
On the Components of Competence and Their Development in Education

John Raven

Previous work by the author and his colleagues has shown that teachers, parents, pupils, and ex-pupils all think that education should be *primarily* concerned with the development of such characteristics as initiative, the ability to work effectively with others, the ability to communicate effectively, self-confidence, and the ability to make one's own observations and learn on one's own.

One important finding, which became clear only in the Irish surveys [See Raven et al. *A Survey of the Attitudes of Teachers and Pupils*, Vols. 1 & 2] is that teachers think that insufficient time is devoted to fostering these qualities and that, as a result, they remain poorly developed among pupils. Teachers do not devote as much time as they would like to fostering these qualities partly because the examination does not recognize and reward activity, either on their part or on the part of their pupils, directed toward achieving these goals, and partly because they are themselves none too clear about how to achieve them.

In the course of reflecting on the data collected in these surveys and associated research programmes, we have built up a certain amount of understanding of the nature of these competencies and the ways in which schools might more effectively help their pupils to develop them. The purpose of this paper is to review some of this material.

At the present time the understandings and insights to be discussed represent theory only. They represent a way of thinking as yet untested in practice. Yet to wait until all the necessary validity studies had been carried out would mean that we would have to delay sharing our insights for a long while, during which time educational practice is, if work by Jencks and UNESCO is to be believed, badly in need of rethinking.

In the course of examining the benefits conferred on society by education, UNESCO has called on all member countries to urgently ask themselves what the goals of educa-

John Raven is a project leader with the Scottish Council for Research in Education, Edinburgh, Scotland. The material presented in this article is drawn from the author's book Education, Values and Society: The Objectives of Education and The Nature and Development of Competence, H.K. Lewis, London, United Kingdom, forthcoming.

TEACHERS COLLEGE RECORD
May 1977, Vol. 78, No. 4

tion should be, what means should be used to attain them, and whether current programmes of education do in fact yield the benefits to society, or to the individuals concerned, that they are thought to yield. Jencks claims, with a considerable amount of evidence to support his case, that the educational system does *not* yield useful benefits, that the educational system helps people to be neither more productive nor effective than they would otherwise have been, that selection of employees on the basis of academic qualifications does not help to promote people capable of performing important roles in society into influential positions, and does not help those people it does promote to develop the competencies they will need to do more effectively the job of social management assigned to them. As a result he claims that the educational system is little short of a means of rationing privilege by socially legitimated means. This, like all rationing, is random as far as the characteristics required to perform well in the social positions to which they lead are concerned.

Regardless of whether Jencks's conclusions are true or false, his data and hypotheses, if such they be, provide sufficient cause to consider very carefully what we are about in education, whether what we are doing at all justifies the expenditure involved, and whether we could not find more effective ways of achieving our most important goals. In such a consideration, Jencks's conclusions reinforce the unease expressed by many of the teachers involved in our surveys and vocally articulated by such authors as Illich and Reimer and their large band of followers.

NATURE OF COMPETENCIES TO BE DEVELOPED

With the development of which competencies should schools be concerned, and how might they go about their task more effectively?

We have seen that pupils, teachers, parents, and ex-pupils all consider that education should be concerned with developing such characteristics as the ability to relate effectively to others, to lead, to invent, to understand, to learn without instruction, to communicate, to forecast, to make good judgments, to plan, and to monitor the effects of one's actions and take corrective action when necessary.

One could regard all these qualities as components of competence, as components of *general* competence. In this they are like the "three R's" and unlike the "subjects" that dominate postprimary education today. Whereas one can read, write, lead, follow, create, reflect, think, and decide, one cannot science, French, or geography. This is not merely playing with words: it points to a fundamental distinction. One can only *use* science, *use* French, or *use* geography. If one does not use it one forgets it—on average 50 percent of what one has learned after one year, and 75 percent after two years. In contrast one reads, leads, follows, invents, decides, and plans everyday. These things are competencies, not areas of knowledge. Once developed they are rarely lost so completely as secondary school subjects mostly are, and they are of much greater relevance to the lives of most people than half-forgotten knowledge. Helping pupils master areas of knowledge does not help them to develop these competencies. Yet it is to the extension and proliferation of the areas of knowledge taught to pupils that

developments in education for the last quarter of a century have been primarily directed. As a result the development of competencies of the sort referred to here has been much neglected.

