

# **IBM MentorPlace: Starter Kit**

**EDC Center for Children and Technology**

Prepared By:

Dorothy Bennett, Cricket Heinze, Naomi Hupert & Terri Meade

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## **About the IBM MentorPlace Core Team**

### **What's the Core Team?**

The Core Team is more than just a management team – it's the glue that holds the pieces of local IBM MentorPlace programs together. As part of the Core Team, members work to connect IBM e-mentors with their student mentees in substantive and lively online discussions. By training mentors, teachers and students, collaborating with teachers, and monitoring progress, the Core Team plays an integral role in ensuring the successful implementation and classroom integration of the program.

### **Who's on the Core Team?**

Core Team members are IBM employees who volunteer their time and efforts to coordinate IBM MentorPlace programs at local schools in their community. Core Team members are selected by IBM Corporate Community Relations Manager(s) according to their ability to take on management roles, willingness to participate, and enthusiasm for program goals. Typically, Core Team members volunteer their services for one year with an option to continue.

### **How do Core Teams work?**

Depending on the number of participating schools, classrooms, mentors, and mentees, Core Teams can assume a variety of configurations.

*In Durham, North Carolina, Corporate Community Relations Manager Nicole Pride manages 10 Core Team members, each of whom is assigned to one school. Each member coordinates the group of teachers and mentors connected to his designated school.*

*Based on the program's unique configuration, a Core Team member's responsibilities may include:*

- Coordinating mentors (which may include recruiting, training, and communicating with mentors throughout the program)
- Communicating with the school site (which may include establishing the high-level goals of the program to ensure program commitment, setting timelines, and working out safety and security issues)
- Supporting teachers in implementing the program in the classroom
- Collaborating with teachers to assess students' needs and define goals
- Troubleshooting by bringing concerns immediately to the attention of the IBM manager and the teacher
- Communicating the progress of the program on a monthly basis to IBM managers
- Monitoring the progress of the program throughout the school year.

### **Getting Started**

**As a core team member, how do I work with mentors and teachers?**

#### Mentors

- *Recruiting and selecting mentors*

*IBM MentorPlace strongly encourages one-to-one matches between an IBM employee and a student. Not only does this make the program more manageable for busy IBM employees, but research shows that one-to-one relationships produce more meaningful results for program participants.*

Using local IBM internal communication mechanisms, such as newsletters or email, invite interested employees to a one-hour information session. During the session, explain the goals of the program, its requirements, and what mentors can expect and have experienced during previous years. Create a set of criteria for choosing mentors and select more mentors than you'll actually need. You'll want to have enough mentors to generate a list of alternates as you may experience some drop-off due to unforeseen employee circumstances.

- *Training mentors*

*To participate in a local IBM MentorPlace program, each and every IBM employee MUST attend a training session. There are no exceptions.*

Require mentors to attend a one-to two-hour training session. If possible, use former mentors as trainers. Keep in mind that new and returning mentors have different needs. While new members need to be trained in everything from program basics to "how to further online conversations," returning mentors may want to focus on learning how to set goals and guide students to helpful resources. Facilitate discussion at the beginning of the training that helps trainers to assess participant needs.

In general, Core Team members can help to design and conduct a training for mentors which includes the following topics:

- Program logistics (e-mail addresses, use of IBM MentorPlace website)
- Program guidelines and rules (requirements, policies, safety and security issues)

- Mentor expectations (developmental information about potential mentees, samples of online communication, understanding program goals)
  - Working with schools (teachers' day-to-day reality, school technology infrastructure, and school culture)
  - Specific projects or special assignments (curriculum-based content areas, skills that mentors might need).
- *Communicating with mentors*  
*IBM MentorPlace requires IBM mentors to communicate with their mentee each and every week, a time commitment of roughly half an hour a week. Even when a mentee does not respond, it is critical that IBM employees maintain frequent and consistent communication.*

Ensure the safety and security of all participants by requiring that mentors immediately alert the supervising IBM manager and the teacher about student emails containing inappropriate language or worrisome subject matter (suicide, pregnancy, depression). Ensure frequent and consistent weekly communication between mentors and mentees by having mentors inform Core Team members when they haven't received an email message from their mentee during a two week period. Also, encourage teachers to develop strategies that help their students take responsibility for their participation in the program. Some programs have found it helpful to create an online discussion group so that mentors can communicate and support one another. For more details, see *Participant preparation*.

## E-mentoring Teachers

*Committed and enthusiastic teachers are essential to the success of IBM Mentorplace. They ensure that students have structured time each and every week in which to read and respond to emails. They inform IBM managers about classroom activities and events so that communication is tailored to student learning. Teachers are the primary implementers of the program, even troubleshooting when necessary.*

- *Preparing teachers*

Once an appropriate partner school has been chosen, identify a good time to meet with participating teachers by talking to administrators and teachers. Teachers typically meet for monthly faculty and/or weekly planning meetings. Invite teachers to a presentation or a question-and-answer session during or after one of their regularly planned meeting times. Provide information pertaining to program goals and implementation requirements. Teachers will want to know what is expected of them!

