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THE PROCESS OF PERSEVERANCE

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BRIEF DEFINITION

Perseverance is the process of maintaining appropriate efforts toward the actualization or integration of some consciously adopted intention or purpose when encountering difficulties or resistance in the path of fulfillment.

ELABORATE DESCRIPTION

Perseverance or persistence has long been recognized in the literature as a distinguishing characeristic of intentional behavior. McDougall (1908) cites persistence as one of the objective features of Purposive activity. Tolman (1932) ranked persistence-until-ends-are-attained as a basic criterion for molar purposive behavior, while Lewin frequently focused on the persistence of tension between psychological regions of the individual, which he considered to be a causal factor in the sustenance of goal-oriented action. Even the behavioristic schools of Experimental Psychology represented by Hull and Skinner are concerned with the problem of continuous and persistent behavior, although their conceptualization of the consturct is based entirely upon extrinsic environmental variables and is devoid of any reference to internal organismic factors. The research upon which the various theoretical approaches are based falls into three distinct categories. (feather 1961)

The first category includes those studies which have treated perseverance as a personality trait which is assumed to be relatively stable in avariety of circumstances. Typically these studies have attempted to determine whether there is a consistency manifested within the perseverant behavior patterns of a person from one situation to another. Consistency,

where it is manifested, is assumed to allow the inference of a relatively invariant personality characteristic. The short-coming of this approach is that the role of situational factors in behavior tends to be ignored since the emphasis is on personality structures or traits which transcend the situation.

The second group of studies are comprise of those centering upon the phenomenon of resistance to extinction. Although this large body of literature is not commonly classified under the topic of perseverance some of the research is actually quite relevant since it involves the study of persistence on a difficult task without reinforcement(success) after having been trained on a particular type of reinforcement schedule. The number of trials the subject performs before extinction constitutes the measure of perseverance. Since these studies deal exclusively with the influence of situational variables they generally ignore the possible effect of transituational personality differences.

Perseverance as a Personality Trait

Among those studies in which perseverance is conceived of as a trait underlying behavior, a factor analylis of an investigation by MacArthur (1955) yielded factors of 'withstanding discomfort to achieve a goal', willingness and/or ability to endure discomfort', and, 'stability of character'. Although there is some evidence that suggests that perseverance is a unitary trait (Eysenck 1953), it is important to note that several investigators have not been able to confirm this. For example, perseverance on a physical task (such as a handgrip excercise) does not always correlate significantly with perseverance on a mental task (such as a puzzle). Likewise persistence on a dull repititious task (such as crossing out figures) does not necessarily intercorrelate with persistence in solving a mathematical problem. It is this

knowledge that the task parameters play an important role in determining whether or not an individual will persevere that draws attention to those studies concerned with resistance to extinction.

The paradigm case is one in which a subject learns that a certain action or response in a situation produces a desired result of reinforcement. Once he has learned the connection, the reinforcement is terminated (without the subject's knowledge) and the number of times he continues to execute the response without the reward is taken as the measure of his perseverance. Different investigators have introduced changes into various aspects of this paradigm case in order to observe how perseverance is affected by altering the situation. Briefly summarized the findings are; (1) when reinforcement is given intermittently (20%-40% of the time) there is great persistence than if it is administered very frequently (70%-100% of the time), (2) when reinforcement during the acquisition of response is administered irregularly at varying time intervals the person shows greater persistence than when reinforcement is administered during regular intervals. Thus the greatest persistence is developed by those subjects receiving variable and intermittent rewards. Subjects rewarded intermittently on a regular schedule exhibit less perseverance, and the least degree of perseverance is shown by subjects who were trained on a fixed 100% schedule.

How are these findings to be interpreted? Why should infrequent rewards elicit greater persistance than frequent rewards? The most plausible explanation is that it is not clear to the subject when training ends and when extinction begins, i.e. he does not know when the reinforcement has been terminated because he does not know exactly when to expect it under normal conditions. This means that his expectancy of being rewarded in any given occassion may be quite low and is less likely to change after an unsuccessful trial than if the expectancy for a single instance were at a high level.

