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## Perceptions of effective and ineffective professional development held by teachers and staff developers

Our research is focused on the effectiveness of professional development for science and mathematics teachers in Missouri. Professional development is a term used to describe experiences which are aimed to improve teacher knowledge and instruction. The purpose of our research is to understand how science and mathematics teachers view effective and ineffective professional development, and how their views compare with those held by individuals who deliver professional development (staff developers). We examined 9 professional development projects in Missouri, three of which are focused on mathematics teachers, and six that are science based. Data collected for the study included interviews with a random sample of teachers from each project (n=70), and interviews with the staff developers who designed and implemented the professional development (PD) projects (n=30). Our analysis focused on comparing the teacher data to the staff developer data. After transcribing the interviews verbatim, we began coding the comments made by the teachers into two different categories: effective PD, which represented comments reflecting positive aspects of PD for teachers and ineffective PD, which represented comments reflecting negative aspects of PD. We created roughly 26 categories or themes based on the data. For example, an effective comment frequently seen in the teacher data is that the material presented at the PD projects should be applicable to that teacher's classroom. This analysis process is also being repeated using the staff developer data. Preliminary findings indicate that teachers generally found their PD experience to be positive if the material presented to them was current, specific to their subject, and relevant to the grade level they teach. Many teachers also enjoy receiving materials they can take back to their classroom, or receiving funding to get materials on their own. Both teachers and staff developers think that integration of different subjects is important, along with the introduction of technology. We are working on a paper for national publication which will broaden the comparison of effective PD to include comparisons based on what the existing research says as well as comparisons based on policy documents.