project-oriented learning approaches, the University High School will function as the center of a learning space that extends beyond the walls of the school. The school will be located within walking distance of the University of Virginia. The curriculum will include university speakers, concerts, and other aspects of the rich cultural life of the university. Students will be able to use the University research facilities. Graduate students will serve as "guest lecturers" or mentors for high school students. The curriculum will also encourage the student to see the community as part of this extended classroom. Community service and the opportunity for internships with community professionals will be integrated with the more academic aspect of the curriculum. In general, University High School students will be encouraged to see learning as something not limited to a classroom, something richly satisfying that should happen everywhere and at every time, and something over which they have a great deal of control.

To accomplish this the school will focus very directly on a number of "foundational" skills that are often ignored. We believe that these skills are central to one's success and a prerequisite for making a positive contribution to society. In addition to oral and written communication skills

¹ D.T. Kearns, "An Education Recovery Plan for America." *Phi Delta Kappan* (1988), 565-570.

² A few examples include Peter Senge *The Fifth Discipline* (Doubleday, 1990), William Glasser, *The Quality School* (Harper Perennial, 1990), Rober J. Marzano, *The Dimensions of Learning* (ASCD, 1992), Edward de Bono *Lateral Thinking* (Harper Collins), Leon Botstein *Jefferson's Children* (Doubleday, 1997)

³ See section 7 for a discussion of the International Baccalaureate Diploma Program

they include, technology, critical thinking and analysis, systems thinking, advanced research skills, listening skills, team learning, and time and project management.

The model that we propose can be replicated in other communities. It provides the blueprint for an innovative approach to high school that fosters the love of learning, develops a set of skills that are critical for success in our complex, changing, technology-oriented environment, encourages the student to be a self-motivated lifelong learner, and promises to make high school a dynamic, stimulating and challenging experience. In short, it changes high school from a teaching place to a learning space.

The University High School will be created under the auspices of the Village School, a private single-gender middle school for girls, which shares the high school's overall approach to education.

2. University High School Mission

The mission of the University High School is to provide a learning space for intellectually curious and highly motivated students that encourages creativity and nurtures the desire to learn. The school will provide a supportive, intimate and academically rich learning environment in which students develop the skills necessary to take responsibility for their own learning.

The University High School offers

- a rigorous academic program
- a very strong core faculty with advanced degrees in academic disciplines
- proximity to the University of Virginia and use of specific University resources
- a project-oriented experiential component throughout the program
- an emphasis on "learning in context" that encourages understanding information against the background of the broader systems in which it appears
- an open and extended community of learning that treats learning as a boundary-less process including the school, the University, the local community and the global community via the World Wide Web
- a strong focus on foundational skills including oral and written communication, critical thinking, advanced research skills, presentation skills, rhetoric, systems thinking, team learning, listening skills, time and project management
- an integrated approach to technology in which it is both used throughout the program as a learning tool and also studied as part of the core curriculum
- joint participation by all students and faculty in fine arts projects
- integration of selected "non-academic" group activities into the core curriculum

The goal of the University High School is to foster active participation in one's own learning process through a stimulating, exciting and highly challenging environment. The diverse and innovative program will help students develop the basic skills needed for success in a rapidly changing, complex and technology-oriented world and strengthens students' natural desire to

learn and grow. The University High School will continually demonstrate that, although learning is hard work, it is a lifelong skill that is immensely satisfying and pleasurable.

3. Specific Aims of the Project

The aim of the University High School project is to create a model educational framework that can be replicated in other localities. This framework is characterized by a supportive, intimate and academically rich learning environment in which students, teachers and the school as a whole engage in an ongoing process of intellectual, emotional and social development. Within the overarching goal of education for lifelong learning, the specific aims of the project can be broken down into the following basic objectives:

- To help students develop the skills and strategies necessary for a successful, satisfying and productive life in a complex and continually changing technology-oriented society. These skills include oral and written communication, critical thinking, advanced research skills, presentation skills, rhetoric, systems thinking, team learning, listening skills, and time and project management.
- To present content in context and to encourage students to understand the systemic consequences and interconnections between all areas of study.
- To incorporate technology into the curriculum both as a learning tool and as an area of study within the other disciplines.
- To secure a bright and diverse faculty the majority of whom have advanced degrees, have taught in a university, or who have had other relevant experience outside the classroom
- To create an open and extended learning space which directs students to seek out valuable educational resources beyond the walls of school
- To establish and to maintain a partnership with the University of Virginia which allows students to use the University as part of the extended learning space
- To build the University High School as a learning organization capable of continuous learning and change