Thus the expectancy, or the degree to which a person believes his continued effort will culminate in the intended result, remains higher after two or three unrewarded trials for a subject who is reinforced infrequently and irregularly and hence he is more apt to continue responding in the face of difficulty or obstacles to success. Jenkins and Stanley (1950) found that expectancy during extinction was inversly proportional to the percentage of reinforcements during acquisition. Expectancy of success in a particular situation, however, is only one of the factors bearing upon perseverance.

Another important element is how much control the individual believes he possesses over the situation i.e. whether he feels he is responsible for what happens. If the person perceives the control of the situation as external to himself he will less readily persevere than if he perceives himself to be somewhat in control of the rewards and consequences of his actions. James and Rotter (1958) observed two groups of subjects perform under both 100% and partial reinforcement conditions. One group was led to believe their reward schedule was dependent upon chance while the other group believed skill was a determining factor in their reward pattern. Under both the 100% and partial reinforcement schedules the groups operating under the skill conditions persevered longer than the 'chance' group.

Another situational factor which affects perseverance is the number of alternative response routes available to the subject. Perseverance is markedly greater in tasks where more than one course of action is available following failure of the initial strategy than in those instances where response tends to be restricted to a particular action. However, the amount of time spent on any one activity is an inverse function of the number of alternative and equally promising activities which the individual knows open to him. When he has but one means of tackling the problem his perseverance in it is strikingly greater than it is on the first of two attacks.

When he has as many as seven alternatives he abandons the first very readily (Robinson 1940).

We now proceed to a discussion of the literature which conceives persistence as a motivational phenomenon, the result of an interaction between stable personality characteristics and immediate environmental conditions.

Lewin

Lewinian field theory has long recognized the need to consider behavior in terms of interfacing personality and situational parameters. Lewin observed that " what is usually called persistence is an expression of how quickly goals change when the individual encounters obstacles" (Lewin 1946). He saw perseverance in terms of a frustration situation in which a person in a state of tension is separated by some psychological distance from a goal. This barrier is the source of restraining forces which oppose the positive forces acting upon the person in the direction of the goal. Lewin was never explicit about the nature of this psychological barrier but presumably it could take many different forms, e.g. physical distance, effort, or time. The degree to which this frustration barrier caused a individual to abandon his origianl intention and turn toward other goals was postulated to be a function of the individuals personal history of successes and failures in similar past situations. Lewin cites a series of studies of young children by Fajan (19) which serve to illuminate this relationship. The findings may be summarized as follows: (1) While past experiences of failure produced a decrease in persistence at the task (persistence was taken as a function of the duration of effort exerted toward a goal), previous success experiences produced an increase in persistence. (2) When praise and encouragement accompanied previous success experiences there was an even greater increase. (3) Fajan found persistence to be inversely proportional to the subjects distance

from the goal i.e. persistence became stronger with decreasing distance from the goal.

Perseverance and Achievement Motivation

Additional input to this interactive perspective is offered by several studies in the area of achievement motivation. The theory of achievement motivation was developed during the early 1950's by McClelland and Atkinson as a means of systematically interpreting the observed tendencies in some individuals to value consistently striving for success at difficult tasks. The central construct of the theory,"the achievement motive", is defined as the tendency to consider activities as involving evaluation of the outcome on some scale of excellence, and the tendency to find success in this kind of performance as rewarding (McClelland and Atkinson 1953). In such a situation successful performance at a difficult level is highly valued and is generally accompanied by a feeling of pride and accomplishment while failure at an easy level is negatively valued and is generally accompanied by a feeling of shame and embarrassment. This latter aspect is often called the 'motive to avoid failure' and correlates highly with test anxiety.

At least three studies (Winterbottom 1958: Thomas 1956: French and Thomas 1958) indicate a strong positive correlation between the need for achievement (n Ach), as measured by the Thematic Apperception Test and persistence. The results of these studies suggest that, (1) the subjective probability or expectancy of success and the positive (extrinsic) incentive value of success both show a positive correlation to persistence, (2) the subjective probability or expectancy of failure, the negative incentive value of failure, and the motive to avoid failure (M af) all correlate negatively with persistence.

