

## CHAPTER – 2

### ON TRAINING THE MIND

The training of the Child's mind is considered to be the aim or purpose of education. Throughout centuries philosophers and educators have frankly assented to the validity of the proposition that education is the development of the intellect. For many scholars, this development of the intellect is felt to be education, and schooling that focuses on practical instruction is anti-intellectual. A School that has vocation or professional objectives is merely training and not truly educating, since the life of the mind is deemed secondary or is ignored. Thus, education, truly speaking, is the training of the mind.

The question now arises, what is mind ? So many definitions are offered to describe mind by philosophers. Descartes claimed that mind is a non-material substance that thinks and has as its essence pure thought. Locke argued that mind is a *tabula rasa* or a blank tablet upon which the senses write a description of material reality. Russell asserted that the mind is brain functioning. Dewey asserted that mind is not a thing, but rather a name for an intelligently planned and directed course of action.

Whatever is the definition, the concept of mind in education has a purpose. The very means and ends of education depends upon the concept. The distinctions between classical and contemporary theories of mind lead to differences of opinion about mental discipline and, therefore to disagreements about the very means and ends of education itself.

The contemporary philosopher Gilbert Ryle\*<sup>1</sup> says that the official theory, which hails chiefly from Descartes, is something like this: with the doubtful exceptions of idiots and infants in arms every human being has both a body and a mind. This is not to

say that philosophic tradition views man as 'half material, half immaterial' or even 'half natural, half supernatural' so that both comprise the whole but neither is an integral part of the other.

It should be noted in passing that in the long stream of philosophical and educational thought the concept of mind has often been bound up with the notion of soul and thus mind-body dualism can also be seen to spring from a concept of soul. It is likely that the concept was not original but secondary and derived, for it seems clear that in the beginnings of his intellectual career man did not clearly distinguish between himself and his environment, between his thoughts and his actions, between his mind and his body. With the addition of the concept of 'soul' to his intellectual vocabulary man comes to define himself in dualistic terms.

The educational import of this is that the education of man must focus on training his mind, developing his intellect, so that he can fulfill his purpose as a rational being and develop his God-given ability to gain knowledge through reason. This is not to deny the importance of the body by way of physical education, is done indirectly for the benefit of the life of mind.

**CLASSICAL THEORIES OF MIND:** For some classicists the human mind was thought to be a nonmaterial entity consisting of pure form spiritually linked to a Universal Mind – sometimes described as God. Unclear as such concepts might seem to the philosophically uninitiated, they are indeed in the mainstream of Western philosophical and educational thought for with our cultural heritage we have become accustomed to hearing the propositions that God is an ineffable spirit and that he can when he wills reveal to us the truths of this universe. From this it was reasonable to conclude that mind, in itself and as such, is indescribable, indefinable. Even so,

depending upon the analogy preferred, mind was viewed either as a container of implicit ideas or concepts or as an undeveloped potential for the creation or receipt of ideas. Either way it served as a dynamo of infinite power.

Philosophic idealism, beginning with Plato, emphasizes the role of mind as an agent of reason or product of ideas. Knowledge is contained in or produced by ideas, ideas are the product of the mind, and therefore, the mind of man or God is the only sure and reliable source of knowledge. So, education is said to focus upon the training of the mind. For the idealist, then, mind is the power to produce or receive ideas, ideas that in their turn make the sensations or perceptions we receive intelligible and thus, in the process of concept formation, yields to us the power and ability to possess knowledge. Learning involves a two-way communication between minds and Mind. The training consists of tuning individual minds to the frequency of Absolute Mind so that it can vibrate by harmonic induction.

