

him to get behind the formula at the living truth it embodies, and to show how the problem in question is related to that truth, and he is dumbfounded. This kind of work is found very frequently in the work in trigonometry and analytical geometry in our colleges and technical schools, and is characteristic of the work done in algebra in the secondary schools. But it affects the geometry just as much. Take the various text-books on the subject, and we will find that those written along heuristic lines sin in this respect just as much as others. Some are merely a collection of theorems, without any hints or suggestions, and these are harmless and also valueless. Others contain suggestions and hints, but in nearly every case these suggestions are strictly perfunctory and routine in character, and would lead to a routine knowledge of geometry.

It seems, therefore, that under present conditions, the method is not capable of general practical application. An ideal teacher, having a small class in geometry, would probably make a success of it; but this

is a combination not often met. Every teacher of mathematics, however, should be ready to use the method as occasion demands. When and where to do so is a question which cannot be laid down by rule. A teacher must know this intuitively and so one will use it to a less extent and another to a greater, according to the individuality of each and the exigencies of the case. As an example, a large number of the concepts and theorems of plane geometry can be generalized to space, and whenever this is done it should be by the heuristic method. Such an application might hasten the day when we no longer are expected to teach so much plane geometry, and so much solid geometry, but when we shall teach our boys and girls some true geometry. The intuitional geometry, or form study, of the grades should of course be taught by the heuristic method. Here we are, namely, not dealing with formal geometry, but aim to develop in the children the geometrical intuition or imagination by means of the concrete object.

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REFORMING THAT REFORMS.

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EDUCATING that educates would be a better title for these suggestions, which, by the way, are not new, but, like many old things, have never been considered by many.

The principal of a High school who said years ago, "The great thing I have done is to induce the boys to do as well or better when I am out of the room than when I am present" might well have said, "The greatest thing I ever did was to teach boys to do even better

when I was absent than when I was present."

"The man who does his work as well when the boss is away as when he is at home" is the man to trust with your honor, with your money, with your confidence. He is the man to trust in public office. He is the man to trust in the bank and in the business corporation. He is the man to run the locomotive, to command the steamship. He is the man to sit on the judge's bench and in the legislative halls. This is the