The theory predicts that if the other extrinsic factors are held constant, when the motive to achieve success is greater than the motive to avoid failure, the resultant motivation is to perform the task while, on the other hand, if the motive to avoid failure exceeds the motive to achieve success the resultant motivation is to avoid performing the task. Likewise, perseverance, the tendency to continue moving toward a goal in the face of frustration or failure, is manifested only when the total motivation to perform the task is greater than the motivation to avoid the task or to do something else.

Perseverance as a Process

In this brief review of current theoretical treatments of the phenomenon of perseverance we have made an effort not only to extract the useful data offered by each but also to point out some of the limitations inherent in each conceptual approach. The basic difficulty with these approaches is that perseverance takes the form of "thingness" i.e. as a construct it is presumed to be a rather fixed, static quality or faculty possessed by the individual which can be activated to varying degrees according to the specific attributes of the particular occassion. The other equally unsatisfying position is to frame the concept exclusively in terms of behavioral attributes manifested as a function of environmental changes. Either way the resultant construct is the result of high abstraction which tries to isolate the property from context. This methodology is presumptuous because it purports to represent the immediate reality of experience when in fact it can hardly be more remote from this reality. Nor can a compromise of these two extremes yield a satisfactory solution because neither approach deals with the dimension of evolutionary construction-- a dimension of crucial importance inasmuch as we assume the most salient quality

of all forms of being is their participation with respect to one another in a never ending flow of creative transformation, i.e. reality is seen as a process.

Thus there can be no separation or abstraction of a thing from its context of interrelatedness with other things in the continual progression toward novelty. To do so would be self-contradictory since it asks us to conceive of a thing as not a thing. A science which selectively abtracts experience into static form or substances thus becomes incapable of a coherent and sufficient interpretation of experience. Whitehead states, "Each instance of concrescence is itself the novel individual thing in question.* There are not the concrescence and the novel thing; when we analyze the novel thing we find nothing but the concrescence" (1928:321).

Thus the fundamental meaning of "process" as we will heretofore use the concept refers to the creative expansion of the organism toward novelty, creativity being the ultimate and universal principle by which the many, disjunctively become the 'one' conjunctively.

Perseverance as a process then is a natural phase in the teleological aspiration of the organism toward the unfoldment of potentiality in the act of will.** Perseverance is the operation of maintaining the actualization of

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* Whitehead explains that concrescence is the name for the ultimate organismic process in which the 'universe of many things acquires an individual unity.' 'The production of novel togetherness is the ultimate notion embodied in the term concrescence.' He also notes that concrescence is analyzable and that analysis discloses operations transforming entities which are individually alien into components of a complex which is concretely one. cf Process and Reality, An Essay in Cosmology p. 321-322

** Perseverance constitutes one phase of the more general process of will. Other phases are 1) intrinsic arousal --self initiation of the translation of potentiality into actuality, 2) intrinsic restraint-- the self initiated negation of process in a particular direction, 3) effecting closure, consummating a relative integration of the actual occassion in question -- the culmination of the concrescence marking the evaporation of all indetermination.

purpose when this ongoing process encounters resistance. Resistance may take the form of distractions (propensity to engage in activities extraneous to the immediate task), time, obstacles (both physical and non-physical) waning energy level, insufficient knowledge. Accordingly, perseverence may be defined as the pressing force of purpose at the threshold of some novel consummation upon an occassion of transmutation. Perseverance as the maintaining phase of purpose implies an apprehension of personal efficacy upon ones future i.e. a sense of expectancy and control. In addition, the intensity or magnitude of perseverance depends upon the strength of the underlying intention, level of aspiration, and the extent to which the organism is able to attend or focus upon the circumscribed aspects of the situation relevant to the particular concrescence.

It is important that any definition of perseverance be firmly based upon the conception of its organic nature as a process inextricably related to the total process of actualization. To attempt a description via abstracting and isolating the concept from this context is to completely lose sight of its meaning. It should be clear at this point that the concept of perseverence simply cannot be reduced to any characteristic behavioral pattern without resulting in triviality. For example, perseverence does not necessarily mean mere repetition or rote activity. In some cases it may involve giving up or yielding one course of action in order to come back and try another approach to the same problem. Perseverance also does not invariably imply incessant activity. It may mean an individual attempt something intermittently, working a little at a time, perhaps even stopping altogether to await the appropriate time to resume action.

