

*“We are all welcome to our own opinions but we all have to live with the same facts.”*

- Daniel Patrick Moynihan

# **International Baccalaureate White Paper**

*Dr. Patrick Michel, Superintendent of Schools, Monticello Central School District*

## **The Need**

The Monticello Central School District is a high needs school district with a free and reduced lunch level that fluctuates between 56 and 61 percent annually. The student population in the district is approximately 24 percent African American, 23 percent Hispanic and 53 percent Caucasian. The district is highly diverse and the population trends indicate that within the next five years non-Caucasian students will become the majority. The school district as a whole struggles with student achievement and is having success bringing students up to the state standards. During the past 10 years, the district schools have been placed on five state lists for poor student achievement. Administrators and teachers worked diligently to improve instruction and we were removed from those lists. Presently, there is only one school remaining on a state list and that is Monticello High School.

Due to socioeconomic and environmental factors, many of our students do not enter the school system ready to learn. In wealthier districts, students enter kindergarten able to read and write, and recognize and manipulate numbers. That is not the case in Monticello. With this as our reality, many of our resources have been allocated to create programs designed to help students learn to read, write and understand math so they will be able to meet the minimal state standard. Teachers were retrained in methods designed to help them focus primarily on reading and mathematics instruction. The present structure of the state exam system promotes minimum competency as its goal. While wealthy school districts are easily reaching the state benchmarks, high needs districts are struggling to meet these standards.

The Federal and State Education Departments are now demanding increased rigor in our coursework and are requiring school districts to prepare students for a “College Based Economy.” During the last five years, it has become apparent in educational research and policy statements issued by the federal and state governments that reaching the minimum standards are no longer acceptable and will not prepare students adequately for the highly competitive global environment they will enter after graduation. School districts across the country will now have to ramp up curricula to not only meet minimal standards on state assessments but also teach for mastery. Students will have to be taught to use the higher level thinking and problem solving skills needed to prepare them for the rigor of international standards.

In order to drive this change process, the federal and state governments are creating national standards and assessments based on international standards. Monticello is faced with the challenge of overcoming the issues associated with poverty and at the same time, we are trying to retool our staff to prepare our students for the international standards they will have to attain. We need to create a school system that prepares 21<sup>st</sup> century learners for the world they will enter. The educational expectation for today’s student is vastly different from the outcome of traditional educational practices. Teaching for the 21st century learner and the

future requires a powerful shift in teaching philosophies and strategies informed by up-to-date research in learning. Schools are looking for powerful vehicles to help them make the shift, not one teacher at a time, but school by school and district by district.

In a recently published study by the Georgetown University Center for Education and the Workforce, authors Anthony P. Carvevale, Nicole Smith, and Jeff Strohl state the following facts from their research: *Help Wanted: Projections of Jobs and Educational Requirements Through 2018*.

“America is slowly coming out of the Recession of 2007—only to find itself on a collision course with the future: not enough Americans are completing college. The Georgetown University Center on Education and the Workforce shows that by 2018, we will need 22 million new college degrees—but will fall short of that number by at least 3 million post-secondary degrees, Associate’s or better. In addition, we will need at least 4.7 million new workers with postsecondary certificates. At a time when every job is precious, this shortfall will mean lost economic opportunity for millions of American workers.

This shortage is the latest indication of how crucial postsecondary education and training has become to the American economy. The shortfall—which amounts to a deficit of 300,000 college graduates every year between 2008 and 2018—results from burgeoning demand by employers for workers with high levels of education and training. Our calculations show that America’s colleges and universities would need to increase the number of degrees they confer by 10 percent annually, a tall order.

Meeting this demand is not a challenge we can afford to ignore. Our grandparents’ economy, which promised well-paying jobs for anyone who graduated from high school, is fading and will soon be altogether gone. Over the past three decades, higher education has become a virtual must for American workers. Between 1973 and 2008, the share of jobs in the U.S. economy which required postsecondary education increased from 28 percent to 59 percent. According to our projections, the future promises more of the same. The share of postsecondary jobs will increase from 59 to 63 percent over the next decade. High school graduates and dropouts will find themselves largely left behind in the coming decade as employer demand for workers with postsecondary degrees continues to surge.”

(<http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/ExecutiveSummary-web.pdf>)

This highly influential group of researchers is consulted by state and federal governments as they look to create policies for the future. The trends that are highlighted, which they refer to as a “College Based Economy,” are not new. The National Governors Association created a research group called Achieve to help with the transition into this new economy. Created in 1996 by the nation’s governors and corporate leaders, Achieve is an independent, bipartisan, non-profit education reform organization based in Washington, D.C. that helps states raise academic standards and graduation requirements, improve assessments and strengthen accountability (<http://www.achieve.org/>).

