

TAKING STEAM TRAINING ONLINE TO GUIZHOU

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STEM, STEAM, STEMM, STEM+C and STEM+ education

BACKGROUND AND AIMS

Early childhood teachers in a variety of Chinese settings have expressed interest in learning more about Science, Technology, Engineering, Arts, and Math (STEAM) curriculum activities. Since 2020 an American professor who has joined a Chinese faculty of education in Chongqing has been offering STEAM professional development to pre-service and in-service teachers, and administrators. Up until recently this has always been done face-to-face and held either at a university or school setting. The decision to offer synchronous online training was made rather than cancel the professional development for the 2nd year in a row for kindergarten teachers in Guizhou.

The curriculum choices were made keeping in mind a variety of factors such as cost, ease of acquiring, and practicality for classroom use. Participants were given a materials list in advance. Tencent Meeting and WeChat were the platforms in use for the sessions. The training sessions were essentially identical servicing two groups of approximately 50 teachers each. A translator assisted throughout the entire session, and a technological assistant was also on hand to offer audio, video, and connectivity support. Over a three-hour period, five (5) individual STEAM activities were conducted. Images from the participants' work were constantly shared to ensure understanding and participation. Following the sessions, a link for an online survey was provided where participants had the option of providing a response.

METHODOLOGY

An online survey of 60 5-point Likert scale questions and 6 open-response items was conducted. The validity and reliability of the survey are accounted for in the study. Likert scale items address interest in STEAM, perceptions of STEAM, STEAM self-efficacy, science class and teacher support, and an overall view of the professional development. Open response items address the view of the session.

RESULTS AND CONCLUSIONS

The 66 responses received were overwhelmingly positive. Some key themes described the training as fun, interactive, hands-on, and practical. The greatest suggestion for improvement was to hold the training offline. Participants largely felt ready to start trying STEAM activities. As the training has been found to be quite successful, it provides potential for further online STEAM training opportunities on a broader scale. Since these initial sessions, additional training has been requested and conducted for other areas in China.