



Autonomy: The Aim of Education Envisioned by Piaget

Author(s): Constance Kamii

Source: *The Phi Delta Kappan*, Feb., 1984, Vol. 65, No. 6 (Feb., 1984), pp. 410-415

Published by: Phi Delta Kappa International

Stable URL: <https://www.jstor.org/stable/20387059>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



JSTOR

Phi Delta Kappa International is collaborating with JSTOR to digitize, preserve and extend access to *The Phi Delta Kappan*

Autonomy: The Aim of Education Envisioned by Piaget

by Constance Kamii

Ms. Kamii calls on educators to heed more carefully Jean Piaget's own words about the radical reforms his theories imply. By focusing on how children develop and how they learn best, she maintains, we can revolutionize education.

Piaget stated that a school based on his theory would be radically different from those in existence today, because its very aim would be different.

EVERY TEXTBOOK on educational psychology published today includes a discussion of Jean Piaget's theory of child development. These books almost always state that the importance of this theory lies in the developmental stages that Piaget found and in the fact that children cannot be expected to understand certain concepts before they reach a given developmental level. This common interpretation of Piaget's theory is extremely limited. Presenting his theory in this way also fails to give teachers useful guidelines for improving the schools. This situation is particularly unfortunate, since we recognize that the schools are not working well. Low test scores, physical violence, alcohol and drug abuse, alienation, and vandalism are only some of the problems plaguing U.S. schools today.

My intent is to clarify Piaget's ideas about education. I will also show that the two ideas from his theory that Piaget himself identified as most important are autonomy and constructivism — not the stages of development, as current textbooks would have us believe. In one of the two books he published on education, Piaget stated that a school based on his theory would be radically different from those in existence today, because its very aim would be different.¹ For Piaget, the aim of education was intellectual and moral autonomy. This goal is in sharp contrast with the conservative goal of traditional education, which is to transmit knowledge and values from one generation to the next.

Moral Autonomy

Autonomy means being governed by oneself. It is the opposite of heteronomy,

CONSTANCE KAMII is a professor in the School of Education at the University of Alabama, Birmingham. She acknowledges the assistance of Kathleen Gruber, University of Illinois at Chicago, and of Mieko Kamii, Wheelock College, in the preparation of this article. ©1984, Constance Kamii.

which means being governed by someone else. Elliott Richardson provided, in the Watergate cover-up, an extreme example of the morality of autonomy.² He was the only person who refused to obey President Nixon, resigning his position instead. The other participants in the Watergate cover-up illustrate the morality of heteronomy. When they were told to lie, they obeyed their superior, going along with what they knew to be wrong.

Piaget provided more commonplace examples of the morality of autonomy.³ He asked children between the ages of 6 and 14 whether it was worse to tell a lie to an adult or to another child. Young, heteronomous children consistently replied that it was worse to tell a lie to an adult. Asked why, they explained that adults can tell when a statement is not true. By contrast, older children tended to say that lying to adults is sometimes almost unavoidable but that lying to other children is rotten. These older children demonstrate a developing morality of autonomy. For autonomous individuals, lies are bad — regardless of the reward system, adult authority, and the possibility of being caught.

Piaget also made up many pairs of stories about children, and he asked the 6- to 14-year-olds which one of the two children in each story pair was worse. One story pair went this way:

A little boy (or a little girl) goes for a walk in the street and meets a big dog who frightens him very much. So then he goes home and tells his mother he has seen a dog that was as big as a cow.

A child comes home from school and tells his mother that the teacher had given him good marks, but it was not true; the teacher had given him no marks at all, either good or bad. Then his mother was very pleased and rewarded him.⁴

Young children systematically manifested the morality of heteronomy by saying that

the child in the first story was worse than the child in the second. Why? Because dogs are never as big as cows, and adults do not believe such stories. Older, more autonomous children, on the other hand, tended to say that the child in the second story was worse, because this child's lie was more believable.

Figure 1 shows the developmental relationship between autonomy and heteronomy. In this figure, time is represented along the horizontal axis from birth to adulthood. The vertical axis represents the proportion of autonomy (in relation to heteronomy), from 0 to 100%. The dotted line shows the ideal development of an individual. All babies are born helpless and heteronomous. Ideally, a child becomes increasingly autonomous (and correspondingly less heteronomous) as he or she grows older. In other words, to the extent that a child becomes able to govern himself or herself, that child is governed less by other people.