In practice the development of such competencies poses a number of problems for educators. In the first place their development involves a much more explicit discussion of values than do traditional school subjects. It is much more obvious that, by helping their pupils to develop them, teachers might be damaging the lives of some of their pupils in some way. If pupils became independent thinkers they might later have difficulties adjusting to the world of work. Secondly, these competencies involve a much greater integration of the thinking, feeling, and behavioral components of action than do traditional educational activities, including the three R's. They involve pupils in moving about, in doing things, rather than sitting at their desks. If they are to be fostered, teachers will have to do much more to help pupils to clarify their values and to help them to develop much more complex patterns of thinking, feeling, and behaving than anything they have been concerned with in the past. Because of these value conflicts and the changed teaching situation needed to foster the qualities that have been mentioned, many teachers who very much want to help their pupils develop these characteristics are deterred from actively doing anything to help pupils develop them.

Values Component It is worth dwelling on the values component of these competencies for a moment longer. If one begins to discuss with teachers who wish to help their pupils develop initiative ways in which they might do so more effectively, it is not long before these teachers begin to express doubts about the desirability of doing so. Might one not be letting the pupils in for a life of misery and frustration if one helped them to develop initiative and then released them into the world as we know it?

It is of interest to note that this question is almost always raised only in relation to positive interventions. Rarely is it suggested that one might be channelling one's pupils into a life of frustration and misery if one did *not* help at least some of them to develop the leadership and management skills that are needed if good new ideas are to be acted upon in society and the institutional management structures of society changed so that the world is a better place in which to live. Equally, might one not be harming one's pupils' life chances if one taught them to value knowledgeability rather than action, or if one taught them to be dependent on the word of authority and the textbook instead of to question accepted authorities and make their own observations? Still more pointedly: Might one not be positively damaging the life chances, and pattern of life satisfaction, of those pupils who lack academic abilities but who are extremely talented when it comes to making forecasts, making good decisions, inventing new ways of doing things or new solutions to problems, or getting other people to work together effectively, if one does not actively help these pupils to develop one or other of these important talents and does not record those qualities on the certificates used by employers to select candidates for employment?

Self-Motivated Nature of These Competencies So

far, we have drawn attention to the fact that the qualities teachers and pupils are most anxious for schools to foster—although they believe that schools do so extremely badly at the present time—differ from the goals of education that have received most attention in most secondary schools for the last quarter of a century in that they are much more accurately thought of as concerned with fostering competencies than with conveying knowledge of subject matter. They also involve a much more explicit values component. We may now draw attention to one more characteristic shared by these competencies: that a key feature of these competencies is that they are motivational dispositions; as a result the methods appropriate to fostering and assessing them are those appropriate to fostering and assessing motivational dispositions.

Let us expand this somewhat dogmatic assertion by taking an example. One feels somehow that it is not quite right to describe as “initiative,” “consideration for others,” or “making one’s own observations” behavior that has only been engaged in after the pupil has been told what to do, whom to be considerate to, or what to observe. On further reflection it seems that the self-motivated, spontaneous nature of these characteristics cannot be overemphasized. If one is interested in fostering such characteristics through education, one has to teach pupils to generate the trigger to the activity themselves so that they will engage in it spontaneously in new situations in which there is no teacher to tell them what to do. Lack of understanding of precisely how to teach pupils to be self-motivated, how to foster motivational dispositions, has deterred many teachers from attempting to help their pupils to develop such characteristics. Yet it is hard to see why this should represent a major stumbling block if pupils are placed in situations in which they are motivated to engage in such activities in order to reach goals they value, and if they are enabled to experience the satisfactions that follow from engaging in these activities in the course of reaching goals they themselves value. If their learning can be arranged so that they can do these things, it would seem probable that they will come to develop the *ability* to engage effectively in the activities and come to *want* to engage in them in the future. They will come to engage in them spontaneously as the need arises. Not only will they come to develop the spontaneous tendency to engage in these actions and the ability to do so effectively, they will also come to tolerate the frustrations involved in pursuing self-motivated activity and develop the self-confidence needed to engage in such activities. They will learn that the doubts and anxieties that well up in the course of embarking on a new task pass, to be replaced by the satisfactions of achievement. They will learn that they themselves can find ways of overcoming unanticipated difficulties that might otherwise have prevented them from reaching their goals.

NATURE OF SPECIFIC COMPETENCIES

We have now seen that the qualities teachers and pupils think most important for schools to foster, although sadly neglected in the past, are best thought of as competencies, as self-motivated competencies, and that two key features to be borne in mind

when thinking about them are that they involve a major values component and are best thought of as motivational dispositions. Furthermore they are probably best developed through educational programmes that differ markedly from those with which teachers have been preoccupied in the past. Let us now take two or three examples of these characteristics and analyze their nature in more detail in the hope of being able to become still more specific about their nature and the ways in which they might best be fostered. We will proceed in a somewhat cyclical fashion. First we will look briefly at a number of these characteristics, their nature, and the ways in which they might be fostered. Later we will examine one or two in more detail and try to become more explicit about the essential ingredients both of the characteristics themselves and of the learning experiences required in order to foster them.

