HOW THREE BOYS LEARNED TO TELL TIME

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BEGAN time work with Raymond H. October 1st. He knew the common numerals at sight but not the Roman numerals. He could count to sixty by ones and also by fives. His first lessons were in telling the difference in top and bottom of clock. It took him one week to tell which was top and which was bottom at a glance, and to always hold clock face right side up. He had a clock lesson every day during the month of October. Of course it was short; sometimes five minutes, and sometimes ten. He learned that the clock had two hands like himself, but that unlike his own, one was shorter than the other. Then he was ready for the fact that the short hand told the hours and the long hand the minutes. He was soon able to tell any even hours either on the clock face or clock.

One day his lesson was to draw circles and mark off half circles and quarters. Another day he cut circles, halves and quarters. He drew after day all sorts of articles and cut in halves and quarters. We talked about pies and cakes and literally cut cookies in halves and quarters—playing they were clock faces.

Following this drill Raymond cut a circle and marked off half and put numbers twelve and six at half way mark. He also drew the quarter line and put number three and number nine at quarter mark. "After" was written besides three, and "before" beside nine. Then the common numerals were changed to Roman numerals, and it took another week of hard work for him to recognize at a glance the first twelve Roman numerals. We took up the clock face again. The words after and before were erased, and by November fourteenth Raymond could tell the hours. Much drill then followed in telling five, ten, fifteen, twenty and twenty-five minutes before and after any hour.

Some days the teacher set the hands and Raymond told the time. Other days the time was announced by the teacher and Raymond set the hands. Care was always taken to turn the hour hand a complete revolution every time. Twenty and twenty-five minutes before and after were hardest for Raymond to master. By the tenth of December he knew five, ten, fifteen, twenty and twenty-five minutes before and after any hour. That day he was allowed to wear the teacher's watch. He counted the minute marks on the clock, and learned in that way that sixty minutes make one hour. By January first he could tell time to a minute without hesitancy, on clock face, clock or watch. He does not stop to count every minute but knows five, ten, fifteen, etc., and adds or subtracts one, two, three and four to and from them.

Ignatius S. also began his clock lessons the first of October. He knew the common numerals but not the Roman numerals. Could count to sixty by ones, but not by fives. Similar drill work was used in teaching Ignatius the hours, half hours, quarter hours; only it took more of it and had to be repeated oftener. By January first, Ignatius had learned to tell the hours, half hours and the quarter hours. His next lesson was to count by fives to sixty and to write by fives to sixty. Another day he learned and wrote

<table>
<thead>
<tr>
<th>5 min. after =</th>
<th>20 min. after =</th>
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<tbody>
<tr>
<td>10 &quot; &quot; =11;</td>
<td>25 &quot; &quot; =1IV;</td>
</tr>
<tr>
<td>1/4 or 15 &quot; &quot; =11;</td>
<td>1/2 or 30 &quot; &quot; =VI.</td>
</tr>
</tbody>
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Later he made a half circle with the Roman numerals and recited, "My clock says five minutes after something, when the big hand points to 1," and so on to all the numbers. Then he took up the clock face and fixed the hands himself at five, ten, fifteen, twenty, twenty-five and thirty minutes, after, as I called the minutes. By January twenty-seventh he had gone over the same work for minutes before, that I have described so minutely for minutes after any hour. He needed a great deal of drill to tell whether the clock said twenty-five minutes before or twenty-five minutes after any hour.

But at last, by February fourth, he could tell time without any trouble.

Alfred S. has proven the most apt pupil. He learned to tell time in one month. He proves the rule, that these defective children learn to read much more readily than they learn arithmetic, by being the exception. Perhaps that is one reason for his taking up time so quickly. He began work April second. We talked about faces ours and the clock's—talked about hands—
ours and the clock's—ours the same size—clock's different length. He, I knew common numerals, but not Roman. By April fifteenth he could tell hours, half hours and quarter hours. The same methods were used as described in the other cases. The third of May Alfred could tell time on any clock or watch without a mistake. Others in Class "A" have learned to tell time during the year, but these three cases illustrate method used and length of time required.