- *Coordinating teachers*

Identify a contact person at the school level — a counselor, a technology coordinator, a vice principal, or a lead teacher. The on-site contact person's primary responsibility at the school is not as important as her enthusiasm for the program, her ability to interact with teachers, and her willingness to take responsibility for the program at the school.

- *Collaborating with teachers*

The most effective educational technology programs are those in which educators play an integral role in the program's development. Once teachers are committed to enacting the program in their classroom, gather participants to discuss strategies for implementing the program and setting goals that will meet individual classroom and student needs. Remember — each school and classroom presents its own unique context! Teachers should play a significant role in adapting IBM MentorPlace to suit their classroom's particular needs. Ways to incorporate curriculum-based projects within programs are described later in the *Special projects* section.

- *Matching mentors and mentees*

Matching mentors and mentees can be accomplished in a variety of ways. Most e-mentoring programs have found that random matching – using only gender and, on occasion, ethnicity — is quick, efficient, and as effective as almost any other method. Teachers receive a list of mentors from the program coordinator and are asked to match these mentors with their students. One matching strategy that gives both students and teachers a sense of connection has each student pull a mentor name (from the list) out of a hat.

Some programs require more specific matching — based on language and interests. For example, IBM program managers who implement online mentoring as part of IBM's EXITE camp (**Ex**ploring **I**nterest in **T**echnology and **E**ngineering) made more deliberate matches based upon the participating girls' career interests.

- *Getting parental consent*

Teachers must explain the IBM MentorPlace program to parents and get parental permission for each child in order for that child to participate. Provide the IBM parent permission form to teachers to send to parents.

*Because the permission form alone may not provide enough information on IBM MentorPlace, you may also want to include a quick fact sheet that includes:*

- *Program description*
- *Program benefits and goals*
- *Details about the kick-off event*
  - *Student requirements*
  - *Program rules and safety*

## **School Culture Issues**

### **So you want to work with schools effectively...**

Schools operate differently from businesses and corporations. Schools do not follow the same schedules, nor do they have the same infrastructure and levels of support that corporations typically have. It's important to develop strategies for helping mentors gain an understanding of the school context and culture in which the program is being implemented. (See following page.) By learning how schools and classrooms function, mentors will be less frustrated by differences that arise, as well as more equipped to build understanding relationships with their mentees.

### ***Understand the importance of school context.***

Even though the mentor/mentee relationship is conducted online, understanding the context of the community and school environment will assist mentors in creating more meaningful relationships with teachers and mentees. Here are two strategies for helping mentors better understand the context in which the program will operate.

### *Some Suggested Strategies for Dealing with School Culture*

- *Create a school biography.*  
Provide mentors with information about the school and community where their mentee is located. Each and every school possesses a unique context that is influenced by the community in which it is situated and the student body that it serves. Include information about the community and the students, including their socioeconomic status, racial demographics and age levels present within the school. Gather information from school personnel and community workers by interviewing them or asking them to complete a brief questionnaire. Or involve students in the process by assigning groups to create a school biography. Pay attention and be sensitive to how the community is represented. Distribute biographies during the mentor training session.
- *Visit with teachers.*  
Offer mentors an opportunity to visit the teacher's classroom in which the program will be implemented. Spending time in a classroom can help mentors gain a better understanding of the realities of their mentees' day-to-day life. Specifically, encourage mentors to learn about how students access email. Mentors can use the knowledge they gain to build meaningful conversation.

### ***Deal with program participants' expectations.***

Program participants have very different expectations based on their own experiences and knowledge. Deal with this wide variety of expectations by providing program participants with as much information as possible. In addition, help create appropriate expectations by developing strategies for building a shared understanding of the project's goals and share scenarios that help mentors prepare for handling many different possibilities.

- *Mentor expectations about school culture*

Generally speaking, novice mentors expect schools and classrooms to operate much the way businesses do. Most schools, however, function according to different calendars and schedules. When possible, provide mentors with school calendars. In addition, explain some of the basic realities of a teacher's life. Because teachers are juggling numerous demands and several programs at the same time, they are not always concerned with the same deadlines that program implementers are. Also, inform mentors that each school has a unique technology infrastructure, including the number of computers and labs present in the school building along with supporting technology personnel. Many schools receive technical assistance and support from district offices located away from the school, making it difficult to solve technical problems immediately. Networks can be down for days at a time. Make it clear to teachers that they should inform Core Team members when problems are disrupting students' access to email.

- *Mentor expectations about student access*

Every classroom has a different setup. The same applies to technology setups. Meaning, while one fifth-grade teacher may

have eight laptop computers in the back of her classroom of twenty students, another fifth-grade teacher across the hall may have one desktop computer in his classroom of thirty students. Most teachers and students have access to a centralized computer lab within the school, but might have access to it only once a week or once every three months.

