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 MSU-Wipro Urban STEM leadership program

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7/9/14 MSU-WIPRO URBAN STEM PROGRAM

Today we started the day by taking selfies and open a twitter account. Then coordinators shared tech tips which were very helpful as I learned new tricks especially how to show YouTube video without showing other stuff.

We talked about two articles on education “What is learning “and “Teacher knowledge for 21’st century”.

We also joined private FB group to share and post .Our cohort was given Surface pro and many members of group set up their surface tablet with help from Kyle and Cadence.

Finally two videos on amnesia and Fantasia were shown to end the day.

7/10/14

Today I learned about how to tweet to an individual and groups. As whole class, we discussed about article ‘Theories of learning and teaching”.

We also taled about pros and cons of different website creation applications for educators and in the end we had quick fire round when we had to create video on common core standards to make subject matter interesting and interactive for students.

Ajay

7/11/14

Today was a great learning experience as Dr. Mishra demonstrated how education and technology can be integrated to make learning and teaching experience more effective.Dr. Mishra showed the how content, pedagogy and technology are different and how they can be integrated to make teaching methods more effective. As Teachers of course we are expected to have strong content knowledge but in our daily routine we hardly look at what are the best pedagogy and appropriate educational and technological tools should be used to help students retain concepts and skills for longer time.

Dr. Mishra emphasized the importance of TPACK(Technological pedagogical content knowledge) and explained it in very lucid language and by making us play TPACK game.

Today Kyle, Akesha and Candace modelled us to show what entails in teaching demonstration sessions and what are do’s and don’ts. All three did a great job and everyone in class seemed to have grasped what is required and expected from members in group demonstrations.

We ended the day with video on KAPLAN how Dr. Mishra responded to that video with another video using mashup tools.

7/14/14

Today as usual we started with “Today In History” followed by wow moments shared by star@gazers.

There was interactive whole class discussion on “Differenetiation” and role of assessment.

There were great teaching demonstrations by group members followed by constructive feedbacks from teachers.

We had to create meme of content topic that used in teaching demonstrations.

Day ended with “Video”.

Ajay

7/15/14

Day started with”Today in History “followed by WOW moments.Groupd finished their Teachers demonstrations and then as whole class discussion we discussion about articles on “ [Misconceptions as barriers to understanding science](http://www.msuurbanstem.org/teamone/wp-content/uploads/2014/07/science-misconceptions.pdf%22%20%5Ct%20%22_blank) “ and “. [Understanding student weaknesses.](http://www.msuurbanstem.org/teamone/wp-content/uploads/2014/07/Understanding-student-weaknesses-ScienceDaily.pdf)“

We learned about stop motion videos and our group created one. We also shared our reflections for particular day on google docs and as usual video of the day was shown to end the day.

7/16/14

Today we early start as whole class had to go museum of “Science and Industry” to work on our DreamIT project and assignments on iImage.

Morning session was very interactive Jeff Sevener from second city showed us how to improv in classroom to help students get engaged and participate in class.

7/17/14

Day started with”Today in History “followed by WOW moments by FabFive group. Discussion on instrumental vs relational understanding was very healthy and meaningful.

Teachers got a chance to finish their assignment on lesson plan demonstration .Thanks to Candace Marcotte, I learned about how to add twitter widget on my website using weebly transform .Candace showed me step by step process of setting up widget using embedded code in widget.

7/18

Today we had good discussion on aesthetics in science and math and curiosity leads to answers and more questions which enhance the learning process of both facilitator and learners.

We used circuits and alligators wire from tools from makey -makey and convert into interactive keyboard.

Technology coordinators were very helpful and supportive and explained different ways technology can be used in classrooms to help/make students think, try and create learning product which they own it.

 7/21/14

Today we started with “Today in History” and WOW moment presented by star@gazers. Class had meaningful discussion on article “Teaching that sticks” .Dr. Mishra gave class ample time ti complete assignments on I-image and explain it video which are due on July 22, 2014.Tech coordinators Kyle, Candace and Akesha were very helpful in guiding and showing different resources about assignments and provided many tech tips which were very helpful to me as an educator.

7/22/14

Day started with “Today in history” and WOW moments presented by group Techcrew. We discussed in groups and as whole class reading on “Performances of understanding”. We talked about different strategies to invite students to think in multiple ways and how as teachers we can observe whether students are able to apply concepts and skills learned in class in real life. We worked on backward design model for our Dream IT PROJECT. In afternoon session we thanked MICROSOFT AND WIPRO for providing opportunities to teachers to learn about STEM model and providing us with technology tool tablet surface PRO.

It was fun to create NURSERY RHYME for our groups in quick fire round.

7/23/14

Day started with “Today in history” and WOW moments presented by group STEAMBOATS. Within groups we discussed and talked about what creative teachers do in and Dr. Mishra article on measuring creativity using NEW (Novel. Effective, Whole) method. Dr. Mishra article on measuring creativity using rubric was great as rubric took into different aspects of creativity, its effectiveness and meaningfulness.

Article has many key word or synonyms to match with words NOVEL, EFFECTIVE AND WHOLE.

Afternoon it was good to use MAKEY tools again and had firsthand experience how to make science classroom interesting and interactive.

