

# Graphic Aids to School Administration

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## Article I: Visualizing Organization Facts

The other day I walked into the office of a manufacturing company known the country over for the excellent quality of its products and the dependable way in which it fills its orders. The walls of one room were covered with graphic charts. When I asked the manager why he took all that trouble to make wall decorations, he rather tolerantly explained that these were all essential data; that the plotting of these facts was necessary for the comprehensive visualizing of conditions essential for production control; and that the company could not be sure of filling its contracts nor would it know where it stood financially unless such work as this plotting was done. And this attention to graphs was found in a plant of not more than three hundred employees.

As I walked out of the factory I began to wonder if I had found what was the matter with many of our school superintendents who do not seem to know where they are.

It is surprising how many schoolmen avoid charts and graphs as though their use required calculus and the practice of the black art. Successful practice of school administration is no different from the practice of business; both require the constant habit of visualization. Many problems of school administration involve the clear and concise presentation of facts and relationships. The stump speaker to the contrary notwithstanding, facts do not speak for themselves. Relationships have to be made vivid to be understood. Unless facts and relationships are presented in a manner at once clear and interesting, they are as useless as locks without keys. Charts and graphs present facts and relationships more forcefully, in less time, and require no more space than the same facts presented in words.

### School Organizations Complex.

The schools of today, even in the villages, are complex organizations because of the added demands that come to them from all quarters. Gradually the home is shifting to the school the burden of teaching those things in which training was given in the home of fifty years ago. Besides, the colleges are asking for new facts about the pupils that enter higher institutions; state control is increasing, with the attendant demands for data and reports; the public is requiring in no uncertain terms the explanation of where the money goes; new principals and teachers are asking how to do this and when to do that; and so it goes! With the multiplication of services to be rendered and demands to be met, it follows that methods of school administration must be changed to conform to the new situation.

Over in the next state somewhere there are some superintendents who have held their positions for, say, twenty-five years. During this period their cities have grown from five or ten thousand to forty or fifty or seventy-five thousand. Usually such men are reluctant to give over to subordinates any of the duties they performed two decades ago. I know one of them who is attempting to handle the details of a system five or six times as large as formerly, with the same clerical staff of one stenographer, and with all the essential data "in his head". He uses the methods of the era of the Spanish-American war. Bradstreet's list of failures reads like the family roll of his brothers in business.

