Annie grew up as the second child in the second family of a plural marriage. Living across the street from each other, however, the two families enjoyed cordial relationships; Annie's best friend was her half sister, Mary Elizabeth, the only daughter in the first family. Annie attended Brigham Young Academy in Provo, 1882-83, where she met her husband, who was a visiting professor. She married him as his second wife in Endowment House in Salt Lake City. Six months later he married 3rd, Josephine Snow. Soon afterwards he was called on a mission to Europe and the Holy Land and was gone 31/2 years. During that time, as Miss Clark, Annie taught the lower grades at Centerville, Utah, School, where her brother, Charles, taught the upper, and she sent nearly all of her salary to her husband. She also taught in Georgetown, Idaho, and in Woodruff and Randolph, Utah. When her husband came home, she assumed the name of Mrs. Wilson and went underground, living from home to home a week or two at a time in northern Utah, in Idaho, and in Wyoming. At that time her husband was president of BYU.

After the manifesto of 1890, by which the Mormon Church withdrew from polygamy, Annie settled in two rented rooms in Franklin, Idaho, where she stayed for nearly a year. Then her husband went east to study at Harvard, and Annie returned to Farmington to live for a year with her mother. Her husband asked her to join him in Cambridge, but when she got there she found his first wife in residence so she and her child had to take rooms elsewhere. Later her husband's health began to fail, and in November 1893 they all moved back to Utah, Annie to a small home in Farmington that her father gave her.

Her husband married three more wives after the manifesto, and as a consequence he lost his positions in the Church, including president of the general superintendency of the Sunday School Board; he had also been president of Utah State Agricultural College at Logan and commissioner of education for the LDS Church. He had a law office in Salt Lake City, but his interests turned to a farm in Cardston, Alberta, where a Mormon settlement sprang up after the manifesto; Annie sold property her father had left her to help buy the farm. While Tanner was one of the foremost educators in Utah