The research conducted by the Georgetown University Center for Education and the Workforce is directly linked to the work that is being done by Achieve and the Governors

Association. All three of these groups are linked directly to the creation of the Common Core Standards (national standards) which New York State recently adopted. In addition, the New York State Education Department is in the process of changing its assessment system to meet these standards by the 2014-15 school year ([http://www.corestandards.org./](http://www.corestandards.org/)). Recent changes made by New York's Commissioner of Education to the 3-8 testing system in mathematics and English are directly linked to these organizations and their research. The point of all of this research is to find out what will best prepare our children for the global economy and international standards.

Terminology is important - how we define what is an adequate education is extremely important. "College ready" is now the standard. It is imperative to understand the importance of the following quote: "Our grandparents' economy, which promised well-paying jobs for anyone who graduated from high school, is fading and will soon be altogether gone. Over the past three decades, higher education has become a virtual must for American workers." Traditional lecture-tell teaching practices no longer provide the structure or transference of knowledge and skills needed to prepare 21<sup>st</sup> century learners for the world they will enter.

Many public school educators, community members and parents use their own experiences to define how schools should look and how teachers should teach. If we use these 20<sup>th</sup> century practices as our educational base, we do our students and their families a great disservice by not providing the solutions necessary to address 21<sup>st</sup> century issues. Schools are evolving on a daily basis to keep up with the hyper change that is now the rule rather than the exception in the global marketplace. Only by the creation of Professional Learning Communities at every level will we be able to cope with all of the educational innovation and change we face during the next five years and beyond.

One area of deep concern is the false notion that a child's success is based primarily on his or her IQ. Educators in the United States predetermine success by a measure of intelligence. If a student in the U.S. does not succeed, it is usually attributed to lack of intelligence and not to outdated teaching practices and institutional structures that promote a reliance on traditional teaching methods which simply provide knowledge and do not challenge students to explore and seek knowledge. We still rely on an Industrial Economy Model to prepare students for a Knowledge Based or College Economy. Until we change our structures and teaching practices to match these new realities, our students will continue to fail the state tests and struggle with the future national assessments. Schools cannot look like they do presently – they need to change at all levels.

In the United States, this culture of predetermination based on intelligence created a multi-tiered system that we fervently hold onto even while paying lip service to equity and access. People in our communities don't realize that because our public schools divide students based on their intelligence, it is speeding up our descent into poverty. The fact that our main competitors, China and India, are building colleges on a daily basis just to keep up with the demand for higher education is barely noticed by many in the U.S. Those who have noticed - state governors, businesses and Federal and State Education Departments - are now demanding that we change how we do business or face closure or reorganization.

To that end, the Federal Education Department has redefined what College and Workforce Ready is. The research created by Achieve is the definition that the Federal Education Department is using to set policy and implement change at the state level. Achieve defines these terms as follows:

It is commonly said that the goal of high school reform is to ensure all students graduate “college and career-ready.” But as often as this mantra is repeated, confusion remains over what it actually means. Simply put, “college and career readiness” refers to the content knowledge and skills high school graduates must possess in English and mathematics – including, but not limited to, reading, writing communications, teamwork, critical thinking and problem solving – to be successful in any and all future endeavors. Of course, readiness for college and careers depends on more than English and mathematics knowledge; to be successful after high school, all graduates must possess the knowledge, habits and skills that can only come from a rigorous, rich and well-rounded high school curriculum.

### **What is “COLLEGE” ready?**

College today means much more than just pursuing a four-year degree at a university. Being “college ready” means being prepared for any postsecondary education or training experience, including study at two- and four-year institutions leading to a postsecondary credential (i.e. a certificate, license, Associates or Bachelor’s degree). Being *ready* for college means that a high school graduate has the English and mathematics knowledge and skills necessary to qualify for and succeed in entry-level, credit-bearing college courses without the need for remedial coursework.

### **What is “CAREER” ready?**

In today’s economy, a “career” is not just a job. A career provides a family-sustaining wage and pathways to advancement and requires postsecondary training or education. A job may be obtained with only a high school diploma, but offers no guarantee of advancement or mobility. Being *ready* for a career means that a high school graduate has the English, and mathematics knowledge and skills needed to qualify for and succeed in the postsecondary job training and/or education necessary for their chosen career (i.e. technical/vocational program, community college, apprenticeship or significant on-the-job training).