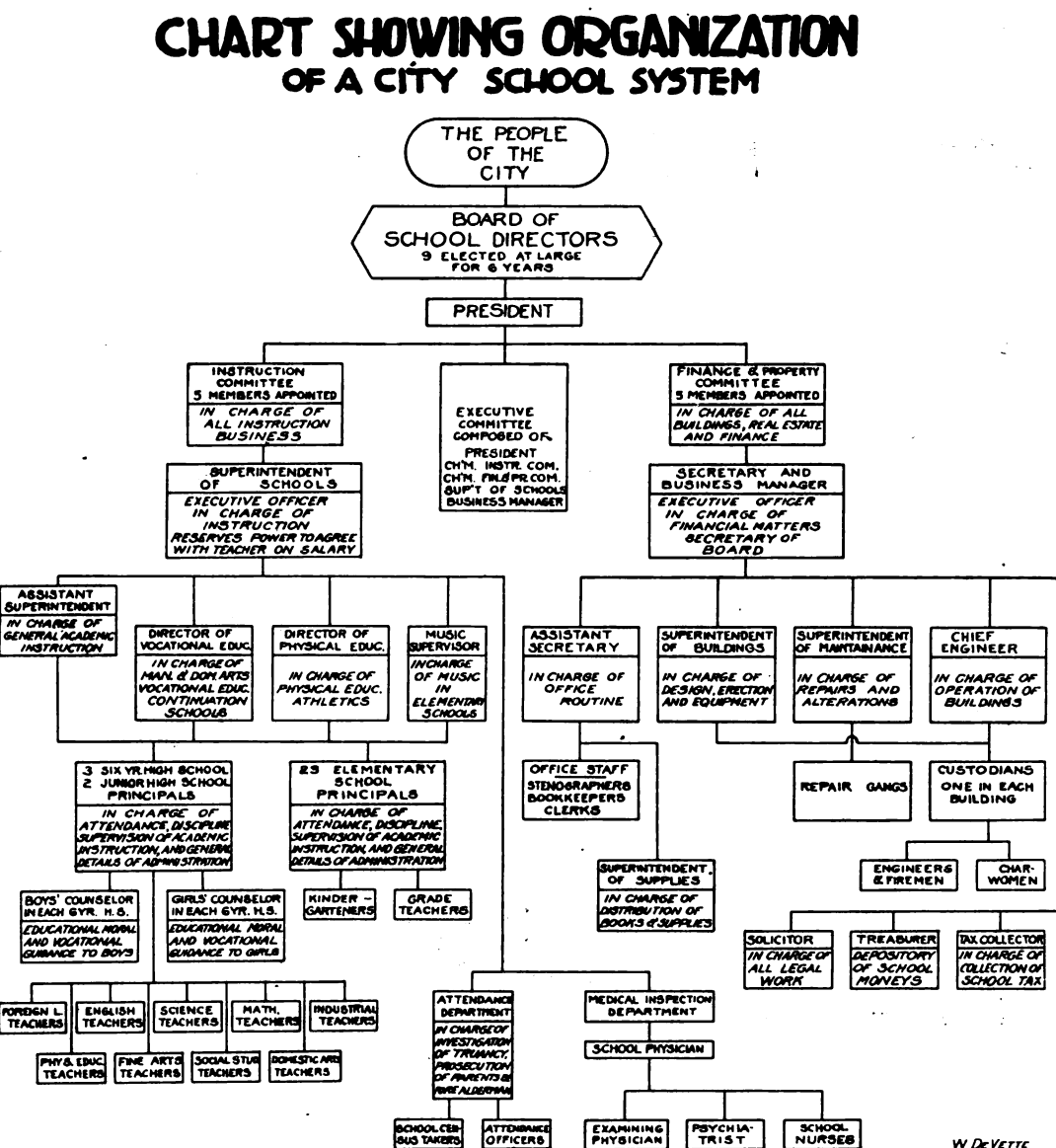


FIG. 1. CHART OF ORGANIZATION OF SCHOOL SYSTEM IN A CITY OF A HUNDRED THOUSAND. NOTE THE PLACES GIVEN TO NEWER FEATURES OF SCHOOL ADMINISTRATION.

The inevitable result of such administrative control is confusion and clashing of authority. There are heart-burnings because new principals and teachers assume in emergencies the powers reserved by the superintendent to himself. Sometimes there develops a hesitation on the part of the more timid to assume any authority whatsoever because of the difficulties that may ensue; hence the noble game of "passing the buck".

### Organize, Deputize, Supervise.

Some one has said that the secret of success in management is to organize, deputize, and supervise the activities of the enterprise. This is no less true of schools than of other business. A good superintendent must organize his scheme of operation, choose subordinates he can trust, delegate to them duties with power, and supervise their performance of those duties till he is sure the mechanism he has built will perform its functions automatically.

In the discharge of these functions graphic charts will be found of utmost service. An organization chart of the entire system, supplemented by detail charts showing the duties and powers of each of the different ranks of school workers will be found of inestimable value in organizing and deputizing. Such an organization chart may be likened to the family tree of

the organism it depicts. It shows the descent of authority and responsibility.

Such a chart should be drawn for each school organization, showing graphically which functions are delegated to each member of the organization. Then there will be no feeling of authority usurped, no excuses that authority was not delegated.

Figure 1 is a draft of the organization chart of the schools of a city of a hundred thousand. By amplification of the details of this chart to meet the plans of the executive, a graph can be made to fit conditions in any city of from ten to a hundred thousand. Figure 2 is the graph of the organization of the Reading, Pennsylvania, schools as published several years ago. It will be noticed that every phase of school activity is charted and its control shown on the chart.

### Preference in Chart Forms.

There are several forms in which the organization chart can be cast. That in Figure 1 is the most often used today, because it allows more flexibility than any other method. Some executives prefer the pyramid chart, made famous by John H. Patterson, formerly president of the National Cash Register Company of Dayton in his talks to salesmen and others. The pyramid chart is excellent for a limited amount of subdivision of authority but it is not suited



