

# Mathematics & Statistics



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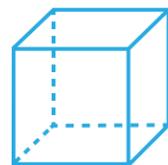
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**Fall 2016  
Technology  
Newsletter**



# Placement Partnerships Increase Collegiate Math Entry to 74.5%

Harper College Assistant Professor, Dr. America Masaros working with a student in the Math lab.



**The CEO of McGraw-Hill Education and former Secretary of Education Arne Duncan recently spent the past day visiting Harper**

**College - a community college north of Chicago. Here's what David Levin, CEO of McGraw-Hill, had to say about their visit:**

We wanted to celebrate the school's dramatic success in improving outcomes through harnessing the power of ALEKS, particularly in this case with ALEKS PPL. Over the five years since they began this effort, the proportion of students placing into college level math on entry has risen from 45.8% to 74.5% and the developmental math intake has correspondingly dropped. And of course a raft of other metrics have improved - not least with registrations for the spring semester showing a whopping 22% improvement as fall out has dropped. →

“One of my greatest challenges teaching College Algebra and other courses at a similar level is motivating students to work on math. Using ALEKS, I can see exactly how much time each student is spending on math, and more importantly, they are actually putting the time in outside of class. We are six weeks into a sixteen week semester and most of my students have over fifty pages of notes and homework done. Actual paper pages. They are working, and I think that one of the reasons why is that they don't have to spend time on topics they don't understand, and they get to go slowly with topics that they find difficult. Whatever the reasons, they are working on math, and to me that is success.

–**Dr. Jonathan Meshes**,  
Assistant Professor, Harper College

The faculty at Harper College –is proud of their achievements and results, both of which pointed clearly to two things - the implementation of ALEKS and a special partnership with three local school districts. Indeed, we were also joined by Dr. Danielle Hauser - the director of instructional improvement from the local District 211 High School. We saw all I'd hoped and a lot more - the College is also a model of the potential to improve outcomes by linking a community college with its feeder high schools.

Former Secretary of Education Arne Duncan came to see the presentation. He was impressed by the outcomes he saw and by the implications for scaling this. He asked many questions about ALEKS and ALEKS PPL and its implementation and comparison to other programs. The faculty could not have been more supportive of ALEKS.

“From the first day when the students finished their initial knowledge checks, I knew this semester would be a different experience from any of my first 16 years of teaching. Not only does ALEKS provide an adaptive learning environment for the student, but it provides a dynamic teaching environment for the professor. No longer do I prepare a lesson for all to consume at the same time regardless of where they may actually be in terms of skills and preparation. Now I react to each individual's personalized learning path, providing the support and scaffolding each student needs at the exact time he/she needs it. The analytics provided in the ALEKS environment allow me to effectively utilize class time to visit a struggling student, or group together students who are ready to learn the same topic, or have one-on-one conversations about time and topic goals. I am afforded the type of real-time feedback that a traditional classroom environment does not afford. The ALEKS classroom has provided me a sense of rejuvenation, and I am already looking forward to next semester, where I can improve upon my implementation and utilization of ALEKS.”

–**Chad Taylor**, Associate Professor, Harper College

## More from David Levin's Campus Visit:

“Yesterday afternoon we joined a first day math class. The class was given by the college's math chair - Chad Taylor. Whilst his students started their in-class ALEKS work, he shared the insights he now had on them (after only a half hour of the semester) from their placement and pre-term engagement in ALEKS. On average they were around 10-11% complete. But he highlighted one individual, Luis, who showing an achievement level of 61% complete in the class - but whose ALEKS data showed had invested a dozen hours of pre-term work to build the base. Chad told us he'd be looking to explore what was wrong with the picture - serious attainment but with far too much time showing invested for the benefit. Today, as we wrapped up the presentation by the faculty to Secretary Duncan, Chad came up and shared the outcome. **It turns out that Luis, the student, had only rudimentary English and was struggling with the language ....but not the math. He had a strong grasp of advanced math from his schooling in Peru. Chad explained that as this had all been caught on first day, the student had been moved up and was now placed in an advanced class but with the Spanish ALEKS toggle switched on.** This was only possible because of the incredible combination of data generated by ALEKS and great insight from a teacher prompted to ask questions on the first day of term by this data and his experience. As a result of this combination of efforts, a talented student did not waste a semester (cost and time) in the wrong class, getting frustrated and missing out opportunities, but was placed into the right, advanced level with the appropriate support to ensure his success.”