There is also a strong, deep, continuing tradition that mind is not a thing-in-itself, material or immaterial, and perhaps not even a part of or function of soul. Rather, 'mind' is a term we use to describe certain functions of the brain. In this tradition, whether the mind is seen as an independent nonmaterial entity casually linked to the dependent, material brain, or merely the brain as it functions in certain ways, it is said to act as exteroceptor and interceptor. That is, it acts externally to serve as a lens that reflects or transmits perceptions of the physical world to the intellect; and it acts internally as a receiver, classifier to translate perceptions into conceptions or ideas, by which a person comes to have knowledge.

In more recent years some segments of traditional thought, most notable aspects of philosophic realism in particular, have come to discard the 'soul hypothesis', which

linked mind to the soul and thereby laid the ground-work of the body-mind dualism, and to view man as strictly a biological organism. This view concludes that the mind-body dichotomy is an error and in consequence, sees mind itself as a word – a semantic device – that refers to a certain kind of bodily activity.

In classical thought, however, which runs from the pre-Socratic to contemporary philosophers and educators, it is generally believed that an agent or faculty called mind is necessary to explain and make possible human reason, knowledge, and the communication of ideas. For early classicists, such as the Idealists and the Thomists, mental activities like remembering, imagining, and thinking did not harmonize with their experiences of natural, physical phenomena. They could find these activities nowhere in nature, and thus they saw man as something apart from nature. So they concluded that mind exists and is both immaterial and supernatural. Later traditionalists rejected dualism as a tenable approach to man and mind and, instead, 'located' mind in the brain and defined it as a function of that bodily organ.

For most traditional philosophers, then, mind is the agent or the power to produce ideas; these ideas, in turn, make perceptions comprehensible through concept formation and, hence, give the human alone among all animals the ability to possess knowledge not only of man and the universe of things (the natural) but of mind and the universe of thought (the supernatural). Tuning his mind to an ultimate frequency is like tuning a piano. Writing lessons on a blank slate is more like fitting an upright with a piano role. Both persist.

**TRADITIONAL CONCEPTIONS OF EDUCATION:** Speaking from a traditional frame of reference it is obvious that men learn in many ways -- not the least of which is in the act of thinking, of reasoning; education is the training of the mind. It

does not make sense to say that the mind can be developed by thought when, indeed, we have already been told that it is the very function of mind to think and produce ideas. It makes at least as much sense to say that our muscles can be developed by hard work when, at the same time, we are told it is the muscles' very function to do work. And here is suggested one of the most wide-spread beliefs about mind, a belief that follows expectedly from traditional conceptions of mind: mind is a muscle to be strengthened by mental exercise; intellectual gymnastics will result in a generalized strengthening of the power to think and to reason.

Contemporary psychologists insist that the theory of mind as a muscle that can be strengthened by mental exercise is factually light-weight. But even so it is easy to see why educators who are impressed with traditional philosophic viewpoints try to find pedagogical methodologies that follow from, or are in harmony with philosophic conceptions of mind.

The educator impressed with idealism places such a stress on the Socratic dialogue – the give and take of ideas – as sound pedagogy. Given his concept of mind, he expects truth out of such a dialogue, in which two minds are being honed against each other this rational dialogue is like a chorus; each voice tunes the other until a clear note swells up and an idea rings true. After all the development of this choir of intellect is the end and object of education. Communication among minds within the field of force that is mind is the only way to classify ideas.

On the other hand the educator impressed with realism places such a stress on an 'object lesson' – the use of a physical object to stimulate and produce ideas in the mind – as sound pedagogy. Given his theory of mind, he expects that such a Pestalozzian 'object lesson', in which pupil would perceive, describe, discuss, and consider the object

at hand, will increase the mind's power to abstract, to reason, to acquire knowledge – and, after all, the development of a discriminating intellect is the end and object of education.

On balance, classical conceptions of education are geared to a theory of mind that grows out of philosophical and theological beliefs, rather than 'hard' empirical data about child behaviour and learning. These conceptions are, in the main, based on the assumption that man's dual nature requires pedagogical theories and techniques that would develop, improve, and strengthen that mind. The organic link, the functional connection, between classical beliefs about mind and education is best seen in traditional approaches to mental discipline. These point out the ways for tuning a mind or for inscribing a blank tablet.

