From the introduction: Do your students like to play tic-tac-toe? If so, do you think of games as time fillers or part of your educational program? In our classrooms, we use this game as a serious educational activity. The purpose of this article is to explain why we value this and similar games and how we use them. We base our opinion on research conducted in Japan and the United States, and our observations in many classrooms. In the study described here, the authors played tic-tac-toe with eighty children – four-, five-, six-, and seven-year-olds (twenty from each age group). The game playing was to verify and simplify developmental levels – determined by previous research – for the purpose of teacher use in the classroom. (The developmental levels are described in detail.) Each game was videotaped and played using a commercially made game board that comes with ten plastic pieces: five Xs for one player and five Os for the other player. Opponents took turns putting a piece on the board, and the winner was the first player to place three pieces in a straight line vertically, horizontally, or diagonally. The teachers were careful not to win too often.

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