

**Exhibit 27. Number of topics covered by grade 8 mathematics teachers.** U.S. grade 8 mathematics teachers typically teach far more topics than their counterparts in Germany and, especially, Japan. [Each box portrays a sample of teachers for either Germany, Japan, or the U.S. Each row within a box corresponds to one sampled teacher. Each column within a box corresponds to one topic area which teachers were asked whether they taught during the sampled school year. A dash indicates the teacher represented by that row indicated that she or he taught the topic represented by that column. A blank indicates the teacher reported the topic as not taught. We ordered the rows from teachers reporting teaching more topics (upper rows) to those reporting teaching fewer (lower rows). We arranged the columns so that topics more commonly reported as taught are to the left and less commonly reported to the right. The solid line drawn across each box indicates how many topics each teacher taught. Farther to the right means more topics taught. A line that moves more slowly to the left as it moves from top to bottom indicates teachers typically teaching more topics than a line that moves more quickly to the left. The sense of a more completely "shaded" or filled box compared to other boxes also indicates that more topics typically reported as taught.]