**CLASSICAL CONCEPTIONS OF MENTAL DISCIPLINE** : In the classical tradition mental discipline means, first, developing the implicit powers of reason that lie embedded in the mind and, second, stocking the mind with knowledge. From this definition it follows that well-founded educational processes are those that ensure that pupils are carefully instructed in logic so they can reason correctly and of course, that pupils are given ample opportunity to stock their minds with knowledge.

In this context two presuppositions should be made clear : first, knowledge when properly defined consists of eternal verities rather than temporal facts, it is absolute rather than relative; second, this kind of knowledge can be produced by the mind only, not by the senses, since it comes from reason, not from experience. These twin beliefs about the means and of inquiry stand central to the traditional thesis of mental discipline.

The classical tradition in philosophy and education has held, and still holds, that the knowledge of most worth is metaphysical rather than empirical; and since empirical

or scientific inquiry does not lead to those absolute, metaphysical truths that constitute the corpus of knowledge those in the classical tradition conclude that fruitful inquiry must of necessity rely upon such non-empirical methods as reason, intuition, or revelation. From such a philosophic position concerning the nature of knowledge and the means and end of inquiry it has been concluded that the ultimate end of education can only be to develop the rational powers inherent in man's God-given mind and, by training and using these power to discover what universal truths we can have so as to stock-pile them in the minds of men.

Of these two components of the disciplined mind, the first – ability to reason – is said by some to be more important than the second – possessions of knowledge – since thought is the proper method of securing information. Without intending to undercut the importance of a mind, it retains properly conceived means – the development of reason through the medium of logic – and that this, rather than the possession of knowledge, is the proper end of education. This attitude is justified on the belief that the ability to reason is a general and heuristic power and therefore, a well trained mind is surely capable of attaining knowledge.

Even so, the majority of classicists reject this argument on the ground that it emphasizes means rather than ends. These traditionalists believe that since there are other means to the end of universal knowledge and absolute truth – the means of intuition or revelation – it is thus possible for man to have knowledge even though his rational faculties might not be fully developed.

Outstanding thinkers in the classical tradition have consistently insisted that means and ends should not be so torn asunder, stressing that mental discipline refers to both the process of reason (logical inquiry) and the product of that reason (true

knowledge). In this sense mental discipline has two related aspects, the mind whose power of reason have to be developed and the mind that is in possession of knowledge.

On balance, than, the classical tradition would have us believe that training the mind means developing our implicit powers of reason; and this, in turn, has often come to mean teaching pupils the rule of logical systems on the assumption that such systems represent the proper, correct, and intended use of the mind. And, still on balance, the classical tradition would also have us believe that the mind so trained is undisciplined – which is to say that it would, as a consequence, come to possess those bodies of certain, indubitable, metaphysical knowledge that represent ultimate and absolute truth.

In traditional thought logical reason is used as the means to metaphysical truth. And it presupposes that some knowledge, some truth can be had without the use of logic and reason. Or, in short there are some self-evident truths, things man knows to be true independently of his reason. The truth of these propositions cannot be doubted, they are seen to be true on presentation to our mind or they are known to be true because they were intuited by us or revealed to us. The concept of self-evidence thus becomes an integral part of the classical tradition in philosophy.

The second aspect of the classical approach is not whether a student should have at his command a fund of information, a collection of related facts, or an understanding of a body of knowledge. The issue is whether such a fund of information is an end in and of itself or whether it is means to the end of successful human activity; the issue is whether knowledge is of intrinsic or instrumental value.