In reality, most individuals do not develop in this ideal way. The great majority stop developing at a low level, as shown by the solid line in Figure 1. Piaget noted that only rarely are adults truly moral.⁵ We can easily confirm this observation by skimming a newspaper and noting the frequency of stories about corruption in government and about theft, assault, and murder.

The important question for educators and parents is, What causes some children to become morally autonomous adults? Piaget's answer was that adults reinforce children's natural heteronomy when they use rewards and punishments, and they stimulate the development of autonomy

when they exchange points of view with children.

When a child tells a lie, for example, the adult can respond by withholding dessert or by making the child write 50 times, "I will not lie." Or the adult can look the child straight in the eye and say with a combination of skepticism and affection, "I really can't believe what you are saying because. . . ." By thus exchanging points of view, the adult can help the child develop autonomy. The child, seeing that the adult cannot believe him or her, can be motivated to think about what he or she must do to be believed. Given many similar opportunities over time, the child is likely to arrive at the conviction that it is best, in the long run, for people to deal honestly with one another.

Punishment, by contrast, leads to three possible outcomes. The most common outcome is calculation of risks. The child who is punished will repeat the same act but will try to avoid being caught the next time. Adults can sometimes even be heard to say, "Don't let me catch you doing that again!" Sometimes the child stoically decides ahead of time that, even if he or she is caught, the pleasure that the act will bring will be worth the price. The second possible outcome of punishment is blind conformity. Some compliant children become total conformists, because conformity assures them of security and respectability. As conformists, children no longer have to make decisions; all they have to do is obey. The third possible outcome of punishment is revolt. Some children, after years of angelic behavior, decide that they are tired of pleasing their parents and teachers all the time — the time has come

We must refrain from using rewards and punishments and encourage children to construct moral values for themselves.

for them to begin living for themselves. Such children may even begin to engage in various behaviors that characterize delinquency. These behaviors may look like autonomous acts, but a vast difference exists between autonomy and revolt. In revolt, the individual is opposing conformity. Nonconformity does not necessarily make an individual morally autonomous, however.

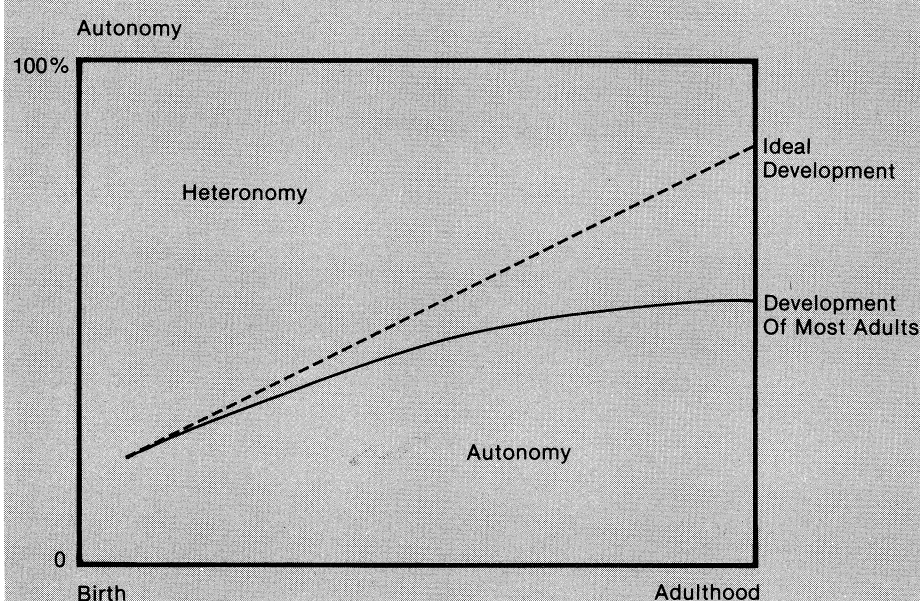
Punishments thus reinforce children's heteronomy and prevent them from developing autonomy. Although they are more pleasurable than punishments, rewards also reinforce children's heteronomy. Children who help their parents only to earn money or who study only to get good grades are governed by others, just as are children who behave well only to avoid punishments. Adults exercise power over children by using rewards and punishments, and these sanctions keep children obedient and heteronomous.