THEORETICAL JUSTIFICATION

There is surprisingly little research that has dealt directly with the relation of perseverence to learning. In fact, if one examines the literature dealing with resistance to extinction, one might almost conclude that perseverance is equivalent to a rigidity or insensitivity to new learning since resistance to extinction actually measures the persistence of a response pattern which has now become inappropriate to the situation. However, it must be remembered that perseverence in terms of an organismic process cannot be encompassed within the confines of such a construct as resistance to extinction. Indeed this is a testimony to the hazards which psychology entertains when it sacrifices adequacy and consistency in favor of a successful methodology. As it now stands this methodology, which insists upon the abstraction and isolation of only those elements of a particular and narrow stratum of experience that lend themselves to expedient measurement, has incarcerated the conceptual lucidity of the psychology that created it. Thus we are left without the usual arsenal of research data to command in support of our argument that perseverence is a critical element in the process of becoming. Yet there is still recourse to the sentience of informal knowledge and experience. However, before appealing to this I feel it encumbent upon me to dutifully exhaust what precious little constipated wisdom the formal literature has to offer in this direction.

Morgan (1941) studied the relation between level of achievement and perseverence. Two groups of children equated for IQ and age were given a problem for which there was no final solution. One group had completed several training sessions in a persistence maze (an excercise supposedly designed to develop perseverence). This group worked longer as a whole and generated superior solutions than did the control group. These results hardly

seem surprising-- it seems almost obvious that all other things being equal a person who further extends his efforts toward some task is likely to emerge with higher quality solutions. Yet it would certainly be the epitome of presumption to assert that all variables except one could ever be held equal, even in a laboratory situation. This observation brings us back to the point of reckoning with the yet unexplicated interrelation of perseverence with the other aspects of personality.

To reiterate an earlier point, we conceive the fundamental phenomenon characterizing human fulfillment to be the continual and novel integration of diversity. The creation of new levels of unity presupposes the creation of diversity. This latter depends upon the process of differentiation-- the particularization of experience proceeding from a prehension of the uniqueness underlying its many parts, aspects and levels. Again we must caution against regarding these tandem operations, differentiation and integration, as objects. They are processes which are enacted. The animating stuff which draws this process forward is man's volition, the process of bringing one's sense of future and purpose to bear upon the immediate present. In the situation where ones aspirations bring one to the frontier of his knowledge or development, the actualization of potential often requires sustaining an intense degree of effort on a continual basis. However, it is precisely when the person is pressing upon the frontiers of his being that he is most intensely involved in the act of becoming. Thus perseverance plays a vital role in those levels of learning maximally involved in the release of human potential.

Perseverence and Psychomotor Competence

The mastery of any complex learned psychomotor skill depends at some point upon a great deal of practice. For example when a child is learning

to coordinate the many muscle-movements needed for walking, many repeated efforts are required or else the child may never learn. Similarly a virtuoso pianist must practice persistently in order to achieve consummate mastery. Practice often requires that a person continue with the knowledge that success may be achieved only after numerous and repeatedly unsuccessful attempts. Without perseverance it is highly improbable that we would have ever learned any of the refined motor activities upon which we regularly depend for survival.

Perseverance and Perceptual Competence

Making fine discriminations between differing sensory experiences is a process requiring repetition and practice. Accurate intuitive structuring of spatial perspective, distance and time also depend upon perseverant effort.

Cognition and Perseverance

Although there is little evidence to suggest that transversing the Piagetian stages of operational thinking is aided by perseverance i.e. practicing and/or repetition does not seem to help a child progress more rapidly through the stages than if he does no rehearsal or practicing, it is still probably not too unreasonable to speculate that concept formation, memory, modes of analysis and synthesis are facilitated by perseverant concentrated application of various cognitive processes. Perseverant thought works like a laser beam where in coherent rays of energy focusing at length upon a single point are able to penetrate to a depth of comprehension not otherwise attainable. This analogy is somewhat akin to the Ulric Neisser's conception of 'vertical' and 'lateral' thinking.

In-depth analysis and synthesis is characteristically dependent upon sustained focusing of attention upon a problem.

