per day." In Section 2, the graphic incorporates the data for each geographic region individually, reserving the pauses between animations to offer facts about the region (*Africa: Population 630 million*). At any point in these lessons, the user can mouse over different graphical elements for **details-on-demand**.

Beyond simply introducing graphical features, the annotations convey a narrative for each section, providing observations that the viewer would unlikely identify on his own. For example, Section 3 explains *"In the 1970s most poor lived in South and East Asia."* Then, as the timeline moves forward and the chart changes, a new comment states, *"The last 30 years changed the face of global poverty. Now Africa is the home of one third of all poor."* A final animation updates the chart even further, this time with the comment, *"In 2015 Africa will account for the majority of the world poverty."* These narratives crucially allow dense information to be quickly comprehended by the user, and the graphical elements play an important role in making this possible: animations highlight relevant sections of the charts, color schemes remain **semantically consistent** between slides, and arrows and labels regularly appear to clarify elements mentioned in text.

Periodically the presentation allows increased user interactivity with the display, typically after a narrative segment is complete, again following a **martini glass structure**. In this presentation, the increased interactivity occurs most frequently in segments using time-series data, as a **timeline slider** appears to let the user return to previous years. Importantly, the exposed interactivity is part of the narrative, not merely an afterthought. For instance, Section 3 explains *"The global goal of halving poverty by 2015 will be met because of fast progress in Asia. But on current trends Africa and Latin America will not meet that goal."* At this point, additional interactive components appear on the display and a prompt appears with the message *"Use the timebar to see people in Asia moving out of poverty."* In this way, the interactivity is actually a continuation of the story, emphasizing

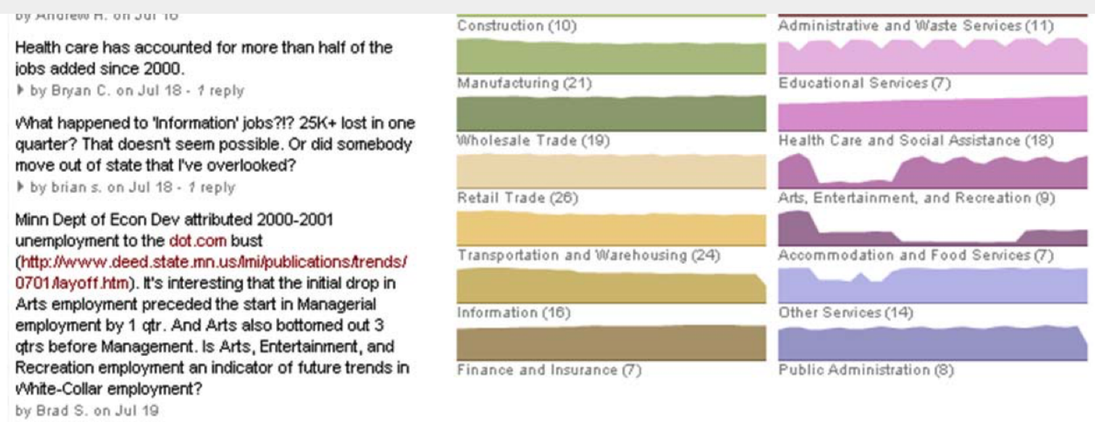


Fig. 6. Minnesota Employment Explorer. Minnesota Public Radio.

The goal of the visualization was to engage readers in finding and telling their own stories in the data. It was hoped that residents in various occupations would engage in social data analysis [15], sharing expertise from their respective industries. Despite good intentions, the visualization largely failed in this goal. A total of 23 people submitted 62 comments, with 25 of these comments being posted by the producers of the visualization. Other guests pointed out trends of interest and shared pointers to other related data sets; for example, a registered nurse shared his first-hand experiences in the Health sector. However, the majority of posters were not citizens of Minnesota; they were visualization and statistics enthusiasts drawn by the technology (the piece was mentioned on a popular visualization blog) and not by the story.

A post-mortem analysis reveals multiple areas for improvement. Some issues revolve around usability: the visualization was placed below-the-fold on the web site, and thus possibly overlooked by MPR readers. The visualization also lacked a **tacit tutorial**—it dropped readers into the data with little orientation and no example of a rich, emergent story. Seed comments served to highlight interesting patterns and raise questions, but did not develop a larger narrative.

Most importantly, the graphics are disconnected from the narrative.