4. Background and Rationale

Our educational system has not kept pace with the increasing rate of change in the environment. Evidence for this is abundant and unmistakable.⁴ Society has changed radically over the past twenty-five years. We live now in a highly complex technology-driven global economy in which the pace of change appears to increase exponentially⁵. Twenty-five years ago people could reasonably expect to remain within one or perhaps two organizations for their entire professional career. On average people now change jobs approximately every three years. Rapid and often revolutionary change has become a governing principle of our society. As a consequence the basic skills required to be a good citizen, to obtain a well-paying and satisfying job, and to make a difference in society have changed, and changed rapidly.⁶

Against this background of continuous change, the prevailing educational philosophy in the U.S. has remained relatively constant. As a society, we still teach and evaluate students in much the same way as we did twenty-five years ago.⁷ We are beginning to see the consequences of this inflexibility in quantifiable ways. A recent example is the Clinton administration's recognition that we simply do not have enough programmers, systems analysts and software engineers to build high-tech products.

As educators, we envision the problem increasing in severity and penetrating deeper into the social fabric in the next decade. The skills that are required to succeed in a complex, continuously changing, technology-based society, and hence the knowledge and skills required to lead a productive, satisfying and rewarding life, are not the focus of our educational system at the K through 12 level. In this country, these skills, if taught at all, are the province of a college education.⁸ They include the ability to understand and creatively solve complex problems, to reason critically and analytically, to use complex technology, to work collaboratively in a team environment, to use sophisticated and technologically advanced research techniques, and, most importantly, the ability to continually learn from others, the environment and oneself.

Many students in today's public schools experience only an abbreviated introduction to the ideas required by the Virginia Department of Education, and thus never truly experience an in-depth exploration into a topic or the full picture or understanding of the world and their place in it. The drive to "cover" content according to particular teaching methods that take no account of students' needs, interests and abilities, actually results in just that: "covering" content. It obscures

⁴Richard J. Murnane & Frank Levy, Teaching the New Basic Skills (The Free Press, 1996), chapter 2. Leon Botstein, Jefferson's Children (Doubleday, 1997), chapter 3. "College Freshmen Have the Blahs", Rene Sanchez, (Washington Post) 1/12/98, p. A01

⁵"Moore's Law" predicts that computer chips will double in speed and decrease in cost by one half every eighteen months. While this prediction does not map directly to other areas, the effect of technological change is unmistakable.

⁶Murnane & Levy, chapter 2.

⁷Botstein spends 68 pages convincing us that things are really no worse now than they were "then." He then goes on to point out that this is still not good enough.

⁸The frequent arguments about declining educational standards miss the point that *what* is taught is no less important than how well or how much is taught. See Murnane and Levy, chapters 1 and 2.

material so that students and teachers are blind to the context, the impact within context, and the significance of the material in their own lives.

This is not to say that these critical skills are never taught in school. Nor is it to say that the focus of the standard high school curriculum (fact-based learning and event-oriented thinking) is unimportant. Undoubtedly, traditional curricula provide the basic tools and foundations for deeper level thinking. Furthermore, many heroes in the classroom manage to break the constraints of the system and connect in a very deep way with their students. There are programs which foster rather than stifle the students' innate desire to learn and use that desire to further develop critical reasoning and communication skills. But to make the necessary impact on generations of students entering young-adulthood something more is required than isolated incremental improvements within the system. A comparison to American business is worthwhile.

Over the past twenty-five years businesses have responded to the constant barrage of environmental changes by radically altering and reengineering formerly foundational principles and processes⁹. In order to survive, business has responded to radical environmental changes with no less radical organizational changes. Many of those businesses that did not respond to the radically changed environment, that chose incremental change, that chose improvement rather than innovation, did not survive. The vocabulary, the techniques, and the very structure which characterize business today were virtually unrecognized twenty years ago.¹⁰ We can expect to see an analogous revolution in education over the next twenty-five years. Business and education are, after all, tightly connected parts of the same overarching social, cultural, and political fabric.

Only 10% of the entry-level candidates who apply for employment at Motorola in the U.S. are qualified. In discussing this dismal statistic Robert Galvin, Chair of the Executive Committee at Motorola notes that

the most critical skill required by the workforce is ... an ability to learn and keep learning. While most descriptions of necessary skills for children do not list "learning to learn," this should be the capstone upon which all others depend.¹¹

Galvin thus suggests a new sort of "back to basics" education. It is a revolutionary suggestion because these are *real* basics, those probably first articulated by Socrates. They are founded in the primacy of learning rather than teaching: The learning process is strongest when one's desire and active participation in learning is present. The primary role of the teacher is not to impart facts but to show students how to learn, to encourage learning, and to remove the barriers which inhibit this process. This process, inherently both challenging and satisfying, embraces the guiding principles of the University High School.

⁹ Not all businesses have so responded and for many businesses this was not the first solution that was tried. There are a host of books and articles which offer sometimes stunning case studies. A good place to begin is the now classic Reengineering the Corporation by Michal Hammer & James Champy (HarperBusiness, 1993). See Peter Senge, The Fifth Discipline (Doubleday, 1990).