The Tendency to Learn Without Instruction Let us

first take the ability to learn without instruction as an example of a competency many teachers would like to be able to foster more effectively. The ability to learn without instruction involves an interest in finding out about new things and enjoyment in doing so. It means seeking the information needed to help one tackle one's own problems—not someone else's. It involves reading with a purpose and discarding all things that do not relate to one's purpose—which, under current conditions, probably means discarding most of what goes on in schools. But it also involves making one's own observations, collecting one's own data, and systematically testing one's ideas. Thus it involves the tendency to notice one's own problems, the tendency to do something about them, the spontaneous tendency to make one's own observations, and the willingness to think for oneself.

Developing sensitivity to problems and sensitivity to the creative ideas that would help one to do something about them are not things on which schools tend to focus a great deal of attention at the present time. Yet sensitivity to these things is basic to effective action. Sensitivity, whether it is to the physical or human problems that have to be solved, or whether it is to the germs of creative ideas that would enable one to begin to solve them, involves sensitivity to one's own feelings.

Without fostering sensitivity to one's own feelings—which may include such feelings as "This schoolwork is a complete waste of time"—one cannot hope to help pupils develop the ability to notice problems, the ability to deal better with the physical or human environment, the ability to be creative, or the ability to take initiative.

Only by practicing paying attention to these fringe feelings, bringing them into full consciousness, and tolerating the time-consuming and laborious task of mulling them over and really thinking about their implications can one develop these characteristics. Yet where do schools (or universities for that matter) encourage their students to spend time doing these things? Time to read, reflect, and dream—such an important ingredient of education in developing the ability to think for oneself—is largely a thing of the past. But it is not merely a question of providing the time to do these things, for if pupils are to develop the tendency to do these things spontaneously

they must have had ample experience of being successful in these activities and of experiencing the delightful flashes of understanding that come at the end of the long and tedious process involved. If they have not had these experiences, pupils cannot be expected to develop the self-confidence needed to *know* that the whole frustrating business will pay off in the end. They cannot be expected to *know* that they will eventually get these very worthwhile experiences that will make the whole process worthwhile. If they are to be sure to experience these things, they need to develop these capacities through a graded series of learning experiences that ensure success in self-motivated activities.

Teaching pupils to learn on their own involves making sure that they have ample experience of being able to notice previously unnoticed problems, of being able to make their own observations and seek out existing knowledge that will enable them to build up an understanding of the reasons for those problems or of the reasons for the existence of problems that were accepted as a fact of life. Thereafter it involves making sure that they have ample experience of being able to test the understanding so built up and of collecting vital additional information (and avoiding collecting trivial, useless information), of being able to invent solutions. Pupils need to have experience of being able to come to good judgments, based on incomplete evidence, as to what should be done; of initiating action on the basis of those informed, yet tentative, judgments; of monitoring the effects of such action to make sure that it has the desired effects; of changing the understanding they have built up as the result of observing the consequences of their actions; and of taking effective corrective action when necessary.

Without these experiences how can pupils fail to develop feelings of inferiority? How can they fail to lack confidence in their ability to learn on their own, their ability to make good judgments, and their ability to initiate action on the basis of incomplete information secure in the knowledge that they could take effective corrective action if necessary? Yet these are the things pupils will have to do all their lives, when the teacher is not there. The development of realistic self-confidence implies having done these things sufficiently often to know that one can do them. One cannot develop realistic self-confidence in any other way. The teacher's task is to generate graded sequences of situations in which pupils have the opportunity to develop higher and higher levels of these characteristics.

The Ability to Communicate Effectively. Turning now to another example. Developing effective communication skills seems to involve developing the spontaneous tendency to notice things that are worth communicating; that is to say, sensitivity to inner feelings that register preliminary indications that there is some aspect of external reality requiring further examination, the desire and the wish to communicate these things, the ability to evaluate the value to the audience of that which is to be communicated, the commitment needed to make the ideas or feelings to be communicated fully explicit and to track down an appropriate medium—

words, paint, or music—for communicating them, a stock of tricks of the trade for communicating these things, and sensitivity to feedback from one's audience concerning the adequacy with which the communication has been effected—feedback much more important, and much more likely to be acted upon, than that provided by a blunt red pencil.

All of these things probably involve enjoying these activities and having repeated experience of the satisfactions that come from having successfully completed a difficult but self-chosen task in this area. Experience of these satisfactions is important; it is this which is likely to lead pupils to *want* to do these things spontaneously in the future.

