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ABSTRACT

This conference paper discusses two factors which seem to be responsible for the lack of clear progress in research dealing with motivation and learning in the schools: first, an overemphasis on the presumed influence of motivation on learning, which has resulted in a neglect of the many other processes that are directly influenced by motivational states; and second, a mechanistic conception of man which interferes with scientific progress. After an enumeration of the specific faults implicit in the present paradigm for motivational research in education, a new research paradigm is suggested which emphasizes the influence of cognitive processes on motivation. Also stressed is the need to develop a cognitive functionalism that is as precise as behavioral functionalism while not being immobilized by a mechanistic conception of man. Recommended research areas are: (1) intermediate difficulty, (2) intention, (3) intrinsic versus extrinsic motivation, (4) stages in achievement behavior, (5) the building of effort structures, (6) causal attributions for success and failure, (7) long-term motivational effects, and (8) achievement strivings among females. (CS)

Motivational Psychology and Educational Research

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Division 15 of the American Psychological Association (APA) has kindly invited me to give an address with the suggested title of "Motivation and Learning in the Schools." This is a very difficult, complex topic, and after reviewing the pertinent literature one does not sense that a great deal of progress has been made. I believe that this is not merely my idiosyncratic reaction, but rather is a dissatisfaction that is shared by other investigators in this field, scientists in related disciplines, and practitioners in the schools looking to us for help. We are at a point in history where there is a general uneasiness across many areas of psychology, but this does not alleviate our particular plight.

In my opinion, two factors are in part responsible for the lack of clear progress. First, there has been an overemphasis on the presumed influence of motivation upon learning, as exemplified in the title of the address proposed by APA. This has resulted in a neglect of the many other processes that are directly influenced by motivational states. And second, most researchers in the field still maintain a mechanistic conception of man that I believe interferes with scientific progress.

These two alleged faults are most evident in a dominant sub-area of research that may be labeled "motivate the learner." In this research, methods are suggested to maintain the pupils' attention or to arouse enthusiasm so that the presented information is processed. Making the to-be-mastered

material relevant, or meaningful, or fun, or interesting, or curiosity-arousing, captures the typical attempts to alter the stimulus situation so that the student is "motivated" to learn. At times, rather than varying the learning material, the engulfing environmental context is manipulated to arouse motivation. For example, competitive environments are established to promote excitement, or co-operative groups are created to capitalize upon social motivations. In addition, a person-stimulus interaction often is recognized and it is demonstrated or contended that different groups of individuals are motivated by different kinds of material or by disparate environments.

Closely related to this approach are investigations that examine the role of reinforcements or incentives on learning. Here the task of the researcher and/or practitioner has been to uncover the type and amount of external reinforcement that is most appropriate for a given population. Use of praise versus monetary incentive, teacher versus peer approval, positive (success) versus negative (failure) feedback, reward versus punishment, and so on are typical experimental comparisons.

The research briefly introduced above can be incorporated within the schematic framework depicted in Diagram 1.

Diagram 1

Schematic Representation of Motivational Research in Education

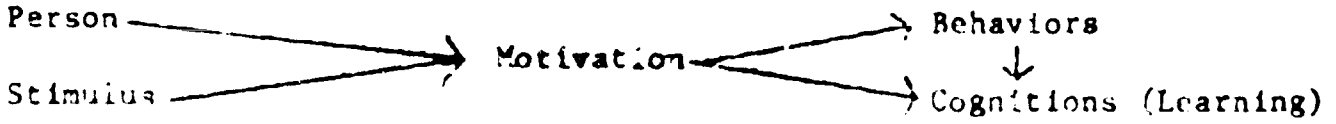

Diagram 1 shows a temporal sequence of events. Traits or states of the person are manipulated or measured and/or environmental stimuli are varied.

The environmental stimuli include both the nature of the learning material and the incentives associated with performance. These independent variables are believed to influence the motivation of the learner. The degree of motivation, in turn, is related to, or inferred from, various behavioral indexes, such as commerce with the task, and/or cognitive processes. The cognitive process of greatest concern in educational research has been learning.

As already intimated, I find two major faults with this paradigm. First, it results in a concentration upon the association between motivation and learning. But it is not even clear from laboratory research that hungry rats learn faster than nonhungry rats! Pity the poor motivational psychologist searching for motivation-learning relationships in the complex and overdetermined world of the classroom. This is not to imply that motivation does not influence learning. After all, acquisition is facilitated by instrumental behaviors. But in the short-term experiments that are conducted, intelligence and uncontrolled and unmeasured variables account for much of the learning variance. It has always been more evident that performance, rather than acquisition, is affected by motivation.