Many contemporary philosophers, most notably pragmatists, prefer as a matter of linguistic convention to use the word 'knowledge' only to describe information that has been used as a tool in solving some human problematic situations. Quite to the contrary,

however, those in the classical tradition find such a distinction as disservice because reducing 'knowledge' to 'applicable information' gives knowledge the status of an intellectual harlot whose value is determined by its functional utility when, in fact, knowledge should reign supreme even if it is virginally pure and untouched by human use.

Classicists tend to view information gained through experience, as something less than true knowledge since it is relative and probable rather than absolute and certain experience. Knowledge worthy of the name is absolute, certain, and since these terms can never be applied to the results of empirical inquiry true knowledge is metaphysical and not empirical.

The well-stocked mind, then, does contain some empirical information of use but it also possesses a good quantity of higher quality information – absolute, certain, metaphysical knowledge. The latter governs the use of the former thus insuring that a wise man will be a good man. Thus, in the educational process, the classical tradition is most concerned about metaphysical knowledge, wrought out of reason, and somewhat considerably less enthusiastic about the empirical information that may be teased out of experience.

Education deals with the development of the intellectual powers of men. But we cannot talk about the intellectual powers of men though we talk about training them, or adapting them, and meeting their immediate needs, unless our philosophy in general tells us that there is knowledge and that there is a difference between true and false. We must believe, too that there are other means of obtaining knowledge than scientific experimentation and if we are to set about developing the intellectual powers of men through having them acquire knowledge of the most important subjects, we have to

begin with the proposition that experimentation and empirical data will be of only limited use to us. \*2

The classical tradition holds that man has a mind with inherent intellectual powers; that man can, if he wills to develop these powers of the mind, come to recognize clearly true, absolute, and certain knowledge; that the school is the deliberate instrument by which man's mind can be trained and knowledge warehoused therein; but that all based upon an epistemology based on a prior knowledge and self-evident truth, a psychology of mind that emphasized logical reasoning, and an axiology that prizes knowledge most highly for its own sake.

**CRITIQUE OF THE CLASSICAL TRADITION** : Educators in the classical tradition, impressed with this kind of philosophical reasoning took the traditional approach to intellectual discipline to mean that they should (a) 'teach logic' (b) 'teach facts'. Less crudely put, convinced of the need to produce pupils who could think clearly and had command of a body of knowledge, and yet painfully aware of the rational limitations of pupils, these educators developed over the centuries an approach of teaching and learning based on the belief that teaching is the presentation of proper bodies of fact and value (e.g., teaching is talking), while learning is the demonstrated acquisition of this fund of information (e.g., learning is remembering). To this view of knowledge as conclusions digested was added the process of making children wrestle with abstract, contents logical or mathematical derivations which somehow represented the ideal of reason.

In more recent years, however, many philosophers and educators have become disenchanted with both the means (logical reasoning based on self-evident truths) and ends (possession of knowledge for its own sake) of education as represented by the

classical tradition. One major criticism is that the means is intellectually short-weighted. Fredrick Neff illustrated problem thus, “Needless to say, such a system resulted more in continually reaffirming conventional creeds than in anything like fresh or vital modes of inquiry. In fact, honest inquiry was virtually impossible, for such a system required that the premises of logic consist of propositions already firmly established by traditional outlooks, since no new conclusion could emerge, intellectual disciplines consisted largely in mastering the rules of logic, rather than in questioning or inquiring.”<sup>\*3</sup>

In fine, the means are subject to the practical criticism that they are in fact not productive even of the ends sought. As for the ends of education, when translated into a theory of mental discipline holding that the mind is a passive instrument to be stuffed full of knowledge that may or may not have any human utility. Alfred North Whitehead criticised this position as follows : “..... The mind is an instrument, you first sharpen it, and then use it; the acquisition of the power of solving a quadratic equation is part of the process of sharpening the mind ..... I do not know who was first responsible for this analogy of the mind to a dead instrument..... Whoever was the originator, ..... or, whatever its weight of authority, whatever the high approval it can quote, I have no hesitation in denouncing it as one of the most fatal, erroneous, and dangerous conception even interfused into the theory of education. The mind is never passive; it is a perpetual activity, delicate, receptive, responsible to stimulus. You cannot postpone its life until you have sharpened it.”<sup>\*4</sup>

Dewey in his criticism says that schools under the influence of the classical tradition too often view education as the passive absorption of knowledge : “in schools those under instruction are too customarily looked upon as acquiring knowledge as theoretical spectators, minds which appropriate knowledge by direct energy of intellect.