A Common Thread in the Components of Competence

So far we have treated various competencies as if they were totally different, but by now it is becoming clear that there are some recurring themes running through our discussion. We may therefore suggest that while the competencies are directed toward different goals, which may or may not be valued, it may be that a common set of qualities is required to reach those valued goals effectively. Indeed the competencies we have discussed seem to be relevant whether the characteristic to be developed is initiative, considerateness, the tendency to clarify one's values and life goals, confidence in social interaction, the ability to get others to work together to achieve a common goal, the ability to understand an overall programme of activity and one's own place in the whole without being given detailed instructions (followership ability), confidence with figures and numbers, independence, logical critical thinking, or inventiveness and the ability to apply one's knowledge to important new situations.

MORE DETAILED ANALYSES

If we tentatively accept that what we are working toward might indeed be a fruitful way of looking at these competencies, let us take two final examples and attempt to separate the values component much more explicitly from the competencies that would seem likely to lead to the attainment of the valued goal, and let us examine the latter competencies in more detail. Let us take the ability to find the information one needs and initiative as our examples.

Finding Information Finding the information one needs involves valuing:

1. The *end state* to be achieved as a result of collecting the information. We may note, in particular, that most of the time pupils do not value the end state that they are expected to strive to achieve by collecting information in most schools, and we may conclude, therefore, that pupils are unlikely to develop this characteristic.
2. The *process* of information seeking—an *intellectual* as distinct from a practical activity. At present schools stress the importance of information itself and neither

- the importance of the process of obtaining it nor the importance of the practical utility of that information in solving a particular problem.
3. Utilization of scientific method. In order to generate accurate information about the world, one has to be prepared to question the current explanations, invent alternative hypotheses, and then invent means of testing these hypotheses systematically.
 4. Reflective abstract thought.
 5. Finding out new things for oneself; making one's own observations, rather than relying on the words of authorities and teachers.

If one is going to find the information one needs effectively, one also needs to have developed the following components of effective behavior:

- *Confidence* in one's abilities in this area. This implies having had ample experience of having been able to find the information one needs in books and in the heads of colleagues—information that really does enable one to progress more effectively toward one's own goals (and we may note that most of the information currently provided in most schools does not help most pupils to do this), and ample experience of noticing vague feelings of unease on the fringe of consciousness, vague indicators that a more effective route to the goal will be found if one reflects further on significant facts dimly obtruding from their background, bringing these up into full consciousness, acting on them, and finding that the whole process was worthwhile and *did* help achieve one's goals.
- The presence of, and tendency to use, well-practiced, effective strategies for finding out about the environment—strategies for stimulating the physical and social environment and for stimulating organizations, so as to observe the consequences, and thereafter being able to draw logical inferences from these observations in the context of other knowledge.
- Willingness to notice problems—sensitivity to vague indications that one has a problem, and willingness to pay attention to these feelings, mull over them, bring them into full consciousness, and explore their implications.
- Ability to search out relevant information in one's environment; ability to pursue leads that take one to relevant information and ability and tendency to discard the irrelevant.

Initiative We may now take a second and final example for detailed analysis and go into it still more thoroughly. Initiative seems to involve the following *values*:

1. A value for the *end state* in relation to which initiative is supposed to be displayed. If one *values* performance at football, one will tend to show initiative in relation to ways of improving one's performance; one will have standards of performance in relation to football; and one will display sensitivity to feedback concerning ways of improving one's performance.
2. A value for working *independently*, for taking personal responsibility (rather than going along with the mass or leaving things to others).
3. A value for being an *individual* rather than conforming to the group.
4. A value for doing new things rather than for conforming to tradition (although an innovative individual might be expected to seek out better ways of conforming to tradition if he *valued* being traditional).

In summary, acting independently involves a value both for the end state toward which the activity is directed and a value for particular patterns of behavior. (We may note that this suggests that, as far as educational inputs are concerned, it may be important for teachers to work with pupils to clarify *both* of these.)

In addition to these values, effective initiatives and effective innovative behavior would seem to involve the spontaneous tendency to display a number of the components of effective behavior listed below. (We give a much more complete list on this occasion as this will be our final discussion of these characteristics.)

