

## 2018-10-25: Realizing the Promise of Big Data: Learning Analytics in Competency-Based Medical Education

Listed below are resources shared on the chat last night:

- Learning Analytics in Medical Education Assessment: The Past, the Present, and the Future <https://www.ncbi.nlm.nih.gov/pubmed/30051086>
- A literature review of empirical research on learning analytics in medical education <https://www.ncbi.nlm.nih.gov/pubmed/29599699>
- Job Roles of the 2025 Medical Educator <http://www.jgme.org/doi/10.4300/JGME-D-18-00253.1>
- IBM Watson Analytics: Automating Visualization, Descriptive, and Predictive Statistics <https://www.ncbi.nlm.nih.gov/pubmed/27729304>
- Achieving Competency-Based, Time-Variable Health Professions Education [http://macyfoundation.org/docs/macy\\_pubs/Macy\\_Monograph\\_2017\\_Final.pdf](http://macyfoundation.org/docs/macy_pubs/Macy_Monograph_2017_Final.pdf)
- Let Me Heal: The Opportunity to Preserve Excellence in American Medicine <https://www.amazon.com/Let-Me-Heal-Opportunity-Excellence/dp/0199744548>



**MedEd Chat** @MedEdChat8 hours ago

Welcome to the [#mededchat](#) (US) I am your moderator for the next hour, [@alliance4clined](#) [@stanhamstra](#) is our guest host this week! [#meded@acgme](#)



**MedEd Chat** @MedEdChat8 hours ago

The [#mededchat](#) topic & questions will be announced in a moment...for now, please introduce yourselves [#meded](#)



**Gary Beck Dallaghan** @GLBDallaghan8 hours ago

[@MedEdChat](#) Gary here in North Carolina [#mededchat](#)



**Kristina Dzara, PhD, MMSc** @kristinadzara8 hours ago

Kristina checking in for [#MedEdChat](#)! Hi twitter buddies [@GLBDallaghan](#) [@myheroistrane](#) [@hur2buzy](#) [#MedEd](#)



**MedEd Chat** @MedEdChat8 hours ago

If you are tuning in to the [#mededchat](#), remember to use the [#meded](#) AND [#mededchat](#) hashtag and try to answer with the Topic numbers (T1, T2, T3)



**MedEd Chat** @MedEdChat8 hours ago

[@kristinadzara](#) [@GLBDallaghan](#) [@myheroistrane](#) [@hur2buzy](#) Nice seeing you here! [#mededchat](#)



**MedEd Chat** @MedEdChat8 hours ago

Welcome to [#mededchat](#) tonight!



**Jake Prunuske, MD, MSPH** @jprunuske8 hours ago

Jake Prunuske from [@MedicalCollege](#) by way of [@ummedschool](#), [@uwsmph](#), and [@UofU\\_FMRes](#) [#mededchat](#)



**A.J. Kleinheksel** [@AJKleinhex8 hours ago](#)  
Good evening from Augusta, [#mededchat](#)!



**MedEd Chat** [@MedEdChat8 hours ago](#)  
We will assume that all of your tweets are your own during this hour unless otherwise stated [#meded](#) [#mededchat](#)



**MedEd Chat** [@MedEdChat8 hours ago](#)  
Topic 1: How would you define learning analytics? [#mededchat](#) [#meded](#)



**Gary Beck Dallaghan** [@GLBDallaghan8 hours ago](#)  
[@MedEdChat](#) T1 When I hear that term all I can think of us is IBM Watson for education. Maybe I'm wrong, but it seems that this is a way to use big data sets to make determinations about [#medstudent](#) performance [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske8 hours ago](#)  
[@MedEdChat](#) A1: application of statistical methods to assess reliability and validity of measures intended to assess student performance on quantitative evaluations/metrics [#mededchat](#)



**A.J. Kleinheksel** [@AJKleinhex8 hours ago](#)  
T1 Learning analytics, in general, is the collection and analysis of data generated by learners in order to understand and improve learning outcomes. [#mededchat](#)



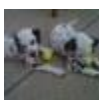
**Jake Prunuske, MD, MSPH** [@jprunuske8 hours ago](#)  
[@GLBDallaghan](#) [@MedEdChat](#) to me it's not the assessment of the student, but the assessment of the assessment [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan8 hours ago](#)  
[@jprunuske](#) [@MedEdChat](#) T1 [#mededchat](#) Is it the assessment of the assessment or the interpretation of the multiple assessments being gathered?