The very word pupil has almost come to mean one who is engaged not in having fruitful experiences but in absorbing knowledge directly. Some thing which is called mind or consciousness is served from the physical organs of activity. The former is thought to be purely intellectual and cognitive; the latter to be an irrelevant and intruding physical factor.” \*<sup>5</sup>

Dewey also says, ‘ It would be impossible to state adequately the evil results which have flowed from this dualism of mind and body, .... In part bodily activity becomes an intruder. Having nothing, so it is thought, to do with mental activity, it becomes a distraction, an evil to be contended with. For the pupil has a body, and brings it to school along with his mind. Any body is of necessity, a well-spring of energy; it has to do something. But its activities, not being utilized in occupation with things which yield significant results, have to be frowned upon. They lead the pupil away from the lesson with which his ‘mind’ ought to be occupied; they are sources of mischief. The chief source of the ‘problem of discipline’ in schools is that the teachers has often to spend the larger part of the time in suppressing the bodily activities which take the mind away from its materials. A premium is put on physical quitted, on silence, on rigid uniformity of posture and movement, upon a machine – like simulation of the attitudes of intelligent interest.”\*<sup>6</sup>

Paradoxically enough, the separation of mind from body and the subsequent traditional emphasis on the mind has led, in educational practice, to a co-emphasis on verbal learning which too often has dwindled to mere verbalism. “The common assumptions that, if the pupil only thinks, one thought is just as good for his mental discipline as another, and that the end of study is the amassing of information, both tend to foster superficial, at the expense of significant thought. Pupils who in matters of

ordinary practical experience have a ready and acute perception of the difference between the significant and the meaningless, often reach in school subjects a point where all things seem equally important or equally unimportant, where one thing is just as likely to be true as another, and where intellectual effort is expended not in discriminating between things but in trying to make verbal connections among words.”\*<sup>7</sup>

**THE RECENT CONCEPTION OF MIND** : A position counter to classical rationalism emerged when Francis Bacon published his *Novum Organum*, in which his conception of a new method of inquiry laid the basis for what we call the ‘scientific method’. A second intellectual tradition – scientific empiricism – had so firmly established itself that it partially eclipsed theology, traditional philosophy, and literature. Unable to cope well with value and moral problems the empiricists encouraged the well-known separation between science and values.

In this more recent period, which was characterized by the growth of empiricism in science and philosophy, traditional conceptions of man, mind, and mental discipline have been discarded by most scholars. Dualism in philosophy has largely been supplanted, and few contemporary secular scholars continue to view man as part mind, part body. But in recent years, at least two newer conceptions of mind have appeared.

The first growing out of a modern empirical realistic philosophy continues to look upon mind as an internal activity but now as a physiological function of the brain rather than as the ratiocination of a disembodied intellect. The dualistic metaphysics of an earlier realism has been rejected and, in its stead, man’s mind – or, more aptly, the term ‘mind’ – refers to bodily activity located or centralized in the brain and corresponding nervous system. Even though this has discarded the ancient metaphysics

and has replaced the 'mind, substantive' with the 'mind, brain functions', it does retain some ties to its antecedents in that it postulates that successful mental functions are dependent upon sensory perception that 'write' upon the brain.