—*Self-Confidence*, which would seem to mean:

1. Knowledge, based on experience, that one can work with others, that one can take a leadership role, that one can enlist others' help and support. If pupils are to develop confidence that they can do this they will need to take part in a number of exercises designed to foster a number of different types of leadership ability—and not merely to take part in these exercises but also to succeed in mastering them.
2. Knowledge, based on experience, that one can take effective corrective action if activities one has initiated do not turn out as expected; if one sets out in the wrong direction.
3. Knowledge, based on experience, that one's judgment and ability to make decisions are good; that one can correctly, if subjectively, assess the relative importance of the various components involved in making a decision in order to arrive at a good decision, a decision that will stand the test of time. This involves learning that one does not have to have complete information on every aspect of a situation before one makes a decision, but instead to recognize when one lacks critical information, and, if decision making is to be good, learning not to become preoccupied with one or two considerations to the neglect of other, perhaps more important, considerations.
4. Knowledge, based on experience, that one can cope with new situations and new people.

5. Knowledge, based on experience, that one can do at least some things better than other people.
 6. Knowledge, based on experience, that, should the need arise, one can change the patterns of one's competencies, learn to do new things, perhaps things of which one has no experience.
 7. Knowledge, based on experience, that one can master tasks that at first appeared to be too difficult.
- *Decision-making ability*: the spontaneous tendency to recognize, and subjectively take into account, the many factors involved in arriving at a good decision rather than to become preoccupied with only one or two of the relevant considerations.
 - *Willingness to tolerate the boring tasks* that are necessary in the course of achieving one's goals, but—equally—unwillingness to tolerate boring tasks that do not lead to important goals.
 - *Sensitivity to one's feelings and emotions*, and willingness to unleash them in order to attain a goal; being willing to recognize one's feelings and emotions and the tendency to put them to good use rather than to deny that one has such feelings.
 - *The tendency and the ability to lead effectively*: the tendency and ability to effectively enlist the help of others when necessary to achieve one's goals. The spontaneous tendency to do the things necessary to get others to turn their energies into goal attainment; the spontaneous tendency to notice, and do something about, psychological barriers to effective action on the part of co-workers and subordinates; sensitivity to organizational problems that prevent individuals from functioning effectively, and the ability and willingness to recognize and reward those who themselves attend to such problems to the detriment of their "work."
 - *The tendency and the ability to follow effectively*: the tendency to try to understand an overall programme of activity and take the initiative to work out one's own part in the whole, and get on with it, without having to be told in detail what to do.
 - *Tolerance for abstract thought* and a willingness, and tendency, to think about and plan to avoid, obstacles to the effective achievement of one's goals.
 - *Knowledge of, and tendency to use effectively, strategies for finding out how things work*: strategies for prodding institutions and other people in order to find out how they work, for prodding social situations in order to discover which are the most important variables. One can find out very little about people, institutions,

- or situations by simply looking at them or asking questions. One can, in many cases, learn a great deal more by stimulating them in some way and observing the reaction. Effective strategies for doing this at a research level are badly needed.
- *Tendency to seek feedback, ability to recognize it, and tendency to utilize it; i.e.,* (a) *Sensitivity*: knowledge that it is important to pay attention to slight feelings of unease, sensitivity to these feelings, and a tendency to mull them over, bring them into full consciousness, and act on their implications; (b) *Tendency to systematically review progress* toward the goal, ask why it had not been more effectively achieved, and make explicit the implications for one's future behavior.
 - *Tendency to notice resources*: to utilize the resources that *are* available, to find ways of getting things done.
 - *Ability to locate resources*: the ability to track down physical and human resources that would help one to tackle one's problems.
 - *Ability to learn without instruction*: the tendency and the ability to make one's own observations, to seek out one's own information, to make contact with others working on related problems.
 - *Creativity*: the tendency to mull over glimmerings of understanding, to toy with ideas; the tendency to turn things over to the unconscious when all the preparation that can be done has been done, and then to engage in activities that permit new ideas to come to the surface, yet remain sensitive to good ideas on the fringe of consciousness, springing on these and shutting off one's other work when they occur.
 - *Tendency to engage in integrated thought-action-feedback strategies* in order to generate effective action—rather than distinguish sharply between practical and intellectual activity and believe that one is more satisfying than the other.
 - *Willingness to tolerate the anxieties* that arise when one is not sure if one is doing the right thing or going about it in the right way; knowledge that these anxieties pass and that things tend to turn out alright in the end.
 - *Willingness to tolerate the frustrations* that arise when one tries to do something new. This is achieved as a result of repeated experience of having gone through the frustrations and arrived at important goals.
 - *Tendency and ability to set up win-win relationships with others*. Instead of subjec-

tively defining all situations as competitive, as situations in which if one person gains another loses, to develop a tendency to seek ways of defining situations such that both people involved can work toward the achievement of their goals.

- *Tendency to utilize experience* and use one's own skills and abilities in an effective fashion.
- *Tendency to sift the urgings of others* for useful information, but to discard some suggestions and injunctions and to modify others; in the end to rely on one's own judgment.

