

Title: The Future of Personalized Language Learning is here with Artificial Intelligence and Big Data

Franz Chen 陳啓台 , Founder and CEO, Pongdy Education Inc.

Abstract: Integrating the newest machine learning technologies with self-learning materials and classroom instruction can result in effective personalized learning. Teachers increase their effectiveness by using machine learning technology to generate dynamic and adaptive curriculum using affinity learning principles, real-life scenarios and gamification to maximize student learning.

Using natural language processing techniques to analyze a corpus of text and speech, key learning elements are identified and grouped into clusters for similarities and probability of co-occurrence. A collection of clusters has affinity properties that are categorized in multiple levels such as phonetic, visual, radical, character or context that optimizes language learning and enables more effective individualized curriculum adaptation. Lessons can incorporate affinity learning principles such as words that are connected in radicals, learning elements using real life scenarios and gamified exercises that engage the learner while the artificial intelligence engine personalizes and analyzes for effectiveness.

The presenter will engage participants in a dialogue about how Artificial Intelligence engines have advanced and how incorporating machine learning technology and affinity learning properties with their instruction can benefit their teaching and language learning for their students. Participants will engage in interactive exercises demonstrating how affinity learning properties can be identified and used in instruction. They will compare and contrast traditional methods of assessment with gamified exercises to then discuss how to better engage and motivate their students to better learn.

At the end of the session teachers will know how to:

- i. Create dynamic curricula tailored to individual student learning needs using a Machine Learning engine.
- ii. Easily and quickly create a blended learning classroom to increase their instructional effectiveness.
- iii. Use Affinity learning properties to maximize student learning, retention, engagement and motivation.

A dynamic and adaptive curriculum generated by a Machine Learning Engine in partnership with the teacher can tailor learning to optimize student achievement.

Keywords: Affinity learning, artificial intelligence, personalized, customizable curriculum, education research, smart textbook, progressive, big data, analytics, technology, spiral teaching, recycle