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**An ATIS-Analysis for Decision-Making:
Successful Implementation of a
“Small Schools” Project**

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By: Kenneth R. Thompson, Founder of *ATIS*

From a report concerning the implementation of a “Small Schools” project in Lebanon, Oregon (see article at the end of this report on page 6); it appears as though there is a disjunct between the plan and its implementation leading to dissatisfaction with the plan, when in fact the problems appear to be in the implementation of the plan.

From economic theories’ economies of size, it is known that organizationally there are savings that accrue due to control by large school systems.

From pedagogic theories it is known that intimate organizations, not necessarily small, result in better academic outcomes.

Both of these theories are confirmed by *ATIS* wherein economies of size are the result of the system property *wholeness* and academic outcomes are the result of the system property *interdependentness*.

From *ATIS*, we have the following axioms:

70. If *wholeness* increases and *hierarchical order* is constant, then *integration* increases.

63. If *interdependence* increases, then *complexity growth* increases.

That is, from Axiom 70, by maintaining the normal *hierarchical structure* of the school system while increasing the *wholeness* of the system; that is, the number of affect relations, then *integration* increases. In the case of *economic wholeness*, *economic integration* means that there is more *economic control*. Essentially, from Axiom 70, we see that the larger the system, the greater the economic efficiency.

From Axiom 63, we see that as *classroom interdependence* increases, the greater *classroom complexity growth* is realized. Where the classroom interdependence is related to learning activities, the greater the learning is that results. When this *classroom interdependence* can be best realized in smaller classes, then the smaller classes will result in greater learning.

The goal, therefore, is to obtain the economic returns that accrue from economy of size resulting from large school systems, while applying an intimate organizational structure that realizes the close relationships required for individual student academic success.

This is where *ATIS* (*Axiomatic Theories of Intentional Systems*) and its applications developed by Theodore W. Frick, can be most valuable.¹

Predicting School Outcomes Before Expending Thousands of Dollars—The Systemic Approach to Change

The problems in Lebanon, Oregon, highlight the problems of restructuring school systems throughout the United States. We will consider the problems reported there and the alternative solutions that would have realized a better outcome for the school system as an example of what *ATIS* and its applications can do to help solve these problems **before** expending thousands of dollars on a project where it is known that it has little chance of success before it starts.

The “Small Schools” concept is clearly stated in the Lebanon report:

The idea behind small schools conversion is simple: Students in large, anonymous high schools are separated into groups of about 300 apiece, often according to academic interest, and go through high school together, with the same group of teachers for all four years. The idea is for teachers to get to know students beyond just a name that disappears after nine months slouching at the back of the classroom.

However, the implementation of this vision was that the school actually had to be separated into four different buildings. The economic results should have been clear from the beginning as subsequently recognized by Rick Alexander:

School board chair Rick Alexander said he had long been concerned about the higher administrative costs that small schools bring, since each of the schools-within-a-school has its own principal, and with replication of core curriculum courses in each of the four academies.

What is needed, however, is a *large-school structure with a small-school feel*. This is what is meant by the *intimate organization regardless of organization size*. There is nothing inherent in the concept of “Small Schools” that says that the schools actually have to be small organizationally. Consider the problems cited at Lebanon.

But first, why was change even considered?

Lebanon was dogged for years by a worrisome dropout rate.

This is a serious problem, at least for educators. However, in Lebanon one has to consider the community, a community that may not value education beyond its ability to produce farmers and labor for the local market and for whom the dropout rate was really not that important. Consider:

¹ APT&C, Theodore W. Frick, Associate Professor, Indiana University, see: <https://www.indiana.edu/~aptfrick/overview/>

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[In Lebanon] where grandfathers and fathers once went to work in the mills straight out of high school, there was outrage that the high school's new incarnation was more focused on collegiate prep classes, and less on vocational education.

The groundwork had simply not been done to determine whether change was even appropriate for this community. This is the first principle when viewing a problem systemically—have all factors that affect the outcome of a plan been considered? If there is a basic resistance to the change, then it is not worth the financial expenditure to force the change.

ATIS is founded on the concept of *affect relations*. Affect relations determine the structure of the system which in turn determines its outcomes; that is, the *predictions* of what will happen as a result of these affect relations. Even intuitively, it should be clear that where there are *resisting affect relations* that these will make it difficult if not impossible to carry out objectives which these affect relations oppose. *Affect relations for change* must be weighed against *resisting affect relations to change* to determine the *strength* of each and which will dominate the system. This can be done even without a rigorous logico-mathematical analysis of the system parameters.