Summary Statement on the Nature of Human Resource Characteristics

In summary, then, we have drawn attention to the motivational nature of these human resource characteristics and broken them down into a set of values and a set of efficacy characteristics. We would argue further that, although the other human resource characteristics we have mentioned involve valuing different end states and courses of activity, the efficacy characteristics are generalizable across valued goals. Attention may also be drawn to the fact that it seems more important to possess a *number* of these components of effective behavior than to have developed any one of them to a very high level.

Although we have already mentioned them several times we may draw specific attention to the importance of *self-confidence* and *sensitivity* as all-pervasive components of effective behavior. A variety of types of self-confidence seem to be particularly important. These would include confidence that one can work effectively with others; confidence that one's judgment and decision-making ability are good; confidence that one can overcome unanticipated problems and take effective corrective action when necessary; confidence that one can find or invent the information one needs; confidence that one can change the pattern of one's knowledge, skills, and attitudes, should the need arise; and confidence that one can get other people to release their energies in the effective pursuit of important goals, that one can get them to put their best feet forward and pull their weight.

Development of all these forms of self-confidence would seem to involve going through sequences of learning experiences in which one develops higher and higher levels of the knowledge and behavior tendencies required. One cannot develop realistic self-confidence unless one has had ample experience of tackling difficult tasks of each type and being able to master them.

Another pervasive competency would seem to be sensitivity to one's feelings and ability to use the information provided by them. We would include sensitivity to feelings of enjoyment and dislike and the tendency to turn these emotions into goal attainment; sensitivity to feelings indicating that one has a problem or the germ of a solution; sensitivity to indications that one has not fully understood other people's concerns; sensitivity to other considerations that should be included in one's frame of

reference when making decisions; sensitivity to summative, impressionistic, judgments one may not be able to fully explain; sensitivity to feedback that indicates whether or not one is achieving one's goals and, if not, why not; sensitivity to resources that can help one achieve one's goals; and sensitivity to conflicts about the desirability of achieving one's goals and the tendency to do something about resolving those conflicts. Once again, it would seem, education could do much more to foster these forms of sensitivity.

EDUCATIONAL PROCEDURES NEEDED TO HELP PUPILS DEVELOP THESE CHARACTERISTICS

The speculations and reflections we have discussed raise the question of whether what is needed in education is both procedures designed to assist pupils to clarify their values and procedures designed to help them develop the components of efficacy and competence.

Value-Clarification Inputs Procedures to help pupils clarify their values may involve highlighting the consequences of pursuing different personal and end-state goals, consequences for both the individual concerned and for the society in which he lives, in different types of society or in different sub-sectors of society where different institutional structures are present. If one had adequate anthropological and research reports the long-term consequences of pursuing different goals through different methods in different institutional structures could be documented by using these reports. Students could be helped to absorb such research results by translating them into case history materials, role models, and educational "games."

Unfortunately most of the necessary research into the consequences of possessing different values and attitudes remains to be done, case history material still has to be collected, and demonstration exercises largely remain a thing of the future. It is, therefore, useful to consider the extent to which literature and history texts make certain values clear and portray their consequences in a useful fashion.

History books may suggest that the important determinant of what happens in a society is only the personality of the people in power, who comes to power, and the battles that are fought. Few questions are raised about the importance of beliefs and attitudes widely shared in the society. These may have led to particular sorts of individuals being placed in positions of power and authority or to their being able to wield their authority in particular ways. Questions might also be raised about the possible relevance of the values of the ordinary people, values and expectations widely shared in the population, which everyone in the society contributes to in a relatively inarticulate sort of way. Changes in these values and expectations may produce broad and continuing changes in society, changes over which great men and battles have relatively little influence. Such values and expectations may determine the general

direction in which a society develops, a direction that great men can articulate and hasten, or retard, but not basically change.

As far as literature is concerned one may ask what are the dominant values of the different characters portrayed and seek to make the consequences of these values more explicit. One would wish to trace the consequences for the individuals themselves, for their families, for the institutions in which they work, and for the society in which they live. How many of the components of effective behavior we have outlined do they portray? And what seem to be the consequences?

Efficacy Developing Inputs Leaving now the vital question of value clarification exercises and turning to educational inputs that would be expected to help students to develop the components of efficacy, it may be suggested that these might involve:

1. Providing pupils with opportunities to conceptualize these characteristics, with opportunities to analyze and think about them. One may wish to provide them with concepts in terms of which to think about the components of effective behavior, and then encourage them to:

- a. Think about their own previous behavior in these terms.
- b. Think about their future in these terms.