¹⁰ Peter Drucker, Jay Forrester and a few others are the obvious exceptions.

¹¹ Richard Murnane & Frank Levy, Teaching the New Basic Skills (The Free Press, 1996), p. xvii

5. Organizational Philosophy

We discuss below both the general approach of the school and some of the more specific techniques we will use to support it. But it is equally important to focus for a moment on the organization itself, the structure and nature of the University High School. There are a number of extremely important insights about people and organizations which stem from work done in the field of organizational behavior and related areas. These ideas are the foundation of total quality management¹² and at the heart of the concept of a learning organization¹³. To the extent possible the school will model these basic principles which have proved so effective in other organizations. To put it simply, the school will not only *teach* but will also *exemplify* continuous learning. It will strive to remain flexible enough to learn from its mistakes, from its students, from its parents, from its teachers and from the larger environment of which it is a part. Part of the preparation for the school staff and the students (and perhaps the parents as well) will include readings and workshops that focus on and develop the skills necessary to sustain what has come to be known as a "learning organization." The school will thus function not only as a place to learn but as an integral part of the learning experience. (Some of the basic organizational principles are listed in Appendix F.)

6. Approach to Education

The University High School will employ a learner-centered approach to education that builds a foundation of knowledge and is guided by students' academic interests and needs. It combines a rigorous academic curriculum based upon standards set by the International Baccalaureate Organization (see Appendix C) with innovative means of exploring the world. The approach rests upon applying basic concepts in a variety of contexts. By extending the learning space beyond the walls of the school we encourage students to extend and refine knowledge, and provide an opportunity to use that knowledge in a meaningful way¹⁴. Since we view the learning process as a collaborative effort between the students and the teachers, our curriculum will create situations in which teachers learn from students, students learn from students, students learn from teachers, and teachers learn from teachers. These learning experiences will provide students with the skills, desire, and courage to make learning a central part of their life

In the following discussion we review the basic educational aims of the University High School and illustrate some the tools we will use to satisfy these aims. These principles match the specific project aims discussed above (section 3). Note that although the aims are discussed in a linear fashion they are closely interrelated. As a result, examples used to illustrate one educational aim may also illustrate another. These relationships are indicated parenthetically.

¹² W. Edwards Demming, *Out of Crisis* (MIT, 1982)

¹³ Senge, *op. cit.* Among others.

¹⁴ This approach is thus consistent with the five "dimensions" of learning-centered teaching. See Marzano, *op. cit.*

Aim 1: Develop the skills necessary for independent and critical thinking.

Lifelong learning is encouraged by participation in a rigorous and challenging academic program that develops the skills necessary for independent and critical thinking.

The University High School will foster self-learning. Students will develop both a love for learning and the skills and strategies necessary drive their own learning. We believe that students will take responsibility for their learning when they play a role in determining its goal and direction. The teacher's role in this process is to guide students toward appropriate resources and to assess student progress along the way.

Research Projects. Together with the students, the faculty will define projects and create experiences which help students gain the skills necessary to function as a learner outside of school. We will encourage resourcefulness in seeking information from oneself, one's peers, and one's community. As students derive joy from the active role they play in determining the shape of their learning experiences, they will experience an inner evolution. They will develop confidence in their ability to discover and use a variety of research sources. Students will research topics in the University library, through discussions with local experts, through discussions within student "study groups", through discussions with University students, on the Internet, and in any other feasible arena.

Opportunity for both oral and written communication (through rhetoric and debate as well as class and group presentations) will enable students to share well-researched ideas as they gain valuable practice presenting the results of their research. In addition to discovering the many avenues for research, students will learn to work collaboratively with other students as they research a topic and create effective presentations and projects. Finally, throughout each project, students will learn to manage their time as they gauge their own limitations and strengths. Acquiring these skills will encourage lifelong learning as they enable students to recognize their own power in the investigative learning process

Tutorials. Another vehicle for learner-centered learning will be the use of independent studies, or Oxford-style "tutorials," in which a student and faculty member work together one-on-one on a topic of interest. After choosing a faculty person whose strengths most closely match the student's topic of interest, a contract is devised to guide the work through completion of a thesis paper. The value of this type of experience is immense to both the student and the teacher. In addition to studying in depth an area that is truly exciting, the student receives considerable undivided attention and guidance from their faculty partner, develops a learning strategy that matches the student's strengths, and has the opportunity to witness critical thinking skills in another lifelong learner (Aim 4). The advantages are not limited to the student. The teacher will have the opportunity to improve on his or her own mentoring skills and gain information about and new insights into the tutorial topic. Ideally, the extended essay or project which culminates the tutorial can be used as a research tool by other students.