Moral Competence

Developing patterns of relating to people in ways that mutually foster the release of human potential is the aim of moral competence. Perseverance is an extremely vital process in developing and maintaining such constructive principles and patterns of relationship with others. For example, if you hold as a belief that all human beings possess unique and limitless potential this value should predicate a mode of responding to people that would help to draw out their potential. If in certain cases an individual's capacities are relatively undeveloped, he is miserable, selfish and has problems relating to others, it may demand on your part a great deal of patience and perseverance in order to uphold and demonstrate this value in your dealings with him; to avoid simply reacting or reflecting this person's negative manner.

Similarly, if one has adopted a standard of conduct with respect to some moral value, i.e. justice, maintaining this standard in a society which is ridden with infustice requires constant vigilance and perseverance-- the ability to continue practicing moral without an immediate knowledge or feedback of any beneficial results.

Creativity

In his book, The Aims of Education, Whitehead notes that the creative process, in particular, involves two very different kinds of activity. The first is the free and unrestricted flow of thought and fancy, kind of a romance of the imagination in which ideas are born. The second aspect involves disciplining the mind to begin elaborating, developing, consolidating and refining the nascent idea to a mature realization. Thus creativity, the bringing

together of diversity in novel unity, the creation of order out of chaos, requires not only unencumbered divergence, but also a disciplined and patient nurturance i.e. hard work. In this vein it is an interesting note that Beethoven produced no less than twenty versions of the first movement to his Fifth Symphony before he came up with what he considered to be an acceptable result. This process of working through to its fruition, cultivating it to the point of full consummation, requires an extraodinary sense of dedication and perseverance.

Spirituality

The central process underlying spiritual growth is faith. Faith has been defined as the formation of ultimate concerns which in turn prediposes one to act in accordance with these concerns.* Faith and perseverance are processes closely intertwined. Each is somehow inherent within the other. For example, much in the way consistent moral action depends upon perseverance, So does the maintenace of faith imply the ability to sustain commitment towards one's ultimate sense of purpose and destiny through crises of doubt and uncertainty. Reciprocally, perseverance can exist only when underscored by the element of faith; the belief that the unknown one is aiming toward exists and is worthwhile pursuing.

* See specification on faith

DEVELOPMENTAL SCHEME

A basic assumption underlying Piaget's Genetic Epistomology is that the earlier a process appears in the life of a child the more fundamental it is to his later development. If one buys this assumption then perseverance must be regarded as very fundamental because it is one of the first processes of intentional behavior that the child manifests. Even from the first day after birth infants will cry persistently if their needs are not satisfied. Of course it is more likely that his display of persistence is innately determined rather than a result of conscious choice. Nevertheless, it is reasonable to speculate that this sort of behavior represents a precursor to more mature forms of perseverance.

Hunt (1965) has observed that six month olds show perseverance toward regaining contact with familiar objects and familiar people. As the child's motor capacities develop, signs of perseverant activity seem to multiply. For example, if a small barrier is put between a toy and the child, the child will, if he is capable, crawl over, under, or push aside the intervening object in order to reach the toy.

In fact the acquisition of motor skills is accompanied by a tremendous amount of perseverance. Just one illustration, we have observed several children as they were learning to walk. In all cases we were impressed by the extent to which each child persevered in his efforts. Typically after attempting to stand up and take a few steps, the child would collapse on his knees or on his bottom, pull himself up again, take another step or two, fall etc. Somehow he remained undaunted through all the falls and failures-- but perhaps from the child's frame of reference, he sensed a good deal more success in his efforts than failure. This in fact may be a clue to understanding why

and how the child is able to persevere.

Around eight and nine months most infants enter the babbling stage. A distinctive characteristic of early babbling is how frequently the child will repeat or practice a single syllable and, later, after eleven months, experiment with variations of a single syllable.

In the light of the research reviewed, but mostly on the hunches of the present author we would suggest the following hypothesis about the developmental character of perseverance:

(1) Because perseverance is one of the first identifiable processes to appear in childhood it is fundamental and therefore extremely critical to the subsequent development of a child's potentialities.