The first of the newer views, then, might fairly be identified as a bio-physiological conception. It is a conception of mind that is basically acceptable by contemporary behavioural scientists. According to this view we would not be in error if, to make communication more precise, we simply dropped the 'word "mind" from our scientific, philosophic, and educational vocabularies. Quite obviously, if we did so the idea of 'raining the mind' would make neither literal nor figurative sense, for it would suppose training something that does not, in fact, exist. Training the brain resembles programming a computer.

There is, however yet another and newer conception of mind which suggests that even this approach to mind and mental activity has short – comings, not the least of which is that it restricts the concept of the functioning of an individual brain, thereby defining an individual in bio-physiological terms.

The inference to be made, of course, is that there are no good, compelling reasons for locating mind either in the soul or in the brain, and that they are unimaginative educators indeed who can form no conception of the mind and its functions apart from an individual soul or brain.

It is suggested that mind, while obviously the product of biological evolution, is restrictively conceived when viewed merely as a physiological function and is better viewed as having social as well individual functions. Put directly, this modern empirical position is that mind is most fruitfully defined as purposeful human activity, individual or social, rather than as an immaterial object as in the classical tradition, or even as the

brain functioning as in another contemporary empirical tradition. One reason for preferring such a bio-social theory of mind is that it avoids the fallacy of misplaced concrete-ness, or the error of verification, which occurs in most classical and some contemporary definitions of mind.

This view (bio-social) holds that 'mind' is a word we can justly employ to describe a kind or quality of relationship between man, men and environment. It is not an immaterial substance located in the soul, or in any way to be limited to an individual physical organism or encapsulated by the skin. Rather, in the words of Dewey, mind is "..... precisely intentional, purposeful activity controlled by perception of facts and their relationship to one another. To have a mind to do something is to foresee a future possibility; it is to have a plan for its accomplishment; it is to note the means which make the plan capable of execution..... It is to have a plan which takes account of resources and difficulties. Mind is the capacity to refer present conditions to future results, and future consequences to present conditions."\*<sup>8</sup>

"Mind" thus refers to the substance of plans, ideas, and aspirations. It does not refer to any substance in itself, or to the substance that supposedly produces plans, ideas, and aspirations. It is simply wrong-headed to think of the mind as an immaterial object. Further, it is not completely satisfactory to think of mind as merely a term to describe certain functions of the brain although, of course, mental behaviour is indeed inescapably related to the physiological functioning of the brain. It may only be man's lack of experience with other organisms that make him conclude that a brain is absolutely essential to thinking.

According to this view a brain can function without at the same time engaging in 'mental' (as differentiated from physiological) activity. Mental activity, or mind ("mind-

ing” activity) is present only when a person deliberately employs his biologically given, environmentally developed, and brain-centered intelligence to design or plan a specific course of action. In the words of Dewey in this concept of mind : “.... Mind appears in experience as an ability to respond to present stimuli on the basis of anticipating future possible consequences, and with a view to controlling the kind of consequences that take place.”\*<sup>9</sup> It means simply that ‘mind’ is not a name for something complete by itself; it is a name for a course of action in so far as that is intelligently directed; in so far, that is to say, as aims or ends, enter into it, with selection of means to further the attainment of aims.

In this view of mind, ‘Mind’ as a concrete thing is precisely the power to understand things in terms of the use made of them and a socialized mind is the power understand them in terms of the use to which they are turned, in joint or shared situations contemporary philosophers and educators would certainly agree with the age-old proposition that the proper end of education is the training of mind. Indeed, the intellectual father of progressive education, John Dewey, asserted that it is education’s business to train the mind. But he did not mean to fill a battery with acid so it could power the machinery of the body, but rather to regulate an ever-present power- flow which is at one with being alive. One does not train the mind, but rather he trains someone to ‘mind’ into business.

