HOW AN ORGANIZATION AFFECTS MATHEMATICS TEACHING?

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Abstract

The present study aims to find the effects of an organization on Mathematics Teaching. In the paper, the school is treated as an organization. The organizational elements of the school are being studied. These Elements are found to have an effect on mathematics teaching. Some organizational elements were considered problematic and the reasons for their problems were being asked. The study was conducted through administering the questionnaires. The questions were probed in greater detail through interview.

Keywords: organization, school, mathematics teaching, problems, school facilities

Introduction: "There is a strong tendency in human society for the unorganized group to develop organization and for organizations to develop even where there has been no consciousness of a group previously, in which case the organization itself creates the group it expresses and embodies. Consequently, group conflict tends easily to pass over into organizational conflict, and the growth of organizations themselves may create conflict where no previous consciousness of conflict existed" (Kenneth E. Boulding Conflict and Defense: a general theory)

Gary K. Clabaugh & Edward G. Rozycki considered an organization to be a social structure which allocates costs and benefits, both symbolic and substantial. This way of looking at the schools is made possible by the development of organization theory. There are many different aspects to this broad subject and we can go into only a few of them here. Organization theory ranges, for example, from studies of the effects of management, of bureaucratic structures, or of technology, to the systems of motivation and learning established in an organization. Of particular interest is the ability of organization theory to account for the failure of past school

reform efforts. It also gives us indication as to what kinds of school reform are likely to take hold.

Studying the organization of the schools we learn how different organizational structures influence the socialization of children in ways which may undermine as well as support educational goals.

It is important for school people to recognize that many school problems are generated by organizational structure rather than to mistake them for shortcomings in themselves or their students. They should also be careful of those who firmly deny this possibility. Anyone who insists that there are no organizational problems may have a hidden agenda to reinforce his or her authority through guilt and feelings of inadequacy

The school is a complex organization. Complex organizations, by mere virtue of the complexity, run up against four basic internal conflicts. These are

1.   following policy vs. sensitivity to individual differences

2.   delegating authority vs. pursuing authorized goals.

3.   process vs. product

4.   power vs. morale.

Dealing with these school conflicts is not merely a matter of more dedication or self-discipline on the part of individuals. Nor is it a matter of patience or forbearance or charisma. What must be addressed is the structure of relationships that constitute the organization

Following policy vs. sensitivity to individual differences

A basic organizational conflict is that of following policy vs. sensitivity to individual differences. Robert K. Merton investigated how following policy reduces sensitivity to individual differences. This conflict, for example, is the basis of the persistent tension in trying to follow a school policy providing equal educational opportunity that also tries to address the individual needs of the child For example,

1.   The conflict of teaching a class according to a standardized curriculum vs. making adjustments according to the readiness of individual students.

2.   Restrictions, for fear of legal liability, on outside-of-school activities to enhance the curriculum

3.   The establishment of mathematical formulas for generating grades rather than relying on teacher judgment.

4.   The use of standardized tests for college admissions to supplement, sometimes replace, secondary school records and recommendations.

Delegating authority vs. pursuing authorized goals: Philip Selznick finds that as authority is delegated to them, organization members pursue their personal goals more strongly. Teachers have moral and professional goals and these not infrequently come in conflict with school procedures and policies. For example, a teacher may be put in charge of discipline and ignore a policy that requires students who fight to be suspended automatically. He or she may take into consideration, for example, that students who are bullied ought not be punished along with the bullies.

The basic conflict between delegation of authority and the pursuit of authorized goals is a matter of the extent to which resources allotted for the public goals of the schools, e.g. instruction, are diverted to other uses. This is not a matter of dishonesty but a difference in perception of what is needed to carry out a task. School boards and citizen's committees tend to underestimate the resources needed -- from an educator's point of view -- to accomplish the goals they profess to esteem. The organizational reality is that people on site have to have a good deal of discretion in determining how resources are used, or the job has no chance of getting done.

Some common practices which negotiate the conflict between delegation of authority and the pursuit of authorized goals are the following:

1.   Teachers use instructional time to have students decorate the classroom or the halls.

2.   Principals may call special assemblies to free staff for committee work.

3.   Teachers change the curriculum at will to reflect their personal tastes and priorities

Process vs. Product: Luther Gulick   found a conflict between a focus on product and a focus on process. The essential questions are how should we divide our attention between these two concerns? And, when they conflict, which should take precedence?