We look forward to more campus spotlight success stories! Share yours with us at [successinmath@college.mheducation.com](mailto:successinmath@college.mheducation.com)

## Tech Update for ALEKS

### Accessibility

We have been making great strides in meeting today's accessibility standards. We are happy to share that accommodations for visually impaired students are now available in ALEKS College Algebra, Trigonometry, and PreCalculus. This means that students can use these courses with a screen reader. ALEKS is also keyboard navigable so students with hand or arm mobility will be able to use the program. To learn more, see page 9 of the ALEKS Quick Start Guide.

We're proud to showcase our uptime on our servers and are always just an email or phone call away to help.

Uptime	Q2-2015	Q3-2015	Q4-2015	Q1-2016	Q2-2016	31-Aug
ALEKS	99.95%	99.96%	99.94%	99.95%	99.72%	99.97%
CHBA	99.95%	99.96%	99.94%	99.95%	99.82%	99.97%

## Tech Tips & Updates



### Top Tips Every ALEKS User Should Know!



#### Early engagement with the data in ALEKS shows students that you, the instructor, are engaged and paying attention.

Always check the Initial Knowledge Check (IKC) scores for any ALEKS course as soon as students are completing them. Select the Progress Report at the class level and review all of the IKC scores. Everyone's score will have important and "early in the course" meaning in your journey as an ALEKS data-driven educator. Attention to the results of the IKC will immediately show your students that you are paying attention and are aware of their starting point for their personalized and adaptive learning in ALEKS.

- Very low scores could be an immediate red flag concerning the students' foundational skills (for courses where such topics are included in the course) or simply an indicator of a student who blew off the IKC without understanding the implications.
- Very high scores could be just the opposite – showing a student who might be ready for a higher level course (if the score is honestly attained without unauthorized assistance). Or, more often the high score might be an opportunity for the instructor to recalibrate ALEKS by having the student retake the IKC for a more honest and accurate result, so that their learning material is personalized to their lowest topic needs rather than being way beyond their capabilities.

#### Look at what's on the second page of your dashboard!

**Pacing Topics:** When building Objectives, keep in mind that in order to complete one topic, the student must work through multiple questions (usually ~3-5 depending on the number of attempts.)

You'll find the tiles to **Ready to Learn, Lost in Assessment, and Attempted Not Learned**, which can help you to monitor student learning and focus your teaching. Click on a topic in the tile to see an example of a problem. Or, click on % to see students.

**Lecture Launcher Best Practice:** Review and use the Ready to Learn tile on your instructor dashboard. This is a great daily "lecture launcher" for a lectured-based class. It also helps you to adapt your lectures based on what students have accomplished. Clicking on a topic from the ALEKS pie report will provide a sample problem. Clicking either Shift+F5 or Ctrl+F5 will refresh the page with another example of the problem.

**Those Ready for More:** Objectives with End Dates will keep your students on your schedule, and you control what happens if they are ahead of schedule. By selecting "Open Next", students move into the next Objective immediately. Selecting "Open All" will allow them to work on any Objective until the next one's start date hits. There will always be students at different points of learning, and it's okay to let those that can move ahead do so. ALEKS is also ready for those that may be struggling; the Reports will help you can diagnose where they need help.

**Filters & Decoding Locked Topics:** If you use Objectives with end dates, help students learn how to filter their goal topics and understand what it means if a goal topic is locked. Teach them to click on the lock to see what prerequisite topics they need to work on in order to unlock the goal topic. Here's a helpful video that explains why some topics are locked that you can share with students: <https://youtu.be/YLMBcHOD-pE>

#### Tips to Share with Students:

- Are you using ALEKS to help you prepare for an upcoming exam, but you're having trouble finding a topic you've already completed? Filter the topics in the Topics Carousel to include "Review" material that you already completed through practice or previous assessments. "Knowledge checks" are very important. Share this video here to get the most out of your learning: [www.youtube.com/watch?v=gAZsiZIEeLA&list=PLqmcjVdRMoi1YGwjiWeudLOj9LrEcd3B&index=5](http://www.youtube.com/watch?v=gAZsiZIEeLA&list=PLqmcjVdRMoi1YGwjiWeudLOj9LrEcd3B&index=5)
- Keep the link of ALEKS How-to videos on your syllabus as well as the Student Resources page (which contains helpful resources and FAQ information).

# Top Tips Every Connect Math Hosted by ALEKS (CHBA) User Should Know



## Time Matters!

When students find out those that are getting A's in the class are spending XX hours a week in the system, it's a good reality check. Use the Time Tracker to track student habits. Share what "schedule" your most successful students are on, and sort by total time to give struggling students a reality check.

## My Dog Ate My...

Give extensions under "edit assignment" for students to have another attempt or students who you approve of giving more time. Or, you can use the Late Submission Option as you build each assignment. The Answer Tolerance in CHBA allows instructors to set their assignments to be flexible as well.