For any school system, and, in particular, for school systems in small communities, it should be clear that the affect relations established by the parents and even the students of the community will have a substantial effect on the ability to induce change in that community. Where those influences are contrary to the planned change, the likelihood of success in carrying out the planned change is greatly compromised.

Unfortunately, the desire to “forge ahead” will meet with less-than-expected results.

Even the biggest local boosters of small schools, like Lebanon Superintendent Jim Robinson, concede that some changes [from those planned] will need to be made, like restoring some vocational emphasis. Still, Robinson said Lebanon will forge ahead, even without the Gates grant.

Unfortunately, pursuant to *ATIS*, making “some changes” will not solve the problem since the problem is systemic and any *change* changes the system. If the impact of a change on the entire system is not considered, then the actual outcome will be distinctly different from what is intended. What could have been done may have been relatively simple and would have cost far less in initial capital outlay. Once again, let’s get back to see what the problems are as stated by the residents of Lebanon.

In Lebanon, scheduling problems abounded, frustrating teachers who were already skeptical after years of seeing new fads in education tried, then discarded. Test scores and other academic indicators haven't budged, and there were widespread fears that the school was fragmenting too fast, a particularly touchy subject in a smaller city where community is forged on the football field and at graduation ceremonies.

The most significant thing about the above observations is that it, once again, indicates the lack of basic support for the change. Teachers were already skeptical, thus not completely supporting the change. Hence, the *resisting affect relations to change* compromised the efforts for change.

Systemic change requires initial system-wide support of the change. This is as much of a sales and promotional effort as an organizational effort. However, the financial outlay should not be made until it is clear that the basic support has been obtained to make the venture a success.

The “scheduling problems,” however, should not have been a problem. There is nothing easier to do than schedule classes when appropriate software is available and the school system is structured to assure desired scheduling outcomes. This is accomplished by implementing the *large-school structure with a small-school feel*. And this solves the student problems also.

Forging community unity on the football field and at graduation ceremonies? The “problem” answers itself—all four “schools” function as one when it comes to football games and graduation ceremonies. This has been the solution in many larger cities with “Charter Schools” that do not support athletics and other extracurricular programs. Quite simply, the students go to where the athletics are offered and all graduate in one ceremony. This seems to be a “problem” where there is none.

Students were upset at being separated from friends who had been assigned to other "learning academies", annoyed that they could no longer arrange to be in a particular teacher's classroom, and worried that their choice of courses had been narrowed.

"It really ticked me off," said Dallas Oeder, 16. "I couldn't take all the classes I wanted to."

There is no separation from friends when all students remain in the same building, and where the “learning academies” are with respect to curriculum structure only. There is nothing in a large school organization that precludes students from being with the same teachers throughout their high school career. And, if a student from outside their clique decides to take a course offered only by a certain “academy,” then it is an easy scheduling problem to put the student in the class for that year, or half year, depending on the desired course. Further, under such a structure, there is no narrowing of available courses. And, no student should ever have to say: “*I couldn't take all the classes I wanted to.*” Never should school structure preclude a student’s education.

As seen from the lessons in Lebanon, Oregon, the solution to expenditure of funds for the outstanding results of the “Small School” movement is to make certain that a proper systemic analysis of the school system is initiated first. *ATIS* and its applications can predict the expected outcomes of a reorganization **before** large amounts of capital are expended.

Further, *ATIS* and its applications can help to assure the support of the local community before any reorganization is implemented by focusing on those groups who have to be convinced of the viability of the reorganization in order to assure its success.

When moving into small communities steeped in tradition and education expectations, it is recommended that the desired approach should be: *large-school structure with a small-school feel*.

ATIS and its applications can assist in this analysis and design, and predict reorganization outcomes **prior** to the expenditure of large amounts of capital.

We have the appropriate system measures and logical analyses that will make it possible for the Bill & Melinda Gates Foundation to select those small school districts where success in reorganization is most likely, and to assist any school district to handle similar problems.

Once-popular, quiet backlash builds against small schools

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By JULIA SILVERMAN, AP Education Writer

LEBANON, Ore. -- Hopes were high in this small Oregon city two years ago when the local high school, dogged for years by a worrisome dropout rate, formally broke up into four small schools-within-a-school.



AP Photo

Lebanon High School journalism students Dallas Oeder, left, Hannah Bartlett and Jennie Marshall, right, discuss a page layout as the school year comes to a close in Lebanon, Ore.