If we want children to develop the morality of autonomy, we must refrain from using rewards and punishments and instead encourage children to construct moral values for themselves. It is possible for a child to think about the importance of honesty, for example, only if he or she is confronted with the fact that other people cannot trust him or her.

Autonomy enables children to make decisions for themselves. But autonomy is not synonymous with complete freedom. Autonomy means taking relevant factors into account in determining the best course of action for all concerned. There can be no morality when one considers only one's own point of view. If one takes other people's views into account, one is not free to tell lies, to break promises, or to behave inconsiderately.

Piaget recognized that, in reality, it is impossible to avoid punishments. Streets are full of life-threatening cars. And we cannot allow children to touch dangerous power tools or electrical outlets. However, Piaget made an important distinction between punishments and sanctions by reciprocity. Depriving a child of dessert for telling a lie is an example of punishment, because the relationship between

Figure 1. The Developmental Relationship Between Autonomy and Heteronomy



the lie and the dessert is completely arbitrary. Telling the child that we cannot believe what he or she says is an example of a sanction by reciprocity. Sanctions by reciprocity are directly related to the acts we wish to discourage and to our adult point of view; these sanctions motivate the child to construct rules of conduct, through the coordination of viewpoints.

Piaget mentioned six types of sanctions by reciprocity. I will discuss four of the six types here. The first is temporary or permanent exclusion from the group. When a group is listening to a story and a child disrupts the group, for example, the teacher often says, "You can either stay here without bothering the rest of us, or you can go to the book corner and read by yourself." Whenever possible, the child must be allowed to determine the point at which he or she can behave well enough to return to the group. Mechanical time limits serve only as punishment, and children who have served the required time often feel perfectly free to commit the same misdeed again.

The second type of sanction by reciprocity involves calling the child's attention to the direct and material consequence of his or her act. I have already given an example of this type of sanction in my discussion of children's lies.

The third type of sanction by reciprocity is depriving the child of the thing that he or she has misused. Some time ago, I spent three consecutive days observing a class of approximately two dozen 4- and 5-year-olds. The room was rather small, and about one-third of its area had been set aside for block constructions that re-

mained intact throughout my visit. I was surprised that these elaborate constructions survived for three days and that the children were extremely careful not to disturb the works of others when they went to the block area from time to time to modify their own constructions. When I asked the teacher how the children came to be so careful, she explained that she was very strict at the beginning of the year, not allowing children to enter the block area if they knocked anything over. Later, she negotiated with individual children the right to enter the block area, once they realized that they had to earn this right. This teacher's goal was not merely to produce a particular behavior, but to make it possible for all the children to use the blocks autonomously. She intended to create a situation in which the children could trust their classmates to respect their block constructions.

The fourth type of sanction by reciprocity is restitution. For example, if a young child spills paint on the floor, an appropriate reaction may be to say, "Would you like me to help you clean it up?" Later in the year, the teacher may only have to ask, "What do you have to do?"

One day a kindergartner tearfully reported that his art project had been damaged. The teacher told the class that she wanted the person who had damaged the object to stay with her during recess, so that she could help him or her repair it. The child responsible for the damage could see the victim's point of view and was encouraged by the teacher's behavior to construct for himself the rule of restitu-

tion. When children are not afraid of being punished, they are perfectly willing to come forward and make restitution. The teacher helped the child repair the broken object; she also asked him to tell her, if something similar happened in the future, so that she could help him again.

Piaget pointed out that all sanctions by reciprocity can quickly degenerate into punishments, if mutual affection and respect are lacking between adult and child. Indeed, mutual respect is *essential* if a child is to develop autonomy. The child who feels respected for the way he or she thinks and feels is likely also to respect the way adults and other children think and feel.