(2) The child's capacity for perseverance is increased at that time when he is maximally engaged in the process of learning, especially when the child is immediately experiencing a sense of progress which is leading him to the threshold of mastery. As such, perseverance increases as a function of interest and attention. There is some support for this hypothesis in White's notion of competence motivation (1959), and J.McV. Hunt's concept of "motivation inherent in information processing " (1965). Both of these writers stress the importance of a rich active and varied environment during the first and second years of life in nurturing the development of this intrinsic motivation. We would suggest that the same conditions apply to the emergence of perseverance. Unless the child is interested in something, purposively engaged in a process of discovery and mastery, and overcoming the difficulties presented by his limitations, he will never develop perseverance.

(3) The child's capacity to persevere increases as a function of his level of competence. Intuitively this seems rather obvious, but to our knowledge no one has yet bothered to study systematically this relationship. The theoretical basis underlying this assertion is that a child who is more competent has more alternative courses of action available to him when he faces an impasse and hence will be less apt to give up than would someone with fewer available alternatives.

(4) Perseverance is enhanced by a positive self-image. A child who is generally confident in his abilities to tackle something is less likely to be discouraged or frustrated when beset by some obstacle or difficulty.

The writer hastens to add that these hypotheses are all testable and need to be researched. At present they remain a speculative beginning.

EDUCATIONAL OBJECTIVE

To maintain appropriate efforts toward the actualization or integration of some consciously adopted intention or purpose when one is encountering difficulties or resistance in the path of progress.

'To maintain appropriate effort' is the key phrase in this objective. It is deliberately general in order to avoid the inflexibility often imposed by a strictly behavioral interpretation of a process. For example, maintaining appropriate efforts in one situation may mean exerting oneself feverishly to the point of exhaustion, while in another situation it may mean giving up an activity altogether because of its infeasibility. The manner in which effort is maintained is also subject to a great deal of variation. It may involve

simply waiting for a situation or time to occur in which it becomes possible to act, or it may mean continuing to act regardless of the time or situation. Perseverance may refer to the maintainance of a regular pattern of activities e.g. sticking to a schedule (in which case one may be forced to cut off or leave activities unfinished in order to keep the schedule), or it may involve dispensing with such a pattern temporarily to achieve an immediate goal.

In any case, it is impossible to define perseverance operationally without some reference to the goals and prioities an individual is trying to fulfill and what meaning these associated activities have for him in that situation. Any attempt to become specific on this level without an explication of context can only result in meaningless trivia.

IMPLICATIONS FOR PEDAGOGICAL PRACTICE AND PROTOTYPICAL LEARNING EXPERIENCES

One ramification of treating perseverance as a process is that the education of the child with respect to it cannot be viewed as a case of acquiring some quality or trait as we acquire table manners. It cannot be inculcated as an end-state toward which the child is trained. Instead, it is an inherent and fundamental aspect of human life; from the beginning, a process which mediates the continuation of the ever-ascending actualization and unity of the organism. As such, the task of educators is to foster this natural phase of purposive becoming by providing conditions in which the intensity of creative growth is optimized. For if this is achieved, perseverance will spontaeously emerge as a vital and meaningful part of the immediate experience and will at that time become maximally responsive to facilitating influences. Unless parents and teachers recognize these sensitive moments, many learning opportunities will be lost.

The purpose of this present section is to sketch out certain aspects of the teaching process which serve to facilitate the development of perseverance. Most of these principles are implicated in the afore-reviewed research literature, but at this time we wish to make these implications explicit.

A.) Encouragement and praise have been shown to be very powerful tools in helping a child to develop perseverance. As expressions of basic trust and confidence, such support may aid the child's own sense of confidence and strength, thus serving to reinforce his commitment and determination to reach his goal.

B.) Another important consideration is to allow the child as much autonomy as he can handle in directing his own activities. Support for this can be found in those studies that have linked perseverance to a sense of control over the situation. If a child feels that the outcome of his efforts are beyond his control he will probably tend to abort the task when he begins to encounter difficulty. Whereas if he presides over the situation with a sense of personal efficacy, he knows consequences are not externally determined, he is more apt to persist at a task even if the result is failure.