**Gary Beck Dallaghan** [@GLBDallaghan8 hours ago](#)  
[@AJKleinhex](#) T1 [#mededchat](#) Do you see this data as being both qualitative and quantitative?



**Deb Simpson** [@debsimpson38 hours ago](#)  
T1 Learning analytics result data aggregation from multiple sources about individual learners that then in aggregate can be powerful in identifying where a learner is and next steps to inform/guiding future learning. Key is predicative analytics for [#learning](#) [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske8 hours ago](#)  
[@GLBDallaghan](#) [@MedEdChat](#) Multiple is implied in analytics; seems like a single point assessment is test metrics, not data/learning analytics [#mededchat](#)



**MedEd Chat** [@MedEdChat8 hours ago](#)  
RT [@debsimpson3](#): T1 Learning analytics result data aggregation from multiple sources about individual learners that then in aggregate can...



**Gary Beck Dallaghan** @GLBDallaghan 8 hours ago

T1 [#mededchat](#) This is an interesting article describing [#learning](#) analytics in [#meded](#) <https://t.co/VtP8g00oIK>



**Deb Simpson** @debsimpson38 8 hours ago

T1 [#mededchat](#) - its a matter of what can be used to analyze performance in meaning ways - at some point might even be "video" that looks at pixels for communication! [@GLBDallaghan](#) [@AJKleinhex](#)



**A.J. Kleinheksel** @AJKleinhex 8 hours ago

[@jprunuske](#) [@GLBDallaghan](#) [@MedEdChat](#) I would generally associate validation and the estimation of reliability with psychometrics. In Ed Tech, learning analytics is more akin to web analytics but specifically in online learning environments (which also includes assessment data). [#MedEdChat](#)



**Kristina Dzara, PhD, MMSc** @kristinadzara 8 hours ago

[@debsimpson3](#) And I think we need to be clear with and fair to learners that when we collect assessment data and aggregate it, we will give them feedback about their overall learning trajectory. [#MedEdChat](#)



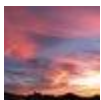
**Jake Prunuske, MD, MSPH** @jprunuske 8 hours ago

Data and results can also be used to guide both individual learners and [#meded](#) educators in curriculum development. [#mededchat](#)



**Gary Beck Dallaghan** @GLBDallaghan 8 hours ago

[@kristinadzara](#) [@debsimpson3](#) T1 [#mededchat](#) Agreed! My question is whether or not there are systems that can readily collect these meaningful artifacts to generate these reports.



**Paul Haidet** @myheroistrane 8 hours ago

[@debsimpson3](#) [@GLBDallaghan](#) [@AJKleinhex](#) I worry sometimes that the conversation about big data analytics tends to run very reductionistic - would like to see some balance between reductionist and holistic approaches -- some inductive, to go along with the deductive. [#mededchat](#)



**MedEd Chat** @MedEdChat 8 hours ago

RT [@jprunuske](#): Data and results can also be used to guide both individual learners and [#meded](#) educators in curriculum development. [#mededch...](#)



**Kristina Dzara, PhD, MMSc** @kristinadzara 8 hours ago

RT [@jprunuske](#): Data and results can also be used to guide both individual learners and [#meded](#) educators in curriculum development. [#mededch...](#)



**Jake Prunuske, MD, MSPH** @jprunuske 8 hours ago

RT [@GLBDallaghan](#): T1 [#mededchat](#) This is an interesting article describing [#learning](#) analytics in [#meded](#) <https://t.co/VtP8g00oIK>



**MedEd Chat** @MedEdChat 8 hours ago

RT [@myheroistrane](#): [@debsimpson3](#) [@GLBDallaghan](#) [@AJKleinhex](#) I worry sometimes that the conversation about big data analytics tends to run ver...



