How did they learn to make pots?

Maria Martinez at San Ildefonso Pueblo (ca. 1940), showing a young potter how to finish a pot. This is an example of a mentor-guided “closed” learning strategy. DeHuff Collection (000-099-0564). Courtesy of the Southwest Research Center, University Libraries, University of New Mexico.

Crafts such as pottery making are part of cultural traditions passed down from one generation to the next. Scholars who have lived and worked among communities of traditional artisans, such as potters, have shown that formal and informal teaching strategies impact whether craft products adhere to highly conservative standards of style and technique or if creativity, experimentation, and diversity are valued.

In particular, a distinction can be made between “closed” (culturally conservative) and “open” (culturally innovative) models of artisan training. These distinct modes of apprenticeship are not necessarily conscious or intentional, but seem to emerge in different social contexts and economic conditions. In closed learning frameworks, the emphasis is on close observation and exact imitation of the products of mentors. Questioning and experimentation are frowned on. Competency is perceived as the ability to

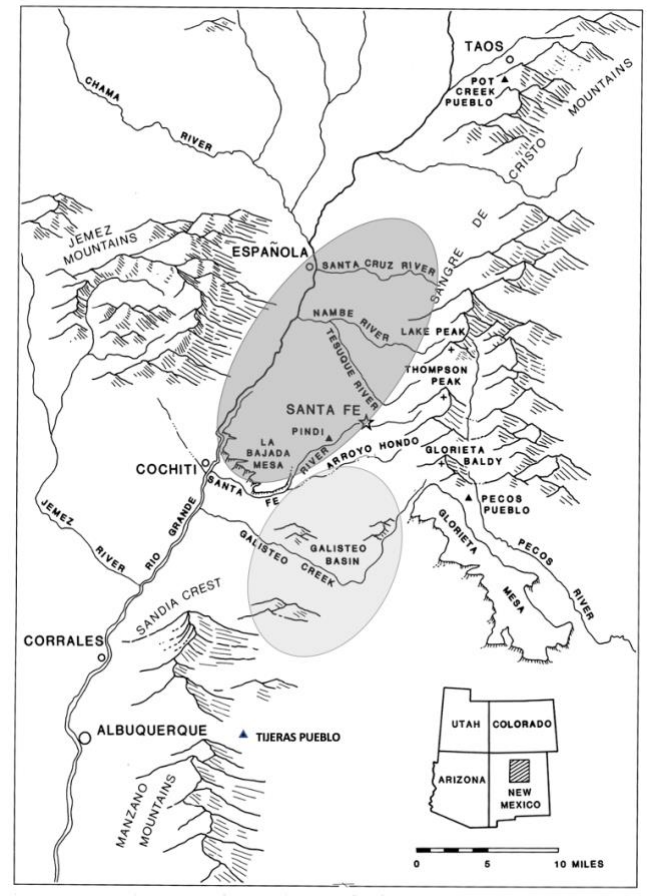
adhere to well-defined standards that reinforce group identity. This training approach favors the production of items that change little from one generation to the next

In contrast, open learning strategies emphasize individual trial and error. Experimentation is tolerated and even encouraged. Style and techniques are less regulated, and competency is not judged by strict adherence to community standards. The products of such communities of potters tend to be more diverse and are more open to change across generations. Ethnographic research suggests that open learning strategies emerge within artisan communities during times of social and economic stress, often during periods of rapid social change.

The painted pottery from Tijeras Pueblo can be divided into two different wares, glaze ware and white ware, based on background color and paint type. Close to half of the decorated pottery from the village is white ware, most of which is painted with carbon-based black paint. By looking more closely at fragments of black-on-white pottery recovered from Tijeras Pueblo, archaeologists are able to tell what sorts of strategies were likely used to teach young potters how to make these vessels.

Santa Fe Black-on-white bowl recovered from UNM excavations at Tijeras Pueblo (LA 581). Catalogue No. 78.67.336. Courtesy of the Maxwell Museum of Anthropology, University of New Mexico.