A large percentage of the waking time of our children is spent in educational institutions. It therefore appears to me that the study of identification processes, self-concept, school anxiety, affective reactions to success and failure, the growth of interpersonal competition, the establishment of personal standards of excellence, aspiration level, the development of the ego strength needed to cope with failure, deal with stress, and to tolerate frustration, the growth of social motivation and pro- as well as

anti-social motives, the ability to delay gratification, and so on are psychological processes that should be studied within the context of the educational system and from a motivational framework. It is important to broaden the spectrum of problems to which we address ourselves.

A second guiding assumption in the paradigm shown in Diagram 1 is that man is a passive being, mechanically carried along some path by prior associations and some "goad." Man is stimulus bound and in need of activation and control. But the entire field of psychology is undergoing, or perhaps it is more accurate to say has undergone, a dramatic shift from a mechanistic conception of man back to a cognitive conception of man. This shift is consistent with current humanistic ideas and embraces the belief that man is an active, information processing organism, seeking to understand his or her world, searching for new information and new sources of stimulation, aiming at personal fulfillment and self-actualization. Thus, the influence of cognitive processes upon motivation, that is, the cognition-motivation linkage, is just as important for motivational psychologists to study as the motivation-cognition linkage. One problem at present in the motivation-education field is that few individuals other than the humanistic psychologists have embraced the cognitive position, and many of the humanists have not accepted the positive attitudes toward science that were so carefully nourished by the behaviorists and neobehaviorists. We need to develop a cognitive functionalism that is as precise as behavioral functionalism while not being immobilized by a mechanistic conception of man.

Future Directions

[illegible] would be nice to turn from a rather dark past into a bright [illegible] promising [illegible] progress. And I must

admit that I feel rather optimistic about the future. There are some very recent developments in the field that provide building blocks for new research directions. Before presenting some specific research areas that, in my opinion, are both important as well as feasible to study, I would like to advance one further principle of research: We have to call upon related disciplines to provide help. I particularly have in mind social and developmental psychology and personality. Social psychology because it includes the study of interperson perception, social motivation, balanced systems, attribution theory, values and attitudes, and so on; developmental psychology because it may lead us to a better understanding of affective systems, identification processes, and the internalization of standards; and personality psychology because of the importance of individual differences and coping strategies.

With these general beliefs out of the way, let me turn to some specific research areas that I happen to find exciting. The list is in no sense "complete" and I fully recognize that the recommendations are far from sufficient. There is no particular order in this list and it does not contain any particular favorites.

1. Intermediate difficulty

Diverse conceptual frameworks agree upon the importance of intermediate difficulty. Intermediate difficulty tasks maximize motivation; performance at such tasks provides the most information about personal ability and effort; success at these tasks promotes a feeling of competence; and repeated commerce with tasks of intermediate difficulty teaches the importance of effort as a determinant of outcome. We need to make a concerted attempt to clarify the

motivational and cognitive consequences of performance at intermediate difficulty tasks, particularly inasmuch as there has been an influential movement advocating continuous reinforcement during learning.

2. Intention

The study of intention, or volition, or will, is making a comeback in psychology after a long banishment. Intention is even sneaking into behavioristic psychology via the establishment of mutually determined "performance (contingency) contracts." We might as well explicitly recognize and accept that intentions are motivational factors that regulate the direction and intensity of action. Research programs must be initiated in this area.

3. Intrinsic versus Extrinsic Motivation

There is a growing body of evidence demonstrating that extrinsic rewards can undermine the intrinsic interest that one has in an activity. This was shown years ago when Harlow gave monkeys a reward of food for solving a puzzle problem. Prior to the introduction of the food the monkeys would engage in manipulatory activities with the puzzles for long periods of time without any extrinsic rewards. But once food was made contingent upon the manipulatory activity, the monkeys would no longer play with the puzzles if the food was withheld. The early Lewinian work on leadership styles and "own versus induced forces" makes a related point. If we repeatedly grade our school children, and provide special rewards for doing well in school, are we undermining their intrinsic interest in learning and in mastering the environment? This issue is so central to education that I expect a spate of relevant research in the near future.

In a similar manner, there is experimental evidence that positive performance given the presence of an external incentive is ascribed to that exter-

nal source of motivation. That is, if we reward a child for doing well, and the child (or any other student) is aware of this incentive, then it frequently is assumed that the performance was good because of the anticipated reward. Are we being misled into believing that students study only for the grades or the special rewards we impose? And is this belief a self-fulfilling prophecy?