(Both of these would seem to be very important in that they would involve relating the conceptual framework to themselves and checking it for its validity.)

- c. Analyze case histories in order to see how these things have worked for other people and what the consequences were for them.
- d. Look at research results relating to the antecedents and consequences of these characteristics in different social structures.

As a result of doing these things the pupils should become thoroughly familiar with the concepts and relate them to themselves in such a way that they can do something about them.

2. Providing pupils with role models so that they can see more clearly how these things actually work out in practice and learn through that much-neglected educational input—imitation. Again case history material is important, but one ever-present role model is the teacher. If pupils see their teachers as downtrodden, ineffectual individuals, who complain that they are unable to do anything because of "the system" in which they find themselves (that is to say, because of the Ministry of Education), one can expect their pupils to behave in exactly the same way; if one

hears teenagers saying that the only thing that will do any good is a revolution that will change the system, one may guess where—at least in part—they learned it!

3. Providing pupils with opportunities to practice the components of efficacy so that they become well-formed and well-trying habits. In organizing such activities attention should particularly be paid to the following:
 - a. Pupils must have ample opportunity of practicing these activities for themselves—of triggering them off for themselves—so that they become able to engage in them *spontaneously* in the future. They must become sensitive to the situational cues that will tell them when to engage in these activities.
 - b. Pupils must have ample *experience of the satisfactions* that come from engaging in these activities: it is these satisfactions that will make them *want* to do these things in the future, and it is the knowledge that these satisfactions follow that will make them prepared to tolerate the frustrations, anxieties, and boredom involved in achieving their goals in the future.
 - c. Pupils must have opportunities of practicing these activities in *nonthreatening situations*. In real life a mistake often brings major punishments. The object of educational tasks must be to avoid these so that the individual will try out new ways of behaving and then be able to haltingly evolve more and more effective ways of behaving. This is particularly true of interpersonal competencies; a mistake in the performance of a new social role in a real-life situation courts embarrassment, ridicule, and disaster. New ways of relating to others must therefore be practiced in nonthreatening situations until they become strong enough and well formed enough to be used in the real world.

We may now draw out some of the implications of what we have just said and expand some of the points that have been made.

1. If the pupils are to practice generating activities for themselves, then at least some of their learning must take place through performing these activities in relation to goals important to them: one cannot expect pupils to learn to release these activities, to want to engage in them, to tolerate the frustrations involved long enough to experience the satisfactions that follow, if they do not value the goal in relation to which they are expected to practice these things.

In order to clarify the goals in relation to which teachers might take steps to generate sequences of learning experiences designed to achieve these goals, we have collected some information about pupils' spontaneous motivations, their concerns and their values—the things they will be keen to do—in relation to which it would be possible to develop sequences of learning experiences designed to develop these characteristics. This material is available in Raven (1976) and more detail will be found in the authors forthcoming book mentioned on the title page.

2. The learning experiences should involve educational games and role-play sessions that enable pupils to develop higher and higher levels of these characteristics, to try out and practice new ways of behaving, to check out for themselves verbal statements that the behavior is effective or enjoyable, and to experience the satisfactions that follow. They will then *know*, from firsthand experience, that the information they have been given is true and they will therefore not believe those who try to pour scorn on them and tell them that these things do not work in the way in which they are supposed to work; they will know from firsthand experience what it feels like to behave in this way, that they *can* behave in this way, and what the consequences are.

As we said earlier it is particularly important these learning situations involve group as well as individual activities so that interpersonal competencies can be tried out and developed.

3. The learning experiences must permit each individual pupil to experience the satisfactions that follow. As a result, the teacher's task becomes not to reward processes (such as trying hard) rather than the result (the right answer), but to structure individual sequences of learning experiences for pupils such that pupils experience the intrinsic satisfactions that follow, intrinsic rewards they will continue to obtain when the teacher is no longer present to reward them.
4. If pupils are to develop interpersonal competencies, they will need to gain insight into the way in which other people think and feel and the constraints that operate on them; once again role-playing exercises will help to develop this tendency, even if they themselves do not adopt into their own behavioral repertoire features of the role they play.
5. Not merely is it desirable for pupils to engage in these activities and to experience the satisfaction for themselves, it is also desirable for them to explore the consequences of a variety of ways of behaving. Pupils believe that if they are asked to take initiative a number of consequences will follow. Thus they may feel that they will be unable to tackle the situation; disaster will ensue; they will be exposed as incompetent fools; others will laugh at them, deride them, and lose their respect for them; they will not be able to obtain all the information they need to make a good decision; things will happen which they did not envisage and which they will not be able to control; others will not help them with their task and they will be unable to get other people on whom they are dependent to pull their weight; the whole exercise will be a thoroughly shameful, frustrating, frightening, and unpleasant experience.