Every school also has different policies and procedures regarding the use of computers. Ask teachers about student access to computers and about what policies and procedures exist regarding computer use. It is important for mentors to understand that unlike most IBM employees, students and most teachers do not have continual access to computers or email. By encouraging classroom teachers to set aside time each week for students to correspond with mentors online, program managers can help to ensure consistent communication.

- *Mentor expectations about mentor/mentee communication*  
Mentors may assume that they are mentoring someone who is essentially like their own remembered self. Getting mentors to recognize that students vary greatly from each other and from a mentor's own experience is crucial in preparing them for their mentoring role. At times, students might respond with one-word answers or brief phrases. Or students might respond with longer messages chock full of grammar and spelling errors. Regardless, all mentors are expected to uphold a commitment to quality weekly communication on their end, even if they are receiving minimal responses from their mentees. It is not acceptable for mentors to discontinue communication with their mentees because they don't feel that they are participating in "quality" communication.

Students are counting on them – more than their mentors may realize!

*"I had a student who wrote these two very short sentence messages, and I sent her websites and stuff and never heard about it, but when I went to the final party I saw that she was using everything I had sent, and that she'd gotten an 'A'." — an IBM E mentor in Rochester, Minnesota*

Conversation may not necessarily be fluid, as it takes time and effort to build rapport. To help mentors deal with the challenges associated with online communication, prepare them for the unexpected by helping them to generate a set of conversation starters. Strategies for starting and sustaining conversation are included in *So you want to go beyond chatting...* Mentors may also want to explore the online academic activities available on [www.mentorplace.org](http://www.mentorplace.org).

Mentors should also communicate any frustrations to their Core Team member. When possible, the teacher can share their insights about individual students with the Core Team member, helping to make ongoing communication more rewarding and meaningful for both mentor and student.

- *Teacher expectations*

Teacher expectations generally fall into two categories: either they see the mentors as tutors for their students' project work, or they see them as providing a service that is completely outside of the school curriculum, mainly providing supportive relationships for the students. For the program to be most effective, it is important that IBM's program goals and the teachers' program goals be aligned.

In addition, many teachers are unsure of how to relate to their students' mentors. Some expect to play no role once the program begins. Teacher involvement, however, is critical to the success of the program. They must be considered and consider themselves as full program partners. Their participation will ensure that students have access to the technology, that online communication pertains to classroom and school activities, and that problems are addressed immediately. Therefore, it is essential to be explicit when informing them of their responsibilities.

*In Rochester, Minnesota, teachers are expected to design assignments or projects based on IBM MentorPlace online activities, meet with IBM program managers on a monthly basis to outline classroom and school activities, match students and mentors, and communicate with Core Team members about absences and schedule changes.*

### *Student expectations*

Students come to the project with their own sets of expectations. Some expect only to chat with their mentors, viewing them as pen pals or acquaintances who are interested in everything in which they are interested. Others expect an exclusive focus on curricular content and class assignments. Ask teachers to prepare their students by talking to them about program goals and expectations. And, remind them: Mentors are people too! They are not all-knowing human encyclopedias, nor can they conduct communication or create a relationship on their own. Students should be made aware that they play an essential role in building the mentor/mentee relationship.

### ***Define specific goals.***

According to Webster's dictionary, a mentor is "a person looked upon for wise advice and guidance." There are myriad ways to enact this definition. Through IBM MentorPlace, the primary goal for mentors is to help support students' academic achievement. Local IBM MentorPlace programs have a range of secondary goals.

For instance, is the mentor meant to be a career role model? A cheerleader? A tutor? A "caring" adult? Is the goal of the program to communicate with the students about their daily life? Academic concerns? Possible careers? Curricular content? To help program participants understand their roles by setting relevant and attainable program goals?

E-mentoring program goals may be similar to those listed below. These have been modified from the Rochester, Minnesota, program goals:

- *Provide information about workplace, careers.*
- *Develop students' skills in technology use.*
- *Offer support.*
- *Support teachers in integrating e-mentoring into the curricular context.*
- *Grant employees community service opportunities.*
- *Give students the opportunity to have another caring adult in their lives.*

Work with schools and teachers to create goals that address student needs and suit program capabilities. Remember that goals exist on several different levels - at IBM, at the school, and at the level on which the relationship between the mentor and the mentee exists. Defining goals will require thoughtful discussion and collaboration. For example, a particular teacher may be interested in having e-mentors help students come up with a science project; mentors may feel

comfortable providing students with Web resources, while students might be interested in getting answers from their mentors about their assignments, rather than more general guidance about research topics. Before e-mentoring is initiated, Core Team members working with the schools and teachers need to discuss these sometimes complementary and competing goals via face-to-face or online communication.

## **Participant Preparation**

All participants of IBM MentorPlace – teachers, students, and IBM employees – must attend training to be part of the program. In addition to the formal training required at every site, program managers must consider other issues as they work with the different participant groups to make programs successful.