**RECENT CONCEPTIONS OF MENTAL DISCIPLINE:** The basic differences between philosophers and educators, as we have tried to show, are not easily resolved, for they spring from the very root of man’s conceptions of himself and the universe he inhabits. Consequently, when such diverse thinkers, whom we have used as representatives of the classical and modern traditions in philosophy and education, agree

that training the mind is the prime function of education, it can be assumed that each means something significantly different from the other by the terms, "mind" and "training the mind"

This point is easily demonstrated for, if "mind" is conceived of as a term that describes the quality of behaviour, conception of mental discipline emerges. Rather than insuring that pupils can reason deductively from self-evident axioms, or filling pupils' heads with facts, mental discipline comes to mean the development of intellectual habits, designed to help pupils analyze past and present behaviour. Again, to cite Dewey :

"....., it is its (education's) business to cultivate deep-seated and effective habits of discriminating tested beliefs from mere assertions, guesses, and opinions to develop a lively, and open-minded preference for conclusions that are properly grounded, and to ingrain into the individual's working habits, methods of inquiry and reasoning, appropriate to the various problems that present themselves ..... The formation of these habits is the Training of the mind."\*<sup>10</sup>

This conception of mental discipline is 'generally' similar but 'specifically' different from traditional conceptions. It is 'generally' similar in that like transitionalism, it is concerned with the processes and products of human reason; but it is 'specifically' different in its approach to both the process and the product of intellectual inquiry. More simply, both classical and modern thinkers are concerned with the means and ends of mental discipline, but they disagree about the nature and meaning of those means and ends. One of the significant differences might be characterized by noting that the classical approach has emphasized acquiring while, in more recent times, the modern approach has come to emphasize inquiring.

Classical thinkers see the end of intellectual activity, or 'acquiring', as the mastery and possession of some fixed, final, antecedently existing body of knowledge that is of intrinsic value; while modern thinkers, on the contrary, see the end of intellectual activity, or 'inquiring', as the creation and implementation of a well-designed and well-executed plan of action geared to the resolution of some difficulties, some problems – the inquiry, therefore, presupposes that all bodies of knowledge are contingent, relative and of instrumental value. The issue, sufficiently put, is whether or not knowledge is an end in itself or a means to the further end of helping man to solve his problems.

The differences between 'acquiring' and 'inquiring' suggest different methodologies of coming to know. The methods of rationalism might well be proper if one wants to 'acquire', but if one wants to 'inquire', the methods of empiricism are more appropriate. The newer conception of mental discipline therefore, rejects the traditional belief that pure reason, or intuition, or revelation can lead to knowledge, thus denigrating the classical emphasis upon deductive logic as an infallible means of discovering truth. But it does not reject logic, deductive or inductive. Logic can be a useful tool in an empirical methodology – useful only when it is geared to premises that have been tested and empirically verified, and when the conclusions suggested by the use of logic are also subject to the further test of experience. Validation, then, means meeting the test of carefully examined human experience, not obvious self-evidence or consistent logical proof.

We perceive an underlying intellectual assumption of the empirical approach to mental discipline : the pupil, the inquirer, cannot hope to find an infallible means of inquiry, nor can he hope that his inquiry will lead to infallible conclusions which would

represent absolute, permanent knowledge. In fine, knowledge does not have intellectual tenure; truth is not permanently appointed; and information is promoted to the status of knowledge only when it has been or can be used in the solution of a problematic situation.

The process of inquiry proceeds when the inquirer observes, analyzes, speculates, and thinks about the nature of the situation in general and the problem in particular: It comes to a focus when, on the basis of the intellectual review, he formulates some description or definition of the difficulty and in terms of that definition, formulates a hypothesis about the course of action that would, hopefully remove the difficulty and make the situation less problematic. It moves to a climax when the hypothesis is tested, actually put into action, and, if such action verifies the hypothesis that particular inquiry is concluded and in consequence, knowledge is achieved. In this context mental discipline refers at least to the hypothetico-deductive process by which (1) the problematic situation was analyzed, (2) a hypothesis was formed, and (3) the hypothesis was judged or seen to be successful or unsuccessful. This is a plan for inquiring. If 'mind' is to have a plan for action, then 'mental discipline' can only refer to the process of 'minding' the process of formulating and executing such plans.