**Kristina Dzara, PhD, MMSc** [@kristinadzara8 hours ago](#)  
[@GLBDallaghan](#) [@debsimpson3](#) That is quite the question Gary. [#MedEdChat](#)



**Nupur Verma** [@nverma218 hours ago](#)  
[@MedEdChat](#) T1: How effective we are at teaching what we intend to teach (very hard to measure!) [#mededchat](#)



**A.J. Kleinheksel** [@AJKleinhex8 hours ago](#)  
[@GLBDallaghan](#) Typically, in Ed Tech at least, it's a quantitative endeavor that largely relies on user data.  
But as a mixed methods researcher, I'm always looking to add that rich description. [#MedEdChat](#)



**Gary Beck Dallaghan** [@GLBDallaghan8 hours ago](#)  
[@myheroistrane](#) [@debsimpson3](#) [@AJKleinhex](#) Exactly. I feel like this is an example of there are statistics and then there are damned statistics. [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske8 hours ago](#)  
Yep! : / Just like [@Google](#) [@facebook](#) [@instagram](#) [@Snapchat](#) [@amazon](#) and most other entities we interact with daily : ) [#mededchat](#)



**MedEd Chat** [@MedEdChat8 hours ago](#)  
RT [@nverma21](#): [@MedEdChat](#) T1: How effective we are at teaching what we intend to teach (very hard to measure!) [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan8 hours ago](#)  
[@myheroistrane](#) [@debsimpson3](#) [@AJKleinhex](#) This systematic review came up with very few studies to include as there is a paucity of research on learning analytics [#mededchat](#) <https://t.co/d4SZiayFdB>



**Deb Simpson** [@debsimpson38 hours ago](#)  
T1 [#mededchat](#) - Absolutely [@myheroistrane](#) - its connected to the key roles for [#mededucators2025](#) curation, navigation per [@MarcdanteKaren@KevinHSouza](#) [@boedudley](#) [@rcathird](#) [@JournalofGMEhttps://doi.org/10.4300/JGME-D-18-00253.1](#)



**Jake Prunuske, MD, MSPH** [@jprunuske8 hours ago](#)  
I think a lot of us would like a tool or system that would help! Need stronger conceptual understandings, resources, and motivation. See [@myheroistrane](#) point about holistic approaches... [#mededchat](#)



**A.J. Kleinheksel** [@AJKleinhex8 hours ago](#)  
[@stanhamstra](#) [@GLBDallaghan](#) [@myheroistrane](#) [@debsimpson3](#) Yes! And this is where I dust off my "you must have theoretical justification for the inclusion of variables in learning analytics" soapbox. [#MedEdChat](#)



**MedEd Chat** [@MedEdChat8 hours ago](#)  
Topic 2: Reflect on your own context for medical education (e.g. residency program, medical school, etc.): What are 2 barriers and 2 facilitators to implementing a large data collection system for Learning Analytics? [#mededchat](#) [#meded](#)



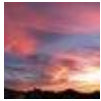
**Gary Beck Dallaghan** @GLBDallaghan8 hours ago

[@debsimpson3](#) [@myheroistrane](#) [@MarcdanteKaren](#) [@KevinHSouza](#) [@boedudley](#) [@rcathird](#) T1 [#mededchat](#) This is a topic that definitely fits within the realm of the [#mededucators2025](#) I see the benefits....I've just not seen the machine capabilities to deliver yet



**Gary Beck Dallaghan** @GLBDallaghan8 hours ago

[@MedEdChat](#) T2 [#mededchat](#) Finding a robust program that can handle the various data inputs to generate a report is a huge challenge. Lots of programs out there but none quite capture it all.



**Paul Haidet** @myheroistrane8 hours ago

I would like to see us build systems to track practice of performance-based skills, such as communication, and to feed dashboards on quantity and quality of practice back to learners. Kind of like a fitbit for practice and learning.... [#mededchat](#)



**MedEd Chat** @MedEdChat8 hours ago

RT [@myheroistrane](#): I would like to see us build systems to track practice of performance-based skills, such as communication, and to feed d...



