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REVIEW ARTICLE

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Challenges and Role of Teacher in Inquiry Approach

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TEACHER'S ROLE IN AN INQUIRY CLASSROOM

Teacher research plays an increasingly significant role in contemporary society as a basis for self-exploration and inquiry. For the last few decades there have been active scholarly efforts to formalize self-study research as an accepted form of inquiry and further the framework as a promising research paradigm in educational research. For instance, Self-Study of Teacher Education Practices (S-STEP) Special Interest Group of the American Educational Research Association (AERA) has promoted theoretical discussions on self-study. Recently, the discussion has been expanded to include a comprehensive methodology of self-study as well as strategies and techniques useful to conduct a self-study (Lassonde, Galman, & Kosnik, 2009; Pinnegar & Hamilton, 2009). Self-study that uses a systematic process for inquiry such as the action research process (Mertler & Charles, 2008; Mills, 2003)—particularly where researchers use processes to identify a problem and explore how to address the problem in authentic contexts—can provide valid, reliable, and systematic protocols for classroom inquiry.

The literature and research on teacher knowledge suggests four approaches to research on teacher knowledge, "the scholarship of teaching, action research and teacher research, narrative inquiry, and critical-cultural teacher research" (Rosiek & Atkinson, 2005, p. 422). The self-study framework grounds action research as one form of teacher-research, which has emerged as a methodology in educational research to help teachers engage in inquiry (Pinnegar & Hamilton, 2009). Action research is emancipatory because it "demands that practitioners take a hard look at the structures and social arrangements that dominate segments of the population" some of which teachers themselves might reinforce.

The teacher reflects on the purpose and makes plans for inquiry learning.

- He plans ways for each learner to be actively engaged in the learning process.
- She understands the necessary skills, knowledge, and habits of mind needed for inquiry learning.
- He understands and plans ways to encourage and enable the learner to take increasing responsibility for his learning.
- She ensures that classroom learning is focused on relevant and applicable outcomes.
- He is prepared for unexpected questions or suggestions from the learner.
- She prepares the classroom environment with the necessary learning tools, materials, and resources for active involvement of the learner.
- The teacher's daily, weekly, monthly, and yearly facilitation plans focus on setting content learning in a conceptual framework. They also stress skill development and model and nurture the development of habits of mind.
- She accepts that teaching is also a learning process.
- He asks questions, encouraging divergent thinking that leads to more questions.
- She values and encourages responses and, when these responses convey misconceptions, effectively explores the causes and appropriately guides the learner.
- He is constantly alert to learning obstacles and guides learners when necessary.
- She asks many Why? How do you know? and What is the evidence? type of questions.
- He makes student assessment an ongoing part of the facilitation of the learning process.

Ultimately, the importance of inquiry learning is that students learn how to continue learning. This is something they can take with them throughout life - beyond parental help and security, beyond a textbook, beyond the time of a master teacher, beyond school - to a time when they will often be alone in their learning.

CHALLENGES FOR TEACHERS IMPLEMENTING INQUIRY

Despite the many benefits of inquiry learning, this approach can be challenging. The inquiry approach requires the teacher to forfeit traditional transmission style teaching approaches. You must be able to facilitate student centred learning, develop student responsibility for learning and value student self-questioning. It requires a high level of organisation, flexibility and negotiation skills to challenge the range of learners in any classroom. For maximum effectiveness, on-going assessment is crucial. A challenge teachers often raise is that of resourcing the curriculum.

Common Characteristics of Inquiry: While there are different starting points for inquiries, for example, topical, global or community issue, interest or play based, inquiries generally have the following characteristics. They:

- are student centred and directed
- emphasise process and skill development
- require students to ask questions
- are conceptual based rather than factual
- usually involve some negotiation with students
- encourage learner interaction
- build upon prior knowledge
- utilise and consider students interests
- include direct experiences
- integrate reflection and metacognition
- involve the application of ideas
- explore affective aspects of learning
- raise different perspectives and tackle values

Sometimes the inquiry process is thought to be unstructured and unplanned. However the process is structured and useful for planning for effective learning. The inquiry approach is often used as the foundation for integrated curriculum planning but it can be used for individual subjects.

INQUIRY: THE PROCESS IN A NUTSHELL

- Problem or question
- Hypothesis
- Data collection and analysis
- Drawing conclusions
- Making generalisations and reflecting
- Authentic action

Planning for Inquiry: There are many models for planning. The one below presents six basic (Wilson and Wing Jan, 2003). When planning for inquiry, the purposes of each stage provide guidelines for selecting appropriate activities. In practice, this is not a simple linear process. The distinction between some stages will be blurred and some stages may need repeating and many more experiences than originally planned. For example, more than one finding out activity may be necessary and this would need to be followed by more sorting out experiences.

The planning is driven by the understandings sought and your knowledge of student understandings. We strongly believe that the content must be takes students beyond what they already know as well as developing worthwhile lifelong skills.

Stage of Unit	*Purpose*	*Example Activities/experiences*
Tuning In Also known as: 1. Prior Knowledge 2. Preparing to find out	To engage students in the topic To gauge student interest and attitudes To find out what students believe (understandings and misconceptions) To provide opportunities for students to share what they already know and believe To introduce/clarify language To identify gaps in their knowledge and misconceptions To assist with teacher planning of the unit	Posing questions Listing known experiences Picture chats Developing hypothesise and making predictions Planning research Visualisation Simulation games Using multi-media
Finding Out Also known as: • Direct experiences • Shared Experience	To take students beyond what they already know To challenge students' ideas, beliefs and values To enable the student to use skills (e.g. thinking, communication, cooperation, research skills) and knowledge to collect new information	Excursions Guest speakers Experiments Films Books Surveys Websites Performance
Sorting Out Also known as: • Processing the Shared Experience/s	To sort out, organise, represent and present information from the finding out stage of the unit. To provide opportunities for the students to use their preferred ways of learning to demonstrate their learning (knowledge, skills, values)	Creating and organising data, for eg, making graphs, Grouping, labelling Values clarification Computer simulations Construction Role play Artistic representations Video production
Going further Also known as: • Extending the Unit • Related activities/experiences	To extend/broaden the unit if appropriate To allow students to investigate areas of personal interest To use their preferred learning style To present another perspective on or dimension to the topic	Revisiting earlier questions Contract work Individual or group interest mini-research projects Learning centre tasks Exhibitions Community projects
Reflection Also known as: • Thinking about the Unit • Making connections • Drawing conclusions	To provide opportunities for the students to think about their learning –how they learnt what they learnt and why To identify changes in skills, knowledge and values To draw conclusions and make connections between ideas	Self, peer and group assessment Comparing tuning in ideas with current ideas Writing generalisations Journals (visual and written)
Action Also known as: • Taking Action	To identify what the students have learnt and the implications for personal actions To enable students to make choices and apply their ideas To relate their learning to real life situations	Publicising findings, eg, through newsletters Contacting relevant organisations Making a personal action plan Public performance

Table: Inquiry Stages and Purposes

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