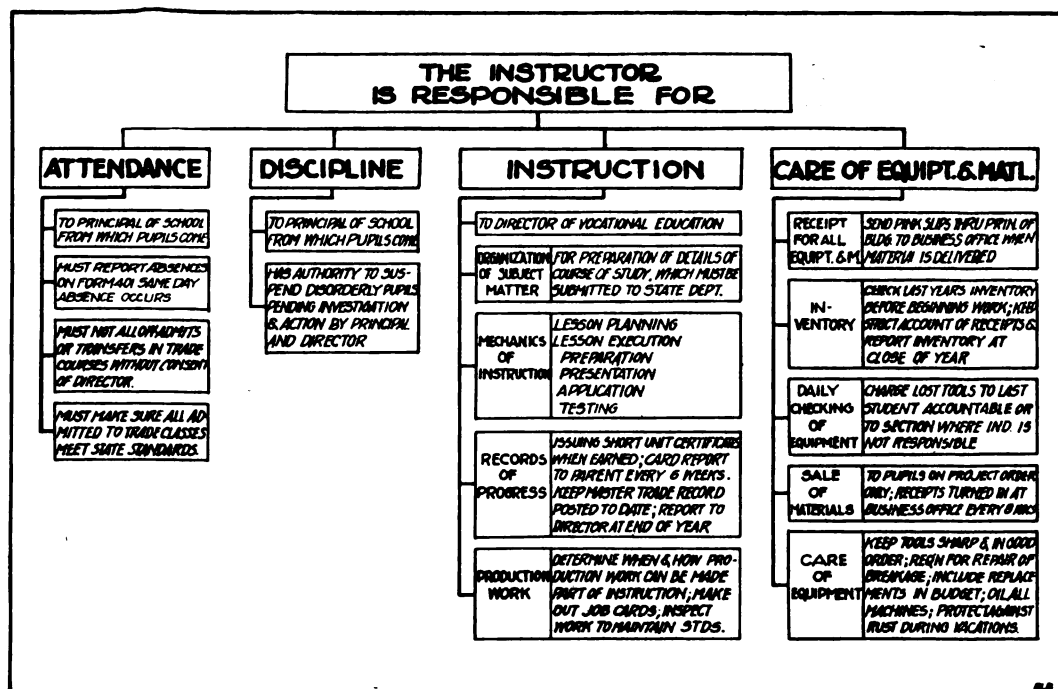


FIG. 4. DUTIES AND RESPONSIBILITIES OF THE INSTRUCTOR. A GRAPHICAL SUMMARY OF THE CHIEF RESPONSIBILITIES OF THE SHOP TEACHER.

#### Observing Chart Rules.

To prevent charts from defeating their object by becoming a nuisance, three rules should be observed:

1. The charts should be so adapted that their use will not become burdensome to the personnel of the schools.
2. Only the most important facts of the organization should be charted.
3. The personnel of the system should be kept constantly in touch with the charts.

In following the first rule, it must be remembered that charts must be made available for desk use by the personnel. If a chart is so large that it must be kept hanging on the wall in some central place remote from the daily contact of the organization, it is not so effective as reproductions of that chart placed in the hands of the members. If a chart is made up so expensively that it must remain as a decoration of the superintendent's office, it is not suited to the purposes described in this article. Exception must be made of course of charts intended solely for the guidance of individuals, or of charts intended to be used for the information of the public at educational meetings, public forums and parent-teacher meetings. These must be made to suit the conditions under which they are to be used.

Second, charts should not be too complicated. Better two or three charts, each covering a specific field well, than one chart so crowded with detail that the main intent of the maker is lost. Figure 4 may be considered as an amplification of the organization charts shown in figures 1 and 2. A little experience will aid in deciding when there is sufficient detail on a chart.

Third, the charts should be put into the hands of the persons directly affected and of any others who may be involved. If a charge is made in administration of any function, the charts should be corrected to correspond with the present practice.

#### Methods of Duplicating Charts.

Methods of duplicating charts today are so numerous and inexpensive that there is no excuse for failing to distribute copies to the persons who are to use them. Charts may be mimeographed. Figure 5 is an example of a rather complicated chart which was reproduced in this manner. Charts may be traced and blueprinted. Figure 2 was made from the tracing of the original chart.

Charts may be reproduced by the photostat, which may be made to reduce or enlarge the original drawing. Large charts are best made on detail paper by the use of showcard colors and showcard writers' brushes. The next article of this series will be illustrated with photographs of charts made in this manner.

Figure 3 is submitted as a means of saving time and labor in explaining to parents the possibilities of the reorganized school system. Most parents have the eight-four system so thoroughly rooted in their minds that it is difficult to introduce an image of any other school system.

