



SURVEYS AND BLASTER SCATTERPLOTS AT MIDDLE SCHOOL MATH NIGHTS



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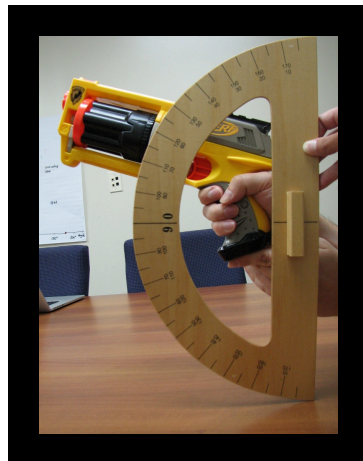
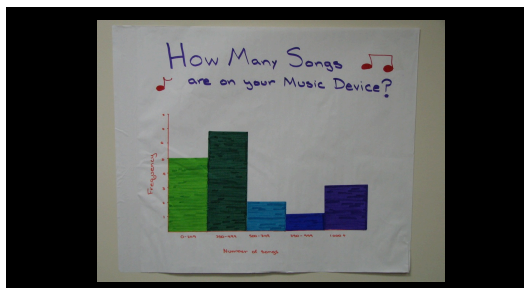
Introduction

The University of Georgia Mathematics Education Student Association (MESA) received a 2012-13 grant to conduct math activity nights in local middle schools, for students in grades 6 to 8 and their parents. Of the six activities presented, two were based on statistics standards:

Plotting numerical data in Grade 6
Scatter plots in Grade 8

Choose Your Own Numerical Data

- Grade 6 families explored the standard "Display numerical data in plots on a number line, including dot plots, histograms, and box plots."
- Parents and students first chose a survey question that would have numeric answers.
- Students then collected data from teachers, students, and parents at the event.
- Parents and students worked together to create an appropriate way of displaying their data.



Nerf Scatter Plots

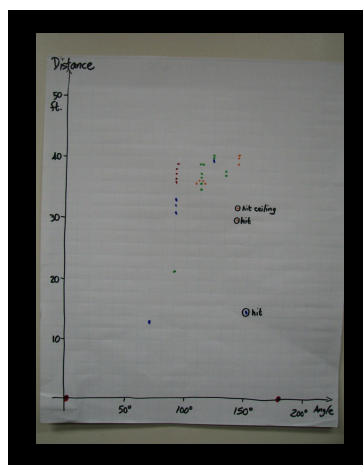
- Grade 8 families explored the standard "Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association."
- Students fired Nerf Maverick blaster darts, using large protractors to measure firing angle.
- After measuring dart distance travelled, they plotted distance against angle.
- Examining the scatterplot showed an overall nonlinear association with linear parts; variability between shots; and amusing outliers such as hitting the ceiling.

Conclusions

- Students enthusiastically participated in realistic activities.
- Parents became involved with their children's building of statistical knowledge.
- The project fostered collaboration between the local university and local schools.

Future Suggestions

- Prior to the event, confirm student expectations and background with local teachers and administrators.
- Time management is essential. Students will work passionately, but not as quickly as organizers might expect.
- People will come and go, so build in multiple entry points.
- Be prepared for accidents in data collection, such as ceilings, misfires, and unrealistic survey answers.



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