4. Stages in achievement behavior: Intrapersonal and interpersonal competition

There appears to be a stagelike progression in the competitive aspects of achievement-related behavior. Intrapersonal competition is manifested by very young children, while interpersonal competition develops later, around the age of six. The stages in achievement competition must be mediated by cognitive abilities, such as the capacity to use social norm information. The relationships between cognitive and behavioral stages should be a fruitful area of investigation.

In addition to understanding the determinants of interpersonal competition, we must begin to examine self-imposed standards of excellence. This is a difficult area and I am not aware of research programs that have provided the necessary conceptual foundation. But someone must start somewhere!

5. The building of effort structures

There is increasing evidence demonstrating a psychological state that is called "learned helplessness." This label connotes that an organism can engage in instrumental activities to attain a positive goal or to avoid pain, but does not do so because it has learned that 'nothing I do matters." In a similar manner, a subpopulation of individuals performing achievement-related problems seemingly do not perceive effort-outcome covariation. That is, they

they do not believe that effort is in part responsible for success and that a lack of effort contributes to failure. We must examine the antecedents of "learned helplessness" and develop programs that alter this maladaptive belief system. Change programs attempting to teach internal locus of control or self-responsibility exemplify one step in this direction.

6. Causal attributions for success and failure

This topic is clearly related to the prior discussion of effort structures. But more is involved. There is now a substantial literature demonstrating that the perceived causes of success and failure influence performance, evaluations of others, feelings of pride and shame, and the subjective expectancy of success. We must more fully examine the antecedents that determine causal ascriptions and the behavioral consequences of attributions. For example, it has been demonstrated that induced "rationalizations" for failure facilitate achievement strivings among individuals who typically ascribe their failures to a lack of personal ability. We have to examine more systematically the use of coping styles in general and the functions of causal ascriptions in particular.

7. Long-term motivational effects

For those who already have tenure, I strongly advocate investigating the long-term performance effects of motivation. Surely persistence in the pursuit of long-term goals, such as particular intellectual aspirations, will be a significant determinant of success, even though the sustaining motivation may have only minimal relevance during the learning of any particular task.

There is some evidence suggesting that anxiety about failure interferes with intellectual development. We must also ask whether other motivational

variables are related to cognitive growth. Part of the strong association between ability measures and learning may be indirectly mediated by motivational structures. These issues have been ignored in the experimental literature, in part because of a shortage of dedicated masochists willing to undertake longitudinal studies.

8. Achievement strivings among females

The literature and knowledge in the achievement area pertain almost exclusively to males. Recently it was suggested that the mystery of achievement strivings (or lack of strivings) in females may be clarified by taking a motive to "avoid success" into account. It now appears that the fear of success is as evident in males as in females and that the construct will prove far less powerful than was originally anticipated. But the great deal of interest that the fear of success research generated is a symptom of the void in this area and the readiness of psychologists to attend to plausible findings concerning the achievement motivation of females. There is one empirical finding in the sex difference literature that might provide a good starting point for this research: Across a variety of situations and age groups females have a lower expectancy of success than males. How this comes about, and what can be done about it, must be answered.

In sum, I have briefly outlined some research areas that are relatively new, interesting, viable, and relevant. The areas include the study of intermediate difficulty, intention, [illegible] versus extrinsic motivation, stages in achievement behavior and self-imposed standards as well as interpersonal competition, the building of effort structures and learned helplessness, causal attributions for success and failure, the long-term consequences of motivation

as well as the effects of motivation on ability, and achievement striving among females. The investigations: 1) transcend the motivation-learning confinement; 2) magnify the importance of diverse cognitive processes; and 3) extend into the domains of developmental, personality, and social psychology. These are three "musts" for future progress.

The conceptual paradigm guiding the above research areas is depicted in Diagram 2. The diagram shows that cognitions, such as the subjective

Diagram 2

Suggested Paradigm for Motivation Research in Education

Cognitions ⟶ Motivation ⟶ Wide Array of Consequences

probability of success, intentions, causal ascriptions, social norms, perceived effort-outcome covariation, and so on influence motivational processes. Motivation, in turn, affects both covert thoughts and overt actions pertinent to diverse domains of psychological functioning. This conception breaks the mechanistic bind, is more appropriate for the complex world of the pupil, and recognizes an active, searching organism.