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This resource provides a way for students to explore a set of data using multiple displays. Student can use their data input to create boxplots, scatterplots, histograms, and stempots. The applet allows students to quickly change the format in which they are viewing the data. The applet also calculates summary statistics about the data set for students. This resource does have a print option which can be helpful in the classroom setting.

Grade Level: 6 -12
PSSM Content Standard: Data Analysis and Probability
CCSSM Content Standard: [CCSS.Math.Content. HSS-ID.A.1](#); [CCSS.Math.Content.HSS-ID.B.6](#)
Math Content: boxplots, histograms, stemplots, scatterplots, summary statistics

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Evaluation

What is being learned? What mathematics is the focus of the activity/technology? Is relational or instrumental understanding emphasized?

Students are learning how to input data in to a spreadsheet and create different types of plots. Students can then compare which plot displays the data best and can look at summary statistics. The focus is for students to choose the appropriate plot to get their point across. This activity emphasizes relational understanding because students have to understand the type of data they want to display and how they want to compare the data to choose the appropriate display. Students can compare the different types to see which plot works best. Students can experiment with the plots and make adjustments as well.

How does learning take place? What are the underlying assumptions (explicit or implicit) about the nature of learning?

The learning takes place by students inputting their data and then trying to find the appropriate display. The underlying assumption this applet has is that students already understand the definitions and characteristics of all the options of displays.

What role does technology play? What advantages or disadvantages does the technology hold for this role? What unique contribution does the technology make in facilitating learning?

The technology allows students to quickly compare the different types of plots to determine which is the best. The advantage is that the technology provides immediate output for students to analyze and determine if it is the best plot. The disadvantage is that the technology does not promote students understanding what they are seeing on the display. The technology contributes by allowing for quick comparisons between plots instead of drawing all of the plots by hand and it allows students to explore between the different plots.

How does it fit within existing school curriculum? (e.g., is it intended to supplement or supplant existing curriculum? Is it intended to enhance the learning of something already central to the curriculum or some new set of understandings or competencies?)

This applet could be used wherever students are learning about boxplots, stemplots, histograms, and scatterplots. The applet would enhance the learning because it allows students to compare the different plots. This would help students to decide which plot would best convey a specific set of data/

How does the technology fit or interact with the social context of learning? (e.g., Are computers used by individuals or groups? Does the technology/activity support collaboration or individual work? What sorts of interaction does the technology facilitate or hinder?)

This activity would be an individual activity because it doesn't encourage collaboration. The interaction that the technology does facilitate is through the print option which would allow students to communicate with their peers or teacher the plots that they decided on.

How are important differences among learners taken into account?

The applet provides a visual representation and numerical outputs to help visual students. Students can work at their own pace and students are able to choose their own data so they can analyze a set of data that interests them.

What do teachers and learners need to know? What demands are placed on teachers and other "users"? What knowledge is needed? What knowledge supports does the innovation provide (e.g., skills in using particular kinds of technology)?

Learners need to have background knowledge about all of the displays. Teachers would want their students to have access to a printer so that they could print their different displays. Students would also need to be knowledgeable on how to organize their data into a spreadsheet.