Are people given projects which they follow out to completion? If so, this is product oriented activity. If they are given repetitive piecemeal things to do, this is process orientation. Teaching is a bit of both. Lessons can be planned with product orientation. Teachers usually get to see some development and completion over a span of time. On the other hand, they don't get to see really long range effects, say, from first through twelfth grade. Process orientation can be done more cheaply if common activities are pooled, but there is no one responsible to see to it that completion occurs. They can always blame someone in the previous stage of the process for

failure. In this sense, schools are process-oriented. Kids are pooled for common treatment because it is less expensive to do so. Career wise, there is no overall attention given to students. Economies of scale reduce the effectiveness with which goals are achieved.

Situations which point to an underlying conflict between process and product orientation are these: 1. School district consolidation vs. "small school" virtues such as school spirit, a feeling of sharing, a personal knowledge of all members of the school community. 2. Subject-matter focus and departmentalization in high schools vs. learner-centered focus and concern with development. 3. Standardized testing and curriculum vs. the concern for the "specialness" of students. 4. Class-size and teacher feelings of frustration in reaching kids

Power vs. Morale: Coercion is as essential a component of command as prescription or kinship. Ideally it should remain implicit, and when made explicit should manifest itself as rarely as possible as physical force, except in extreme emergency never falling arbitrarily or threatening the majority. Once a commander becomes as much an enemy to his followers as the enemy himself -- and what else is a commander who breathes fire and sword against his own men? -- the mystification of his role is destroyed and his power, essentially an artificial construct, dissipated beyond hope of recall. -- John Keegan.

So strong are the images of Temple and Factory that people are reluctant to admit to the use of power both in individual motivation and in school relationships. People tend to find issues of power discomforting. Focusing on policies, rules, procedures and the like offers an escape from dealing with the role of power in organizations.

Method: Secondary School teachers of Public school are being selected. These teachers are given questionnaires. These questionnaires are probed in greater detail through interview. the results are being analyzed qualitatively .

Results and findings:

The major findings are: 1. 37% of teachers faced problems regarding content delivery. While 33% of the teachers did not see clearly it as a problem and 30% of the teachers felt that they surely didn't face problems regarding content delivery. 2. Teachers faced problems in their teaching due to lack of infrastructural facilities and that affected their mathematics teaching. 53% of teachers feel that lack of infrastructural facilities is a problem for them. However, 40% of teachers do not see it as a problem and a little percentage of 7% teachers are not sure that it is problem. When asked about the kind of infrastructural facilities that are lacking in their schools,

nearly all teachers responded with lack of teaching resources like mathematics lab, audio-visual labs, and lack of space for the organization of resources. 3. Regarding the problem of usage of mathematics lab as a problem due to administrative reasons, 47% of teachers supported the statement .While, 13% of teachers don't clearly view the usage of mathematics lab as a problem and 40% of the teachers don't feel it as a problem. 4. Teachers were also asked whether lack of participation of parents is a problem for them or not. 63% of teachers strongly viewed it as problem. On the contrary, 20% of teachers don't view it as a problem and 17% of the teachers are unsure whether lack of participation of parents a problems for them or not. 5. The teachers were also asked to mention the situations in which they felt lack of cooperation from the parents. 26% of the teachers felt that difference between the attitudes of teachers and parents toward the subject affected their mathematics teaching. Majority of 42% of teachers felt that parents lack time and were unable to pay attention to their children. 11% of the teacher viewed that parents were uneducated and therefore didn't participate in the functioning of the school. However, 21% of the teacher thought that there is a pressure pf parents to get good marks affected the purpose of mathematics teaching. 6. 53% of teachers felt that lack of funds and space is problem for them. This has been contradicted by 30% of the teachers who don't feel that it causes problem in their teaching. On the other hand, 17 % of teachers are unsure whether it is a problem for them or not.

Discussion: There are lot of factors at the school level that are responsible for effect on mathematics teaching . These factors need to be looked upon in detail to ensure smooth content delivery and participation of the students.

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