

# A Bedtime Story for K-12 Student Services

**Alexis and Bart are typical 15 year old twins. Alexis is a sophomore attending a state-run magnet school with hopes of pursuing a MD/PhD, and Bart is attending his local district high school. Bart's academic progress had been mixed, but ever since they discovered he was dyslexic and taken corrective action his academic work has improved dramatically and he is now seriously thinking about attending college.**

Alexis arrives at the magnet school, here each student is required to have a laptop, and Alexis connects to the school's wireless network and signs into the portal through a single sign-on (SSO) mechanism. Alexis doesn't realize it, but her school account is connected to the InCommon federation and this is what allows her to use it for so many things. Alexis is working on her science fair project and she was running some numerical models on a Nation Science Foundation Supercomputer. Alexis checks for her output listing, she doesn't have time to look at it now but transfers it to a web-based service named Box that is available to all students in her state. She transfers this to Box to be able to look at it later in the day, from wherever she may be -- school, home, or her favorite Wi-Fi cafe.

Alexis now accesses a shared learning management system operated for her school by the state, without needing to login with a username and password since she is still at school and thus still using her school's SSO. She checks her work assignments and notices that she must review a short video, prior to her lab. Her school is part of a regional federation that has purchased or otherwise arranged for access to a number of educational resources for use by students and faculty, including a video sharing service from New Jersey. Because she is still on her school network, her access is enabled without her needing to login -- she simply navigates to the site in her browser and she is recognized as being entitled to access. Since this particular service only needs to know that she is an enrolled student in a particular class at this school, this is all that is conveyed (asserted) about her, and no personally identifying information is included. She watches the video that goes over lab safety and procedures for her upcoming chemistry lab that day, and then goes off to class.

Bart attends one of the two high schools in his district. His school is doing a pilot with eTextbooks on tablet computers in lieu of distributing physical text books. Bart opens his tablet and connects to the wireless network, signs on to the school SSO system, and is then able to access all of his textbooks and the associated course material, problem sets, and quizzes. Bart has a few minutes and is reviewing material for an algebra test. He jumps to the Khan Academy, where his identity is recognized, and he reviews the video again on multiplying polynomials. He then takes a quick quiz via the publishers online course site on to demonstrate he understands the material and feels ready for the test.

Throughout the day, Bart leverages his visual thinking skills by looking at the tablet and reviewing additional visual material that reinforces the text. His school also benefits from the video archive in New Jersey because it has been licensed throughout the state by the regional network federation.

Later that afternoon, Alexis must take one of the state competency exams necessary to graduate from high school. Even though she is in the 10th grade she is advanced enough to be doing this now. She opens her computer, signs onto her account, and clicks on the online link. Since she is already logged into her schools SSO system, the exam system recognizes her and she is able to immediately access her exam. She is proctored by a teacher in the room and completes the math test quickly -- thinking how easy this is.

That same afternoon, Bart takes a practice test for the same state assessment. He was very close to passing but the test identified some areas he needs additional work in to pass. Luckily for Bart, the state takes his assessment and creates a customized learning plan for Bart to study. This learning plan leverages the electronic text books and online resources. Bart clicks on a link for step 1 and is taken directly to where he should start his review. Each day Bart will spend time performing this review independently but has a teacher available to him to go over anything he has questions on. Since the state has gone to this model of flipped classroom it has seen pass rates increase dramatically. Since the learning resources he is using are part of the regional federation, Bart is not required to login to them when he accesses them from school, since he is already logged to the school SSO system, and the necessary attributes about him (including his identity in this case) are conveyed (asserted) behind the scenes. Bart simply needs to click on the link and start his work.

At home, Alexis uses her school account to log into a MOOC on bioinformatics from Stanford. Alexis dreams of going to Stanford and getting the opportunity to participate in this class, even if it is with 90,000 other students, is something that is motivating her to work harder. After spending an hour on this Alexis signs into a practice test for the PSAT, using her school ID. She is taking an online review, again using her school account, to do her review for the PSAT. Unbeknownst to Alexis, because she uses her school ID, her guidance counselor can get updates and track Alexis progress and make recommendations for additional courses or study aids -- though in Alexis' case that isn't necessary. Finally, before going to bed Alexis signs onto her Box account and reviews the listing and then quickly shares this with others on her science project team.

Bart comes home and uses his computer to do his homework. For Bart, the electronic reader has been very helpful with his dyslexia as he can get audio of the words and it has an integrated dictionary. Bart goes online and spends some time working on the state assessment test review, using his school ID. Alexis has convinced him to sign up for the PSAT practice site and he spends some time there each day. Bart recently went online through his high school and took a career assessment and has decided he would like to be a teacher, especially one that works with children of special needs. This is motivating him to get his grades up.