### **Is ready for COLLEGE and ready for CAREER the same thing?**

With respect to the knowledge and skills in English and mathematics expected by employers and postsecondary faculty, the answer is yes. In the last decade, research conducted by Achieve as well as others shows a convergence in the expectations of employers and colleges in terms of the knowledge and skills high school grads need to be successful after high school.

Economic reality reflects these converging expectations. Education is more valued and more necessary than ever before. The bottom line is that today ALL high school graduates need to be prepared for some postsecondary education and/or training if they are to have options and opportunities in the job market.

An adequate education can no longer be defined as a high school diploma. The research is definitive - our present school structure and educational processes K-12 no longer adequately

prepare our children for college, the work force or the military. If the goal is to reach international standards as defined by the Race to The Top competition in which New York State has been involved, then the Monticello Central School District is uniquely positioned to meet those standards.

Faced with the fact that there is no real difference between a rigorous college preparatory curriculum and a rigorous work force ready curriculum how do we proceed?

Faced with the fact that the system of standards are being structured around international standards how do we proceed?

Faced with the fact that the Federal and New York State Education Departments are insisting, through the testing system, that students reach international standards how do we proceed?

How does a school district with a high poverty rate and limited resources make these changes so that all of our children have a chance to participate in a “College Based Economy,” reach international standards and obtain employment that allows them to support a family?

### **Our Response to These Questions**

The educational trends outlined in this paper are not new. Anyone who keeps abreast of policy and research could have anticipated these changes four years ago. The key to addressing the changes we face is to build capacity. Building capacity means that we need to train our staff, students and parents about the issues they face and how to successfully navigate the new systems being put in place. Teachers must learn to deliver the curriculum to match the demands of the international standards. Students need to learn to learn differently. Parents must adapt to the new demands and understand that schools will not look or perform like the schools they grew up with.

Training is the key to our success. Four years ago we began to explore the best programs and practices needed to position this district to be ready for the higher standards our children will face. We must build the capacity of our staff to meet the international standards. Consistency or fidelity to program is essential to this strategy.

We began by doing a comprehensive review of our program, K-12. We created a Comprehensive District Education Plan (CDEP) using data from our review of the 2006-07 school year. Administrators and teachers did extensive research to choose the best programs to address the needs of our district. That plan outlined the strategies we would adopt, with agreement from the board of education, to address the changes we needed to put in place to be prepared for the New York State Education Department’s move toward more rigorous international standards.

### **We agreed to implement the following to address several different issues:**

- 1) Continue to expand our Fountas and Pinnell reading program to all elementary schools and the middle school.
- 2) Begin training of teaching staff using the International Baccalaureate (IB) in order to prepare our teachers to teach to international standards. We started at the elementary

level. Due to the cost of retooling any staff in a new program, we chose to implement the program one school at a time starting with the Chase Elementary School.

- 3) Revamp the Honors Program at the secondary level to allow for greater diversity and to prepare more students for higher standards.
- 4) Expand the College in the Classroom program at the high school level to allow more access and opportunity. We partnered with Syracuse University and Sullivan County Community College to create opportunities for all students in the high school.
- 5) Explore the implementation of Project Lead the Way to address the lack of a focused program concerning engineering, math, science and technology.
- 6) Creating a system of literacy, IB and math coaches to support staff through this process and to offer in-house consistent staff development.
- 7) Expand our EPIC Parent Center to address the needs of parents during this transition.

The focus of this paper is on the International Baccalaureate but it must be stated that all of these programs and changes are connected to the same theme - positioning the district to prepare our staff and students to teach and learn at a much higher standard.

We address the questions posed above by building capacity, opening access to our most rigorous programs, fidelity to program, and training our staff, students and parents to prepare for the higher standards.

### **How did we pay for all of this?**

A district with a limited tax base and high poverty could not afford to pay for any change initiatives needed to address the demands of the Federal and State Education Departments without significant funding sources outside of our budget or general fund. In the case of the change initiatives listed above, the vast majority of funding came from two sources: Federal Title Grants and the Contract for Excellence. We do take some money for Administrative training and costs from the general fund but that equates to very little of the overall funding.

In the case of both funding sources, the following are the rules associated with using these monies.