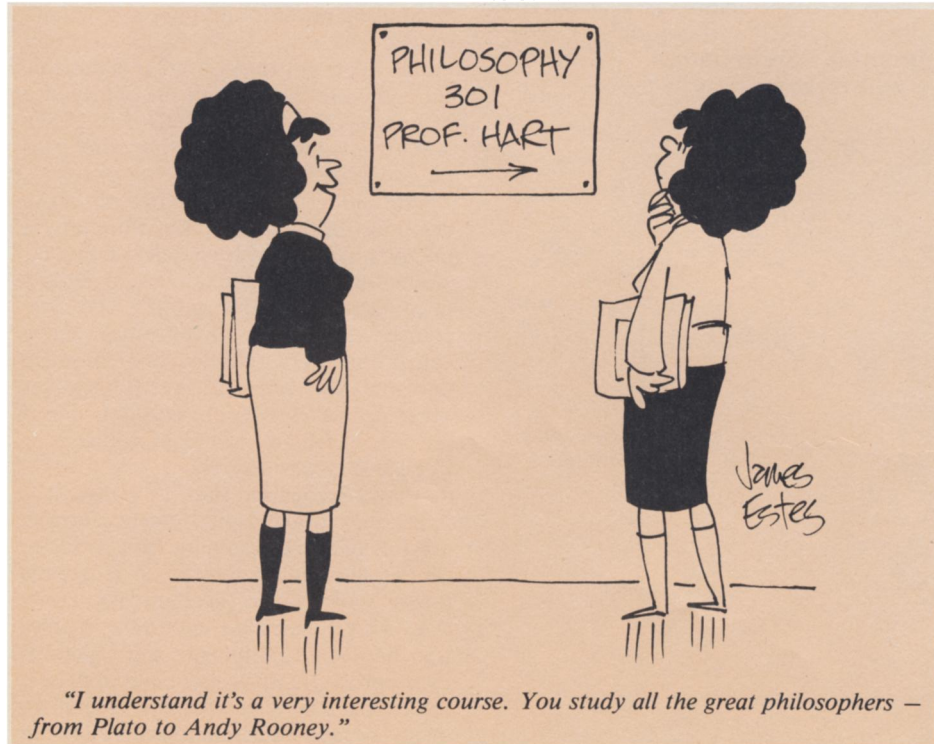
Piaget's theory about how children learn moral values is fundamentally different from other theories and from common sense. Common sense suggests that a child internalizes moral values from the environment. According to Piaget, however, children acquire moral values by constructing them from within, through interactions with their environment. For example, no child is taught that it is worse to tell a lie to an adult than to another child. Yet young children construct this belief out of their own experiences. Likewise, no child is taught that it is worse to say, "I saw a dog as big as a cow," than to say, "The teacher gave me good marks." But young children construct such judgments by relating these two statements to everything they have previously been told. Fortunately, they go on to construct other relationships, and they often end up believing that it is worse to say, "The teacher gave me good marks."

It is probably safe to say that most of us were punished as children. To the extent that we also had opportunities to coordinate our viewpoints with those of others, we had opportunities to become more autonomous. Richardson's behavior in the Watergate affair suggests that he was reared to make decisions by considering other people's points of view, not by considering only the reward system.

The Watergate affair illustrates Piaget's view of autonomy as intellectual, as well as moral. The Watergate participants who eventually went to prison were immoral, of course. But they were also unbelievably stupid, behaving just as young children do, when they are still too egocentric to realize that the truth will come out sooner or later.

Intellectual Autonomy

In the intellectual realm, too, autonomy means being governed by oneself, and heteronomy means being governed by someone else. An extreme example of intellectual autonomy is the work of Copernicus — or the work of any other scientist



An individual who is intellectually heteronomous will unquestioningly accept what he or she is told, including propaganda.

who ever invented a revolutionary theory. Copernicus developed the heliocentric theory when everyone else believed that the sun revolved around the earth. Though his theory earned him derision from others, Copernicus was autonomous enough to remain convinced of its merit. By contrast, an individual who is intellectually heteronomous will unquestioningly accept what he or she is told, including illogical conclusions, slogans, and propaganda.

My niece, who used to believe in Santa Claus, provides a more commonplace example of intellectual autonomy. When she was about 6, she surprised her mother one day by asking, "How come Santa Claus uses the same wrapping paper as we do?" Her mother's "explanation" satisfied her for a few minutes, but she soon came up with the next question: "How come Santa Claus has the same handwriting as Daddy?" This child had her own way of thinking, which yielded different conclusions from those she had been taught.

According to Piaget, a child acquires knowledge just as he or she acquires moral values: by constructing it from within, not by internalizing it directly from the environment. Children may internalize certain bits of knowledge for a while, but their minds are not passive vessels that merely hold what is poured into them. A more precise way of discussing constructivism is to say that children construct knowledge by creating and coordinating relationships. When my niece put Santa Claus into relationship with everything else she knew, she began to feel that something was wrong somewhere.

