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Self-Directed Teaching to Explore Experienced Physics Teachers' Identity

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ABSTRACT

This study examines the identity and practices of experienced Turkish physics teachers through self-directed teaching. Self-directed teaching examines teachers' identity development, focusing on autonomy, competence, and relatedness. This research focuses on one female and one male experienced physics teacher with more than 15 years of teaching experience. The study design was a multiple case study design with two teachers. The data were collected with semi-structured interviews, classroom observations, informal interviews, and lesson artifacts. The thematic analysis defined key themes based on the self-determination theory about teachers' self-directed practices, autonomy, competence, and professional growth. The study results showed that male and female teachers had different approaches to self-directed teaching that shaped their professional identity. The female teacher demonstrated strong competence and autonomy in teaching physics through inquiry-oriented practices. The male teacher showed a weak engagement with self-directed practices to teach physics through inquiry-oriented practices. The results emphasize the significance of self-directed teaching in addressing teacher autonomy, competence, and relatedness and enhancing motivation in professional growth. The study highlights the necessity of professional development programs to shape teachers' professional identity toward a strong capacity in self-directed teaching. The study also suggests increasing teacher learning to make inquiry-oriented instructional decisions and enact alternative pedagogical approaches.

Keywords: inquiry; physics; self-determination theory; teacher education; self-directed teaching,