**Dr. Sateesh Arja** @ArjaSateesh8 hours ago

RT [@MedEdChat](#): Topic 1: How would you define learning analytics? [#mededchat](#) [#meded](#)



**Gary Beck Dallaghan** @GLBDallaghan8 hours ago

[@myheroistrane](#) Now that is a clever idea. Capturing information that is accurate is going to be key in all of this. Garbage data in equates to garbage data out. [#mededchat](#)



**Jake Prunuske, MD, MSPH** @jprunuske8 hours ago

t2: Barriers - limited quality and number of assessments; more the quality than number; and lack of a champion. Facilitators: [#CBME](#) push and increasing computing power. [#mededchat](#)



**Nupur Verma** @nverma218 hours ago

[@MedEdChat](#) T2 barriers: do we want to know (fear that our methods are not as good as we think) and time in terms of data and also faculty time to actually pause and evaluate using LA (collection needs to be for very long term in some cases such as medicine/training) [#MedEd](#) [#mededchat](#)



**MedEd Chat** @MedEdChat8 hours ago

RT [@jprunuske](#): t2: Barriers - limited quality and number of assessments; more the quality than number; and lack of a champion. Facilitator...



**Nupur Verma** @nverma217 hours ago

[@MedEdChat](#) 2/T2: Also this data can be used for changing/adjusting how we teach and how learners are learning but can also be punitive to teachers [#mededchat](#)



**Gary Beck Dallaghan** @GLBDallaghan7 hours ago

[@jprunuske](#) T2 Totally agree with you that [#CBME](#) is a driving factor influencing the need for learning analytics. As you noted, the quality of the data going in will significantly influence any results <https://t.co/kiWoARVbXp> [#mededchat](#)





**A.J. Kleinhexel** [@AJKleinhex7 hours ago](#)

T2 Barriers: lack of valid and reliable assessment instruments to measure longitudinal performance data, & not enough time to dedicate to cleaning the data we have. Facilitators: robust systems that collect a wide range of user data, & theoretical frameworks. [#mededchat](#)



**MedEd Chat** [@MedEdChat7 hours ago](#)

[@nverma21](#) How do you think it will be punitive to teachers? [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@stanhamstra](#) [@myheroistrane](#) RT [@stanhamstra](#) Replying to [@myheroistrane](#) Do you see some privacy issues there? I sense some resistance in collecting individual clinical performance data. And I think some of that is justified. The full appreciation of the context is not encoded. [#mededchat](#)



**Deb Simpson** [@debsimpson37 hours ago](#)

Key to Learning Analytics is the questions we always must ask - our purpose (learning? Gateway to next step) and then what metrics work. Vital element? It's not the technology - it's our "will" as [#mededucators2025](#) [@myheroistrane](#) [@GLBDallaghan](#) [@stanhamstra](#) [#MedEdChat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

[@AJKleinhex](#) We also need more real time measures, rather than relying on memory and end of X summative assessments. [#mededchat](#)



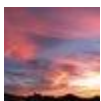
**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@debsimpson3](#): Key to Learning Analytics is the questions we always must ask - our purpose (learning? Gateway to next step) and then what...



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@debsimpson3](#) [@myheroistrane](#) [@stanhamstra](#) I'm not so sure I agree with you on that. I have the will to want a good data warehouse, but I don't have the means to program it myself or the IT people readily available to do it. There is more to it than just having "will"...you do have to have "means" [#mededchat](#)



**Paul Haidet** [@myheroistrane7 hours ago](#)

[@debsimpson3](#) [@GLBDallaghan](#) [@stanhamstra](#) agreed. I sometimes worry about the "corporatization" of data -- e.g., data for data's sake, rather than having a clear objective that aligns with the learners' needs. [#mededchat](#)



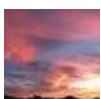
**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

[@GLBDallaghan](#) [@stanhamstra](#) [@myheroistrane](#) Also - the worry that we measure what is easy to measure or available, rather than the difficult things that are hard to measure but more meaningful [#CBME](#) [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

RT [@jprunuske](#): [@GLBDallaghan](#) [@stanhamstra](#) [@myheroistrane](#) Also - the worry that we measure what is easy to measure or available, rather than...



**Paul Haidet** [@myheroistrane7 hours ago](#)

totally. If your priority is having data, any data, then you are at risk for collecting that which is easy, rather than that which matters. [#mededchat](#)



**Deb Simpson** [@debsimpson37](#) 7 hours ago

RT [@myheroistrane](#): totally. If your priority is having data, any data, then you are at risk for collecting that which is easy, rather than...