Unfortunately, teachers often do not encourage children to think autonomously. Instead, they frequently use sanctions to prod children to give "correct" answers. The use of worksheets is a good example. If a first-grader writes on a worksheet that $4 + 2 = 5$, most teachers mark the answer as incorrect. This kind of teaching convinces children that truth can come only out of the teacher's head. When I visit first-grade classrooms in which children are working on arithmetic worksheets, I

often ask individual children how they arrived at particular answers. They typically react to my question by grabbing their erasers — even when their answers are perfectly correct. As early as first grade, many children have learned to distrust their own thinking. Children who are thus discouraged from thinking autonomously will construct less knowledge than will children who are mentally active and confident.

The wise teacher refrains from correcting a child who says that $4 + 2 = 5$. A better reaction is to encourage two children who arrived at different answers to explain their thinking to one another. Alternatively, the teacher can ask the child, "How did you get 5?" Children often correct themselves autonomously as they try to explain their reasoning to someone else. In the process of explaining, they have to decenter — that is, to try to coordinate their points of view with those of others. In doing so, children often recognize their own mistakes.

An even better way of teaching arithmetic in first grade is to eliminate all formal instruction and to introduce instead such games as "Double War." In this game, a player compares the sum of his or her two cards with the sum of the opponent's two cards, and the player whose sum is greater takes all four cards. It is not necessary to teach children sums, because they can figure out for themselves the result of each addition. Moreover, in a game they can exchange points of view and correct one another. This method of learning is more active and more conducive to the development of autonomy than are workbooks. My current research indicates that children cannot help but remember sums, if they play such games often enough.

Autonomy as the Aim of Education

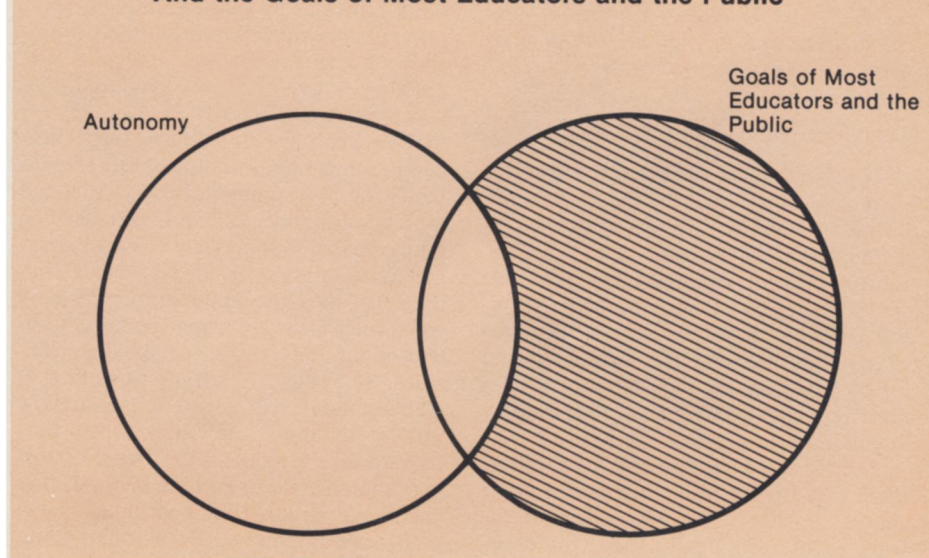
Figure 2 shows autonomy as the aim of education, in relation to the goals of education as most educators and members of the general public define them today. I will first discuss the part of each circle that does not overlap with the other, and then I will discuss the area of intersection.

The part of the shaded circle that does not overlap the other circle stands for the implicit and explicit, intended and unintended, heteronomous goals of education today. This education requires of students a great deal of memorization, so that they can pass one examination after another. Those of us who succeeded in school did so by memorizing an enormous number of "right" answers — without understanding or caring about them. We all remember the relief we felt at being free to forget the things we had memorized, as soon as the test was over. We did the memorizing mostly because we were obedient conformists in a system that reinforced our heteronomy.