By the use of this diagram the parent is shown that practically all children pass through the elementary school, the only exceptions being those that are physically or mentally handicapped so that they need especial care. The seventh or try-out year of the junior high school affords the pupil his chance to try himself out in the fundamental experiences of three or four shop subjects. Also, he is given a year's experience under departmental teaching before he is forced to choose at all.

The chart shows that at the close of the seventh year there are open to the boys any one

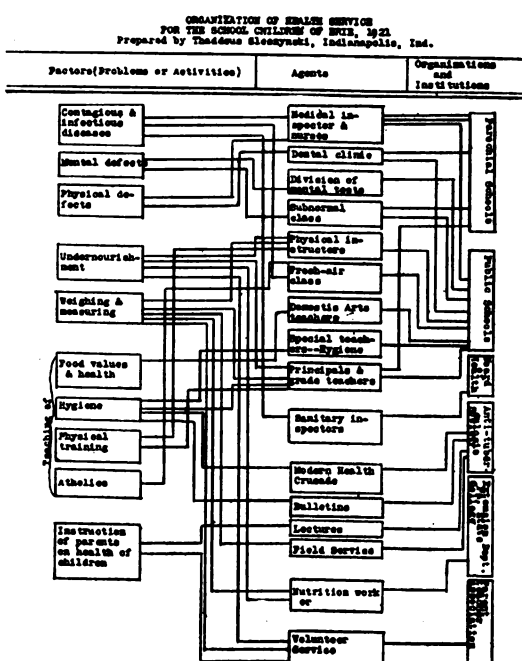


FIG. 5. CHARTING RELATIONSHIPS IN HEALTH SERVICE ORGANIZATION.

of nine courses: The English course (leading to the upper high school college preparatory course especially) and the eight day trades course, planned to prepare for the trades of automotive mechanic, electrician, carpenter, machinist, patternmaker, printer, sheetmetal worker, and tailor respectively. The completion of any one of these nine courses admits to the upper high school. At the same time the trades courses prepare for employment as an apprentice with advanced standing in the trade selected.

#### Visualization of Organization.

The girls may choose the English course, the homemakers' course, (a two year course under Smith-Hughes regulations) the bookkeepers' course or the stenographers' course. Completion of any one of these admits to the tenth year or first year of the upper high school.

The courses in the upper high school are not presented in a hard and fast manner. Upper high school students are required to study English and to follow a major and a minor throughout the three years. Thus the courses are broadly organized as indicated on the chart.

Under the Cox Act of Pennsylvania boys and girls 14 to 16 years of age are permitted to go to work if they have completed the sixth grade. They are, however, required to attend school at least eight hours per week. This part of the school organization is shown at the left of the junior high school organization.

Five minutes with a parent before this chart will give a clearer idea of promotion opportunities than a half hour's lecture unassisted.

#### Summary.

Modern methods of administration require the visualization of organization conditions. The status of relationship may be clarified in the mind of the executive by working out a chart of relationships. By the use of charts the personnel of the system may be informed more promptly, clearly, and definitely of the facts concerning organization than in any other way. Charts save time, effort and confusion. Charts are an essential aid in school administration.

The next article will be concerned with the presentation of statistics in graphic form for the use of executives and the public.

NOTE—The second paper of this series, "Watch Towers in Charts," will appear in February.

#### Causes of Increased Enrollment.

—Seymour, Ind. The senior high school has reported an increase in enrollment from 136 in 1919 to 211 in 1921, making an increase of 57 per cent in three years' time. The increase has been attributed in part to the growth of the town, but more largely to the holding power of the school. A table shows the following enrollment figures:

	1918-19	1919-20	1920-21
Freshmen return as sophomores .....	59	65	81
Sophomores return as juniors .....	73	84	99
Juniors return as seniors ..	64	84	85

The following are the reasons assigned for the increase in holding power: 1. The number of teachers has been increased to one to every 25 pupils, with the principal giving additional time to supervision.

2. Teachers devote special attention to students below grade in scholarship. An effort is made to find the reason for the condition and to help the pupil in his work.

3. Teachers teach how to study.

4. Parents keep in close touch with the progress of the students.

5. There is a constant checking up of the pupil's scholastic standing.

6. Requirements for the actual performance of work are made more definite and the standards are kept reasonably high.