The small schools movement was all the rage in school districts across the country, and had a powerful financial godfather in Microsoft founder Bill Gates, who has consistently called for sweeping reforms in the nation's high schools.

But just two years later, the future of small schools in Lebanon is in jeopardy, with a Gates-backed nonprofit pulling a grant of hundreds of thousands of dollars from the district after students, parents and teachers across the district complained about the change.

Similar disenchantment with small schools has cropped up across the country, in districts including San Francisco, Denver and Milwaukee, in the first small signs of a fledgling backlash against small schools, a concept that's been spreading rapidly since its beginnings in urban districts like New York City and Oakland, Calif.

In Lebanon, scheduling problems abounded, frustrating teachers who were already skeptical after years of seeing new fads in education tried, then discarded. Test scores and other academic indicators haven't budged, and there were widespread fears that the school was fragmenting too fast, a particularly touchy subject in a smaller city where community is forged on the football field and at graduation ceremonies.

"We made a mistake trying to push autonomy really hard, and the community blew back at us" said Mark Whitson, a journalism teacher in the "information technology" academy at Lebanon High School. "Parents want us to slow our pace of change until they know what we are doing. They are waiting to come back to this high school."

The idea behind small schools conversion is simple: Students in large, anonymous high schools are separated into groups of about 300 apiece, often according to academic interest, and go through high school together, with the same group of teachers for all four years. The idea is for teachers to get to know students beyond just a name that disappears after nine months slouching at the back of the classroom.

In practice, the concept has made for some bumpy transitions. In San Francisco, the Gates foundation reduced its financial support of seven small schools in the city's Unified school district this year, resulting in some public grouching that the district had never created a master plan for the schools. The Denver Public School system closed down a small-schools academy there after disagreements over how much autonomy should be granted to the school.

And in Milwaukee, two high schools that had gone small lost a combined \$300,000 in grant money, after officials from a local nonprofit organization administering the Gates funding said they hadn't created a "rigorous and relevant" curriculum.

In Lebanon, trouble over the small schools began almost immediately. Students were upset at being separated from friends who had been assigned to other "learning academies", annoyed that they could no longer arrange to be in a particular teacher's classroom, and worried that their choice of courses had been narrowed.

"It really ticked me off," said Dallas Oeder, 16. "I couldn't take all the classes I wanted to."

Parents also fretted that their children were being asked to make decisions about their potential future career paths at the tender age of 14. And in a town where grandfathers and fathers once went to work in the mills straight out of high school, there was outrage that the high school's new incarnation was more focused on collegiate prep classes, and less on vocational education.

Clara Hemphill, the director of insideschools.org, a project of Advocates for Children of New York, said troubles can begin with what she called "small schools in drag," or schools that are small in physical design only.

"It sometimes happens when you impose change from the top," she said. "The school becomes these four 'Groovy Academies for Esoteric Studies,' but the kids still call it 'Roosevelt' or whatever. The teachers aren't really interested and the building stays the same, and they just rename the floors. What does work is when teachers and principals are enthusiastic about the change and want to change the culture."

Even the biggest local boosters of small schools, like Lebanon Superintendent Jim Robinson, concede that some changes will need to be made, like restoring some vocational emphasis. Still, Robinson said Lebanon will forge ahead, even without the Gates grant.

"They walked. We are staying with it," he said. "My personal opinion is that they skated too quickly. It never feels good to have people give up on you, especially when we are on the cusp of seeing people risk more of themselves."

Others are not so certain. School board chair Rick Alexander said he had long been concerned about the higher administrative costs that small schools bring, since each of the schools-within-a-school has its own principal, and with replication of core curriculum courses in each of the four academies.

"The Gates Foundation is not going to throw good money after bad," Alexander said.

Still, some at Lebanon High School and elsewhere say that losing the Gates money may be a blessing in disguise.

"It's like losing a ball and chain," said Whitson, the journalism teacher. "Teachers were always out of the building, going to professional development workshops or doing reports."

The small schools movement has posted some high-profile successes -- in New York City, for example, the graduation rate shot up to 73 percent at the 15 small schools in the district this year. But Marie Groark, a senior policy adviser at the foundation, said going small is not "a magic bullet."

Early results do clearly indicate that small schools that are starting from scratch will have an easier time than school conversions like Lebanon, she said.

"In cities where things for some reason or another things haven't gone as planned, in large part it is because somewhere along the way, there wasn't full support," she said. "There's a finite amount of dollars to work with. Sooner or later you have to fish or cut bait."