Studies by Joe McKinnon and John Renner⁶ and by Milton Schwebel⁷ demonstrate the outcome of this kind of education. These researchers investigated the ability of college freshmen to think logically at the formal operational level. The freshmen had performed well enough in elementary and high school to gain admittance to a university. Yet McKinnon and Renner found that only 25% of them were capable of solid logical thinking at the formal level. A mere 20% of Schwebel's subjects were capable of such thinking.

Ability to think logically at the formal level falls within the circle labeled "autonomy" in Figure 2. More precisely, this ability belongs in the part of the unshaded circle that does not overlap with the shaded circle, since logical thinking

Figure 2. Relationship Between Autonomy And the Goals of Most Educators and the Public



Exchanging points of view contributes positively to children's social, affective, moral, and political development.

is clearly not a goal of secondary education. McKinnon and Renner concluded from their findings that high schools do not teach students to think logically and that, if teachers at this level do not emphasize logical thinking, we must blame the universities that trained these teachers. In other words, education at all levels underemphasizes thinking. Moreover, if students cannot think logically at the formal operational level, they certainly cannot think critically or autonomously.

In the moral realm, too, the schools reinforce children's heteronomy and unwittingly prevent students from developing autonomy. To enforce rules and standards that have been set by adults, the schools use grades, gold stars, the detention hall, merits and demerits, and awards. In Figure 2, the part of the circle labeled "autonomy" that does not overlap with the other circle thus stands for intellectual and moral autonomy.

The intersection between the two circles stands for things taught in schools that are useful to the development of autonomy (even though the goal of such instruction is conformity). Such skills as reading and writing, calculating, comprehending maps and charts, and placing events in history are examples of learnings that help us adapt to our environment. *If autonomy is the aim of education, educators must try to increase the area of overlap between the two circles.*

Teaching for Autonomy

If an individual opposes "the goals of most educators and the public," other people sometimes assume that this individual opposes the teaching of academic subjects. I have nothing against academic subjects; in fact, I strongly favor them. But I think that we can increase the area of overlap between the two circles in Figure 2 by teaching such subjects in ways that foster the development of autonomy in children.

Let me use as an illustration an afternoon that I spent observing a sixth-grade class. I do not know enough about the teaching of grammar to judge the desir-

ability of teaching youngsters to diagram sentences, but this example allows me to discuss the importance of thinking that is stimulated by social interaction. The class was divided into six groups of four or five students each. When I arrived after lunch, the teacher wrote a rather tricky sentence on the chalkboard and gave the small groups 20 minutes to diagram it. A representative of each group placed a diagram on the chalkboard when the allotted time was up. Two of the six diagrams were immediately erased, because they were duplications. Individual students then offered well-reasoned arguments favoring or opposing one or another of the remaining four diagrams. The authors of a diagram under attack defended it vigorously, and the intense debate continued until recess time. By then, everyone had agreed that two of the four diagrams were inadequate and had to be erased.

When the children returned from recess, the teacher asked if they wanted the answer. Some said, "Yes." But others answered, "No, because you'll give us the wrong answer just to see if you can trick us!" The teacher admitted that he had intended to do just that. So the arguments and counterarguments continued, and the class finally agreed on the superiority of one diagram.

This class spent an entire afternoon on one sentence. But my impression was that the children thought so hard about each well-articulated argument that they were thoroughly convinced of the superiority of the final diagram. Many pupils offered wrong ideas along the way, but the teacher encouraged them to defend their opinions until *they themselves* were convinced that their opinions were wrong. According to the theory of constructivism, children learn by modifying old ideas, not by accumulating new ones. A debate about the superiority of one idea or another is good, because it encourages children to think critically by putting different ideas into relationship with one another. It also allows students to modify old ideas autonomously when *they* are convinced that new ideas are better.

This sixth-grade teacher taught academic content and simultaneously tried to foster the development of intellectual and moral autonomy. Children can develop intellectual autonomy only when all ideas, including wrong ones, are respected. Children can develop moral autonomy only when their ideas are given serious consideration in the process of making decisions. It is also important to note that children mobilize their intelligence and the totality of their knowledge when they have to take a stand and confront opposing opinions. Thus teaching methods that encourage children to coordinate viewpoints are far more effective than tradi-

tional methods that aim only at getting students to give "right" answers.

