

Enquiring Minds aims to empower students to take a more active role in their own education and to develop important lifelong learning skills such as creative thinking, teamwork, problem solving, and conducting independent research.





United Kingdom

Transforming Students into Lifelong Learners

The British education system has produced some of the greatest writers, scientists, and thinkers of the modern world. In recent years, however, educators and policymakers in the UK have begun to question whether the country's highly structured national curriculum and focus on examinations are developing the knowledge and skills that students need for the 21st century. Enquiring Minds, an innovative new approach to learning designed by UK research organization Futurelab and supported by a US\$2 million grant from Partners in Learning, looks beyond test results toward a different goal: enabling children to become effective researchers, innovators, and creators of knowledge.

The bell rings, and 30 seventh-year students scramble into a sunny classroom at the Gordano School near Bristol for the last lesson of the day. They laugh and gossip until the teacher settles them down, takes attendance, and gets down to business. It's a scene you might witness in any of thousands of schools across the UK: kids in uniforms rushing to class, anxious to get through their lessons so that they will be free to move on to more "important" things, like playing football or spending time with their friends.

In a typical class, students spend their time listening to a history lecture or working through a series of math problems. They sit at desks in orderly rows, answer questions when called on, and get one hour closer to acquiring the knowledge they need to pass the all-important General Certificate of Secondary Education (GCSE) examinations they will take in a few years.

The lesson is much different in this corner of the Gordano School. The students are divided into six focus groups to discuss mobile phones—a topic of great interest to most of them. This is more than idle chatter about which phone looks the coolest or takes the best pictures, however. One group is debating whether the reported health hazards associated with mobile phone usage are real. A girl named

KEY IMPACTS OF PiL IN THE UK

- ◆ Enquiring Minds, a research project that takes a new approach to curriculum, emphasizes personalized learning that encourages children to be researchers, innovators, and creators of knowledge.
- ◆ The Education Evidence Portal (EEP) and E-librarian service are helping UK educators develop best practices based on research.
- ◆ A strong Innovative Teachers Network is being used by more than 3,500 teachers nationwide and features more than 200 Virtual Classroom Tours, Lesson Plans, and Quick Ideas.
- ◆ The Collaborative Technologies for Languages Initiative is helping students develop foreign language skills through a virtual environment shared with schools in Spain and France.

Anna suggests that mobile phones might be most harmful to children because their brains are less developed than those of adults. A boy named James points out that the health effects aren't really known yet, citing conflicting evidence on many of the Web sites the group has looked at. Brendon weighs the risks on both sides: Mobile phones might be harmful to your health, but so is being stuck without one when you're in trouble. Eric is taking notes and helping to keep the discussion on track.

Other groups are tackling issues such as whether parents should use mobile phones to track their children's whereabouts. Their teacher walks around the room, answering questions if asked but generally allowing the students to direct their own discussions. A few minutes later, the groups take turns sharing and debating the results of their discussions.

Enquiring Minds: Exploring New Methods of Teaching and Learning

These children are participants in Enquiring Minds, a three-year research and development program that explores alternatives to traditional teaching and learning methods in the UK. The goal of Enquiring Minds is to empower students to take a more active role in their own education and to develop important life-long learning skills such as creative thinking, teamwork, problem solving, and conducting independent research. The project was conceived by Futurelab, a UK-

based education research organization that works to transform the way people learn through innovative technologies and teaching practices, supported by US\$2 million in funding from Microsoft Partners in Learning.

Students are learning how to think critically and be lifelong learners—skills that are just as crucial in today's society and workplace as factual knowledge and technology know-how.

Enquiring Minds was launched in 2006 to answer a number of challenging questions about the future of education: How can schools prepare students to engage with the world around them and identify problems, patterns, and opportunities? How can it encourage young people to follow their instincts about the way the world works and give them the tools and confidence to investigate their ideas? And how can it equip them to share their solutions and turn them into reality?

Enquiring Minds is not so much a curriculum as it is an ongoing experiment in forging new models for teaching and learning. It includes activities and strategies that support students in creating coherent plans for their own learning, and it incorporates digital tools such as collaboration software, digital cameras, and laptops. It also explores new approaches to assessment, evaluating students' skills as collaborators, researchers, and innovators. Futurelab is currently piloting the program in two schools in the Bristol area, including Gordano. These two schools are in turn serving as models for a dozen other schools in the UK that will implement the program in the next academic year. The results from these pilot schools will inform a broader remodeling of the UK curriculum that will begin in late 2007.

The students participating in Enquiring Minds still spend much of the school year learning by traditional methods. But for a few hours every other week, they are given wide latitude to choose what they will study, how to study it, and what they'll produce by the end of the year. The children at Gordano are only a few months into their projects. They have chosen their general topic—mobile phones—and are in the process of narrowing their focus to a few key questions. Over the remaining months, they will devise and complete a project that focuses on their area of inquiry, such as a short film or a Web site for their community. The key is that the students have to decide the project's topic and scope on their own. Their teachers will offer guidance to support their efforts, but they won't tell the students what to do.

