APPENDIX A

NATIONAL HOSA METHOD FOR DETERMINING FINALISTS IN COMPETITIVE EVENTS REQUIRING MULTIPLE SECTIONS

Due to the technical nature of many of our Competitive Events, necessity has dictated that a method be derived to expedite the running of the events. After examining alternatives, National HOSA piloted a mathematical method to determine finalists at the National Leadership Conference. The following is the rationale for this technique and an explanation of its use.

1. FAIRNESS TO THE COMPETITOR -- When the previous method of determining finalists was used, there was no guarantee the top 10 students selected would be the best. Whenever multiple sections of an event were run, only the top from each section were allowed to compete in the finals. Since there is no seeding of competitors in HOSA, it is possible that the best 10 competitors could be entered in the same section. Hence, they would be eliminated from becoming finalists. Standard deviation eliminates the need for a final fun-off competition and, therefore, allows for the possibility of the best competitors being recognized.

2. DIFFERENCES BETWEEN JUDGES AMONG SECTIONS -- Regardless of the specificity of the rating instrument, there always will be differences when different teams judge different sections. A means of compensating for these differences is necessary. The mathematical method will accomplish this.

3. TIME -- To run finals in any event requires a great deal of additional time and personnel. Mathematically calculating the finalists eliminates the need for a final run-off competition.

4. ELEMENT OF SURPRISE MAINTAINED -- Whenever a final run-off competition is announced, the element of surprise is greatly reduced. For those who did not make the finals, there is no sense of anticipation for the awards ceremony. The method used maintains this element of surprise until finalists are announced at the awards ceremony.

EVENTS WHERE STANDARD DEVIATION IS USED:

HEALTH PROFESSIONS AND EMERGENCY PREPAREDNESS EVENTS

- Clinical Specialty
- MRC Partnership
- Public Health Emergency Preparedness (Round One)

LEADERSHIP EVENTS

- Extemporaneous Speaking
- Job Seeking Skills
- Prepared Speaking
- Researched Persuasive Speaking
- Interviewing Skills
- Medical Photography

TEAMWORK EVENTS

- Community Awareness
- Parliamentary Procedure
- Creative Problem Solving
- Biomedical Debate
- Medical Reading
- Health Education
- Career Health Display
- Forensic Medicine
- Public Service Announcement

*In the event that entries for any competitive event total only a number sufficient for one section, this event is not subjected to the standard deviation process.

NATIONAL HOSA STEPS FOR DETERMINING FINALISTS IN COMPETITIVE EVENTS REQUIRING MULTIPLE SECTIONS

The process for implementing the National HOSA Mathematical Method for Multiple section Finalists Identification is explained by first identifying symbols for scores/sections; second, listing the steps to be taken; and third, providing an example using hypothetical scores.

SYMBOLS FOR SCORES AND SECTIONS

ICAS	- Individual Competitor Average Score
AJS	- Average of Judges' Scores for Each Competitor
JDS	- Judges' Differential in Scoring between two (2) sections
AJDS	- Average Judges' Differential in Scoring between three (3) or more Sections
CS	- Control Section -- the Section having the highest AJS (highest AJS, if three or more Sections used)
AICAS	- Adjusted Individual Competitor Average Score
FCS	- Final Competitor Score

STEPS IN IMPLEMENTING THE MATHEMATICAL METHOD

1. Determine an **Individual Competitor Average Score** (ICAS) for each competitor in each section.
   - Add all scores (one per judge) for each competitor; divide by number of judges; result equal the ICAS per competitor
2. Determine the **Average of Judges' Scores** (AJS) for each section.
   - Add all Individual Competitor Average Scores (ICAS) separately by section; divide total by number of competitors in a particular section; result equals the AJS for each section.
3. Determine the **Control section** (CS)
   - Compare the Average of Judges' Scores (AJS) for all sections. The section with the highest AJS (or highest AJS, if three or more sections used) becomes the Control Section.
4. Determine the **Judges' Differential in Scoring** (JDS) between sections.
   - Subtract the **lower** Average Judges' score (AJS) from the **higher** AJS; the difference equals the Judges Differential in Scoring, when two (2) sections are used; the results equal the JDS.
   - When three (3) or more sections are used, an average of the AJS totals for all sections lower than that of the Control section (CS) must be obtained by adding these AJS totals and dividing by the number of sections with lower AJS totals.
5. Determine an **Adjusted Individual Competitor Average Score** (AICAS) for each competitor in each section except those in the Control Section (CS).
   - Add the amount of the Judges Differential in Scoring (JDS) to each Individual Competitor Average Score (ICAS), except those in the Control Section (CS).
6. Identify the **Final Competitor Score** (FCS) for each competitor.
   - For the Control Section (CS), the original Individual Competitor Average Score (ICAS) becomes the Final Competitor Score (FCS) for each competitor.
   - For all other sections, the Adjusted Individual Competitor Average Score (AICAS) becomes the Final Competitor Score (FCS) for each competitor.
7. Determine the Rank Order of each Final Competitor Score (FCS). - Assign a rank number to each Final Competitor Score (FCS).
8. Identify as finalists the top 10 ranked Final Competitor Scores (FCS).

EXAMPLE OF USE OF MATHEMATICAL METHOD

Hypothetical Event: (Individual) - Prepared Speaking
or
(Team) - Parliamentary Procedure

Number of Competitors/Teams: 20 (10 per section)
Number of Sections: 2

[To ensure accuracy of results, it is recommended that each section should include a minimum of ten competitors or ten teams if at all possible.]

Number of judges 6 (3 per section)