- 1) Programs created using these monies cannot supplant existing initiatives. What that means is that we cannot take an existing program and start paying for it using grant funding.
- 2) We can supplement existing programs with Title Grant monies. What that means is that we can expand an existing program using Title Grant funding as long as the program is **researched based** and is **targeted** toward a need that is supported by data.
- 3) Contract for Excellence monies **cannot** supplant and must be used for new program initiatives to address an identified need. All monies used through this Grant in Aid must be **researched based** and approved by the New York State Education Department. A district cannot invent their own program to address a perceived need unless they can demonstrate that another district has this program and that research shows it has been successful.

- 4) Every year we must submit applications for each of these grants and they must be approved by the State Education Department before we can use any of these funding sources.
- 5) The application for the Contract for Excellence must be published and a formal public hearing must be held.

It is important to note that the funding for the International Baccalaureate program is taken from the Contract for Excellence with some funding coming from Title Grants.

Year to Year Funding International Baccalaureate:

2007-08	\$107,602.78 (Total Cost of Training and 1 IB Coach for 2 School)
2008-09	\$216,024.97 (Total Cost of Training and 2 IB Coaches for 3 Schools)
2009-10	\$ 438, 312.43 (Total Cost of Training and 3 IB Coaches for 4 Schools)
2010-11	\$ 284,633 (Estimated Cost of Training 2 IB Coaches and 1 Spanish Teacher)

In order to put this into perspective, we need to compare the amount of money we have spent in the same time period to improve our Literacy Program using monies from both our Contract for Excellence and Title Grants:

2007-08	\$1,165,517 (Cost of Training, Staff and Literacy Coaches Elementary)
2008-09	\$861,942 (Cost of Training, Staff and Literacy Coaches Elementary)
2009-10	\$912,357 (Cost of Training, Staff and Literacy Coaches Elementary)

If you divide the amounts by the number of schools impacted you will see that our International Baccalaureate program receives considerably less funding than other initiatives supported by our grants. We could do a similar analysis for math and we would draw the same conclusion.

When the training cycle is finished, the amount needed will decrease considerably and the only long term impact will be the cost of IB coaches in the three elementary schools and the yearly fee we pay to the IB. Although the same holds true for Literacy and math, the staffing costs will be considerably higher due to the number of people supporting the literacy and math programs through the grants.

In these tough economic times it has been argued by some that the IB is a luxury we cannot afford. It is this argument that websites such as [www.thetruthaboutib.org](http://www.thetruthaboutib.org) espouses as a way to undermine support for the program at the district level. The facts do not support that argument.

Recently, the New York State Board of Regents reset the scoring for the 3-8 state tests in English and math. The decision was based on the fact that our testing system did not match the results on the National Assessment of Educational Progress (NAEP). The NAEP is matched against international standards. The new cut scores approved by the Board of Regents affirm the research that shows that our present testing system and curricula does not reflect the rigor needed to show if students are college and workforce ready or meet the

international standards.

New York State has committed to participate in the national standards and testing movement. The testing is based on international standards. If you research on what assessments they have based the standards and testing, you will find that the International Baccalaureate is prominent in the discussion and development of the assessments.

We are starting a new change cycle in public education not only in New York State but in the United States. We can no longer rely on the local development of curriculum and assessment to guarantee that our children will be prepared for the world of work or citizenship in the 21<sup>st</sup> Century. We can only do that by building our capacity using researched based programs that have direct links to the new National Standards. To try to invent curriculum to save scarce resources will only result in us spending more resources due to the fact that our staff lacks the training to teach to these higher standards. It is our belief that our staff is more than capable but they need support and training in order to reach the new goals set by the Board of Regents.

The question is not affordability. Without outside resources like the Contract for Excellence and Title Grants, Monticello would never be able to afford to make any changes to address the new standards. The question should be what programs will help us reach these new goals. We believe that we have found these programs and we believe we need to continue to support them as we march toward the new national standards and testing system.

## **Monticello Board of Education Questions and Our Responses**

*A Special Thanks to Susan Gottlieb and Linda Holmes for providing information for this section.*

### **Where does the curriculum come from and how much control does IB have over textbook selection and resources used to teach our children?**

IB does not provide curriculum for Primary Years Programme (PYP) schools. There are no textbook requirements or suggested publishers. Schools continue to select and purchase resources based upon their instructional needs, however, curriculum guides for private schools or schools in need of curriculum are published by the IBO. In Monticello, our schools coordinate our library books and guided reading and literacy read aloud texts to support our units of inquiry.