### ***How do I introduce teachers to e-mentoring?***

Teachers are essential to the implementation and maintenance of the e-mentoring program. They set expectations so that their students can understand the goals of the program and what they need to do to participate successfully. They also make sure that their students have time on the computer to participate in the program on a regular basis. And they apprise mentors of classroom activities so that mentors can tailor relevant messages to students.

Helping teachers understand the program's value makes them more likely to fully and effectively implement e-mentoring within their classroom. Involve teachers from the very start by inviting them to an information session and/or a program orientation. Teachers' daily lives are inundated with demand. Be sure not to overwhelm them with numerous requirements without providing clear information on how they and their students will benefit from the experience.

From orientation, through training, and the actual program, emphasize the teacher's role as a program implementer. Because they do have some programmatic responsibilities, it is important to inquire about

and listen to teachers' needs so that you can support them throughout the implementation process.

### ***How do I involve students in e-mentoring?***

Student involvement in the e-mentoring program is vital to the success of the mentor/mentee relationship. While the teacher may provide time on the computer, it will be up to the student to compose e-mail messages; the energy and thought each student invests in the program will determine what he or she gets out of it.

Emphasize what students can offer to the program and what they can gain from the mentor/mentee relationship. Incentives and special e-mentoring events can create excitement. The following ideas for motivating students have been employed successfully in several IBM MentorPlace programs.

- *Kick-off and End-of-the-Year Celebrations*

An "official" event at the initiation and conclusion of the program (at the beginning and the end of the school year) generates participant excitement about and an investment in e-mentoring. Invite mentors, mentees, and teachers to a kick-off at the company site and an end-of-the-year celebration at the school site (or vice-versa!).

At the kick-off, briefly describe the program, its goals and benefits, all the while thanking participants for their involvement. Make the kick-off as celebratory as possible. Consider throwing a pizza party and playing some games through which students learn more about IBM and their mentors. These efforts, demonstrating IBM's

commitment to the program, make participants feel good about their involvement.

In many local programs, students have planned and hosted the end-of-the-year celebration, which gives them ownership within the program. Some students have performed plays for their mentors about their online experiences; others have given tours of their schools; and some classes have given mentors quizzes about their schools and communities. Program managers also use the celebration as an opportunity to give mentors and mentees Certificates of Completion or some other form of acknowledgment of their participation. These seemingly small gestures can contribute significantly to a program's success.

- *Job Shadowing*

To promote the development of the online relationship, include job shadowing if possible, whereby students spend the day – or part of a day - with their mentors at the workplace. Encourage mentors to provide opportunities for their mentees to participate actively. The busy workday makes scheduling coordinated job shadowing difficult, so most IBM MentorPlace programs have made this part of the kick-off event. Due to the limited time available (usually about an hour), mentors focus the experience by giving students an overview of their job and a quick tour of a typical day and answering their questions. For more information, see the *Special projects* section.

### ***How do I prepare mentors for e-mentoring?***

As the adults in the relationship, mentors carry the primary responsibility for initiating and sustaining contact with their mentee. At a basic level, all mentors must understand the goals of the program, uphold the commitment to e-mail their mentees each and every week (even if they do not receive answers!), contact their program manager or teacher if they receive an email that concerns them (for example, one that talks about suicide, depression, pregnancy, or uses inappropriate language), as well as agree to not see their mentees outside structured face-to-face meetings.

Mentors, therefore, need training and also benefit from ongoing support throughout their mentorship. Depending on the goals of the project and mentors' expectations and interests, programs should implement online mentor preparation and/or ongoing mentor support.

### **Online Mentor Preparation**

Online mentor preparation is a critical piece of mentor training, offering a means for helping mentors become familiar with the challenges of communicating online. In addition, it conveys new information to participants and reinforces information from the training, such as project expectations, student-mentor relationships, diversity, online etiquette, and communication approaches. While mentor preparation can assume a variety of formats, mentors are typically divided into a group of 15 to 20 mentors subscribed to a mailing list. Each mentor group has a mentor trainer (usually a Core Team member) who facilitates the discussion of questions and issues of concern to mentors.

The online forum can present scenarios highlighting issues likely to arise during the mentoring experience. This helps shape mentors' expectations and gives them time to consider how to handle and respond to various situations. Each scenario, task, and/or activity can be introduced by the online facilitator, whose primary role is to: model the kinds of interactions expected of mentors (e.g., responding promptly to posts, using language that is clear, demonstrating an openness to other's ideas and opinions by inviting a variety of solutions to a problem and encouraging participants to comment on one another's postings).