Journals. Each student will not only be encouraged to engage actively in dialogue and discourse but will also be encouraged to keep a journal for each class, charting the student's personal experience in the class. The journal will provide an avenue for expression of personal likes and dislikes of the material and approach as well as insights and questions that are loosely connected to course material. These journals can also be vital to recognizing one's own learning styles, strengths and weaknesses, and give an independent assessment of one's status in the learning process. Finally, we see these journals as an appropriate medium to express feedback to faculty about the course and teaching approach, thereby contributing to school assessment and growth (Aim 7).

Assessment. Student assessments will be a tool for learning rather than a yardstick used to measure success or failure. They will be one among many tools for learning and self-improvement. To enforce the idea that the measurement is a positive and important tool for learning and growth, performance measurement will be used *throughout* the school. Together with the students we will devise metrics for assessing the value of courses and projects, the degree to which the school is meeting its aims, the effectiveness of teaching methods, etc. The school will illustrate in many different ways a basic tenet of quality management: you can't improve what you don't measure. This will help students develop the rather difficult skills of providing and receiving both positive and negative feedback. It will also provide a rational and understandable framework for grading.

Aim 2: Learning in context.

Understanding the context from which theories emerge and applying these theories in a familiar context makes learning meaningful.

Learning in context means a number of different things. We will attempt to draw connections between the curriculum components in a variety of ways. Within the school itself, we will take a thematic or interdisciplinary approach to much of the material, thereby providing an intellectual context. We will strive to provide an historical context for all disciplines including math and science. More generally, we will pay particular attention to the overarching systems, be they social, cultural, environmental, physical, political, etc., to which particular events or issues belong and will consider the broader systemic consequences.

Experiential Context

“For the teenager, being able to build something, to play a sport well, to show command of an activity that requires planning, concentration, and sustained discipline that carries with it some kind opportunity for public recognition offers more prospects for the building of adult self-confidence and lasting happiness than the activities to which many teenagers are now condemned in part by inadequate schooling.”

-Leon Botstein, *Jefferson's Children*, p. 105

We also provide an *experiential* context for our course work. Outside the classroom we will use community service, externships and internships, both within the University and the surrounding community, to provide an experiential context. By leveraging a vast arena of resources in the local

community, students will receive placements in local businesses, professional and volunteer services, and university laboratories. (Aims 5 and 6). The program will provide hands-on experience and real world application of principles learned in course work.

Within the school we will also use projects, or *learning workshops*, as a way to integrate content and context. Learning workshops will take three forms: individual or small group projects, course projects, and school projects.

- Individual Projects.

Small group or individual projects will be an integral part of most courses at the school. They will encourage collaborative learning and allow students to develop communication, management and presentation skills.

- Course Projects

Wherever possible, we will use projects as a way of integrating the material learned in individual courses or a particular combination of courses. These projects will be the goal towards which students work throughout the course and will both give point to the learning and assist in synthesizing the information learned. These projects will, in a sense, provide the “real world” framework for the material in a course or group of courses. Course projects will be supported by a variety of learning tools including group discussions, directed research, lectures, smaller and more focused group or individual projects. They could include creating a customized manual for a course, performing and evaluating a computer simulation, creating a language, or writing a platonic dialogue.

Example. A specific example of a course project is to have students work together to devise a teaching manual to accompany a course textbook. A "core text" will be chosen by the teacher as a foundation from which the students will design their teaching manual. The students will be encouraged to use material that crosses disciplines. For example, in writing a teaching manual for Introductory Chemistry, students may wish to use narratives from the novel *The Periodic Table*, by Primo Levi, to highlight the impact of different chemical elements in our own history. All students in the course will be involved in researching, writing and presenting the teaching manual. The presentations could be multi-media, requiring some combination of verbal, written and graphic expression skills.

Through this sort of learning process, the class will generate a supplemental packet covering a broad base of material using a variety of approaches. Furthermore, having chosen her own area of research, each student will have the opportunity to gain knowledge about a topic of personal interest (Aim 1). The student also gains invaluable experience gathering and presenting information to a group of peers and mentors using a variety of artistic, academic and technological formats (Aims 1, 3, 4, 5). Finally, the teacher will gain a novel piece of work representing the personality of the class and useful for future courses (Aim 7).

- School Projects

Each year the whole school will work together on a learning workshop project. This is a large project which will require the participation of all students and teachers. The project will be a focal point for school discussion and will provide a common goal or vision that helps the team building process and creates a school identity. The school project will provide a strong social framework (Aim 1) and allow an exciting and direct application of specific content learned through other course work.

The school project illustrates another departure from tradition. Our approach to learning blurs the distinction between curricular and extra-curricular activities. The school project draws students together into a cooperative team (Aim 1). Material, experiences and even content learned in the course of the project will make its way back to the classroom. Classroom discussion may build on school project themes. The distinction between those “fun group activities” done after class and “the academic stuff” done in school is no longer valid or important.

