

# Middle School SSESS Project

March, 2006

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## School Leadership Opinion Survey Results (2002 & 2005)

### Segment 3: Results at a Glance

(The Middle Half of the Response Distribution)

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*Segment 3* consists of a graphic display of the middle half of all responses for each item. The item question and median is also included for each item.

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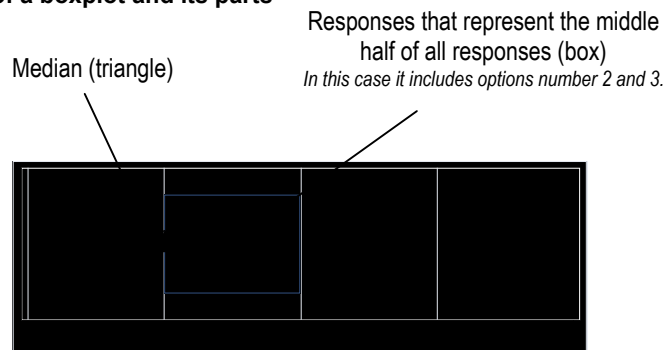
## Introduction

This section visually displays survey results by plotting item *medians* and the response choices of the middle half of all responders. These graphs (called *boxplots*) provide one method to visually compare the survey results for the middle half of responders across 2002 and 2005. When an item of interest is identified, more information on the item can be found in *Segment 2* of this report. When using boxplots, it is important to interpret them correctly. For this purpose take time to read the section below before reviewing the boxplot graphs that follow.

## Interpreting Boxplots

The boxplots used in this section provide a visual summary of 2 important parts of the response distribution for each survey item. These two parts, the median and the responses of the middle half of the distribution, are described below:

Example of a boxplot and its parts



### Expanded Definition of Boxplot Parts

<p><b>Median</b> (Triangle)</p>	<p>The <i>median</i> represents the center of the distribution. This is not the <i>mean</i> (average). If you lined up all the responses in consecutive order and found the middle one, this would be the median, the center of the distribution.</p> <p><b>Benefit:</b> It shows you which option (1, 2, 3, 4, 5) represents the middle of the response distribution.</p>
<p><b>Middle half of the responses</b> (Box)</p>	<p>The box indicates which options (1, 2, 3, 4, 5) were chosen by the respondents who represent the middle half of all responses. If you lined up all the responses in consecutive order and divided the line into quarters, this would be the two middle quarters combined. In the above example, the respondents representing the middle half of all responses chose options number 2 and 3.</p> <p><b>Benefit:</b> Much like the median that shows you the middle of the distribution, the box shows you what options the middle half of the distribution chose. It includes a wider view of the middle.</p> <p><b>Note:</b> For some items there is no box. This means that the middle half of the responses were the same as the median. The entire middle half of the respondents chose the same option.</p>

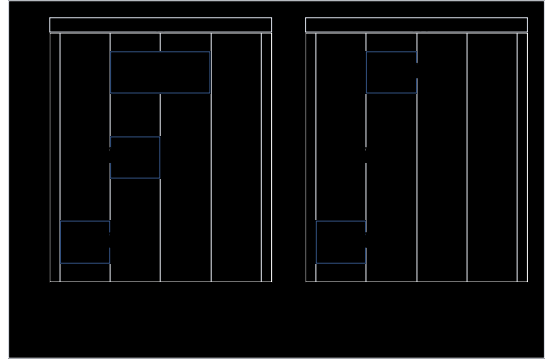
## Using the Boxplots

In the chart on the right you can see how a boxplot represents the 2 aspects of a response distribution described above. When looking at the boxplot consider the following:

### Comparing 2002 with 2005

- ❑ **Same median, different box:** In many cases you will see that the median remains the same for 2002 as 2005, but the box is in a different place. Although the median did not change, the responses of the middle half did change -- shifting to the right or left. For example, see the *Reference Chart* at the right. Although the 1<sup>st</sup> and 2<sup>nd</sup> items have medians that are the same for 2002 and 2005, in both cases the box shows some improvement.
- ❑ **Asterisk:** Some items have asterisks next to them. This means that statistical analysis found that there was a statistically significant difference ( $p < .05$ ) between the responses for 2002 and 2005. In some cases statistical significance may not be perceptible in the graph.
- ❑ **Remember** that number 1 is *Strongly Agree* which is desirable, and responses to the right of number 1 are less desirable.
- ❑ **The numbering system** can be used to reference more data on an item using *Segment 2* of this report. For example, the Reference Chart to the right represents data from items 5.1, 5.2, and 5.3. These numbers correspond with the item numbers in *Segment 2* of this report.

### Reference Chart



(This chart is for example only.)