**A.J. Kleinhexel** [@AJKleinhex](#) 7 hours ago

Along with my "theoretical justification for the inclusion of variables" soapbox, I also have this "data mining is susceptible to the bias inherent in our educational systems" soapbox. Is it time for that one yet? [#mededchat](#)



**Nupur Verma** [@nverma217](#) 7 hours ago

[@MedEdChat](#) Data collected could be part of performance evaluations or promotional criteria which could be a negative if LA design is imperfect or outcomes and limitations not understood [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske](#) 7 hours ago

Fighting this fight at my own institution. Everyone wants one more item, one more piece of data, one more domain of competency, one more X. No one has stopped to say "what are we doing differently based on these results?" If the answer is nothing... [#mededchat](#)



**Kristina Dzara, PhD, MMSc** [@kristinadzara](#) 7 hours ago

RT [@GLBDallaghan](#): [@jprunuske](#) T2 Totally agree with you that [#CBME](#) is a driving factor influencing the need for learning analytics. As you...



**Terry Kind, MD MPH** [@Kind4Kids](#) 7 hours ago

Facilitators and barriers to using learning analytics are people and technology. Both are both! [#MedEdChat](#)



**Gary Beck Dallaghan** [@GLBDallaghan](#) 7 hours ago

[@jprunuske](#) The big question too is what difference is all of this data collection making in the learner's education? [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske](#) 7 hours ago

[@nverma21](#) [@MedEdChat](#) Just like clinic - 97 year old with diabetes who is not on a [#statin](#) = failure to meet metrics : ( Never mind health outcomes that matter and are appropriate for the patient, setting, etc. [#mededchat](#)



**MedEd Chat** [@MedEdChat](#) 7 hours ago

[@AJKleinhex](#) Go for it! [#mededchat](#)



**MedEd Chat** [@MedEdChat](#) 7 hours ago

RT [@Kind4Kids](#): Facilitators and barriers to using learning analytics are people and technology. Both are both! [#MedEdChat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske](#) 7 hours ago

RT [@AJKleinhex](#): Along with my "theoretical justification for the inclusion of variables" soapbox, I also have this "data mining is suscep...



**MedEd Chat** [@MedEdChat7 hours ago](#)

Topic 3: How would Learning Analytics help: your learners? your teachers? ultimately...your patients? [#mededchat](#) [#meded](#)



**Stan Hamstra** [@stanhamstra7 hours ago](#)

[@jprunuske](#) [@GLBDallaghan](#) [@myheroistrane](#) [#CBME](#) demands data but it can easily be meaningless. We have seen signals of that. Learning Analytics should provide a way to extract meaning in that data. [#MedEdChat](#)



**Terry Kind, MD MPH** [@Kind4Kids7 hours ago](#)

[@jprunuske](#) [@GLBDallaghan](#) [@stanhamstra](#) [@myheroistrane](#) Also helps to have coaches to make good use of those analytics for professional development [#MedEdChat](#)



**Kristina Dzara, PhD, MMSc** [@kristinadzara7 hours ago](#)

RT [@debsimpson3](#): T1 [#mededchat](#) - Abosultely [@myheroistrane](#) - its connected to the key roles for [#mededucators2025](#) curation, navigation per...



**Nupur Verma** [@nverma217 hours ago](#)

[@jprunuske](#) [@MedEdChat](#) Good analogy [@jprunuske](#) - LA outcomes should be given QI level impunity to be truthful and widely accepted by both educators and learners as a important part of [#MedEd](#) . [#mededchat](#)



**Dr. Sateesh Arja** [@ArjaSateesh7 hours ago](#)

[@MedEdChat](#) [#meded](#) Course evaluations/feedback from students pay a big role in learning analytics. Students compliance in filling the evaluations can be an issue. Poor quality assessments with low validity and reliability is also a barrier. Topic 2 [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@debsimpson3](#) [@macyfoundation](#) [@CatherineRLucey](#) RT [@debsimpson3](#) This is truly the chance to partner with [#sdrme](#) [#technology](#) [#CFOs](#) and others to create growth CBME time variable [#Meded](#) per [@macyfoundation](#) report <https://t.co/V9DCY9Tsu4...> [@CatherineRLucey](#) [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

Yep! And, what are the costs, both in dollars and opportunity costs? [#mededchat](#)



**MedEd Chat** [@MedEdChat7 hours ago](#)

RT [@Kind4Kids](#): [@jprunuske](#) [@GLBDallaghan](#) [@stanhamstra](#) [@myheroistrane](#) Also helps to have coaches to make good use of those analytics for prof...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

[@stanhamstra](#) [@GLBDallaghan](#) [@myheroistrane](#) Please explain further... [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@Kind4Kids](#): [@jprunuske](#) [@GLBDallaghan](#) [@stanhamstra](#) [@myheroistrane](#) Also helps to have coaches to make good use of those analytics for prof...