The curriculum for students in our Primary Years Programme is based on New York State Standards. Curriculum is developed at the school level in each building. IB provides a structure and support system for teachers and schools to collaboratively implement state, national and local standards within an inquiry-based framework. Each Primary Years Programme is collaboratively developed by the collaborative efforts of teachers and school leadership. Because of this Constructivist nature, each school will evolve uniquely. The IB program at Chase will look different than the IB program at Rutherford or Cooke. What is common to all IB PYP schools is the support and structure provided by the IB. This structure includes five essential elements essential for planning, instruction, and assessment. These five essential elements include knowledge, skills, concepts, attitudes, and action.

Woven throughout the curriculum is the essence of international-mindedness: the Learner Profile. The Learner Profile contains attributes of an Internationally-minded person: Thinker, Risk-taker, Inquirer, Caring, Balanced, Open-minded, Communicator, and Principled.

IB provides a framework for organizing the units of inquiry and a template for creating, reflecting on and refining the units. Units of Inquiry are organized into six trans- or interdisciplinary themes that have global significance. PYP offers a balance between learning about or through the subject areas, and learning beyond them.

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet

The entire Programme of Inquiry is created and developed by the teachers. Units of Inquiry include pre-assessments; lesson plans for approximately six weeks of study of a particular theme, as well as formative and summative assessments. Due to the global significance of the themes students across the world can study similar topics.

**Why should elementary children be concerned with the rest of the world? Shouldn't they learn about the United States first? Why should our small children be internationally-minded?**

The IB aims to develop inquiring, knowledgeable and caring young people who help create a better and more peaceful world through intercultural understanding and respect. Elementary students focus on issues that are relevant to their own local area and their own cultural background. Students learn first about their own lives, their own cultures, and their own national history. Students base all learning on their own prior knowledge and experiences. Optimum learning and building enduring understanding happens when students connect existing knowledge with new learning. Understanding themselves first helps students to understand others. By authentically exploring other cultures, students will expand their minds not only to learn other languages, values and perspectives but will also gain a deeper sense of themselves and their home culture.

Schools throughout history have been charged with helping students to understand their world. In an IB programme, this is expressed as creating students who are “internationally-minded” which is embodied by the Learner Profile. The Learner Profile promotes the education of the whole person, emphasizing intellectual, personal, emotional and social growth through all domains of knowledge. The attributes of the profile express the values inherent to the IB continuum of international education.

**IB learners strive to be:**

**Inquirers**

They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and

research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.

**Knowledgeable**

They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.

**Thinkers**

They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.

**Communicators**

They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.

**Principled**

They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.

**Open-minded**

They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.

**Caring**

They show empathy, compassion and respect toward the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.

**Risk-takers**

They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.

**Balanced**

They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.

**Reflective**

They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Students in the PYP are also required to learn a foreign language. This adds an additional dimension to the international-mindedness of each student and their ability to communicate.

**I have heard that IB is rigorous. What about the average student or the student with learning needs?**

The Primary Years Programme for elementary students is a whole school initiative, unlike the Diploma Programme (secondary level). All students in the school are required to participate

in the Programme of Inquiry. Units of Inquiry begin with learning activities to activate prior knowledge and pre-assess each student's learning.

Learning is student centered. The method of delivery includes "best instructional practices" which shifts responsibility for learning onto the student. Emphasis is on actively building understanding and knowledge rather than passively learning. Each classroom is student centered and provides learners with engaging relevant instruction. Teachers need to be highly skilled to masterfully craft instruction and facilitate tiered learning, guiding students through knowledge, concept, and skills acquisition.

Significantly, due to the nature of the programme students are able to work at their own level to study topics. Students, at every academic level, benefit from this approach with its inherent differentiation. There are multiple opportunities to differentiate students' learning needs and interests during every step of the learning process. The PYP provides equitable access for all students.

The six trans-disciplinary themes provide the organizational structure for the curriculum so that subjects are not divided into separate threads but are embedded into real, relevant, and engaging units of study. For the most part, the IB themes are related to science and social studies however the basic idea is that there is an interdisciplinary nature to the study. Wherever possible, educators capitalize on this and work to include all curriculum areas including literacy and mathematics. Through our balanced literacy framework, student studies and learning engagements enable them to access information at an individualized ability level.

Students, who are gifted, advanced in specific subject areas, average, or struggling with special learning needs, all flourish from an educational process that fully engages their interests and current level of development. The IB helps teachers combine this knowledge of student needs with pedagogical techniques that will meet the needs of a vast range of learners.