A teacher must be careful not to over extend the students abilities to manage a situation alone. This could set the child up for guaranteed failure and prompt a series of minor personal disasters. A history of failures can seriously impair the development of perseverance because the child begins to expect failure regardless of his efforts and therefore sees no reason to keep trying. Our suggestion would therefore be to grant autonomy gradually, keeping pace with the child's expanding capabilities in such a way that his successes will outnumber his failures. Failure in small amounts can play a positive role in developing perseverance. This fact is well documented in the research on 'resistance to extinction'. A child who has never met with failure will

never learn how to deal with it. When his first efforts do not succeed, he is likely to interpret the results as final and his behavior may fall into disorganization as he gives up. Consequently, learning to cope with failure is an important part of, and perhaps a prerequisite to perseverance.

With this in mind the teacher should occassionally give the student tasks which are slightly beyond his present reach, and when he fails or meets with difficulty the teacher should, instead of merely completing the task for the child, encourage the youngster to pinpoint the problem and make another try. If the child is failing because a different approach is called for, the teacher might attempt to reorient the child by asking questions as to what other ways he might go about solving the problem. The teacher might even suggest specific strategies or provide clues for a solution. The point is for the teacher to be as parsimonious (but not stingey) as possible in administering her assistance, giving the child no more help than he really needs to achieve his goal.

C. A third consideration, closely related to the previous one, concerns the use of reinforcement indeveloping persistent social or personal habits. If the teacher is seeking to help the child build strong social habits (eg. courtesy, cooperation, patience) which will not be easily extinguished, the literature on Behavior Modification would advise that she begin by rewarding any demonstration of the desired action very frequently (90-100% of the time). Later, the frequency of reinforcement should be gradually decreased until the child is no longer dependent upon extrinsic rewards. The less dependent the behavior is upon external reward or feedback, the more perseverant it will become.

D. The fourth consideration concerns the effects of interruption upon perseverance. Currently, the structure of most classrooms systematically

suppresses the development of volition in general and perseverance in particular. Schedules and curricula are insensitive to the child's attempt to fulfill his own goals and intentions. Consequently, his efforts are continually frustrated by senseless and irrelevant interruptions. One specific example is the way the school day is chopped up into infexible time blocks. More often than not this means a child is apt to be interrupted by the tardy bell while he is in the middle of some activity with the result that he is seldom able to follow through on his task. His attempts fragmented, he loses a sense of continuity to his efforts and finds little reason to persevere on something he knows for certain will be frustrated.

On the other hand a teacher can take advantage of this sort of structure by helping students to learn how to plan their time and budget their efforts over a long period, thus learning to persevere in a different way.

E. Finally, the role of fantasy in sustaining perseverance. To the author's current knowledge no one has investigated this relationship, yet our own experience has shown fantasy can be extremely effective in maintaining goal directed activity. If a child is able to fantasize himself in the desired goal state, he can often infuse his immediate activity with new energy and determination, especially when the goal is remote. The teacher should thus be willing to entertain and encourage fantasy in her inter-changes with the child. In addition, she may express (verbally and non-verbally) her own fantasy about the aims which she is pursuing. It is very important however, that such fantasy not become an end in itself and hence develop into a substitute for action. Every effort should be made to help the child make the connection between his fantasy and the implicated course of action.

As a footnote to these pedagogical considerations I would like to underscore the fact that children readily model the behavior patterns of the significant adults around them. If the teacher implements all these suggestions yet is sporadic in her own efforts and gives up easily when in difficulty, the child will be receiving contradictory instructions. Overtly he is being told to persevere, yet covertly, he is being taught to abandon ship when the going gets rough. The teacher (as well as the parent) must serve as an example to the child, manifesting a consistency between her words and actions.

PREREQUISITES TO AND SEQUENTIAL NATURE OF LEARNING

The prerequisites to perseverance do not exist in a strict linear sequence. Whether they can in fact be thought of as prerequisites to, or whether they are to be regarded as characteristics of the perseverance process itself is still undetermined. Nevertheless there appear to be certain identifiable preconditions which, if unfulfilled, might prevent the development of perseverance.

One such precondition which seems to underly all volitional processes is the ability to attend to a circumscribed situation. Unless the youngster can fo cus his conscious awareness upon a particular aspect of his experience (past, present, future), he will be unable to intend something since intention implies a prior attention toward something. This, of course, will in turn preclude his maintaining any effort toward the fulfillment of an intentions shice there is no intention to begin with.