**A.J. Kleinheksel** [@AJKleinhex7 hours ago](#)

Caution: LA data are not always objective because they can reflect inequitable educational standards and systems. e.g., If you're mining LMS user data to measure engagement, you ignore low SES and rural populations that have limited internet access. [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@ArjaSateesh](#): [@MedEdChat](#) [#meded](#) Course evaluations/feedback from students pay a big role in learning analytics. Students compliance in f...



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@stanhamstra](#) [@jprunuske](#) [@myheroistrane](#) Does that mean we are going to be mining data to find meaning? That seems as though we're bootstrapping to come up with something useful. Can you explain? [#mededchat](#)



**Stan Hamstra** [@stanhamstra7 hours ago](#)

[@myheroistrane](#) In my experience it is an iterative process. We present the data back to SMEs (in our case Program Directors) and they help us interpret it AND make suggestions to improve the data collection process. Lather. Rinse. Repeat. [#MedEdChat](#)



**Kristina Dzara, PhD, MMSc** [@kristinadzara7 hours ago](#)

RT [@stanhamstra](#): [@myheroistrane](#) In my experience it is an iterative process. We present the data back to SMEs (in our case Program Director...



**MedEd Chat** [@MedEdChat7 hours ago](#)

RT [@AJKleinhex](#): Caution: LA data are not always objective because they can reflect inequitable educational standards and systems. e.g., If...



**Nupur Verma** [@nverma217 hours ago](#)

[@MedEdChat](#) T3: learning analytics = feedback can speed up discovery of new teaching methodology and growth mindset in [#meded](#) educators - so much of what we discover about what does not work in teaching is by accident after a long while of doing things one way ! [#mededchat@MancusoMD](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@AJKleinhex](#): Caution: LA data are not always objective because they can reflect inequitable educational standards and systems. e.g., If...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@stanhamstra](#): [@myheroistrane](#) In my experience it is an iterative process. We present the data back to SMEs (in our case Program Director...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@nverma21](#): [@MedEdChat](#) T3: learning analytics = feedback can speed up discovery of new teaching methodology and growth mindset in [#meded](#)...



**Stan Hamstra** [@stanhamstra7 hours ago](#)

[@GLBDallaghan](#) [@jprunuske](#) [@myheroistrane](#) More like hypothesis testing. Make a prediction for patterns based on theory or input from SMEs. Check to see if it matches. If not ask why. [#MedEdChat](#)



**MedEd Chat** @MedEdChat7 hours ago

RT @stanhamstra: @GLBDallaghan @jprunuske @myheroistrane More like hypothesis testing. Make a prediction for patterns based on theory or in...



**Gary Beck Dallaghan** @GLBDallaghan7 hours ago

@stanhamstra @jprunuske @myheroistrane How much of this are you doing at the @acgme with program data you receive? What are some hypotheses you are testing? #mededchat



**Jake Prunuske, MD, MSPH** @jprunuske7 hours ago

T3 - with the right data and analytics, we may be able to add value to all - better learning and learning environments, better #meded teacher satisfaction, stronger curricula, and better patient outcomes, all with less work. #mededchat



**Dr. Sateesh Arja** @ArjaSateesh7 hours ago

@MedEdChat #meded Learning analytics can help the learners to know their performance and can help them to modify their learning behaviors in the future. Analytics can obviously help the teachers to know the gaps or deficiencies in their teaching methods. Topic 3 #mededchat



**A.J. Kleinheksel** @AJKleinhex7 hours ago

T3 System-wide data should be used to improve systems. And, if you have your theoretical justification for your variables, you can easily benchmark and track progress on institutional priorities; LA gives you a great 30,000-foot view. Improving systems helps everyone. #MedEdChat



**Ian Pereira** @IanJPereira7 hours ago

@jprunuske @stanhamstra @GLBDallaghan @myheroistrane In a busy practice, when faced with the need to fill out an evaluation, it may be rather easy to click off all the boxes then submit. #MedEdChat #MedEd



**MedEd Chat** @MedEdChat7 hours ago

RT @AJKleinhex: T3 System-wide data should be used to improve systems. And, if you have your theoretical justification for your variables,...