**What value are we getting for our money? If IB is based on best practices in education, why can't we do the same in our schools or district without spending money on an expensive brand name like IB?**

The educational expectation for today's student is vastly different from the outcome of traditional educational practices. Teaching for the 21<sup>st</sup> century learner and the future requires a powerful shift in teaching philosophy and strategies informed by up-to-date research in learning. Schools are looking for powerful vehicles to help them make the shift, not one teacher at a time, but school by school and district by district.

The IB provides structures, supports and ongoing professional development to shift large groups of teachers toward the best instructional practices and philosophies through collaborative and reflective practices. This allows us to shift entire professional communities toward 21<sup>st</sup> century learning. The "brand name" of IB provides an unparalleled worldwide network of educational support and information for teachers and administrators as they develop and continue to refine educational policy and practices.

Teachers are supported through collaborative teams and continuous professional development. The IB offers a small percentage of the professional development at additional cost but the larger percentage arises through the professional learning community developed within the school. Teachers quickly see student responses of greater engagement, higher level thinking skills and a shift in meeting higher expectations. Having the relationship with the IB organization gives us access to high quality professional development workshops, provides us with an online curriculum center and a framework for ensuring our students are receiving an education to prepare them for the 21<sup>st</sup> century. The IB brings a high level of commitment and professional growth with consistency at the whole school level.

### **How is teaching in an IB school different from traditional programs?**

The IB is student centered, constructivist and inquiry based (a shift from traditional lecture-tell), collaborative, engaging and rigorous. What does all of this mean? The Primary Years Programme is based on the work of Lev Vygotsky, a Russian psychologist, and is the same as the research that supports the learning that occurs in our balanced literacy framework and our guided reading groups.

Children are active and participate in constructing their own learning. The teacher guides and creates learning opportunities for students. Students are taught to ask relevant questions. They learn what it means to take action and are encouraged to do so. They learn how to be reflective and have opportunities to show what they know through traditional and non-tradition forms of assessment. Students may work in collaborative groupings or individually. Students are learning through authentic learning experiences designed to be meaningful and engaging. In an IB PYP school, knowledge is actively built, not passively learned.

The Mission Statement is the promise we make to our parents of what we offer their children. We have one certified IB School, the Emma C. Chase Elementary School:

Emma C. Chase Elementary School's Mission is to work collaboratively with parents and the world community to develop inquiring, knowledgeable, and compassionate life long learners who will help to create a better and more peaceful world through intercultural understanding and respect for themselves and others.

The IBO has drawn upon the collective wisdom and most recent research of the most outstanding educators in today's world. They provide the necessary structures, supports, and guidance for teachers to create an outstanding educational program for our children. The following bibliography from *Making the PYP Happen* cites some of the educational research and expertise available to our teachers through the IB organization:

Alexander, R. 1995. *Versions of Primary Education*. Routledge. 0-415-12838-2. Bartlett, K. 1998. "International Curricula: More or Less Important at the Primary Level?" in *International Education: Principles and Practice*, edited by Hayden, M and Thompson, J. Kogan Page, pp 77-91. Bartlett, K. 1997. "Articulating the International Curriculum: Continuity through Outcomes (Part 2)". *International Schools Journal* 17, number 1, pp 50-57. Bartlett, K. 1997. "How the Primary Years Programme Came into Being". *IB World*, number 16, pp 15-17. Bartlett, K. 1996. "Articulating the International Curriculum: Continuity through Commonalities (Part 1)". *International Schools Journal* 16, number 1, pp 30-38.

