Inquiry-based learning (IBL) is a constructivist, student-centered pedagogy using inquiry as a main vehicle for teaching and learning. It focuses on questioning, critical thinking, and problem solving. (Chan et al., 2010)

Rooted in the philosophy and methods of Socrates and John Dewey, inquiry-based learning is associated with a range of pedagogical approaches that center on learners constructing knowledge through active investigation. This approach is often viewed in opposition to more teacher-centered, text-centered, and didactic pedagogies. Throughout the 20th century and into the 21st, numerous efforts to reform public education through more student-centered, inquiry-based instruction have been met with resistance. Critics have fueled misconceptions that inquiry pedagogies lack academic rigor or clear instructional objectives. This entry provides an overview of the theoretical and practical bases of inquiry, common misperceptions, and challenges to inquiry-based reforms, as well as the role of inquiry in building democratic citizenship.

The theoretical roots of inquiry-based instruction lie in constructivism and social constructivism, positing learning as the process of making meaning and building knowledge by engaging students in meaningful activity. Some theoretical models center on investigative activities, such as posing a hypothesis, collecting data, and drawing conclusions. Other theories focus more on processes of knowledge construction, such as learning to develop effective questions, reflect on new knowledge, and consider multiple interpretations. More recently conceptualized as a reflective, dynamic process (or dialogic process) that places talk and interaction at the center of learning, inquiry is often associated with collaborative group work, although it can involve engagement on the individual level as well.

Inquiry-based learning has been promoted as the theoretical model of choice in many teacher education programs throughout the country. Additionally, individual classroom teachers and entire schools have designed curricular frameworks and integrated units of study around inquiry. In such contexts, inquiry is often envisioned as a philosophical stance to learning and learners rather than a set of activities or teaching strategies. Teachers who embrace inquiry-based learning often access an apprenticeship model in order to approximate authentic learning in the world. Students in inquiry-based classrooms and schools do not simply learn reading, mathematics, or science. Rather, they learn to think, work, and communicate as readers, writers, mathematicians, scientists, and social scientists. They learn the content as well as the processes and procedures of a discipline simultaneously. They also learn the interdisciplinary and multidisciplinary nature of knowledge and knowledge construction. Teachers serve as mentors and offer hands-on and minds-on opportunities for students to learn, by: posing their own questions; investigating issues from multiple perspectives; exploring skills, strategies, and concepts (state and national standards) through use; engaging in disciplinary methods (i.e., direct observation, interviews, surveys, and experiments); problem posing and problem solving; and learning how to reflect on and demonstrate their learning in compelling ways.

Extensive research has been conducted on pedagogical models that reflect inquiry-based instruction in practice, most notably project learning, problem-based learning, and the International Baccalaureate.
Organization. The International Baccalaureate, a K-12 program that promotes intercultural understanding, has gained popularity and respect across the world. International Baccalaureate models emphasize learners as inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk takers, balanced, and reflective. Dispositions such as these are also found in various inquiry-based classrooms and schools across the country. The International Baccalaureate program, however, has institutionalized beliefs and practices that underpin inquiry in ways that ensure its consistent implementation and integrity across schools in the United States and beyond.

Although inquiry is often associated with the sciences, teachers also enact inquiry-based pedagogies in social studies, language arts, mathematics, and the arts. Waves of educational reforms of the past half century have called for a move away from text-centered teaching to more meaningful, hands-on approaches across disciplines. Simultaneously, numerous professional organizations have emphasized K-12 standards that marry concept development with knowledge of disciplinary investigative processes and application. These organizations represent a broad range of academic disciplines, including the Council for Elementary Science International, National Council for Teachers of Mathematics, and National Council for Teachers of English, among others.

While inquiry-based learning has been substantially inscribed in scholarship and professional recommendations, realizing it in practice has proved challenging. A heavy reliance on textbook- and standards-driven instruction inhibits its implementation across the nation, particularly in middle and high schools. Some critics argue that inquiry-based approaches rest on relativistic epistemological foundations that reject authoritative knowledge. Such arguments perpetuate misconceptions that inquiry approaches lack structure and explicit learning outcomes, placing content secondary to process. Inquiry-based teachers use textbooks and standards as resources for curriculum as they unite current learning theory and their students' backgrounds, strengths, and needs in order to deliberately scaffold learning. Educators without adequate professional development support may not understand how to teach in rigorous yet authentic ways through inquiry. When inquiry is implemented as intended, teachers carefully scaffold learning and teach content and strategies/processes in concert with one another.

Because inquiry actively engages learners in problem posing, investigating, critical analysis, taking multiple perspectives, and communicating to build and share knowledge, ultimately it can prepare learners as active citizens in democratic life, a view promoted most famously by John Dewey. Such an inquiry stance is theoretically aligned with calls to teach for social justice and has been paired with critical pedagogy through Brazilian educator Paulo Freire's problem-posing approach. Problem-posing engages groups of learners in examining their own life circumstances to uncover systemic inequities, then developing strategies for taking action to address these inequities. Critical inquiry practices build learners' understandings of social and political structures and issues and provide them with strategies, perspectives, and skills for voicing their views and negotiating solutions from multiple perspectives. Such critical approaches are infrequent in public schools, however, as educators and administrators, bolstered by public perceptions of schools as "politically neutral" environments, seek to avoid controversy or fail to connect aims of critical inquiry with accountability standards.

See also
Constructivism, Dewey, John, Freire, Paulo, International Baccalaureate Organization, Problem-Based Learning, Project Learning

Further Readings

https://search.credoreference.com/content/topic/inquiry_based_learning


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