**MedEd Chat** @MedEdChat7 hours ago

RT @jprunuske: T3 - with the right data and analytics, we may be able to add value to all - better learning and learning environments, bett...



**MedEd Chat** @MedEdChat7 hours ago

RT @ArjaSateesh: @MedEdChat #meded Learning analytics can help the learners to know their performance and can help them to modify their lea...



**Stan Hamstra** @stanhamstra7 hours ago

An example we have found is rates of "straight-lining" ie where raters circle the same number down the page. You might expect that occasionally but when we see high rates of that (and we have) we wonder if it is perceived as a burden so we ask them how we can help. #MedEdChat



**Jake Prunuske, MD, MSPH** @jprunuske7 hours ago

@stanhamstra @GLBDallaghan @myheroistrane I think students will succeed because of, or despite, our educational efforts. Is the time/effort/energy in measurement, evaluation, analytics justified by improved outcomes, or just showing us what we would get anyway? 150+ #meded schools/curricula, similar outcomes. #mededchat



**MedEd Chat** [@MedEdChat7 hours ago](#)

RT [@jprunuske](#): [@stanhamstra](#) [@GLBDallaghan](#) [@myheroistrane](#) I think students will succeed because of, or despite, our educational efforts. Is...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@ArjaSateesh](#): [@MedEdChat](#) [#meded](#) Learning analytics can help the learners to know their performance and can help them to modify their lea...



**Alliance4ClinEd** [@Alliance4ClinEd7 hours ago](#)

RT [@jprunuske](#): [@stanhamstra](#) [@GLBDallaghan](#) [@myheroistrane](#) I think students will succeed because of, or despite, our educational efforts. Is...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@AJKleinhex](#): T3 System-wide data should be used to improve systems. And, if you have your theoretical justification for your variables,...



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@stanhamstra](#) Would a goal for that type of analysis attempt to influence the system that is sucking the soul dry of the evaluator who has no time to complete an evaluation properly? [#mededchat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

[@IanJPereira](#) [@stanhamstra](#) [@GLBDallaghan](#) [@myheroistrane](#) Absolutely - that's my concern; as [@GLBDallaghan](#) said earlier - garbage in, garbage out. Huge implications if that drives curriculum, resources, promotion decisions, etc [#mededchat](#)



**MedEd Chat** [@MedEdChat7 hours ago](#)

We have about 5 more minutes left in our discussion. Please feel free to give some final thoughts [#meded](#) [#mededchat](#)



**Gary Beck Dallaghan** [@GLBDallaghan7 hours ago](#)

[@MedEdChat](#) Final thought...Learning analytics hold a lot of promise and will definitely be an issue for the [#mededucators2025](#) Right now it still seems like a steep hill to climb [#mededchat](#)



**Stan Hamstra** [@stanhamstra7 hours ago](#)

[@GLBDallaghan](#) Absolutely. Validity can only exist if people invest in the data collection process and see the value of it. Feasibility is a key component of validity so rating forms need to be short and meaningful. [#MedEdChat](#)



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@GLBDallaghan](#): [@MedEdChat](#) Final thought...Learning analytics hold a lot of promise and will definitely be an issue for the [#mededucators](#)...



**MedEd Chat** [@MedEdChat7 hours ago](#)

RT [@stanhamstra](#): [@GLBDallaghan](#) Absolutely. Validity can only exist if people invest in the data collection process and see the value of it....



**Nancy Stewart** [@nvhs04017 hours ago](#)

RT [@stanhamstra](#): [@GLBDallaghan](#) Absolutely. Validity can only exist if people invest in the data collection process and see the value of it....



**Alliance4ClinEd** @Alliance4ClinEd 7 hours ago

RT @stanhamstra: @GLBDallaghan Absolutely. Validity can only exist if people invest in the data collection process and see the value of it....