Anne-Nelly Perret-Clermont's research⁸ confirms the importance that Piaget attributed to social interaction. Piaget argued that exchanging points of view is indispensable for children's moral development.⁹ He later went on to say that these exchanges are equally necessary for the development of logic in children.¹⁰ Using Piaget's statement as a hypothesis, and taking into account the research of Bärbel Inhelder, Hermine Sinclair, and Magali Bovet,¹¹ Perret-Clermont studied the effects of social interaction on children's cognitive development. She concluded that, when children confront the ideas of other children for as brief an interval as 10 minutes, higher levels of logical reasoning are often the outcome. Moreover, she found that children could generalize these higher levels of reasoning to areas not covered in the experiment.

Perret-Clermont's experiments are similar in one important way to the situations I described earlier, involving the teaching of sixth-grade grammar and of first-grade arithmetic. In each case, children were stimulated to think by having them confront the ideas of their peers. Clearly, social life in the classroom affects children's intellectual development. Exchanging points of view also contributes positively to children's social, affective, moral, and political development.

A few more examples of the teaching of academic content will show that each subject must be taught differently when the teacher's broad aim is the development of autonomy. In history, biographies of famous people enable children to view historical facts from the perspectives of individuals. It is easier to construct history by approaching facts through subjective viewpoints than through memorizing dates and reading or listening to "objective" interpretations. Certain questions are almost always appropriate: "What do you think of . . .?" "Does everybody agree with . . .?" "Is there anyone who has a different opinion?" In school, children are almost never asked what they honestly think, and they are seldom given two different interpretations of the same event. By asking children what they think of one interpretation or another, teachers can stimulate thinking. Such discussions lead both to intellectual autonomy and to better comprehension of content, because children can actively relate ideas and simultaneously evaluate their classmates' various perspectives.

In literature, teachers can ask their students for different interpretations of a poem or for personal reactions to a novel. Again, the important thing is to encourage students to compare and evaluate the reactions of their peers. In science, teach-

The time has come to stop being satisfied with conservative changes and to plan a Copernican revolution in education.

ers can suggest projects aimed at producing certain effects (such as the making of cars for a soapbox derby). To produce a successful soapbox racer, for example, children have to understand the relevance of such factors as friction, center of gravity, and size of wheels. Other examples of the teaching of content in the context of autonomy have been published elsewhere.¹²

The examples that I have provided here do not mean that Piaget's theory implies simply a different way of teaching the same traditional academic subjects. Autonomy as the aim of education implies a kind of schooling that is very different from the conformist education practiced around the world today.

Piaget's conceptualization of the aim of education is unique, in that it is rooted in a scientific theory of how human beings acquire moral values and knowledge. Such reformers as Jean Jacques Rousseau, Maria Montessori, John Dewey, Ovide Decroly, and Célestin Freinet had ideas similar to Piaget's, but they based their objectives and methods on personal opinions rather than on scientific theories.

The details of Piaget's theory continue to be modified, but constructivism — the fundamental concept in his theory — has never been disproved. The idea that children acquire moral values and knowledge by construction from within — by putting things into relationships — still stands, as does the idea that social interactions are essential for this construction to take place. Moreover, according to Piaget, honest exchanges of points of view are bound to lead, in the long run, to autonomy. Of the intellectual aspect of autonomy, Piaget said:

[C]ooperation alone leads to autonomy. With regard to logic, cooperation is at first a source of criticism; thanks to the mutual control which it introduces, it suppresses both the spontaneous conviction that characterizes egocentrism and the blind faith in adult authority. Thus, discussion gives rise to reflection and objective verification. But through this very fact cooperation . . . leads to the recognition of the principles of formal

logic in so far as these normative laws are necessary to common search for truth.¹³

Of the moral aspect of autonomy, Piaget said:

[M]oral autonomy appears when the mind regards as necessary an ideal that is independent of all external pressure. Now, apart from our relations to other people, there can be no moral necessity. . . . Autonomy . . . appears only with reciprocity, when mutual respect is strong enough to make the individual feel from within the desire to treat others as he himself would wish to be treated.¹⁴

My conviction about the importance of autonomy is based partly on the fact that most adults who attended traditional schools came out underdeveloped, considering their potential. Piaget noted that, if we examine "normal adult individuals who are representative of the honest, human average, the truly logical persons who are masters of their reasoning power are as rare as the truly moral men who exercise their conscience with all their strength."¹⁵

Educators today are trying to solve a variety of problems — including low test scores, violence and apathy in the schools, truancy, alcoholism, drug abuse, teenage pregnancies, and vandalism — as if these were separate problems. The solutions that educators have turned to include high-pressure instruction and tests to raise academic achievement; exclusion from school to stop physical violence; reliance on police and truancy officers; programs to teach students about sex, alcohol, and drugs; and special budgets to replace broken windows with opaque, unbreakable materials. Piaget's theory of autonomy suggests instead not a search for more Band-Aids, but a fundamental reexamination of educational objectives.