Looking back

I am glad that I attended MSU-WIPRO STEM two week summer session. This session provided me with an alternative view of keeping my students engaged and reflects on my teaching and facilitation methods.

Since Teachers are always short of time in school and classes given so many constraints, in house assessments, district assessments and other paper work it’s possible that many teachers take the path of instrumental understanding which is very specific and go according to plan. But in real life problem solving we have to come with plan using our relational understanding of different but similar problems.

I really liked that Dr. Mishra discussed in detail about instrumental vs relational understanding and showed teachers how to squeeze some time out of hectic schedule to teach students importance of relational understanding.

Students, who just learn instrumentally, eventually come unstuck; those who learn relationally take longer, but go further.

Before attending MSU-WIPRO STEM program, I did not know about “Gapminder.org” which is great statistics tool to make teaching and learning of Statistics interactive and interesting.

This program was very helpful in enhancing my knowledge about different technological and educational tools which can be utilized in classroom to help students understand concepts and skills visually.

I am excited and looking forward to 2014-15 school years. I am planning to use web resources shared in STEM program in my math classrooms. Being a math educator I am always looking for ways to make teaching and learning of math concepts and skills interactive and interesting.

Next six months I am planning to unpack each domain of Chicago framework of teaching and enhance my instructional strategies and methods.

I plan to create bank of differentiated activities for my algebra and geometry classes using common core standards in mathematics. I plan to add multi modal activities so that students have a chance and opportunity to understand high school math concepts and skills based on their readiness level, interest with the appropriate use of technology and educational tools.

I will be watching and attending webinars on <http://www.insidemathematics.org/>

Inside Mathematics is a professional resource for teachers, coaches and principals. There are tools for educators containing curriculum resources including tasks and videos for each grade level and the Common Core Standards link features classroom examples of the Standards for Mathematical Practices

I also plan to use and create activities for Illustrative mathematics. [Illustrative Mathematics](http://illustrativemathematics.org/) is a free resource for K-12 mathematics teachers. On Illustrative Mathematics teachers can find lesson activities aligned to standards for every grade level.

Anyone can access the activities posted on [Illustrative Mathematics](http://illustrativemathematics.org/). Teachers can rate activities and share their own activities. I think sites like [Illustrative Mathematics](http://illustrativemathematics.org/) can be helpful for experienced teachers exploring new ideas for teaching what they have taught for years.

I teach in inner public school system where 99% of students are on free lunch program and parents are not that involved in their education process. I think math is language and my students see and practice that language in class only.

I have no idea what in school professional development will look like as most of the time they are very general in nature .I plan to attend NCTM work shop in April 2015 where I will get a chance examine and discuss current issues in mathematics education. By attending this workshop I will benefit from exposure to alternative points of view, and capitalize on the collective wisdom of researchers and practitioners coming together to discuss mathematics education and research. I will also get an opportunity to interact and network with beginning scholars and veteran researchers in the field.

I want to make best use of class time for my students so that they can retain the concepts and skills for longer time. I provide multi modal learning process in which students learn, communicate and apply their understanding of concepts in multiple ways.

I will make sure that when facilitating STEM activities, it is crucial that students have time to process what is happening.  I would like and require my students to reflect and communicate their understanding and share their learning experiences in class so that I can modify my instructional strategies accordingly.

This year I will emphasize and promote reflective classroom to ensure that students are fully engaged in the process of making meaning. I will create, differentiate and organize instruction so that students are the producers, not just the listeners or consumers, of knowledge. I will provide tools and refer to best guide children in the habits of reflection.

In the role of facilitator, the teacher acts as an intermediary between the learner and the learning, guiding each student to approach the learning activity in a strategic way. The teacher helps each student monitor individual progress, construct meaning from the content learned *and* from the process of learning it, and apply the learnings to other contexts and settings. Learning becomes a continual process of *engaging* the mind that *transforms* the mind.

I plan to attend workshops conducted by ThinkCerca and other startup companies in educational field to learn about use of mobile devices in classroom to help students take advantages of technology in their hands.

Most of time student hate writing in math and look for help specific solutions, I would like to seek ways to allow the mobile device so that students search for information and read, write/speak to communicate their understanding and reflect on it thereby taking ownership of their learning products.

11/16/14

Now days more research is being done on how students should be assessed. I believe students understanding of concepts and skills provide a great feedback to teacher and help him/her reflect on instructional methods, strategies and facilitation. DREAMIT project on “Relations and Functions” helped me to design and create multi modal unit lesson plan. This project helped me to learn how to embed assessments in lesson activities to provide me feedback about student understanding on daily basis and evaluate the learning process in classroom.

This project also encouraged me to create different type of assessments like performance task, jeopardy games on math concepts, and project on real life applications to assess students and my teaching. I emphasized on math literacy which is key component to assess students on their ability communicate their understanding and share it.

I believe MSU-WIPRO STEM program helped me to enhance my academic qualification and flexibility to incorporate new ideas and practices. Focus group facilitation helped me to modify my unit plan and improved my ability to communicate with other coworkers ,take their support and create a healthy and meaningful dialogue.

I know attempts to develop theories that describe how students learn mathematics continue to evolve but as teachers we should continue to evolve and be open to new ideas which augment learning process.