



TIES Personalized Learning: An Early Warning and Response System for E-12

The development of information and communication technology, and its potential for the field of education, has grown significantly in recent years (USDE, 2004). This expansion has occurred in a variety of workplace environments, and the education sector has been no exception. One key benefit to this expansion is that technology may help make data-based decision making for students more obtainable for teachers and enhance implementation integrity (Ysseldyke & McLeod, 2007). The need for consistency of data utilization and implementation of needed treatments and interventions is critical. In rural districts, for example, geography makes proximity to resources an issue. Availability of expertise on topics such as dropout prevention may be limited, leaving educators with fewer opportunities for staff development and ongoing coaching from subject-matter experts (Arnold, et al., 2005; McClure & Reeves, 2004; National Center for Education Statistics, 2007).

This hurdle is one that technology can certainly overcome. Through technology, educators can gain more rapid and comprehensive information about effective tools and strategies for supporting students, access dynamic data about the individual students they serve, and help to identify which tools and strategies best meet the needs of these individual students, based on their data (Silberglitt, 2008). Web-based software tools designed to support educators can also provide a form of coaching, by guiding (or “nudging”) the user – not by making decisions for the teacher, for instance, but by providing a restricted range of options that prevent inappropriate decisions from being made (Thaler & Sunstein, 2009).



TIES' Personalized Learning System is a web-based early warning and response system designed to promote successful outcomes for students E-12. The system continually and automatically identifies areas in which students need assistance. Through it, teachers, administrators, parents and students can effectively track and comment online on progress, interventions and response to interventions.

A key component of TIES Personalized Learning is the student profile, a summary of key performance indicators across domains. In early childhood, this can include attendance / participation in early childhood activities, behavior, and scores on measures of academic and socio-emotional development, such as the Individual Growth and Development Indicators (IGDIs) and the Preschool Numeracy Indicators (PNIs). This point-in-time snapshot of each child's current status instantly communicates performance on specific measures using color-coded symbols to draw quick attention to the student's needs. It calculates performance compared to benchmark targets and adjusts dynamically when any element of a child's performance changes relative to these targets. Educators naturally respond to the profiles by asking, "What can I do differently?"

A second critical component is the Personalized Learning Plan. The plan involves parents and educators in establishing goals and activities to achieve those goals, as well as measures of success. Created in response to the needs uncovered in the student profile, the personal plan provides continuity in communicating what worked and what needs a child has, across the gap from early childhood into Kindergarten. Goals, activities, and measurement plans can be shared, so educators and parents can better collaborate and identify effective practices. A



comment log enables educators to collaborate online around a child’s learning plan, and to bring parents into this conversation.

The Personalized Learning Plan also offers the opportunity to guide educators toward effective, research-based strategies. The plan includes an online, searchable “bank” of strategies and activities. This bank can be pre-populated with a menu of successful strategies, along with key documentation to ensure fidelity of implementation.

TIES Personalized Learning is currently being used in around 100 districts and charter schools across Minnesota, focused on a K-12 setting, and an early childhood implementation is being piloted this school year in one metro school district and one cooperative of rural districts in Minnesota.

Personalized Learning software was initially implemented K-12 with 10 Minnesota school districts during the 2008-09 school year, and resulted in significant increases in district-wide percentages of students reaching grade level standards on the Minnesota Comprehensive Assessments (statewide achievement test) for both Math and Reading ($d = .37$; Silbergliitt, 2010).



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