## Scenario for Online Mentor Prep

*Dear mentors,*

*Many students believe that people who make it in technical careers are mathematically gifted. Oftentimes, when these students encounter difficulties in math class, they begin to question their own ability to pursue a technical career. When one of the strongest students in a pre-engineering class was asked if she would be pursuing a career in engineering, she responded:*

*"I have pre-calculus now. And it's not that I can't do the math involved in mechanical engineering class, it's that I can't do the math involved in my math class, and so, if you need to take certain math classes when you are there (college), I don't know if I would be able to deal with those classes."*

- *What kind of practical advice can you offer a student that would help her reevaluate her attitude toward mathematics?*
- *How do you help students believe that mathematics is more accessible and within their reach?*
- *What experiences can you share from your own life that can help demystify mathematics for these students?*

*Please respond to this scenario under the heading, "Scenario 2: Math Minded" by Friday. A new scenario will be posted for the weekend.*

*Look forward to the conversation!!*

### Ongoing Mentor Support

Establish an online discussion board where mentors can post questions and concerns and/or hold topical discussions throughout their mentorship. No matter how thorough the training, not all issues can be anticipated. Thus the importance of a forum where mentors can express concerns, collaborate with other mentors to problem-solve, and generally feel supported for the duration of the school year.

### **So you want to go beyond chatting...**

While IBM MentorPlace encourages mentors and students to work together on online academic activities, there are a number of strategies that mentors can employ to help them create dynamic dialogue with their student mentees.

### ***How do I start and sustain conversation?***

Rich conversations can occur through online communication. Conversations online, however, can prove challenging to initiate and even more difficult to sustain. It is a good idea to help mentors generate conversation starters and open-ended questions that they can pose to their mentees. Providing mentors with tips and strategies, along with sample messages not only helps them to get started, but also gives them an idea of what to expect.

### ***Strategies for mentors***

- Identify similarities or interests that you share with your mentee. One way to do this is by designing questions for online interviews.

*In Rochester, Minnesota, mentors and students each complete a profile form. Below is the template for the student's profile.*

Name (first name only):	Favorite TV show:
Teacher's name:	Interests or hobbies:
Birthplace:	Brothers or sisters:
Favorite school subject:	Pets:
Favorite food:	Favorite book:
What you want to be when you get older:	

- Pay attention to personal details that mentees give about their lives by referring to things that mentees talk about in their messages.
- Be personal and open. Provide appropriate anecdotes about your own life. For example, one mentor writes that he does his best thinking when running in the early morning in the canyon. In sharing something about himself, he becomes real to his mentee.
- Model the behavior and tone that you are looking for in the relationship.

***Netiquette: Simple guidelines for on-line communication***

- *Choose a subject for your message.*
  - *Compose some of the text off-line if there isn't enough time.*
  - *Use short paragraphs.*
  - *Model correct grammar, spelling, and standard capitalization.*
  - *Use the name of the person to whom you are writing.*
  - *Be concise, clear, and polite.*
  - *Reply as soon as possible even if it is brief and say that a longer message is en route.*
- Respond to messages promptly. Delays in reading and replying to messages may cause communication to wither away.

***What special projects work well with e-mentoring?***

Several past and current mentors report that their mentoring relationships are more fulfilling and productive when communication focuses on a project that is either special to the e-mentoring program and/or incorporates a part of the school curriculum. When including a project within the e-mentoring relationship, collaboration with the

classroom teacher is essential. Core Team members meet with teachers to select a project that is appropriate for mentors to explore.

### **Questions to ask teachers**

#### **To identify projects, ask:**

- *What special projects are you currently doing or would you like to be doing in your classroom?*
- *Are there any class units or grade-level standards that would benefit from real-world examples provided through online communication? Are there any online activities from [www.mentorplace.org](http://www.mentorplace.org) that would integrate well into your classroom?*

#### **To determine the mentors' role, ask:**

- *How can mentors contribute to the project?*
- *How can mentors work with you, the teacher, to support the project?*

### **Selecting appropriate content**

When choosing a content-based project to incorporate within the framework of the e-mentoring program, it is essential to work closely with teachers and to consider grade-level curriculum as well as state and local standards. In addition, it is also critical to factor in where the students are developmentally

#### *Curriculum and standards*

The majority of school districts have adopted and implemented state and local standards — a set of goals or outcomes — as the basis for developing curriculum. To help students achieve required goals and outcomes, teachers must make sure that their classrooms support a

broad range of skills, concepts, and processes articulated in the standards adopted by the schools. When selecting a curriculum-based project, it is important that the project or activity address one or more of the standards. To find out if it does, talk to teachers and/or ask to look at their curricular activities.

### A Word about Standards

Most national standards are now widely accepted as the basis for state and local curriculum frameworks. The major national standards come from the following documents: *Standards for Technological Literacy: Content for the Study of Technology* (International Technology Education Association, 2000); *Benchmarks for Science Literacy* (American Association for the Advancement of Science, 1993); *National Science Education Standards* (National Research Council, 1996); *Standards for Principles for School Mathematics* (National Council of Teachers of Mathematics, 2000); *Standards for English Language Arts* (National Council of Teachers of English & International Reading Association, 1996).