Technology plays an important role in Enquiring Minds—not as the primary focus, but as a tool to facilitate exploration and research and to help students organize and present their ideas. The students involved in the program are learning how to think for themselves, to listen to and analyze the opinions of their peers, and to construct and defend arguments based on solid reasoning and evidence. In short, they are learning how to think critically and be lifelong learners—skills that are just as crucial in today's society and workplace as factual knowledge and specific technology skills.

This approach stands in stark contrast to the way that teaching and learning usually occur in the UK. The traditional secondary school system uses the “chalk and talk” model, in which teachers transmit the knowledge students need to pass a series of examinations that can make or break their future. A standardized national curriculum specifies exactly what material should be taught—in some cases, right down to precise 15-minute increments. Teachers have had little flexibility in what or how to teach. However, programs such as Enquiring Minds and a broader effort toward personalized learning in the UK are affording new scope to schools.

“In general, schools are trying to help students take responsibility for their own learning, but we're doing it in an environment where we don't give children any responsibility or independence,” says Futurelab Research Director Keri Facer. “Schools are old institutions that are built on a particular adult-child relationship, and that relationship is not traditionally geared toward giving any power to the child.”

Ross Martland, assistant head teacher at the Gordano School, concurs. “In many ways, we still have a 19th-century school system,” he notes. “But with Enquiring Minds, the students have a space in the curriculum where they can talk about themselves and their interests, and play a role in deciding how they will learn. They like that we're aiming to guide their learning based on what they're interested in, rather than organizing it around the subjects we're required to teach.”

UK QUICK FACTS

- ◆ **Population:** 60 million people living in England, Wales, Scotland, and Northern Ireland
- ◆ **Education System:** 400,000 teachers serving 9.2 million students
- ◆ **Challenges:** Enabling more flexible, relevant, and evidence-based school curricula and expanding professional development for teachers
- ◆ **Key PiL Programs:** Enquiring Minds, Education Evidence Portal, E-librarian service, Innovative Teachers Network



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Enquiring Minds takes a holistic approach to school reform by inviting greater participation among teachers, parents, students, and the community in deciding what and how children will learn. In this new paradigm, teachers are viewed as co-researchers with their students, sharing approaches to learning and working collaboratively in the pursuit of knowledge. Facer believes that for fundamental reform to be successful, it must be applied to the whole school environment, rather than just to the curriculum in the classroom.

Reflecting this philosophy of collaborative learning and local empowerment, Enquiring Minds is not intended to lead to a single end product or program. Rather, the mission is to assist in designing a road map for teachers and schools to develop curricula as well as sound educational theories and strategies to help achieve these goals.

A “Killer App” for Schools for the Future

Building Schools for the Future (BSF) is the UK’s largest single government investment in school improvement in more than 50 years. In 2005 and 2006, the government spent roughly US\$6 billion on new school buildings designed from the ground up to incorporate state-of-the-art ICT capabilities, movable walls that accommodate a wider variety of teaching environments, and even cafeteria computer systems that encourage healthier lifestyles by tracking what students eat. As part of this effort, nearly every secondary school in the UK will be rebuilt or remodeled in the next 10 years.

Futurelab is working with various government agencies in the UK to weave the Enquiring Minds philosophy and approach into a more formal program that can be implemented in all the BSF schools. To use a high-tech analogy: If BSF schools are the “hardware,” Enquiring Minds could be the *killer app*, the learning “software” that provides a rich and stimulating classroom environment.

Among the government organizations observing Enquiring Minds closely and working on complementary initiatives is the UK Qualifications and Curriculum Authority (QCA), whose Futures program reexamines what the desired outcomes of education should be.

“The question we’re asking ourselves is this: What do we want young people to be like at the end of their education?” says Mike Rumble, the QCA’s Programme Manager for Curriculum Development & Implementation. “What are the qualities and characteristics we want them to have? We want young people who are motivated, who can collaborate, who are willing to take risks and learn from

their mistakes. Programs like Enquiring Minds can accomplish exactly that far more effectively than an approach to education that's focused on test results."

Conclusion

Given the government's readiness to explore new approaches to education, and in light of the role technology can play in attaining the desired results, the UK Partners in Learning team enthusiastically supports programs such as Enquiring Minds. For quite some time, the UK has been committed to ensuring technology access for all its teachers and students—nearly 100 percent of its schools have PCs and Internet access. In turn, Microsoft has embraced the opportunity to support the UK's efforts to use technology in innovative ways and in service of the government's broader education agenda.

"There's a significant effort in the UK to transform teaching and learning, and to empower teachers and students with the flexibility to make their own decisions and adopt new practices," says Microsoft UK Academic Program Manager Sarah Armstrong. "We love programs like Enquiring Minds because they take such an innovative and holistic approach to education. There's a strong technology component, but the real mission is to nurture independent, creative thinkers and lifelong learners. And that's the kind of outcome we really want to see with Partners in Learning."