

Putting the Pieces Together

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Time

Along with a poor orientation of space, the absence of an internal referencing system caused by an unpredictable and fragmented environment can impair a child's ability to orient himself/herself in time. Children lacking internal referencing systems have difficulty fully comprehending a sequence of events. Information obtained can be distorted or fragmented. Students also will encounter problems with cause and effect, sequencing, and comparisons.

Time is a human-devised relationship between events or between other relationships.

The time that it takes to travel from Houston to Dallas or between any two locations is a relationship of speed and distance. Speed is the relationship between time and distance. Time is an abstract concept with no material existence. It is represented through material means such as a clock or watch. Children who have a poor orientation to time will work haphazardly and be unable to do things sequentially or with systematic exploration. The feelings of frustration and failure brought on by a test can cause students to hurry through instead of using the clock to their advantage to analyze, plan, and check their work. An equally problematic situation is when a child spends far too long on one particular question, not understanding the limits imposed by time.

Parents instill in their children the need for planning events from the time they are babies:

- "Time for a bath."
- "Time for dinner."
- "Pick up your toys before you go outside to play."

This creates a routine and instills in children an association between predictable actions and responses. If you pick up your toys, you will then be able to go outside. Visualizing the future is an important cognitive function, one of the basic abstractions children need to grasp. When a child comes to school without a basic understanding of time, teachers must mediate that weakness.

Understanding time is essential for completing assignments, sequencing, and accomplishing tasks. Students from generational poverty may not understand measured time. Time in poverty is generally perceived as the present. Many of our students do not have clocks at home. Students are woken up in the morning in a

variety of ways, including even by the arrival of the school bus. Do you have students who are continuously tardy?

One young teacher recounted to me the following story:

When she was 17, her family adopted two young children, ages 6 and 9. One particular morning the mother was leaving early for an appointment with a doctor in a nearby city. The "wake-up call" was going to be the responsibility of the 17-year-old. As she talked to the children the night before, she let them know she would be waking them up. The 9-year-old replied, "Don't worry, because I know how to get up on my own. Before I got here, I had to wake up for the bus each morning. All ya gotta do is drink two big glasses of water before you go to bed, and a little before the bus comes ya gotta get up and go!" For four years, the child had followed the same routine, except on weekends, so that he wouldn't miss the bus.

When his new older sister questioned the importance of not missing the bus, he informed her that they would do without breakfast if they didn't make it to school on time.

Direct-teaching of elapsed time is needed. Tightly structured lessons in which time frames are established will help children. Students can be asked to sketch their visualization of time. Student responses vary greatly but are enlightening. One teacher explained to her class that time moved throughout the day in relation to the activities and content areas they were scheduled to encounter. Each activity or subject area was placed next to a time on a timeline that had been put on the board. As the day progressed, activity and content cards went up on the board (see page 5). The areas that were constant remained in place each day, while the activities that varied were moved accordingly. A few weeks after the line had been put up, one of the teacher's fourth-graders asked why the time line was top-to-bottom. He said, "Time doesn't move that way."

When the teacher asked for an explanation, he said, "The sun comes up in the morning, then it's noon, and then the sun starts down. It would make more sense if the line went across the bottom." While he spoke, the young man moved his hand from left to right. The class agreed to leave both lines on the board. The vertical line was used as the primary line, but throughout the course of the day, the teacher would have a student move an activity or content area to the

horizontal line. She also spent a portion of each day questioning the students about time, as in:

- "What happened just before math?"
- "Where will we be in one hour?"

Another example for younger students can be found on page 7. It is a schedule web that was used to illustrate the events and subjects areas for the day.

Step sheets, which are discussed in additional activities for Module 13, are very beneficial to a child with a poor concept of time. Teachers who work with younger students need to reinforce throughout the day steps in relation to time.

Statements such as these can be used:

- "After you return to your seat."
- "Before you sit down."
- "In the next five minutes."

Timers can be used to create a sense of distance between the beginning and the end of an assignment. The task can be broken into segments and each segment set against a time frame. One example would be to use rote math drills against a set amount of time. Students grade for accuracy during each particular time frame. The time frame can gradually be reduced to create an increased awareness. Students enjoy this activity when they're being graded against themselves and not others. Students graph their scores and monitor their progress. A middle school teacher from Maryland began to use three-minute egg timers with her students so they could monitor their time spent working math problems. The students were so fascinated by the sand that they discussed the concept of "moving time" for an entire class period. The timers were not intended as a pacing guide but as a means of gauging time spent on easier and more difficult problems. If the same amount of time was spent with both types of problems, adjustments needed to be made.

Many high school students have trouble scheduling work, homework, sleep, friends, etc. A high school teacher in Texas helped students by creating a timeline of events, beginning with waking up and ending with going to sleep (as illustrated on page 6). Students were able to see the realities of the time that they actually had to work with during the course of the day.

The activities on the following pages can be used to help students with their understanding of time.

Purpose: To establish a daily understanding of elapsed time during the school day.

Materials: Wall chart and sentence strips or white/chalk board and markers.

Vocabulary: Time, numbers, hour, minutes, elapsed, between, until, before, after.

Activity 1: How Do You See Time? page 5

1. Create a chart of the basic time frames involved in the class. Amount of time will vary depending on the schedule.
2. Place sentence strips containing the content area or activity related to the beginning time.
3. Question students throughout the day concerning elapsed time between subject areas and activities.
4. Discuss vocabulary related to the timeline: before, after, next, following, between.

Variations:

1. Selected activities can be placed on a horizontal line to express the idea of time differently.
2. Secondary teachers use a 45- to 90-minute time frame instead of the full day.

Activity 2: Plan the School Day, page 6

1. Students label activities on the timeline from wake-up until bedtime. Specific times are listed for school, work, homework, and other appropriate activities. Students establish their own schedules.

Activity 3: Schedule Web, page 7

1. To aid younger students, colored markers are placed on the activity at the beginning of each time period. Teachers suggest using a white board with laminated content areas and activities. Magnets are placed on the backs of each activity to make movement easier to facilitate. Special-event markers are used for assemblies, field trips, and special occasions.

Time

How do you see time?

8:00

8:30

9:00

9:30

10:00

10:30

11:00

11:30

12:00 Lunch

12:30

1:00

1:30

2:00

2:30

3:00

8:00

9:00

10:00

11:00

12:00

1:00

2:00

3:00

Plan the School Day

6:00 a.m.

6:30

7:00

7:30

8:30

9:30

10:30

11:30 Lunch

12:00 Noon

1:00

2:00

3:00

4:00

4:30

5:00

5:30

6:00

6:30

7:00

7:30

8:00

8:30

9:00

9:30

10:00

10:30

11:00

Schedule Web