Another precondition, briefly touched on earlier, is the capacity to cope with failure. The inability to cope with failure is manifested in frustration. (It is interesting to note that Lewin regarded perseverance as

a means of coping with frustration.) Again it becomes exceedingly confusing if one tries to establish whether coping with failure is a prerequisite to perseverance, or vice versa. More than likely each inheres within the other. Anyway, the point here is that the child must be able to figure out alternate courses of action when his first approach fails or proves to be infeasible.

One definite prerequisite to perseverance is that the child be able to arouse himself to a state of action toward the goal. Unless action can first be initiated there is no way that it can be maintained.

EVALUATION

Measuring a phenomenon as general as perseverance, using conventional objective evaluation tools, presents insurmountable difficulties due to the fact that existing conceptualizations of perseverance, upon which such instruments are based are extremely limited and somewhat misleading (see elaborate description). The two tests most frequently used to measure perseverance, the TAT and French Test of Insight are justified on the basis of their supposed correlation with the need for achievement. However, Ryan (1970) has seriously questioned the validity of these measures. Considering this state of affairs, informal and frequent observation probably remains the most accurate but probably most time consuming method of evaluation.

All classroom personnel should be well trained in techniques of observation and interviewing and each observer should keep an accurate journal of each child's activities. Depending upon the situation and which indicator is most appropriate, the observer should note how long a child spends on a particular task, how frequently he returns to an unfinished activity, how many tasks he begins but abandons because of frustration, and how he responds

to failure e.g. does he look for alternatives? Increments or decrements in these indicators over various intervals of time, before and after a learning experience, should be recorded. Before there can be any meaningful interpretation of these data (which incidently ought to be supplemented by subjective impressions), it is absolutely essential that they be analyzed with respect to the child's (and not the teacher's) purposes and intentions. The child's intention may or may not correspond with the teacher's in any given instance-- whether it should or should not, however, is another matter. It is crucial that the teacher avoid the morrass of conceptual confusion arising from a failure to distinguish between perseverance as a process of the learner and perseverance as a condition imposed by the teacher. In the final analysis we are concerned with perseverance as a process enacted within the framework of the child's own goals and aspirations.

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CENTER FOR THE STUDY OF HUMAN POTENTIAL

The Center for the Study of Human Potential has a twofold purpose: (1) to explore the nature of human potential and the means by which it is released through optimum health, nutrition, and learning; and (2) to apply what we know and learn about human potential to crucial issues facing education.

To fulfill its twofold purpose, the Center for the Study of Human Potential engages in the following activities:

Model Development and Refinement is a research effort that draws on the best available knowledge of human growth and development in an organized manner to contribute toward the continual improvement of education as a human service endeavor. This effort is based on an organismic philosophy from which have been derived theories of development, pedagogy, curriculum, administration and evaluation. These theories represent a synthesis of a vast body of knowledge drawn from numerous disciplines including anthropology, biology, psychology, sociology and educational research. The broad theoretical framework can be used to provide a variety of human service training programs for parents, teachers, and administrators as they work to foster optimum growth and development of children, youth, and adults. As new knowledge becomes available, the conceptual framework is updated and refined. The organismic philosophical foundation and its derivative theories have been conceptualized as a functioning structure called the Anisa Model (pronounced ă-nēē-să, as in adore). The word "Anisa" comes from a Latin and Greek root that represents the tree of life, an ancient symbol that connotes the qualities of beauty, grace, nurturance, shelter, and perpetual cycles of fruition--qualities that have a rich significance for an organismic conception of education.

Advanced Studies in Education is a graduate program that offers a rigorous study for master's and doctoral candidates in educational philosophy, human development, biomedical correlates of learning (the relationship of health and nutrition to learning), child and adolescent psychology, curriculum development, pedagogy, administration and supervision, early childhood education, parent training and staff development. The program includes practical field experiences to provide

students with opportunities to translate theory into practice in various settings under expert supervision.

Model Implementation means translating the Anisa theories into practice. School systems or community agencies may choose to adopt the Anisa Model and to implement it in their respective programs through the provision of training programs for administrators, teachers, staff and other professionals.

Inservice Training is available to communities, institutions, or groups who contract for it. Each program accommodates the specific needs of the client in terms of flexible time schedules and workshop formats. For example, these programs may range from one-day sessions to year-long monthly or bi-monthly sessions.