School projects will be challenging and force students to stretch. Examples include producing a multi-media CD-ROM based school yearbook, creating a “street theatre” group which travels to middle and elementary schools; building a house with Habitat for Humanity; creating a literary journal for high school students on the World Wide Web; starting a small business; developing a video game; building a computer or other laboratory equipment; publishing a newspaper or magazine; creating a public photography exhibit; etc.

Aim 3. Technology is a core learning area

In our rapidly changing world, technology plays a major role in the creation and transmission of knowledge.

Most course work at the University High School, including the learning workshops, will utilize a wide range of tools including computers, modern laboratory and audio-visual equipment. It is important to note that the need for the appropriate *mental* tools and modern methods accompanies the use of these modern tools. Thus, we will incorporate, for example, computer programming and modern laboratory methodology into the curriculum, with the goal of developing modern thinkers able to generate viable questions and to seek appropriate solutions. We will also focus on the importance of technology to society and culture.

Aim 4. Faculty with advanced training or relevant real world experience

By observing lifelong learners, who themselves have probed deeply questions in their field of study, the student will be opened to the exciting and enriching process of discovery.

The faculty will consist of people with a deep commitment to learning (their own and their students’) who have substantial demonstrated expertise in at least one academic area. The school

will retain at least two faculty members with advanced degrees in academic areas who have substantial teaching experience at the university level.

Aim 5: Open and extended learning space.

Understanding that the learning space does not end at the classroom door supports the idea that learning can and should be pursued anywhere at any time.

We think of the learning space as a series of ever larger concentric circles similar to the ripples cause by a rock dropped in a pool of water. The school itself acts as the central circle, creating the energy from which outside rings are generated. Each ring represents a larger "learning community": from the school, to the University, to the local community, to the state, to the country, to the world. We will strive to extend the boundaries of the learning experience as far as possible.

Within the school we will alter traditional spatial boundaries within our building by providing both open, public space and private space for individual and group study. We plan to will an open physical structure, with large learning areas, smaller team meeting rooms, private study areas and comfortable discussion lounges. This physical environment balances the need for freedom of movement and dialogue between against the requirement of private and quiet learning spaces.

The building's walls will not demarcate the boundaries of the learning space. Learning will extend into the community and beyond. Several University of Virginia departments in the College of Arts and Sciences, the School of Education and the Medical School have already agreed to work with the University High School to develop joint programs (see Appendix B.2). In addition, each student's course of study will include a series of internships or community service.

The global community will also be part of the students' virtual classroom. Every computer in the school will have Internet access. This is an invaluable source of foreign newspapers, magazines and other information not easily obtainable by other means. The Web will also provide a social medium as we set up a "web-pals" and "virtual exchange school" programs with other high schools across the world. We will also take advantage of newly emerging distance learning opportunities on the Internet such as the Western Governor's University program and ZD University. Using the Internet and the WWW will allow our curriculum to cast an even broader net on the information highway. It will put the world quite literally at our students' fingertips.

Aim 6: Partnership with University of Virginia

Establishing and maintaining a partnership with an institution of higher education such as the University of Virginia will provide students with opportunities that prepare them for university life and add diversity to the learning experience.

University High School students will participate in a mentorship program with graduate students in Psychology, Philosophy, Chemistry, English, and other fields. They will be able to take advantage of the rich cultural offerings provided by the college. The University High School will

invite professors to address the students in lectures or in a more informal setting, such as dinner or breakfast discussions. We will provide a framework for informal discussions with graduate and undergraduate students. Finally, when appropriate, high school students will be able to attend University classes. Students will thus get to know other committed learners who may have a different outlook on topics of common interest. In addition to enriching the overall educational experience for University High School students, this partnership is likely to remove some of the mystique surrounding university life and ultimately reduce the time and trauma required to make the transition from high school to college.

Aim 7. Develop a school which will serve as a prototype for other communities

As discussed at the outset, we see the school as a replicable model which directly addresses some of the most serious systemic problems with traditional high schools and proposes a constructive solution. Supported by our own experience in education, well established work in educational theory¹⁵, and proven organizational management techniques¹⁶ the University High School offers an exciting and compelling alternative to the existing system.

7. Curriculum Overview: The International Baccalaureate Diploma Programme¹⁷

The University High School will consider applying for accreditation from the International Baccalaureate Organization and will model its curriculum on the International Baccalaureate Diploma Programme. This program is a rigorous and integrated academic curriculum which is internationally recognized for its excellence. IB diploma holders gain admission to selective universities throughout the world. These include institutions such as Oxford, Yale and the Sorbonne. Most colleges and universities offer substantial advanced standing to students with strong IB examination results.