Although they deal with very different disciplines, these major national standards documents have many similarities:

- They are aimed at *all* students, not just those who are college-bound.
- Using terms such as "literacy" and "informed citizen", they argue that education should prepare students to understand current issues and participate in contemporary society.
- They recommend that school knowledge be developed for its use in solving real problems rather than as material "needed" for passing a test. They strongly endorse curriculum projects that arise from students' own ideas, experiences, and interests.
- They focus on the "big ideas" of their disciplines as opposed to memorization of isolated facts or training narrowly defined skills. In other words, fewer concepts should be dealt with in greater depth. As the *National Science Education Standards* express it, "Coverage of great amounts of trivial, unconnected information must be eliminated from the curriculum" (NRC, 1996, p. 213).
- They highlight the roles of quantitative thinking, as well as oral and written communication, in learning any subject, and they emphasize the interdisciplinary character of knowledge.
- They view learning as an active process requiring student engagement with the material and subject to frequent reflection and evaluation by both teacher and learner.

*Excerpt from Mechanisms & Other Systems: A Technology Curriculum for the Elementary Grades - City College of New York*

## *Developmental Issues*

At each stage of development, children gain new capabilities that have implications for how mentors can interact with them online. Although developmental stages are not always in sync with age or grade level, mentors should be aware that they will not be able to communicate with a third grader the same way they would with an eighth grader. Find out from the teacher what is developmentally appropriate for students at a particular grade level. Providing mentors with resources like the excerpt below is helpful in getting mentors to think about how they can talk to and guide students of a certain age. Regardless of grade level or age, each child presents a unique set of attributes to which mentors should be sensitive.

Welcome to the world of a 6<sup>th</sup> grader...  
(Excerpt from *The Mother's Almanac II* by M. Kelly)

Sixth grade (11 year olds):

- Needs opportunities to express opinion
- Thinks more about world issues
- Is more imaginative
- Has respect for teachers and other adults

**An eleven year old is an inspiration for a perpetual motion machine.** This child twists and wiggles from the time they wake up until it is time to fall asleep. They are laughing, sociable, silly souls who charm you right down to your socks. **You just never know what to expect.** At one moment trying to get there too soon; at another, afraid to move on.

They are painfully conscious of themselves, their awkwardness and their confusing need for privacy one day, conviviality the next.

They aren't happy with their own confusion and they don't need to have them pointed out. They can't depend on themselves as much as they did a year ago. Your display of faith in them will bolster their self-confidence and keep them from being sullen and resentful much of the time. **Telling an eleven year old what to do and when can leave the both of you with a sense of outrage. This is a watershed year and they must figure out who they are.**

They are now so self-centered that they will not notice they are being a little rough on the rest of the world. Their harsh judgment of others is part of their growth, a way to shape their moral code. **They are critical of those around them because they are now looking at themselves with a stern eye.**

**What they really want to do is walk, talk, dress and act just like their friends, which means they want to act like teenagers half of the time.** From now on, they follow every high school fad, getting particularly interested in clothes and music.

**Because they are so curious and so competitive, you will find the body, mind and spirit need a great deal of fortification to do well, especially in school.** The sixth grader, like the age itself, is pivotal. You don't want to hold them back. They are beginning to think in abstract terms. Any weaknesses are likely to catch up with them now. The teacher is another critical element. The teacher must be interesting and above all be fair.

## ***Ideas for possible curriculum-based projects***

E-mentoring offers access to role models, content experts, and providers of real-world examples of how math, science, and technology are used in a wide range of jobs. Talk to teachers about what part of the curriculum or which theme could best be supported by the e-mentoring relationship. The following passages provide examples of the types of curricular-based projects that can be supported by e-mentoring. The best projects, however, are created in collaboration with teachers.

### ***A Community/History Project***

Every state requires students to study their state and/or community history at some point during their academic career. Completing a project on state or local community history with the support of an e-mentor gives students an additional resource who most likely has lived within the state or community for some time, if not their whole lives, and may have access to a whole network of valuable resources. This type of project is relevant and can be interesting to both mentors and mentees.

*During a single program year in Rochester, Minnesota, 350 sixth graders worked with e-mentors to complete a twenty-page paper about a topic pertaining to the State of Minnesota. During the last quarter of every school year, students are assigned this long-term research paper that includes seven sections. Teachers choose the topics for four of the seven sections, and the students are free to select the subjects for the remaining three. Mentors are instructed to assist students with the development of two of those three sections. Mentors support students by helping them find resources, editing student writing, and providing general feedback. Classroom teachers have reported that the student work produced with the support of e-mentors was evidence of their invaluable input.*

## *A Career Exploration*

Because of the rich diversity of the jobs, levels, and responsibilities housed at IBM sites, students have the opportunity to learn about career possibilities and what kinds of skills are required for such jobs or careers. By sharing personal bios and conducting "job shadowing" activities either online or in person, mentors can provide mentees with real-world examples of the working world.