- Bartlett, K. 1994. "Internationalism: Getting Beneath The Surface. Part 2: The Role of Language". *International Schools Journal*, number 27, pp 53–56.
- Bartlett, K. 1993. "Internationalism: Getting Beneath The Surface. Part 1: Internationalism? It's about thinking!" *International Schools Journal*, number 26, pp 35–38.
- Bartlett, K. 1992. "Defining International Education: A Proposal for the Future". *International Schools Journal*, number 23, pp 45–52.
- Bartlett, K. 1989. "Translating Philosophy into Action". *International Schools Journal*, number 18, pp 59–67.
- Boyer, EL. 1995. *The Basic School: A community for learning*. The Carnegie Foundation for the Advancement of Teaching. 0-931050-48-0.
- Bredenkamp, S and Copple, C (editors). 1997. *Developmentally Appropriate Practice in Early Childhood Programs*. National Association for the Education of Young Children. 0-935989-79-X.
- Bruner, J. 1990. *Acts of Meaning*. Harvard University Press. 0-674-00361-6.
- Bruner, J. 1986. *Actual Minds, Possible Words*. Harvard University Press. 0-674-00366-7.
- Caldwell, BJ and Spinks, JM. 1998. *Beyond the Self-Managing School*. RoutledgeFalmer. 0-7507-0448-9.
- Ceppe, G and Zini, M. *Children, Spaces, Relations: Metaproject for an environment for young children*. Reggio Children Domus Academy Research Center. 88-87960-17-8.
- Chandler, D. 2002. *Semiotics: The Basics*. Routledge. 0-415-35111-1.
- Coles, MJ and Southworth, G. *Developing Leadership. Creating the schools of tomorrow*. Open University Press. 0-335-21542-4.
- Corson, D. 2001. *Language Diversity and Education*. Lawrence Erlbaum Associates. 0-8058-3449-4.
- Corson, D. 1999. *Language Policy in Schools: A Resource for Teachers and Administrators*. Lawrence Erlbaum Associates. 0-8058-3296-3.
- Costa, AL (editor). 2001. *Developing Minds: A resource book for teaching thinking* (3rd edition). Association for Supervision and Curriculum Development. 0-87120-379-0.
- Making the PYP happen: A curriculum framework for international primary education  
63Bibliography
- Costa, AL and Kallick, B (editors). 2000. *Assessing and Reporting on Habits of Mind*. Association for Supervision and Curriculum Development. 0-87120-370-7.
- Costa, AL and Kallick, B (editors). 2000. *Discovering and Exploring Habits of Mind*. Association for Supervision and Curriculum Development.
- DeVries, R, Zan, B, Hildebrandt, C, Edmiaston, R, and Sales, C. 2002. *Developing Constructivist Early Childhood Curriculum. Practical principles and activities*. Teachers College Press. 0-8077-4120-5.
- Duncan, A. 1993. *What Primary Teachers Should Know About Maths* (2nd edition). Hodder & Stoughton. 0-340- 64377-3.
- Edwards, C, Gandini, L and Forman, G. 1998. *The Hundred Languages of Children (The Reggio Emilia Approach: Advanced Reflections)* (2nd edition). Ablex Publishing Corporation. 1-56750-311-X.
- Eisner, EW. 2001. "The Role of the Arts in Cognition and Curriculum" in *Developing Minds: A Resource Book for Teaching Thinking* (3rd edition), edited by Costa, A. Association for Supervision and Curriculum Development (ASCD).
- Eisner, EW. 1985. *The Educational Imagination On the Design and Evaluation of School Programs* (2nd edition). Macmillan Publishing Company. 0-02-332110-5.
- ESTYN. 2002. *Standards and Quality in Personal and Social Education in Primary and Secondary Schools in Wales*. Schools inspection service in Wales.

Fullan, M. 2001. *Leading in a Culture of Change*. Jossey-Bass Publishers. 0-7879-5395-4.

Fullan, M. 2001. *The New Meaning of Educational Change* (3rd edition). RoutledgeFalmer. 0-415-26020-5.

Gallas, K. 1994. *The Languages of Learning. How children talk, write, dance, draw, and sing their understanding of the world*. Teachers College Press. 0-8077-3305-9.

Gardner, H. 1993. *Multiple Intelligences: The theory in practice*. Basic books. 0-465-01822-X.

Grennon Brooks, J and Brooks, MG. 2001. *In Search of Understanding. The Case for Constructivist Classrooms*.

Association for Supervision and Curriculum Development. 0-87120-211-5.

Halliday, M. 1980. "Three Aspects of Children's Language Development: Learning language, Learning through Language, Learning about Language", in *Oral and Written Language Development Research*, edited by Goodman, Y, Haussler, MH and Strickland, D, pp 7–19. National Council of Teachers of English.

Hargreaves, A and Fink, D. 2006. *Sustainable Leadership*. Jossey-Bass Publishers. 0-7879-6838-2.

Hayden, M, Thompson, J, Walker, G (editors). 2002. *International Education in Practice: Dimensions for national and international schools*. Kogan Page Limited. 0-7494-3835-5.

Hayes Jacobs, H. 2004. *Getting Results with Curriculum Mapping*. Association for Supervision and Curriculum Development. 0-87120-999-3.

Hayes Jacobs, H. 1997. *Mapping the Big Picture: Integrating curriculum and assessment K-12*. Association for Supervision and Curriculum Development. 0-87120-286-7.

Hayes Jacobs, H. 1989. *Interdisciplinary Curriculum: Design and implementation*. Association for Supervision and Curriculum Development.

Innis, RE. 1985. *Semiotics: An introductory anthology*. Indiana University Press. 0-253-20344-9.