The University High School curriculum will be guided by the International Baccalaureate Diploma Programme standards. Although the diploma program itself covers only the final two years of high school the diploma requirements will shape the full four year program. The diploma is displayed in the shape of a hexagon with six academic areas surrounding the core (see page 17). Subjects are studied concurrently and students are exposed to the two great traditions of learning - the humanities and the sciences

Diploma candidates are required to select one subject from each of the six subject groups. At least three and not more than four are taken at “higher level,” the others at subsidiary or “standard

¹⁵ Marzano, *op. cit.* and William Glasser, The Quality School (Harper Perennial, 1990)

¹⁶ Demming, *op. cit.* and Senge *op. cit.*

¹⁷ The material in this section is derived directly from information provided by the International Baccalaureate Organization. For more information visit www.ibo.org.

level.” Higher level courses represent 240 teaching hours, standard courses cover 150 hours. (For reference, a year long course of study in a typical U.S. high school requires approximately 140 hours.) By arranging work in this fashion, students are able to explore some subjects in depth and some more broadly over the two year period; this is a deliberate compromise between the early specialization preferred in some national systems and the breadth found in others.

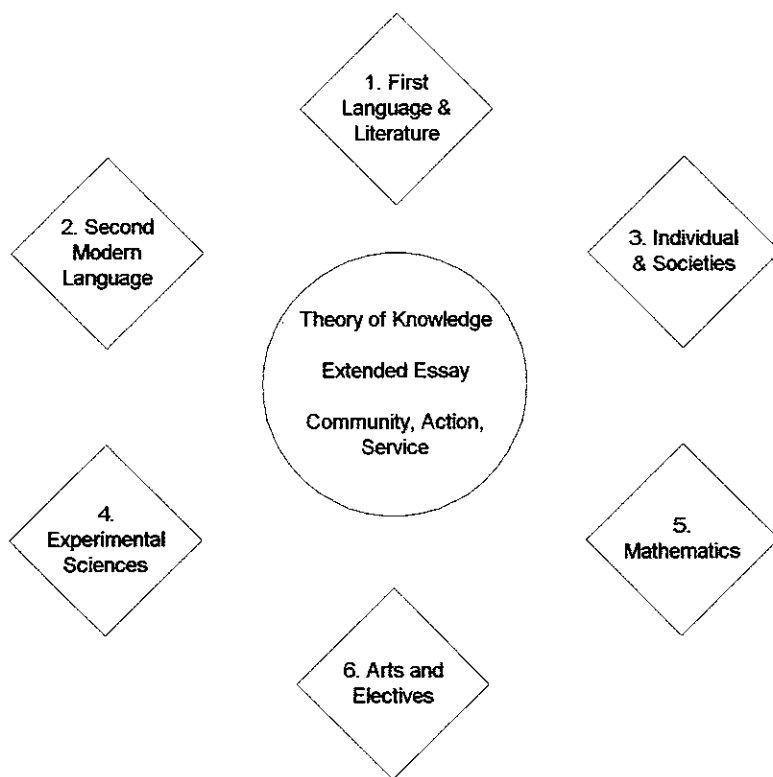
Distribution requirements ensure that the science-oriented student is challenged to learn a foreign language and that the natural linguist becomes familiar with laboratory procedures. While overall balance is maintained, flexibility in choosing higher level concentrations allows the student to pursue areas of personal interest and to meet special requirements for university entrance.

Theory of Knowledge (TOK) is a required interdisciplinary course which stimulates critical reflection upon the knowledge and experience gained inside and outside the classroom. TOK challenges students to question the bases of knowledge, to be aware of subjective and ideological biases, and to develop a personal mode of thought based on analysis of evidence expressed in rational argument. The key element in the IBO’s educational philosophy, Theory of Knowledge seeks to develop a coherent approach to learning which transcends and unifies the academic subjects and encourages appreciation of other cultural perspectives.

Creativity, action, service (CAS) takes seriously the importance of life outside the world on scholarship. Participation in theatre productions, sports and community service activities encourages young people to share their energies and special talents while developing awareness, concern and the ability to work cooperatively with others.

Diploma candidates are also required to undertake original research and write an *extended essay* of approximately 4,000 words. This project offers the opportunity to investigate a topic of special interest and acquaints the students with the kind of research and writing skills expected at university and beyond.

International Baccalaureate Diploma Programme



History, geography,
economics,
philosophy
psychology,
anthropology,
business, information
technology, religion

Art/design, music,
theatre, Latin, Greek,
computer science, 3rd
language, tutorials,
second subject in
group 3 or 4

8. Business Issues

8.1 Competition

Appendix C summarizes the area's public and private high schools. Each school has its own strengths. Charlottesville High School offers a solid education and a world-class music program. All of the public high schools provide diverse course offerings, including extensive AP courses, and a full range of standard extra-curricular activities. The Tandem Friends school is the most direct competition within our target market. It is relatively small, perceived as providing a solid education, and offers a wide range of courses, including art and music.