- Step one: Creating a bio

Mentors write brief descriptions about themselves. Bios may include the following information:

- where the mentor is from
- descriptions of mentor's family
- mentor's job title and an explanation of what that entails
- how the mentor got the job
- what the mentor likes most about the job
- some favorite activities or hobbies outside of work

Encourage mentors to keep their bios relatively short (no more than two paragraphs), as some students have reported difficulties reading and responding to long postings from someone whom they don't yet know. Mentees can also feel somewhat overwhelmed by their mentors' bios, either because they feel insignificant compared to their mentors' accomplishments or because they don't understand the technical jargon that their mentors are using. It is important for mentors to create bios that are comprehensible and therefore accessible.

*The following is a sample of a mentor bio.*

*Hi, my name is Catalina Perez, and I am an IBM test engineer. When I was little I used to sneak into my brother's room whenever he was out because he had all the good toys - especially his erector set and electric train. Now I have good toys of my own - computers and computer chips that I can play with. My husband, who is a computer scientist, and I have lived in the Windy City for about ten years. Before that, I lived in New York, where I earned my engineering degree. I have two children - Lucy is in medical school in Texas and Andrew is 13 and in the 7<sup>th</sup> grade.*

*Now on to work. My job gives me the chance to keep up the pace with technology. I have to make sure that all of the products that IBM develops work correctly before going out to the mass market. Plus, our development group must keep coming up with new and innovative applications to keep the public wanting more. I have to come up with all types of test scenarios that a person might try with their computer. Even though I sit in front of computers all day, I stay connected with the outside world. I look forward to hearing all about you!  
Best, Catalina*

- Step two: Job Shadowing - Online and On-Site

Mentees can also participate in "job shadowing" activities online or in person. For online job shadowing, the mentors write a "descriptive shadowing" in which they describe a typical day in their life from start to finish. Encourage mentors to include rich description, but at the same time, to keep it brief. Tell them to do the best they can to capture the essence of their day-to-day activities - both personal and professional.

*The following is a sample of a "day in the life".*

I usually start my day at around 6 a.m. when my alarm goes off. Then, I quickly drink a cup of coffee while reading my e-mail and eating my breakfast. I have a short commute to work, about 10 minutes driving. My IBM building is in a great location with woods all around it. I have an office to myself with pale peach walls and a two-computer workstation. Sitting at my desk, I face a large window through which I can always see groundhogs and rabbits grazing on the lawn. Right now, I see that it is sleeting and snowing. Ugh. I don't like the cold.

Most of my day is spent either 1) working on the computer, 2) writing something (which is **not** my favorite thing to do!) like a report that describes either the project that I just finished, or describes how I'm going to do the next project, or 3) "figuring out" how to do something. I have to decide what is the best way to find out what I need to know. Most of my work starts on paper (as equations and such), then I'll write a program. There's usually quite a bit of math involved, which I enjoy. I also attend various meetings with my colleagues so that we can put our heads together to come up with the best ideas for a project.

At about 5:30 p.m., I leave work to go to the gym. Exercise helps me to stay healthy and sleep better. Then, I either meet a friend for dinner or go home and cook. I usually go to bed at around 11 p.m., and then, it's off to start another day.

Mentees can also do "job shadowing" at their mentors' workplace where they will spend a few hours observing and participating in their mentors' day-to-day lives. This affords the opportunity to talk to, question, and listen to their mentors face to face, in addition to experiencing and sometimes doing whatever their mentors do at work. In some cases, e-mentoring programs begin with on-site job shadowing so that mentors and mentees can meet one another and associate a name with a face right from the start.

*A worksheet created in Rochester, Minnesota, which focuses students during their job shadowing experience:*

### **E-mentoring Job Shadowing Questionnaire**

*As you shadow your mentor, find out the following information and be ready to share it with your classmates.*

- What does your mentor's workplace look like? (Do they have an office? Do they work on a manufacturing line?)
- What is their job title? (Now that you know their title, what do they *really* do?)
- Did they go to school after high school? (Where? For how long?)
- Name two cool things you saw along the way.
- List something that didn't seem fun at all.
- Is their job something you would find interesting?
- Does your mentor travel for his/her job (Where have they gone?)
- Do they work with any special equipment?

### Step three: The Culminating Project

To have mentees share what they learned from their mentors, teachers can assign students a culminating project to show mentors at the end-of-the year celebration. Some suggestions for final projects are:

- Ode to My Mentor - Mentees write a poem or song describing their mentors and their relationship with their mentors.
- Mentor Postcards - Mentees create, write, and send their mentors postcards in which they reflect on their relationship with their mentor and what they learned through that relationship.
- Mentor Portraits - Mentees describe who their mentors are, what they do for fun, what is memorable about them, what they talked about together online and what they liked most and least about the relationship, and whatever incidents or qualities they find distinctive and interesting.

#### ***Sample of a Mentor Portrait***

Mentor name: Lucy C.

I'm writing to tell you about my mentor, Lucy C. She is funny, nice, intelligent and busy like me - except, of course, she has a real job! She is currently the new executive director for a nonprofit organization called BYWAYS. It is a career development program for HS students that teaches skills needed to succeed in Corporate America.