**A.J. Kleinhexel** @AJKleinhex 7 hours ago

Learning analytics is time-consuming and can be difficult to get off the ground. But if there's a systems-level question you need to answer, it's well worth the effort. [#MedEdChat](#)



**MedEd Chat** @MedEdChat 7 hours ago

RT @AJKleinhex: Learning analytics is time-consuming and can be difficult to get off the ground. But if there's a systems-level question yo...



**Stan Hamstra** @stanhamstra 7 hours ago

@lanJPereira @jprunuske @GLBDallaghan @myheroistrane Being a good teacher means taking the time to evaluate. If it's not working let's ask why. Not abandon it. [#MedEdChat](#)



**MedEd Chat** @MedEdChat 7 hours ago

There is no [#mededchat](#) next week. Join us in 2 weeks at 9 pm Thursday. Don't forget to suggest topics by DM or email [#MedEd](#)



**Jake Prunuske, MD, MSPH** @jprunuske 7 hours ago

Final thought - learning analytics now is like early explorations in atomic theory - great potential for both much good and devastating harm. We have an obligation to critically assess for both aspects going forward [#mededchat](#)



**Jake Prunuske, MD, MSPH** @jprunuske 7 hours ago

RT @stanhamstra: @GLBDallaghan Absolutely. Validity can only exist if people invest in the data collection process and see the value of it....



**MedEd Chat** @MedEdChat 7 hours ago

That's a wrap...I will post the [#mededchat](#) transcript tomorrow morning on <https://t.co/mJivoKroXx> on the Resources page. Thanks everyone for participating! [#meded](#)



**Stan Hamstra** @stanhamstra 7 hours ago

@jprunuske @GLBDallaghan @myheroistrane I think we have a responsibility to collect data because meaningful interactions w learners have been squeezed out of the system. Workplace-based learning just ain't what it used to be. Ken Ludmerer has summed this up nicely in Let Me Heal. [#MedEdChat](#)



**Jake Prunuske, MD, MSPH** @jprunuske 7 hours ago

RT @myheroistrane: I would like to see us build systems to track practice of performance-based skills, such as communication, and to feed d...



**MedEd Chat** @MedEdChat 7 hours ago

RT @stanhamstra: @jprunuske @GLBDallaghan @myheroistrane I think we have a responsibility to collect data because meaningful interactions w...



**Jake Prunuske, MD, MSPH** [@jprunuske7 hours ago](#)

RT [@stanhamstra](#): [@jprunuske](#) [@GLBDallaghan](#) [@myheroistrane](#) I think we have a responsibility to collect data because meaningful interactions w...



**Kristina Dzara, PhD, MMSc** [@kristinadzara7 hours ago](#)

RT [@MedEdChat](#): There is no [#mededchat](#) next week. Join us in 2 weeks at 9 pm Thursday. Don't forget to suggest topics by DM or email [#MedEd](#)



**Ian Pereira** [@IanJPereira7 hours ago](#)

Collecting data is the first step to turn the unknown unknowns, unknown knowns, and known unknowns into useful facts for positive iteration. Perhaps equally important is developing a safe and cost-effective way to do so. [#MedEd](#) [#EthicalLearningAnalytics](#) [#MedEdChat](#)



**Dr. Sateesh Arja** [@ArjaSateesh7 hours ago](#)

RT [@stanhamstra](#): [@GLBDallaghan](#) Absolutely. Validity can only exist if people invest in the data collection process and see the value of it....



**Dr. Sateesh Arja** [@ArjaSateesh7 hours ago](#)

RT [@ArjaSateesh](#): [@MedEdChat](#) [#meded](#) Course evaluations/feedback from students pay a big role in learning analytics. Students compliance in f...



**Dr. Sateesh Arja** [@ArjaSateesh7 hours ago](#)

RT [@ArjaSateesh](#): [@MedEdChat](#) [#meded](#) Learning analytics can help the learners to know their performance and can help them to modify their lea...



**Dink Jardine, MD** [@dinkjardine7 hours ago](#)

RT [@debsimpson3](#): Key to Learning Analytics is the questions we always must ask - our purpose (learning? Gateway to next step) and then what...