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## Thomas Edison

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teacher, dictate a starting point." We must allow our students to begin at their beginnings, not our beginnings. They must formulate their explanations, not ours. This can only be done by allowing each student to work with objects at whatever cognitive level makes sense to each person.

The problem of profitable repetition also disappears in the open classroom. The child is allowed to repeat an activity as long as the student perceives a need. There is no need for teacher decision because the child is allowed to be driven by his own perceived needs.

Finally, the inability to instruct is a problem which remains in either a teacher-directed or student-directed strategy. In the student-directed, however, the chances of intellectual growth are greatly enhanced. When a teacher moves among the students and asks each child what he is doing, why and what he will do next to test his explanation, the student must reconsider and self-evaluate his/her knowledge. The student may wish to test his/her ideas and determine how generalizable is the explanation. He/she may find a result that is discrepant or may even find the explanations are sufficient to clarify new situations. In any case, the intellect must cope with new knowledge. Jean Piaget credits such self-regulatory mental activity as a most powerful factor in the growth of intelligence. By helping students confront the logic of their own explanations, we can encourage the growth of logic. We cannot teach logic. We can only help students grow in logic by providing opportunities for each student to make up knowledge and evaluate its usefulness for answering personally formulated questions about the world.

### Literature Cited

- Liebherr, H. G., Allen T., Hauge, R., Kleese, R. and Schlitt, D. 1975. *Invitations to Discovery - Teacher's Guide*. Holt, Rinehart and Winston, Inc. New York, N.Y.
- Matthews, C. C., Phillips, D. and Good, R. 1971. *Student-Structured Learning in Science*. Wm. C. Brown Co., Dubuque, Iowa.
- Piaget, Jean. 1964. Development and learning, Part I Cognitive Development in Children. *Journal of Research in Science Teaching* 2(3).
- Piaget, Jean. 1974. *To Understand is to Invent*. The Viking Press.
- Smedslund, J. 1961. The acquisition of conservation of substance and weight in children, III: Extinction of Conservation of Wright Acquired 'Normally' and by Means of Empirical Control on a Balance Scale. *Scandinavian Journal of Psychology* 2:85-87.

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### Thomas Edison

Thomas Edison successfully produced rubber from goldenrod. However, it was both inferior and more expensive than that which was made from the tropical rubber plant.