

INFLUENCE DIAGRAMS IN SERVICE OF GROUP DECISION-MAKING

**Lascelles F. Anderson
The University of Illinois at Chicago**

**Center for Urban Educational Research and Development
The College of Education**

**1040 West Harrison Street
Chicago, Illinois 60607-7133**

**(312) 996-5161; Fax: (312) 996-6400
E-mail: Lascelle@uic.edu**

INFLUENCE DIAGRAMS IN SERVICE OF GROUP DECISION- MAKING

Lascelles Anderson, Ph.D
Professor of Education Policy
The University of Illinois at Chicago

Abstract: This paper recounts recent experience in the use of influence diagramming as an aid in the process of group decision-making in a school system in Illinois. Although it was never the intention at the beginning of the process to move in this direction, the difficulty of the decision situation coupled with the recognition of the potential usefulness of systems dynamics methodologies in facilitating the search for pathways to the understanding of system behavior and changing it, led in the direction eventually reported here. The paper addresses the context of the problem, its current configuration, and the way in which influence diagramming led to a breakthrough in how the problem was eventually posed and group decision achieved. The name of the district will be changed to preserve confidentiality.

Part 1: Context

The Alpha School district is located in a near suburb of Chicago in northern Illinois. Many years ago, Alpha Village, in which the Alpha School district was located, decided that it would be proactive in the area of race relations, and would organize itself powerfully enough to prevent the emergence of the typical problems that had plagued so many places in the United States as blacks and other so-called minorities began to move in. The Village was able to accomplish this due to the presence, in the community, of a number of very influential persons with a decidedly progressive bent. New ordinances were established to discourage panic selling on the part of then current residents, and a new housing unit was established to facilitate the maintenance of integrated housing in all parts of the district. Additionally, school attendance boundaries were changed, and a system of middle schools was created to engineer the achievement of an integrated school experience for all students before they entered high school. Since there was only one high school in Alpha Village, integrated schooling is certain, at least in the public domain, at that level of school experience.

Village policy appeared to have been very successful on all accounts until recently when some observers of the scene began to be concerned about an apparent association between student test-score patterns and residential location of the Village minority population relative to that of the majority population. Schools in the eastern part of the Alpha School district had much higher percentages of minority students, at the same time as they were showing undesirable patterns on test-scores. This alarmed a number of individuals, and Alpha Village moved to establish a new community level dialogue to address the apparent problem. It was decided to break the discussion into relatively discrete parts, with simultaneous discussions taking place on housing, schools and community social services.

The sub-committee concerned with schools was given a charge to consider three issues: (a) report on the level and nature of community perceptions concerning diversity in Alpha Village schools; (b) discuss the issues which stand in the way of achieving meaningful diversity in Village schools; (c) offer community-sensitive recommendations that will help allay fears about the possibility of resegregation in Village schools and make suggestions for promoting diversity. Committee deliberations were open, with the understanding that individuals from the community could attend any and all of its discussions. The committee had twenty members, twelve of whom were from the majority community, eight of whom were from the minority black community, and there was one Hispanic. Presentations were made by several invited individuals, including school personnel, to provide the widest informational basis for the deliberations of the group. The committee also held a community-wide forum to elicit citizen perceptions concerning the questions it was charged to discuss. School children were also polled concerning their own perceptions of the issues.

As alluded to earlier, the background to the problem included the sense that if test-score gaps continued in certain schools, school integration would soon become a casualty in those schools, and the areas of the Village in which those specific schools were located would begin very soon to lose their majority population, either through outmigration of existing majority families, or through deliberate choice of other school locations in the Village for families newly moving into Alpha Village. The situation would be strengthened even more if both conditions operated simultaneously. The relation between perceived school quality and percent minority population in any school became an underlying concern of the group, even as it became difficult for committee members to address the issue without attaching negative connotations to any dominance of minority presence in schools.

A further point of tension in committee deliberations related to the conflict between a clear Village goal of maintaining diversity and the sense that this would not be sustainable if the above conditions turned out to be true in the sense that overtime, the schools could become increasingly segregated, leading to serious departure of actual – to-desired diversity patterns in Alpha Village as a whole.