If teachers develop carefully structured sequences of learning experiences they can ensure that pupils discover that these things do not happen; they can ensure that pupil's expectations are proved wrong. The learning experiences can also be struc-

tured to help pupils to develop the competencies required to ensure that these things do not follow. Developing these sequences of learning experiences involves teachers in branching out into new and uncertain areas where *they* will be uncertain of the consequences, and may have to take the corrective action later. But one thing is certain: so long as pupils continue to believe that these things *will* follow they cannot be expected to engage effectively in such behavior.

In summary, then, two features of the required learning experiences are: first, that pupils be able to practice and develop these efficacy characteristics through graded sequences of learning experience geared to goals that are important to them—if they do develop them in relation to those goals they should later be able to generalize them to other goals they come to value; and, second, that teachers develop case-history material, role models, educational games, and role-play sessions that will enable pupils to understand the components of effective behavior and practice that behavior—particularly its interpersonal components—in relatively nonthreatening situations.

Project Work Such components can also be developed through project work. However it is important to note that the project must be carefully organized to achieve these goals, and that it must be *evaluated* in terms of whether or not it has helped the pupils develop these competencies. If it is to continue to be used to try to foster these competencies, then evaluation must not be in terms of such things as whether or not pupils have mastered prescribed knowledge, or even in terms of whether they have made an “original” contribution to knowledge. It must be in terms of whether pupils have developed the competencies the teachers set out to develop. It is particularly important that pupils engage in project work of this sort. Many pupils leave school with built-in cognitive and emotional barriers to effective action. They believe that they are incapable of making their own observations and learning on their own. They believe they are incapable of getting others to work with them. They believe that they could not work with others who had different values, beliefs, and expectations. They believe they must leave all important activity to experts. Not surprisingly! If they never have an opportunity to explore the consequences of behaving in the ways we have discussed, they will never have an opportunity to experience the satisfactions that follow; they will never learn that the anxieties of doing a new task pass; they will never learn that they can take effective corrective action if they decide to do something about a problem, but, after considering all the information they can reasonably obtain, they set out in the wrong direction; they will never learn that their fears of dire consequences on engaging in certain sorts of behavior are unwarranted; they will never learn to tune in to their feelings and develop self-reliance; they will never learn how many different ways of perceiving situations there are; they will never learn how to enlist the help of others in achieving their goals; they will never learn that they can master tasks which at first appeared too difficult; they will never learn to take responsibility themselves; they will never learn effective strategies for relating to

others; they will never learn not to usurp responsibilities that can confidently be left to others; they will never learn the importance of paying attention to, and taking effective steps to influence, social processes outside the limits of their immediate job; they will never learn that they do not have to be certain of the outcome of an activity before embarking upon it; they will never learn that if they want to reach a goal the sooner they embark on relevant activities the better—otherwise the march of external events is likely to make it impossible to reach it.

Put more positively, it is clear that project work could be used to develop the tendency to work effectively with others, to understand other people with very different backgrounds and values, to develop respect for others, to develop sensitivity to problems; the tendency to reflect on vague feelings on the fringe of consciousness, bring these up into full consciousness, think about them and decide to do something about them; to develop the tendency and the confidence to think for oneself, the confidence and the tendency to initiate action in a coherent thought-action-feedback-thought-corrective-action strategy, the confidence to know that one could learn more about the situation one is dealing with from the effects of one's actions, the confidence to know that one need not inhibit action because one is not certain of the outcome but rather that one can monitor the effects of one's actions and take effective corrective action to achieve one's goals, the tendency to be sensitive to things that ought to be communicated, to invent ways of communicating them and to be sensitive to feedback that suggests ways in which the communication could be improved, and the tendency to notice the need to deal with community-wide problems and the tendency to take on oneself the responsibility for dealing with them—which involves taking steps to find out how community, national, and international institutions work.

Although all these things *could* be developed through appropriate forms of project work, it must again be emphasized that much "project work" is geared to none of them. Furthermore, different forms of project work are required to reach these various goals: one does not use the same form of project work to generate the ability to work with others and to respect other people's points of view as one does to develop the tendency to pay attention to the glimmerings of unease that indicate one has a problem or the germ of its solution (although the two may be combined). Furthermore, once made explicit, these goals can often be more effectively achieved through something which is more correctly described as an "educational exercise," with known characteristics and consequences, than through the much more haphazard procedures associated with project work, the success of which is so dependent on the understanding, insight, and intuition of particular teachers.

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