We are in the process of compiling complete competitive information about all of these institutions.

8.2 Market

We are currently conducting parent meetings as the first component of a more complete feasibility study. Informal conversations with parents and educators indicate significant interest in a small private school with a strong faculty and an International Baccalaureate-based academic curriculum designed for intellectually curious and highly motivated high school students. The small size of the University High School is considered an asset by some parents. Physical proximity to the University of Virginia and the proposed close relationship with the various departments is a strong draw, as is the possibility of an authorized International Baccalaureate curriculum.

Our primary target market includes Village School students, Crossroads Waldorf School students, Peabody School students, and students who have been home-schooled through middle school. Students currently in public middle schools are a secondary market.

8.3 Timing

Our intention is to admit the first University High School class in the Fall of 1998. This class will consist of 15 to 20 ninth grade boys and girls. We will add one additional class of 15 to 20 students in each of the next three years. The class of '02 will be the first University High School graduating class.

8.4 Funding Requirements

In order to create the school, we project the need for \$140,000 in grant money distributed in installments of \$60,000, \$45,000 and \$35,000 over the first three years. After the third year the school will be self-supporting (see the attached financial plan, Appendix A). We will also need to raise \$10,000 in contributions unless we obtain a supplementary grant.

Appendix E: Promotional Packet

The University High School

From a teaching place to a learning space

Overview

The mission of the University High School is to provide a learning space for intellectually curious and highly motivated students which encourages creativity and nurtures the desire to learn. The school provides a supportive, intimate and academically rich learning environment in which students develop the skills necessary to take responsibility for their own learning.

The University High School offers

- a rigorous academic program
- a very strong core faculty with advanced degrees in academic disciplines
- proximity to the University of Virginia and use of specific University resources
- a project-oriented experiential component throughout the program
- an emphasis on “learning in context” which encourages understanding information against the background of the broader systems in which it appears
- an open and extended community of learning which treats learning as a boundary-less process including the school, the University, the local community and the global community via the World Wide Web
- a strong focus on foundational skills including oral and written communication, critical thinking and analysis, presentation skills, rhetoric, systems thinking, collaborative/team learning, listening skills, time and project management
- an integrated approach to technology in which it is both used throughout the program as a learning tool and also studied as part of the core curriculum
- joint participation by all students and faculty in fine arts projects
- integration of selected “non-academic” group activities into the core curriculum

The goal of the University High School is to foster active participation in one’s own learning process through a stimulating, exciting and highly challenging environment. The diverse and innovative program helps students develop the basic skills needed for success in a rapidly changing, complex and technology-oriented world and strengthens students’ natural desire to learn and grow. The University High School continually demonstrates that although learning is hard work it is a lifelong skill which is immensely satisfying and pleasurable.

The University High School

From a teaching place to a learning space

Characteristics

- “From a teaching place to a learning space”
 - To encourage and stimulate intellectual curiosity and the desire to learn
 - To engender an understanding that learning is a lifelong enterprise
 - Develop skills that allow students to take responsibility for their own learning
 - To focus on *how to learn* rather than just *what to know*
- Extended learning space
 - Core physical space for leaning
 - Open and flexible physical structure which promotes freedom to learn
 - Emphasis on collaborative learning, team building
 - Encourage both individual and group learning
 - Extended Campus: The University and the Community
 - Guest lecturers and speakers from the University community
 - Public cultural events, speaker series, etc.
 - Lab’s & other facilities
 - Summer programs which integrate experience and academics
 - Grad student internship opportunities at the high school
 - Externships in University departments and community businesses
 - Mentoring opportunities (e.g., Village School)
 - Jointly sponsored programs with University departments and organizations
 - Community service
 - The Global Learning Space
 - Distance learning opportunities via the Web
 - Virtual sister schools
 - Web pals programs
- Focus on learning to learn
 - Use experience and the students whole environment as learning tools
 - Emphasis on *ways to learn* along with than *things to be learned*
 - Promote systems thinking together with event thinking

- Focus on learning to learn (continued)
 - Develop foundational learning skills
 - Analytical and critical reasoning
 - Quantitative reasoning
 - Research skills (including online and traditional)
 - Team learning
 - Listening skills
 - Oral and written communication
 - Project management skills

- Strive to provide content *in context*
 - Academic, personal and experiential

- Support social and personal development
 - Provide a supportive, intimate and challenging environment
 - Use personal, social and cultural issues as background context for all material
 - Integrate community service into the curriculum

- Strong academic focus with small class size
 - For students who want to be challenged
 - Requires strong intellectual curiosity and drive to find answers
 - Strong faculty capable of challenging and stimulating intellectual curiosity
 - Core faculty with advanced degrees and experience in academic areas

- Strong commitment to technology
 - Distance/technology enabled learning part of the core curriculum
 - Emphasis on technology literacy
 - Computer simulation as a primary learning tool