These tensions were always there in committee discussions, reaching near-boiling point on a number of occasions. Minority committee participants objected to the inference that majority-minority schools would be always perceived as undesirable due to test-scores associated with minority students, and progressive majority committee members also felt unease with that inference. The problem before the group was to find some way of addressing what was an implied association between test-scores and minority percentages in the schools on the one hand and a deeply-held community value concerning diversity in all areas of community life on the other. Reflecting the difficulty of the issue, much committee discussion time was devoted to an irresolvable issue of finding some ratio of minority /majority students above which Alpha Village School district would step in to identify mechanisms to reduce that ratio, either through redrawing district lines or even considering busing, a distant possibility. In reality, no such ratio exists, and redrawing

school boundaries to satisfy such a parameter would be a recurring policy problem. It was in recognizing how apparently irresolvable that set of issues really was that it became obvious to the author to try to find a way of understanding the dynamics of the problem and crafting some solution if in fact one existed.

The first task was that of preliminarily sketching out for the group the obvious positive feedback loop of the neighborhood change patterns that buttressed the fear of those who felt that community resegregation was an inevitable circumstance in the present context, and to show why even a perception of such a state of affairs could set in motion a self-fulfilling prophecy even in the absence of any real changes moving in that direction. The next task was to find some way of altering the dynamics in a manner which would establish some balancing loops enough to resolve the twin dilemmas of the test-score gap and neighborhood resegregation. The model of the situation that was presented to the group is attached, along with its accompanying rationale.

That the model achieved its objective is evident from the way in which the group responded to the use of desirable school quality as a policy parameter in reversing the effect of the dominant positive feedback loop operating in its current thinking. It was also evident in the way in which the parameter operated in anchoring all its discussion in the final report on the achievement of this quality across all schools in the district, and how a policy objective, founded on the idea of maintaining actual school quality tied to some new mental model of desirable school quality, could facilitate simultaneous address of a very wide range of school and community objectives.

Part 2: The Model and Discussion.

The purpose of this note is to identify and clearly locate the collective thinking that underscores the conclusions of the sub-committee's report, and in so doing, set the frame for a continuing discourse on diversity in Alpha schools. A major conclusion arrived at in our discussions was the need to anchor school policy in the school district on the attainment of overall desirable quality for all Alpha schools and the over-time maintenance of this status for all district schools. This condition of desirable quality for all schools speaks to the overriding concern that led to the formation of this committee as well as the other committees formed under the diversity rubric, namely the fear that some schools in the Village may appear to be resegregating at the very same time that the Village, long a strong supporter of desegregation in schools, housing and other social amenities, appeared to be experiencing greater diversity broadly. If schools are resegregating, then it may not be long before neighborhoods follow schools, so the argument goes, and we are back to the characteristics of an undesirable community, despite the Village's recent effort and experience. Whether in fact the schools in the district are resegregating is an empirical question: either they are or they are not. If however there is even a perception that the schools are resegregating, that is enough reason for there to be concern, even if there is not yet enough rich data to defensibly argue the case either way. A generally understood sense of what desirable school quality is and how it solves the problem of maintenance of diversity across all schools in the district will be addressed later in this paper.

This section of the paper is also meant to show how school officials and school communities can understand the over-time behavior of test-score differentials in communities such as Alpha Village that are particularly supportive of diversity, and to anticipate such score differentials enough to avoid panic, and how to be organizationally well-positioned for responding to them when they appear. Such a capacity will also go far in undermining the possibility of any inference that it is the diffusion of any concentration of minority students that will do the trick in maintaining high school quality, or to put it another way, that minority schools need non-minority students to become good schools. Diversity in schools and test-score differentials may co-occur, but they are analytically distinct and separate issues. The one, diversity, is a desirable objective in its own right; the other, test-score differentials between minority and non-minority students, is a result of the playing out of history in the lives of school-age children. Where the two are linked is in the recognition that desiring diversity unambiguously forces attention to the task of addressing and improving the conditions that make the test-score gap to arise in the first place and to persist.

This awareness points to another dimension of the dynamics of broad social change patterns, in this case how these changes are reflected in the over-time distribution of the most easily observed school skills of in-migrating students. That history matters in the distribution of opportunity is at the heart of this part of the argument, the importance of which proposition should not be played down.