I like communicating with her because her letters are always interesting! We talk about the crazy weather and she once told me about her busy schedule in high school. She worked from 5:30-8 a.m. before school in the mornings and 6-12 a.m. on Saturdays in the pathology lab! Can you imagine working that early?! She was responsible for mixing solutions and disposing of body parts! How cool!

Lucy is family-oriented and teaches classes at the community center. I really liked this about her! She had lots of jobs, but at the same time, had her priorities!

## *The Research Project*

Students typically have problems putting the research process into practice. Even though they learn the required steps - identifying the problem or hypothesis, using resources, collecting data, narrowing down and focusing the data, presenting the findings - they usually have few opportunities to actually enact the entire process. Mentors can help students actualize the research process by guiding them and asking them questions about a research project of the student's choice. Remind mentors that while they should ask students questions that help them to think about their project, most of the interaction should grow out of the students' needs.

*At South Main Street Middle School in Texas, each student who participated in e-mentoring selected his/her own topic to research. Topic choices ranged from black holes to the effect of media on public opinion. Once the students selected a topic or problem, they composed and sent questions to their mentors, who either answered them from their own bank of knowledge or referred the students to outside resources. While the students were collecting and narrowing down their data, mentors supported them by asking questions that would keep them focused. When the students finally wrote up their findings, mentors continued posing questions so that the students could think about how to make things as clear as possible.*

*(based on a project from the Electronic Emissary project)*

*Tips for supporting and identifying research process projects*

- *Help students to narrow down a topic. Students' questions are sometimes too big. For example, choosing a topic like environmental pollution requires them to answer more specific questions like, "What kind of environmental pollution are you interested in exploring? Why?"*
- *Encourage students to constantly revisit their research questions to ensure that the data collected is relevant.*
- *Assist students in finding appropriate resources by guiding them to reliable information or querying them about the sources of information that they have chosen to use.*
- *Support students with problems they may face by sharing your own experience with conducting research.*

### ***Starting a curriculum-based project***

Focusing e-mentoring communication on a project that incorporates curricular content requires planning and collaboration. Keep the following in mind when developing a curriculum-based project.

- *Collaboration is key.* Because the success of any curriculum project is contingent on teacher support, meet regularly (usually once a month) with teachers to discuss progress and problems.
- *You don't have to re-invent the wheel.* Look at pre-existing curriculum and choose a theme, topic, or unit that the students are required to learn, and develop a project from within that framework. For example, those working in operations research use interesting and significant mathematics in their work that could be explored in special projects with mentees. Talk to teachers about what part of the curriculum or which theme could best be supported by the e-mentoring relationship.
- *Interest is the best motivator.* Select a curriculum-based project in which both parties - mentors and mentees - hold an interest. In other words, choose a subject relevant to both groups' interests that grants sufficient scope to develop various interests.
- *Keep it simple.* Select a project with specific goals that both teachers and mentors can manage.
- *Include a product.* Make sure that each curriculum-based project ends in a culminating project completed by the students

so that mentors and mentees have something that shows the fruits of their labor at the end-of-the-year celebration. This can be in the form of a diorama, a poster, or PowerPoint presentation depending on the nature of the work that occurs between mentor and mentee.

- *Consider context.* Inherent in the online environment are several advantages as well as many constraints. Supporting a curriculum-based project through online mentoring is different from face-to-face tutoring or classroom interaction. Also remember that each school, classroom, teacher, and group of students is different. No *one* perfect project will work perfectly for each classroom each year. In fact, teachers may have to choose or develop different projects, or modify them, depending on changes taking place in the school, within their classroom, or among their students.
- *Remember the mentor role.* Mentors may be asked or required to play a variety of roles while supporting a curriculum-based project. They may act as editors, cheerleaders, resource providers. It is important for them to remember, however, that their primary role is not that of instructor, but of sounding board. Mentors should be encouraging young people to evaluate things from a variety of perspectives and to do the best they can based on who they are and their assessment of the situation.

*Tips for mentors about how to support curriculum-based projects*

**Do:**

- *Ask open-ended questions rather than yes/no questions.*
- *Provide feedback by summarizing comments and highlighting emerging themes.*
- *Help direct conversation to key points.*
- *Ask yourself: "Can I help by providing students with real-world examples of what they are studying?"*

**Don't:**

- *Give all of the answers.*
- *Become a student's electronic encyclopedia.*
- *Do all of the work. (If you feel like you are doing all of the work, then you probably are.)*

**A Final Note**

Always keep in mind that the best programs take into consideration the local needs of program participants, the community, and the schools involved. The Core Team Starter Kit is a work in progress. Your suggestions, ideas, and experiences as you work with schools are necessary to ensure the program's ongoing usefulness. To send comments or suggestions, please contact [gracesuh@us.ibm.com](mailto:gracesuh@us.ibm.com).