Thinking does not occur in a vacuum; thought is stimulated by problems which are always contextual; ideas are plans of action requiring experiential tests; and knowledge becomes valuable if and only if it can be instrumental in the solution of some human difficulty. Thus we may recapitulate by saying that thinking does not occur just as 'general principles'. There is something specific which occasions and evokes it. General appeals to a child or to a group up to think, irrespective of the existence in his own experience of some difficulty that troubles him and disturbs his equilibrium, are

futile for the fact of the matter is that 'the method of intelligence manifested in the experimental method demands keeping track of ideas, activities, and observed consequences. This is a matter of reflective review and summarizing, in which there is both discrimination and record of the significant features of a developing experience. To reflect is to look back over what has been done so as to extract the net meanings which are the capital stock for intelligent dealings with further experiences. It is the heart of intellectual organization and of the disciplined mind.\*<sup>11</sup>

Wherein mind stands for an activity, mental discipline refers to a process of critically reviewing and carefully reconstructing experience rather than merely riling the brain's memory cells with data that are to be juggled about in the abstract by the application of pure reason without any consideration of implementation. He who has a disciplined mind, therefore, is he who has carefully developed the habits of reflecting on past experiences, his own and others, selecting out of experience by empirical inquiry and by thought those elements and patterns that can be used to influence and direct his future experience. It is in precisely this sense that the word 'mind' is best used to describe a plan of action, and the term 'disciplined mind' is best used to describe a person whose present actions and future plans are based on a critical analysis of past experiences and a deliberate decision about the nature of desired future experiences.

The educational activity of 'training the mind' can mean little more than providing people with conceptual tools and envioning conditions that allow them to learn to distinguish beliefs grounded in experience from those imposed by authority and to form judgements based on an analysis of data yielded by experience instead of mindlessly accepting judgements offered to them by 'common sense'. In short, to train the mind means to develop habits of inquiry that, by fruitful resolution of problems,

increase a person's control over future experience. Much of minding involves doubting the fixed truths that the classical tradition hands down as knowledge. This sets the fallibilist against the dogmatist, the absolutist against the rationalist. These deep splits cannot be bridged by agreement on a phrase such as 'training the mind'.

**RECENT CONCEPTIONS OF EDUCATION:** Out of this recent philosophy of mind, and the theory of mental discipline an approach to education has been developed. This attempts to avoid the pedagogical pitfalls brought about by both a mind-body dualism and a theory of mental discipline that holds that training the mind is, in effect, exercising the mind and on such ground justifies rote learning and the sheer acquisition of sheer facts. Instead, this newer conception of education emphasizes activity rather than passivity. But mere activity or sheer physical activity, is not what is here suggested; the activity to be educational should be purposeful and planned and here lies an important task for the educator: to help students to learn to act, to behave, in thoughtful and meaningful ways. It merely recognizes first, the existence of potentiality and, second, that educative experiences of the individual in school and out will determine the degree to which mindfulness is characteristic of his action. What happens in the classroom will be a potent factor in determining whether his actions remain routine and blind or are distinguished by an awareness of what they are about.

Here education hopes to focus upon total human behaviour – or on 'the whole child', rather than on one aspect of behaviour; here education hopes to focus upon experience, from which both the means and ends of education are drawn; and here, above all, education hopes to focus upon intellectual behaviours the 'training of the mind' for behaviour unguided by intellect is aimless and unproductive, and experience

unexamined and guided by intellect is but a series of related yet discrete events incapable of contributing to the improvement of individual or social life.

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1. Ryle, *The concept of Mind* (New York: Barnes & Noble, Inc, 1994) p.11.
2. Robert M. Hutchins, *The conflict in Education in a Democratic Society* (New York: Harper & Row Publishers, 1953).
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