The argument begins with the observation that the “tipping point” phenomenon is usually experienced in communities to which minorities are moving for the purpose of consuming any or all of a set of desirable public and private goods and services, including schools. What usually happens is that such non-minority communities display levels of tolerance toward the incoming group up to a particular point, usually defined as some critical percentage of the total population identified with the minority population. The contribution of the model used in this note to understand the dynamics of neighborhood change is to be found in the way in which this event triggers a whole series of responses, some easily observable, others to be inferred from surveys or other means of eliciting responses on psychological states. These dynamic responses, playing out first through non-minority withdrawal from schools and community and resulting downward evaluation of neighborhood quality, followed by minority middle-class downward evaluation of these same neighborhoods come together in a feedback loop which escalates the original change in minority percentage of the total community. School quality declines as a result of this set of reinforcing changes, and could conceivably continue in that way in the absence of some policy response on the part of the school district and individual schools to hold all schools to some determined level of school quality, thereby closing any gap between desirable and actual school quality. The intervention of this school and district response fundamentally alters the pattern of dynamic responses in the system and changes the direction of the feedback effects. No longer does an initial positive change in the minority percentage of a community’s total population continue to result in community resegregation and decline in school quality. It is the critical role of desirable school quality which this sub-committee strongly suggests that Alpha Village appropriate as a central part of its long-term response to this historic

pattern of school and neighborhood change which does the trick in the model, and the absence of which has so often undermined well-meaning efforts at maintaining vibrantly diverse communities and schools.

The question might reasonably be asked as to whether such an approach will address the immensely important issue of the test-score gap so evident in the press these days. I believe the answer is in the affirmative. In this, the understanding of the role that desirable school quality will play in triggering appropriate responses in schools where for any of a number of reasons average school quality is less than desirable is crucial. The response will be evident in what such a policy on the maintenance of all schools at desirable levels of school quality will do for schools not operating at those desirable levels. That is not the only outcome however. Since more mobile minorities, those with more income and exposure, are likely to be first to in-migrate into desirable communities, particularly those with good schools, test-score gaps may even widen over time as minorities with less income and exposure, compared to earlier migrants, move into these desirable communities. This simply reflects a pattern which has been seen in the human and social capital bundles associated with successive waves of migrants into desirable countries and communities. Communities which anchor their expectation about schools to some level of desirable school quality will understand this dynamic and quickly respond to the implications of it for appropriate adaptive responses in a variety of ways. The sub-committee report addresses this issue with reference to specific schools. Such an approach does not imply a continuously widening gap and therefore an increasing burden to maintain district schools at these desirable levels. In a climate of statewide and national emphasis on improving school performance, at some point in the future in-migrating students are likely to bring with them richer bundles of human capital, and the historic test-score gaps are likely to diminish as a result of a broad range of socially significant policy emphases on education quality. None of this means though that the critical role of the desirable level of school quality is in any way diminished. It still guides district and individual school efforts. How we understand this notion of desirable school quality will now be addressed.

The notion of desirable school quality can be addressed from a variety of viewpoints and at different levels. No attempt will be made here to address this issue in all its generality. This task may very well be one that Alpha District will want to take up as a follow-up activity to this report and we suggest in fact that this be done.

As argued above, the notion of desirable school quality dramatically alters the dynamic patterns of school and neighborhood change under diversity away from a continuously escalating pattern to one which gets corrected when the difference between desirable and actual school quality is both observed and addressed so as to remove this difference. If the potential for the tipping point to operate is always there for any reason, if the community values diversity, and quite rightly so, and if school quality stands very high, perhaps even highest in the minds of individuals and families who plan to move to an area, school officials will need to articulate what is meant by desirable school quality so that it will appropriately influence neighborhood choice, in the best of all possible worlds, making such choice fairly random with respect to school quality. Only when such

choices are random with respect to school quality will the racial composition of schools in the Village approximate the racial composition of the Village as a whole. The Village as a whole and individual elementary schools will have to be very flexible in their response to student and parent needs that can be expected to impact school quality. Desirable school quality therefore references the following at least: (a) ability and willingness to address deficits students bring to the schooling enterprise; (b) ability and willingness of the district and the schools to mount aggressive programs for leveling the playing field for all students; (c) ability and willingness of district and schools to address resource deficits on the part of parents in their parenting roles; (d) ability and willingness of district and schools to support very active and creative parent/school linkages to make the curriculum of the home as consistent as possible to the curriculum of the school; (e) constant address of the conditions which make the internal operations of the schools as organizationally healthy as possible. These appear to be minimally necessary for achieving consistently high levels of school quality across all schools in Alpha Village, thereby making school location choice fairly random for those who plan to move into the Village. Under these conditions, and in the intermediate-to-long run, racial identifiability of schools will cease to be the problem some think it could become as a function of test-score differentials, since in the new situation, there are no school factors which have the potential to strongly tilt the demand for particular schools in any one way or another.

Dynamics of Neighborhood/School Change