Autonomy as the aim of education is, in one sense, a new idea that could revolutionize education. In another sense, it is simply a reemphasis of human values and relationships. I hope that those authors who write about the educational implications of Piaget's theory will soon become convinced that the significance of this theory lies not in the developmental stages he identified, but in the importance he attached to constructivism and autonomy. I am personally outraged to see the legal powers of taxation and compulsory education used to hamper the development of human potential. I am also scandalized by the fact that the educational establishment of every country I know is characterized by two factors: ignorance and power. Educators are ignorant of post-behaviorist scientific theory. Those educators who control the educational enterprise are also

ignorant of children; the higher an educator advances in the hierarchy, the more he or she becomes isolated from children and classrooms.

There is something comfortably archaic about all the so-called innovations in education. However, the time has come to stop being satisfied with these conservative changes and to plan instead a Copernican revolution in education. By shifting the focus of our thinking away from what we do to children to how *children* develop, we can begin — socially, intellectually, and morally — to allow and encourage them to construct their own ideas. Children respect the rules that *they* make for themselves. They also work hard to achieve the goals that *they* set for themselves. I call on educators to heed more carefully Piaget's own words about the radical reforms implied by his theory.

1. Jean Piaget, *To Understand Is to Invent* (1948; New York: Viking, 1973).
2. Some people challenge this statement on the ground that Richardson may have decided to be honest out of fear of being caught. I admit that I do not know enough about Richardson to make this statement with certitude. However, whether or not the reader agrees that Richardson's behavior is illustrative of moral autonomy, his situation demonstrates that corruption in government is common and that people who stand up for what is right are rare.
3. Jean Piaget, *The Moral Judgment of the Child* (1932; New York: Free Press, 1965).
4. *Ibid.*, p. 148.
5. Piaget, *To Understand*. . . .
6. Joe W. McKinnon and John W. Renner, "Are Colleges Concerned with Intellectual Development?," *American Journal of Physics*, September 1971, pp. 1047-52.
7. Milton Schwebel, "Formal Operations in First-Year College Students," *Journal of Psychology*, September 1975, pp. 133-41.
8. Anne-Nelly Perret-Clermont, *Social Interaction and Cognitive Development in Children* (London: Academic Press, 1980).
9. Piaget, *The Moral Judgment*. . . .
10. Jean Piaget, *The Psychology of Intelligence* (1947; Paterson, N.J.: Littlefield, Adams & Co., 1963).
11. Bärbel Inhelder, Hermine Sinclair, and Magali Bovet, *Learning and the Development of Cognition* (Cambridge, Mass.: Harvard University Press, 1974).
12. Constance Kamii, *Number in Preschool and Kindergarten: Educational Implications of Piaget's Theory* (Washington, D.C.: National Association for the Education of Young Children, 1982); Constance Kamii and Rheta DeVries, *Physical Knowledge in Preschool Education: Implications of Piaget's Theory* (Englewood Cliffs, N.J.: Prentice-Hall, 1978); and *idem*, *Group Games in Early Education: Implications of Piaget's Theory* (Washington, D.C.: National Association for the Education of Young Children, 1980).
13. Piaget, *The Moral Judgment*. . . , p. 403. *Cooperation*, as Piaget uses the word, does not mean *compliance*. When we say, "Your cooperation will be appreciated," we mean, in common parlance, that we request the person's compliance. For Piaget, by contrast, *cooperation* meant to *co-operate* or to *operate together*. The words that best express what he meant are *to negotiate* and *to exchange points of view*. Thus an argument can also be an example of cooperation, if it involves an exchange of viewpoints.
14. *Ibid.*, p. 196.
15. Piaget, *To Understand*. . . , p. 50. □