## Report Review:

The Item Analysis Report gives you a snapshot of concepts with which students are struggling (or mastering!). This can be used to plan future class or review sessions. The Attempts in Progress is a real-time progress tracker to determine where students are falling behind.

## Help thy neighbor!

Quickly copy over a section to a new instructor or one considering teaching the class. Help them to get started on the right foot!

## Stay Organized

Make folders for your assignments to organize them in a manner that makes sense to both you and your students. For example, you can organize them into units and one for the final exam.

Be responsive to students, but also let them know when your email blackout hours are. Answer "Ask My Instructor" questions from your school email promptly... students notice!

## Show Me the Resources

Don't forget to click on the "Resources" tab that contains numerous learning and teaching resources, which includes PowerPoints, test generators, videos, and other unique assets.

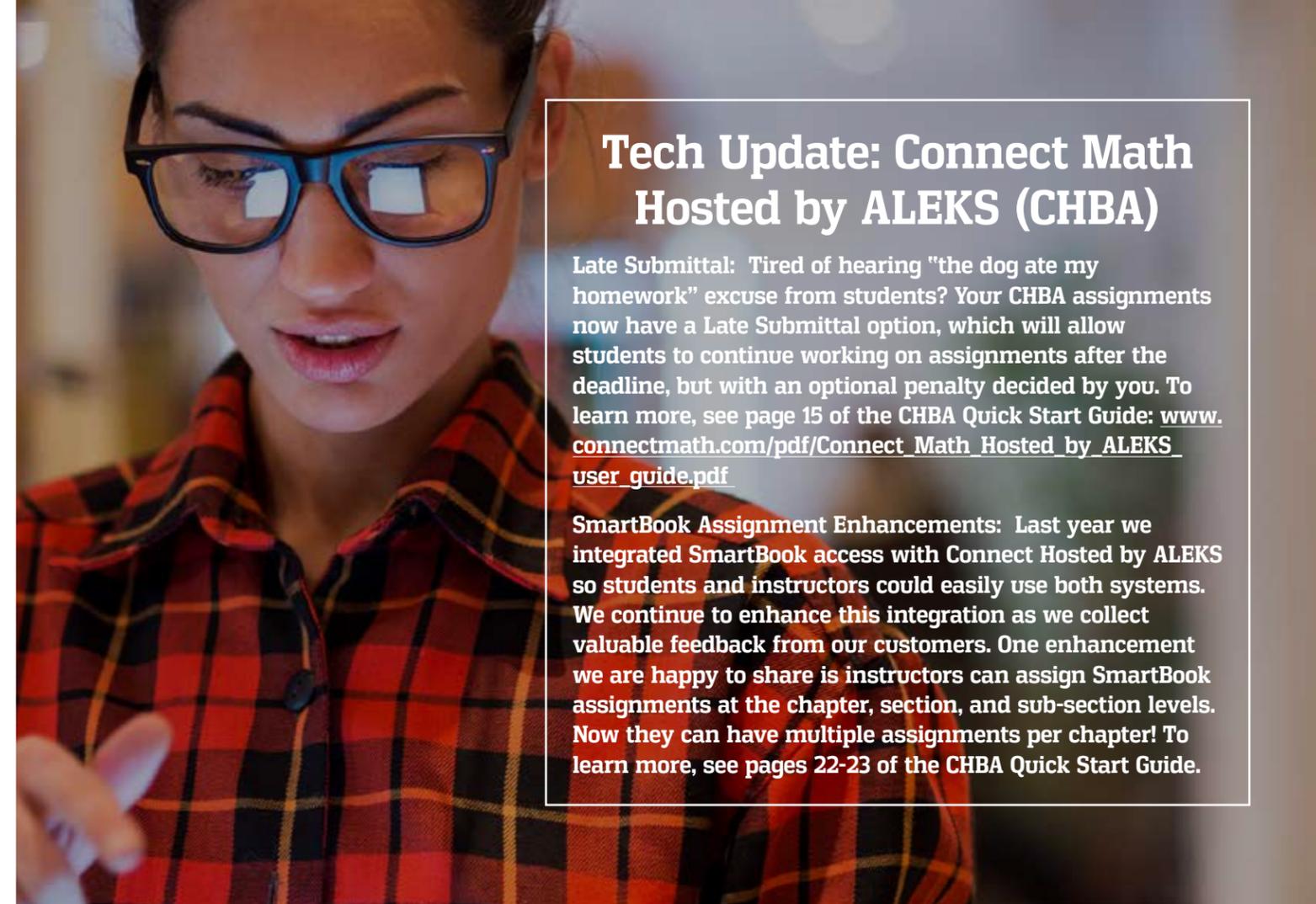
## Student Tips

Review past assignments or earlier attempts of current assignments by clicking on the assignment in the gradebook. Students can practice specific problems without working the entire assignment. Review by clicking "See Report": Explanation will work out the question they had on their assignment; Practice allows them to work a similar question.

