A Method for Determining Qualifying for Career Development Events

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Introduction

Career Development Events predate FFA (Tummons, Simonsen, & Martin, 2017) and have been a part of FFA since its inception. [State] has 45 Career Development Events (CDE) ([State] Agricultural Teachers' Association, 2016). Of these 36 are team events with three or four members per team. These CDEs are held at 10 major contests (more than 20 events) and a number of minor contests throughout the state between October and May. Teachers generally agree that CDEs support the mission of agricultural education (Lundry, Ramsey, Edwards, & Robinson, 2015). Registration for the major events has doubled over the past 8 years to over 23,000 members in 2016-2017. Unlike some states, the major contests are not regional and draw chapters from across the state. State finals occur at two universities at the end of this season. As the FFA membership grows a number of these contests have become impacted both at the state final events and at contests leading up to the state final events.

Impaction may be caused by limited facilities or time. For four contests, there has been a qualifying method used to determine participation in state finals. One method is to develop a ranking based on performance in at least three previous contests. Only the top ranked schools are allowed to compete in state finals. The ranking method had some problems in keeping the records and not all qualifying contests are of similar size and quality. The other method used is to have a partial contest with all teams and the performance in the partial (qualifying) portion determines if the team advances to complete the contest. Two contests currently use this method for state finals. However, there is no data to support the selection of the qualifying classes. While the latter method does not allow all FFA members to participate in a full contest it does allow more members to participate in the CDE. Croom et.al. (2009) found that FFA members value CDE events because they relate to their career choices; this is a good reason to look for methods to expand participation opportunities. This project was undertaken to develop a method of determining which portions (classes) of a contest would best predict the outcome of the contest, then test the selected class(es) as a qualifying round to see if the event management could be improved.

CDE events in [State] are all held with same day results and awards. A typical event begins at 8:00 AM and awards are presented before 5:00 PM. Commonly these events contain some form of practicum or skill demonstration. Holding a qualifying round must not only reduce the number of teams that completed the entire contest, but also reduce the time to complete the contest. A qualifying round must be scored quickly and accurately, as well as be easily administered. The Veterinary Science CDE was selected since it is heavily impacted with most contests limiting participation. The Veterinary Science CDE contains a mix of identification, tests, and practicum. The practicums (demonstrations) take time and facilities.

Methodology

Tabulations data was collected from three major contests over two years. In the past, Franklin and Armbrewster (2012) looked at tabulations data to determine regional performance. For this project individual performance for each section (class) of the contest and total score were used to run a correlation analysis. Additional combined classes were calculated and analyzed (table 1). There are expected to be variations in how each contest host presents the contest so multiple events were used. An analysis of each contest was performed to insure that the top 40 high individuals would be included if the top 80 contestants were qualified. Only the written test alone could not satisfy this measure (qualifying rank > 80).

Results To Date

The veterinary science contest tested the qualifying by using the ID portion (3 classes) to qualify 63 teams (250 contestants) at a large non-state finals event. No registration limit was imposed. The total identification was chosen by the contest host because it was highly correlated and in practical terms easy to administer. An important aspect in planning a contest with a qualifying round is that it is organized into two

separate contests. 20 teams (80 contestants) were qualified. The contest was started at 8:00 AM and tabulations were completed by 2:00 PM. This was several hours earlier than previous contests of this size. The contest advisor reported that the contest went smoothly and administration of the practicums was much quicker with fewer contestants. Tabulations of the practicum rubrics (hand totaled and entered) took less time.

Table 1

		Highest Qualifying Rank of the Top 40 high individuals				
	Correlation with	*Contest*				
	TOTAL Score	*1*	*2*	*3*	*4*	*5*
Total Score	1.000	40	40	40	40	40
Equipment ID	0.896	59	64	51	67	67
Parasite ID	0.862	56	69	50	57	*
Breed ID	0.875	74	74	58	60	*
Practicums I	0.649					
Practicums II	0.711					
Practicums III	0.634					
Written Test	0.683	89	100	91	88	100
ID Total	0.898	49	57	43	51	71
Breed/Parasite ID	0.908	58	66	47	66	72
Eq ID & Test	0.924	54	56	46	69	68
Contestants		104	112	115	110	132

* Parasite and Breed ID sections were combined in tabulations.

Future Plans

Tabulations data will be collected for other impacted CDEs to determine if portions of the CDE can be used for qualify rounds. The initial target CDEs will be ones that are currently impacted, that will benefit from a qualifying round, and have a reliable class or classes that predict overall outcome. From this recommendations will be made to the state's teachers to use standardized qualifying rounds for impacted CDEs. The Small Engines and Floriculture CDE currently use a qualifying round and they will be analyzed to determine if the current qualification is a predictor of overall success in the event. It is important to note that the goal is to increase participation in the CDE so it is desirable that qualifying rounds include as much of the overall contest as practical. Consideration also must be given in how the contest is organized which includes factors such as facilities, tabulation methods, and rotations.

Costs/Resources Needed

The primary resource needed to complete the analysis is tabulations data for multiple contests. If tabulations are done electronically then data can be extracted and analyzed in a spreadsheet. For states considering this approach some prior planning may be needed to save data from regional and state contests. There are some potential fiscal impacts of using qualifying rounds to participating schools and event hosts. If all schools are allowed to register then they would be expected to pay registration fees. For some CDEs this is a nominal fee ($5-$7). For CDEs such as agricultural mechanics and floriculture there are significant material fees, typically, an extra $10-$20 per contestant funding the skills/practicum portion of the contest. This issue will need to be addressed as schools that do not qualify may resist payment and event hosts will not want to invest the time to process refunds.

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