

An Integration of Math with Auto Technician Courses

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<p>Hector Valenzuela, M.A. (Hector.Valenzuela@lwtech.edu) is a math faculty member at Lake Washington Institute of Technology. In addition to his work in the field of applied mathematics, he also spent 17 years in application areas of management information systems, business finance, and business development. He completed his undergraduate math education at the University of Texas at El Paso and his graduate mathematics work at Fresno State.</p>	<p>Within our research scope and design, we concentrated on developing contextualized mathematics and integrating it into the Auto Tech curriculum. All math developed was applied math and no theoretical math was taught in the integration sequence. The applied topics were developed from the auto tech curriculum. This allowed for a natural flow of understanding from the auto instructor to the math instructor to the auto tech students. The applied math curriculum was integrated into three auto tech classes: Auto Transportation Core, Auto Engines, and Auto Electrical. With integration, we had two instructors in the classroom—an auto instructor and a math instructor.</p> <p>The applied math program that was developed is on the cutting edge of mathematical applications. Co-teaching is quite effective when both instructors feed off of each other's daily topics. It is clear that to have a successful integrated applied math program requires a significant amount of commitment and support. First, having a cross-divisional commitment is important. Within our college, we had excellent support from our Math Department, administration, and the Auto Department.</p> <p>We helped students by (1) allowing for the student's math development to be with contextualized math, (2) providing the students a comfortable environment where they learn math that makes sense to them, (3) reducing the time frame needed for students to complete their math requirements for their associate degree by integrating math into their auto technician classes, and (4) helping reduce the amount of money spent by the students by including the sequencing of the their math requirements within their technician program.</p>
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