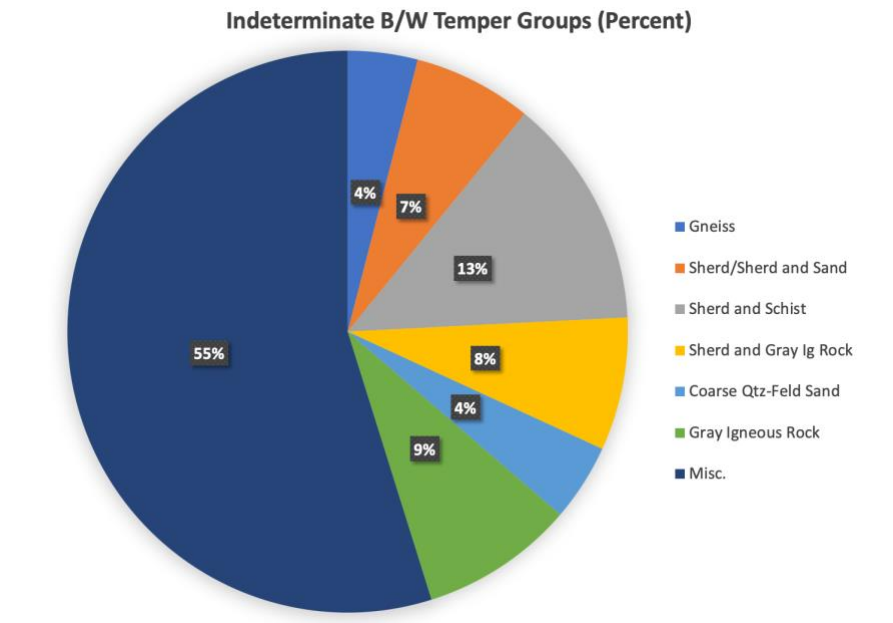
The carbon-painted black-on-white pottery from Tijeras Pueblo mostly took the form of small to medium-sized bowls and was painted with a narrow range of geometric designs. By identifying the kinds of non-clay materials ("temper") added to clay, archaeologists have determined that about one-third of the carbon-painted white ware pottery from Tijeras Pueblo was produced locally (at or near Tijeras Pueblo, or in the Rio Grande Valley near Albuquerque). Much of the remaining black-on-white pottery found at the village was made at communities to the north, for example in the Galisteo Basin or in the Española Valley. The non-local examples can be sorted into specific "types," which archaeologists associate with particular communities of potters from historically identified Pueblo societies. For example, Santa Fe Black-on-white was made in ancestral northern Tewa communities in the Santa Fe area and Española Valley, while Galisteo Black-on-white was primarily made in ancestral Tano (southern Tewa) or mixed Keres/Tano villages in the Galisteo Basin.



Map showing core area for production of Santa Fe Black-on-white in the Española Basin (dark gray oval) and Galisteo Black-on-white in the Galisteo Basin (light gray oval). Courtesy of Judith Habicht-Mauche.

The two types are distinguished by details of how they were made: what clay sources and tempering materials were used, the kinds of “slips” or coatings for clay surfaces, and whether the tops of bowl rims were rounded or flattened. Those details are so consistent, a closed learning system must have been in place. We can imagine mentors working closely with apprentices to ensure that consistent ways of making pottery were passed down through multiple generations.

Tijeras Pueblo is generally acknowledged as an ancestral Southern Tiwa village, but there is strong evidence to suggest that it was founded at the beginning of the 1300s as a multi-ethnic community—a mix of people from Tijeras Canyon, from the broader Albuquerque area, as well as from Pueblo communities far to the west. In such a diverse community, the usual rules may have been relaxed. In stark contrast to the imported black-on-white pottery, the locally made examples are almost impossible to sort into well-defined types. More than 70 different local temper types were identified, some represented by as little as one or two sherds. Slips and lip forms are also much more diverse, and cross-cut paste categories. This eclectic approach to pottery making is in stark contrast to the artistic conservatism seen in black-on-white pottery imported from villages to the north.



Diversity of temper/paste sorting groups among the local (untyped) carbon-painted white ware from Tijeras Pueblo (LA 581). The Miscellaneous group contains more than 60 distinct temper/paste sorting groups. Courtesy of Judith Habicht-Mauche.

The confusing variety in locally made black-on-white pottery reflects a more open learning strategy. In turn, this approach may have been part of a broader pattern of social flexibility, adopted during a time of migration and rapid social change.

To dig deeper, see:

Crown, Patricia L. 2007. Learning about Learning. In *Archaeological Anthropology: Perspectives on Method and Theory*, edited by J.M. Skibo, M.W. Graves, and M.T. Stark, pp. 198–217. University of Arizona Press, Tucson.

Greenfield, Patricia M., Ashley M. Maynard, and Carla P. Childs. 2003. Historical Change, Cultural Learning, and Cognitive Representation in Zinacantec Maya Children. *Cognitive Development* 18: 455–487.

Habicht-Mauche, Judith A. 2022. The White Ware Pottery from Tijeras Pueblo (LA 581): Learning Frameworks and Communities of Practice and Identity. *KIVA* 88(2): 232–247.