64 Making the PYP happen: A curriculum framework for international primary education  
Kozulin, A, Gindis, B, Ageyev, VS, and Miller, SM (editors). 2003. *Vygotsky's Educational Theory in Cultural Context* (Learning in Doing: Social, Cognitive & Computational Perspectives S.). Cambridge University Press. 0-5215-2883-6.

Llewellyn, D. 2002. *Inquire Within: Implementing inquiry-based science standards*. Corwin Press. 0-7619-7745-7.

Lynn Erickson, H. 2002. *Concept-Based Curriculum and Instruction: Teaching beyond the facts*. Corwin Press. 0-7619-4640-3.

Lynn Erickson, H. 2001. *Stirring the Head, Heart, and Soul: Redefining curriculum and instruction* (2nd edition). Corwin Press. 0-8039-6885-X.

McTighe, J and Wiggins, G. 1999. *The Understanding by Design Handbook*. Association for Supervision and Curriculum Development. 0-87120-340-5.

McTighe, J and Wiggins, G. 2004. *Understanding by Design Professional Development Workbook*. Association for Supervision and Curriculum Development. 0-87120-855-5.

National Council of Teachers of Mathematics. 2000. *Principles and standards for school mathematics and teacher education: Preparing and empowering teachers*. NCTM.

New Zealand Ministry of Education. 1997. *Social studies in the New Zealand Curriculum*. New Zealand Ministry of Education. 1997. *Science in the New Zealand Curriculum*.

Olson, DR and Torrance, N (editors). 1998. *The Handbook of Education and Human Development. New Models of Learning, Teaching and Schooling*. Blackwell Publishers. 0-631-21186-1.

Perkins, D. 1995. *Outsmarting IQ: The emerging science of learnable intelligence*. The Free Press. 0-02-925212-1.

Project Zero. 2001. *Making Learning Visible. Children as individual and group learners*. Reggio Children. 88-87960-25-9.

Reggio Children. 1995. *Le Fontane*. Reggio Children S.r.l.

Reggio Children. *Reggio Children*. Reggio Children S.r.l.

Reggio Children. 1997. *Scarpa e Metro*. Reggio Children S.r.l.

Selley, N. 1999. *The Art of Constructivist Teaching in the Primary School. A Guide for Students and Teachers*. David Fulton Publishers. 1-85346-572-0.

Short, KG. 1997. *Literature as a Way of Knowing*. Stenhouse Publishers. 1-57110-0636.

Short, KG and Burke, C. 1991. *Creating Curriculum: Teachers and students as a community of learners*. Heinemann. 0-435-08590-5.

Short, KG, Harste, JC and Burke, C. 1996. *Creating Classrooms for Authors and Inquirers* (2nd edition). Heinemann. 0-435-08850-5.

Short, KG, Schroeder, J, Laird, J, Kauffman, G, Ferguson, M and Crawford, K. 1996. *Learning Together Through Inquiry. From Columbus to Integrated Curriculum*. Stenhouse Publishers. 1571100334.

Tobin, K (editor). 1995. *The Practice of Constructivism in Science Education*. Lawrence Erlbaum Associates. 0-8058-1878-2.

Victorian Curriculum and Assessment Authority. 2008. *Victorian Essential Learning Standards: Physical, Personal and Social Learning Strand—Health and Physical Education*. VCAA.

Vygotsky, L. 1999. *Thought and Language*. The MIT Press. 0-262-72010-8. Making the PYP happen: A curriculum framework for international primary education 65 Bibliography

Wells Lindfor, J. 1999. *Children's Inquiry: Using language to make sense of the world*. Teachers College Press. 0-8077-3836-0.

Wiggins, G. 1998. *Educative Assessment. Designing Assessments to Inform and Improve Student Performance*. Jossey-Bass Publishers. 0-7879-0848-7.

Wiggins, G and McTighe, J. 2005. *Understanding by Design. Expanded 2nd edition*. Association for Supervision and Curriculum Development. 1-4166-0035-3.

Wiggins, G and McTighe, J. 2000. *Understanding by Design: Study guide*. Association for Supervision and Curriculum Development. 0-87120-386-3.

Wiggins, G and McTighe, J. 1998. *Understanding by Design*. Association for Supervision and Curriculum Development. 0-87120-313-8.

Williams, B and Woods, M. 1997. "Building on Urban Learners Experiences". Association for Supervision and Curriculum Development.

Wurm, JP. 2005. *Working in the Reggio Way: A beginner's guide for American teachers*. National Association for the Education of Young Children. 1-929610-64-5.