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List of Content

The new double issue of Mathematics Teaching-Research Journal on line comes out at the critical time for mathematics education marked by the increased tensions accompanying introduction of the CC curriculum, its assessment and the use of assessment for the improvement of mathematics learning in the classroom. Two sources of the increase of the tension are:

- doubts about the capability of the technological environment to support the assessment process (news: in *Indiana, Kentucky, Minnesota, and Oklahoma* [which] *were linked to the states' assessment providers: CTB/McGraw-Hill, in Indiana and Oklahoma; ACT Inc., in Kentucky; and the American Institutes for Research, in Minnesota;* Education Week, Friday, May 7, 2013, Volume 32, Issue 30) and
- the absence of the adequate teacher preparation – recent appeal by AFT http://www.aft.org/newspubs/press/weingarten043013.cfm .

The inadequacy of the computer based technology for the assessment has been strongly confirmed by the difficulties Hostos CC and all other community colleges of CUNY experience with their new CUNY Algebra exit exam – the acquired system Maple TA doesn't allow for the item-by-item analysis of every classroom nor as any Community College of CUNY. It allows only the analysis on central level of the total participating cohort of 14,000+ students, eliminating thus the possibility of teaching and learning improvement in every classroom. Alerted by us to the problem last semester, the Central Office of Testing promised, to have it working for the Spring 2013 examination session, as of now, the system still is not capable to fulfill its function – the Central Testing Office promises it to be ready by the end of the May.

The issues with the preparation of the teachers to utilize the information for the development of the adaptive instruction are substantial; adaptive instruction has been described competently by the (Darro et al, 2011) document stating that: "*For that [success] to happen, teachers are going to have to find ways to attend more closely and regularly to each of their students during instruction to determine where they are in their progress toward meeting the standards, and the kinds of problems they might be having along the way. Then teachers must use that information to decide what to do to help each student continue to progress, to provide students with feedback, and help them overcome their particular problems to get back on a path toward success.* This is what is known as **adaptive instruction** and it is what practice must look like in a standards-based system." (CPRE Report, 2011) Adaptive instruction mentioned here is closely related to "Formative assessment [which] involves a teacher in seeking *evidence during instruction (evidence from student work, from classroom questions and dialog or one-on-one interviews, sometimes from using assessment tools designed specifically for the purpose) of whether students are understanding and progressing toward the goals of instruction, or whether they are having difficulties or falling off track in some way, and using that information to shape pedagogical responses designed to provide students with the feedback and experiences they may need to keep or get on track*." CPRE Report, 2011). The same report continues:
"Teachers must receive extensive training in mathematics education research on the mathematics concepts that they teach so that they can better understand the evidence in

student work (from OGAP-like probes or their mathematics program) and its implications for instruction. They need training and ongoing support to help capitalize on their mathematics program's materials, or supplement them as evidence suggests and help make research based instructional decisions."

At the same time, the educational research professions starts realizing that "***it is the teacher who can affect to the greatest extent the achievement of one of the main purposes of the research enterprise, that is, the improvement of students' learning of mathematics****".(Kieren et al, 2013)*

Volume 6 N 1 & 2 of Mathematics Teaching-Research Journal on line contains several papers which take assessment of the situation seriously and propose several teaching innovations which may work in the process of improvement of learning. Our colleague from Switzerland, Robert Catanuto informs about concept map based technique of integrating student interests with the concepts of mathematics, our colleagues from New Zealand, Nugzar Nachkebia and Marina Alexander investigate the relationships between the key probability and informal statistical inference concepts and on that basis conduct the critique of informal statistical inference rules adopted in New Zealand high schools. The two co-editors of mtrj present the research into creativity for all students based on the theory of The Act of Creation of (Koestler, 1964)

These "front line" papers are supported by four papers describing the organizational background for that work. Collaborators centered around our seasoned contributor Rohitha Goonatilake from Texan A&M inform about the efforts and their results in the context of STEM developmental education and then first college course College Algebra, Evans Brian analyzes the degree of social awareness amongst the incoming teachers of mathematics while Sherese Mitchelle reveals "the behind" of the early childhood education.

The double issue is topped by the research paper of the young Chilean researcher doing her PhD work in France, Raquel Barrera who investigates the "mysterious" **geometrical multiplication** of numbers formulated by Descartes. The mysterious aspect of Descartes multiplication becomes more transparent when we realize that his technique is equivalent to the old Hindu and Chinese **Rule of Three** practiced at Bronx CC by our co-editor Vrunda Prabhu, recently passed away, in her developmental classes of arithmetic and algebra. Thus, for example the multiplication $\frac{1}{4} \times \frac{1}{8}$ can be seen arising from the double line proportion schema, so that $\frac{1}{4} : X = 1 : \frac{1}{8}$, what with the help of the law of "means and extremes" gives us the required multiplication.