

# Education turns into fun when you learn by playing

Ever since educational games called "WFF 'N Proof" and "Equations" came on the market in the 1960s, a growing number of players across the country have become adversaries in a battle of theorems and equations.

Such intellectual combat has the endorsement of Layman E. Allen, a U of M professor, who has been waging his own attack on the notion that learning must be drudgery.

A law professor and research scientist, Allen is author and distributor of WFF 'N Proof, Equations and other learning games which challenge players—both young and old—pursue more complicated levels of abstract reasoning. WFF 'N Proof (the WFF stands for Well-Formed Formula) is essentially a game of logic, while Equations is a mathematical game.

"The games are fun," said Allen, a native of Pennsylvania and a member of the U of M faculty since 1961. "Players become both teachers and learners, and this builds moral."

There are also built-in coping mech-

anisms in the games so players, gently nudged to increase their understanding, will not be forced to work beyond their own intellectual levels."

IN MANY OF Prof. Allen's games, players can master abstract ideas by working with pencil and paper or by manipulating tiny colored blocks on a game board.

The games offer various levels of complexity for different age groups, according to Allen. For example, in Equations there are playing blocks signifying subtraction, addition, division, multiplication, square roots and other operations.

Young players with limited mathematical knowledge can cope with unfamiliar concepts like square roots simply by placing the appropriate blocks in the "forbidden" category on the playing board, Prof. Allen explained.

Undoubtedly, the use of these concepts by more knowledgeable players whets the intellectual appetites of the younger players, according to the professor.

That's how learning takes place: when a player does not understand because one of these unfamiliar concepts is used, this creates a tension, and he seeks and gets an explanation. "It's an especially healthy situation when different generations—young and old—become involved in instructional games. The educational interaction is all the more meaningful that way."

AT THE SAME TIME, the professor stresses the importance of finding an optimum level of intellectual tension for younger players in order to maximize learning.

"With too little tension, players are bored. With too much tension, they may black out learning experiences."

Thus, Prof. Allen and other instructional gamers advocate a system where youngsters in groups of three play with others of their own intellectual competency.

"In this way, all players are assured of winning about one-third of the time."

For the professor, one of the biggest successes so far has been at Peihnam Middle School in Ingersoll, Detroit, where the games and regularly scheduled gaming tournaments were introduced into seventh- and eighth-grade mathematics classes. In a recent study on the effects of the program, two researchers found a significant reduction in student ab-

## Highland Lakes lists graduates

Students at the Highland Lakes campus of Oakland Community College who participated in spring 1975 graduation ceremonies included:

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