- Emphasis on collaborative learning
 - Team building skills
 - Communication and presentation skills
 - Problem solving skills

- The school itself will function as a learning organization exemplifying the principles which it teaches
 - Continuous assessment of goals, practices and participants
 - Involvement of teachers, parents and students
 - Understanding of mission and problems
 - Incentive and opportunity to improve the program
 - Training to support program improvements
 - Measurement and self-assessment for all aspects of the program
 - Mistakes always offer an opportunity for improvement

The University High School

The University High School is considering accreditation from the International Baccalaureate Organization. The IB Diploma Programme is a rigorous pre-university course of studies, leading to examinations, that meets or surpasses the requirements of various national educational systems. IB diploma holders gain admission to selective universities throughout the world including institutions such as Oxford, Yale, University of Virginia and the Sorbonne. Many colleges and universities offer advanced standing or course credit to students with strong IB examination results.

Components of the IB Diploma Programme

The IB Diploma Programme is a two year program which includes courses from the following groups:

Area	Description
Group 1: Language A	The student's first language including the study of selections from world literature (English)
Group 2: Language B	The student's second or classroom learned language (French or Spanish)
Group 3: Individuals & Societies	History, psychology, philosophy, business & organizations, information technology in a global society, social anthropology
Group 4: Experimental Sciences	Biology, chemistry, physics, environmental systems, design technology
Group 5: Mathematics	Mathematics, advanced mathematics, mathematical methods
Group 6: Arts & Electives	Art/design, music, theater arts, Latin, classical Greek, computer science third modern language, second subject from Group 3 or Group 4, advanced mathematics, a school-based syllabus (with IBO approval)

Theory of Knowledge

An interdisciplinary course intended to stimulate critical reflection on the knowledge and experience gained inside and outside the classroom.

Creativity, Action, Service

This requirement stresses the importance of life outside the world of scholarship and can be satisfied by participation in theater productions, sports and community service.

Extended Essay

A 4,000 word essay on an approved topic chosen by student and faculty member

The University High School

IB Distribution Requirements

During the final two years in high school students are required to select at least one subject from each of the six subject groups. At least three and not more than four are taken at *higher level*, the others at *standard level*. Higher level courses require two years (240 teaching hours). Standard level courses generally are completed within a single year (150 teaching hours). Note that even “standard level” courses which conform to the IB curriculum are quite rigorous and are often comparable to advanced placement courses in other schools.

The IB Diploma

In order to earn an IB Diploma students must take an examination in each of the six subject areas. These exams are set and reviewed by a central panel of IB-authorized examiners. Exam techniques are chosen from a range of options: oral and written, long and short responses, data-based questions, essays, multiple choice questions. These are complemented by internal assessment of course work by the faculty responsible for evaluating students over the two-year period. The emphasis is on ensuring that students have ample opportunity to demonstrate what they know and are able to communicate that knowledge. Most exams are taken at the end of the senior year but up to two standard level exams may be taken at the end of the junior year.

Exams are graded on a scale of 1 through 7. The award of the diploma requires students to earn a minimum total of 24 points and the satisfactory completion of the extended essay, Theory of Knowledge course, and Creativity, Action, Service activities. Students who fail to satisfy all requirements are awarded a certificate for examinations completed.

The University High School

Sample Curriculum

(Students Beginning Algebra 1 and Foreign Language in Grade 9)

Grade 9	Grade 10	Grade 11	Grade 12
English	English	English	English
World History	US History	European History 1	International Studies
Algebra 1	Algebra 2 & Geometry	Pre-Calculus	2 Calculus
Biology	Chemistry/Physics	Chemistry	Science
Foreign Language 1	Foreign Language 2	Human Biology	Foreign Language 4
Electives	Information	Foreign Language 3	Theory of
Information Technology	Technology	Tutorial	Knowledge
Elective	Learning Workshop	Learning Workshop	Learning Workshop
Learning Workshop	Build the U High Web	Start a small business	Multi-media CD
Drama Troupe	site		Yearbook

Appendix F: Basic Organizational Principles

Basic Total Quality Management Principles

1. Help students, teachers and parents understand and evolve the mission and philosophy of the school.
2. Work to provide the opportunity and incentive for students, teachers and parents to continuously develop and improve the school and resolve problems as they arise.
3. Make the necessary training available to implement these improvements and solutions
4. Continually measure our success and progress in all areas
5. Encourage experimentation and learn from our mistakes.

Basic Learning Organization Principles

1. Constantly challenge our own preconceptions about teaching, the nature of education and the structure of the school
2. Recognize that the school exists in a broader context. Be aware of systemic factors (internal and external) which affect its ability to grow and change
3. Work to build a shared vision
4. Encourage team learning among teachers, parents and students
5. Work to develop the discipline required to implement positive changes and overcome organizational inertia