## Tech Update: Connect Math Hosted by ALEKS (CHBA)

**Late Submittal:** Tired of hearing "the dog ate my homework" excuse from students? Your CHBA assignments now have a Late Submittal option, which will allow students to continue working on assignments after the deadline, but with an optional penalty decided by you. To learn more, see page 15 of the CHBA Quick Start Guide: [www.connectmath.com/pdf/Connect\\_Math\\_Hosted\\_by\\_ALEKS\\_user\\_guide.pdf](http://www.connectmath.com/pdf/Connect_Math_Hosted_by_ALEKS_user_guide.pdf)

**SmartBook Assignment Enhancements:** Last year we integrated SmartBook access with Connect Hosted by ALEKS so students and instructors could easily use both systems. We continue to enhance this integration as we collect valuable feedback from our customers. One enhancement we are happy to share is instructors can assign SmartBook assignments at the chapter, section, and sub-section levels. Now they can have multiple assignments per chapter! To learn more, see pages 22-23 of the CHBA Quick Start Guide.



## Conference Preview AMATYC in Denver



Visit the McGraw-Hill Education exhibit area throughout the conference.

### Thursday, Nov. 17, 4:30pm-7:30pm

Come check out the latest findings from an Active Learning Classroom; meet the Sobecki/Mercer author team, and have a chance to win a FitBit by guessing how many steps they take during class.

### Friday, Nov. 18, 8:30am-5:00pm

Math is not a spectator sport! Stop by and share a teaching tip with your colleagues and we'll donate \$1 per tip to the AMATYC Student Math League for your thoughts. Help us reach our \$500 donation goal. Keep an eye out for Julie Miller at the booth, sharing her tips for successful coaching in the math classroom.

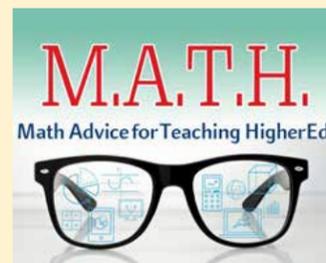
### Saturday, Nov. 20, 9:45am-1:00pm

Sit down with the experts and chart your roadmap to success. Learn how our team of consultants can build a unique solution for your unique situation. Whether you're designing new courses, changing your implementation or just looking for a stable platform, we're here to help!

## What's New!

M.A.T.H. (Math Advice for Teaching Higher Ed) Tips: For Profs, by Profs is a series of math tips for teaching in Higher Ed. It includes e-updates and an upcoming blog to support faculty inside and outside the classroom.

We've gathered our sanity-saving best practices aimed to arrive in your email inbox just-in-time throughout the semester. You should have seen these in your inbox monthly this fall.



### We Want Your Tips!

We're launching our website soon and look forward to your contributions! You know you have something you should share! Send us your favorite tips, hints, videos, links, jokes, resources, etc. – your colleagues are counting on you! Email us at: [successinmath@college.mheducation.com](mailto:successinmath@college.mheducation.com)





## Ed Tech Corner

1. “Math education isn't just about solving problems in the classroom; it's an exercise in training to help students solve the problems they will face in life,” writes John Urshel. John is a published mathematician and an offensive lineman for the Baltimore Ravens. He brings a fresh perspective on EdWeek's blog on how to bring math into students' real lives. Read on here: [www.edweek.org/ew/articles/2016/10/12/how-to-bring-math-into-students](http://www.edweek.org/ew/articles/2016/10/12/how-to-bring-math-into-students)
2. In this NPR Feature, “WHY do I have to learn math?” Houman Harouni, who teaches at Harvard University, knows the answer. Like it or not, we live in a world where money matters. And our math curricula can prove it. At most schools around the country — the math curriculum is very similar to the approach used in Italy in the 1500s to teach the children of merchants and accountants. Read on for this NPR feature here: [www.npr.org/sections/ed/2016/07/23/486172977/a-history-lesson-when-math-was-taboo](http://www.npr.org/sections/ed/2016/07/23/486172977/a-history-lesson-when-math-was-taboo)
3. Digital Technology in Mathematics Education: Why It Works (Or Doesn't), by Paul Drijvers. An interesting perspective. Read on here: [www.researchgate.net/publication/268368816\\_Digital\\_Technology\\_in\\_Mathematics\\_Education\\_Why\\_It\\_Works\\_Or\\_Doesn%27t](http://www.researchgate.net/publication/268368816_Digital_Technology_in_Mathematics_Education_Why_It_Works_Or_Doesn%27t)