

Intersection Points

The Newsletter of the Research Council on
Mathematics Learning

April 2015

Volume 40, No.1

The Research Council on Mathematics Learning seeks to stimulate, generate, coordinate, and disseminate research efforts designed to understand and/or influence factors that affect mathematics learning.

Visit us on the Web at: web.unlv.edu/RCML

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PAST-PRESIDENT'S COLUMN



A Poem for RCML

During a session led by Sarah Ives targeting writing in mathematics a mode of learning, I learned several new things, but the most

important was about the poem structure called a cinquain. I was interested in the use of writing a cinquain as a way to get students ready to construct a concept map.

Constructing a cinquain can be an avenue to identify important ideas and begin to look for relationships to other concepts – or just an interesting way to create an exit ticket from class as a formative assessment to provide evidence for the next set of instructional decisions for learning.

So – what is a cinquain? By deconstructing the word, you probably have figured out it must have something to do with five – but what? Five lines to form the poem that follow the structure:

One noun

Two adjectives
Three action verbs
Four word sentence or phrase
One synonym of topic/concept

RCML
collaborative, supportive
presenting, networking, nurturing
to rejuvenate our work
family

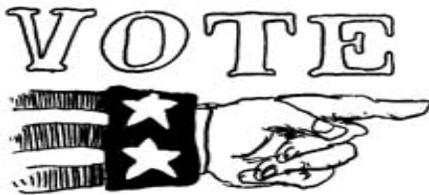
Examples always help – and Sarah shared several cinquains written by students to help clarify how to build this type of poem. One of the attendees, Eileen Faulkenberry, created her own cinquain about RCML:

Great thanks to Sarah, Eileen, and all the presenters and participants at the 2015 annual conference – I had a great time of rejuvenation and learning. Now – reflect and get your speaker proposal for 2016 submitted - on to Orlando for more great sessions and sharing with the members of RCML!

-Mary Swarhout

Note: Juliana Utley, is the **Current RCML President**, taking office at the Conference in February. You will hear from her in October's issue

ELECTION: Call for Nominations



Please consider running for office! Self-nominate or nominate someone else for the RCML elections in 2015. Open positions include:

President Elect
VP of Conference
Treasurer
Conference Committee (two positions)

Research Council on Mathematics Learning (RCML) 2016
Shining a Light on Mathematics Learning

Call for Proposals

The 43rd Annual Conference of the Research Council on Mathematics Learning (RCML) will be in **Orlando, Florida** February 25 – 27, 2016 at the Double Tree by Hilton on International Drive. RCML is now accepting speaker proposals!

The purpose of the conference is to share current research in mathematics education. The conference planning committee encourages research proposals that are “works in progress.” This is an excellent conference for faculty and advanced graduate students to share their ideas for research, and receive constructive comments on their finished studies or preliminary findings.

Speaker proposals must be submitted by September 10, 2015 to the RCML website at <http://web.unlv.edu/RCML/conference2016.html>

RCML publishes conference proceedings for selected papers submitted and accepted as conference presentations. You are encouraged to prepare and submit a paper for the conference proceedings. Speaking proposals and papers submitted to the *RCML Proceedings* are **peer reviewed**. Acceptance of your speaker proposal does not guarantee acceptance of the associated publication into the proceedings. Before submitting your paper, please review the Proceedings Submission Guidelines on the RCML website. Conference proceedings papers are due by October 30, 2015. The lead author on the proceedings paper must register for the conference.

Please consider joining us in 2016 in Orlando. If you have additional questions, please contact us via email at one of the addresses below!

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Nancy Cerezo, Conference Chair
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Gabriel Matney, Program Chair
gmatney@bgsu.edu

Please Note: *All presenters are required to register for the conference by January 20, 2016. If not registered by that time, the proposal will not appear in the conference program and the paper will not appear in the conference proceedings.*

A Tribute to Dr. Jean Schmittau, former RCML Editor

Sheryl A. Maxwell, VP for RCML Publications

Rachel Bachman, Dr. Schmittau's former Doctoral student

Vicki Schell, Current RCML Editor

Dr. Beth Burch, Dean of the Graduate School of Education, Binghamton University

April 2015

With great sadness, the Research Council on Mathematics Learning community extends a farewell to Dr. Jean Schmittau, former editor of the official RCML journal, *Investigations in Mathematics Learning* formerly known as *Focus on Learning Problems in Mathematics*. Dr. Schmittau, a Bartle professor of mathematics education in the Graduate School of Education, Binghamton University, died Thursday, March 5th, at her rural home in Candor, NY, near Binghamton. She came to Binghamton University in 1987 after earning her doctorate in educational psychology, cognitive development, and mathematics from Cornell University. Before joining the faculty at Binghamton, she taught at Berea City School District I Ohio, Cleveland State University, and Cornell University. At Binghamton University she taught at both the master's and doctoral levels. To the Research Council on Mathematics Learning (RCML) members, Dr. Jean Schmittau was the editor of RCML's Official Journal from 1989 through Spring 2013.

Dr. Schmittau was a scholar the field of mathematics education, publishing extensively on such topics as concept mapping, task design, teacher philosophy of mathematics, procedural facility through conceptual understanding, and students' development of algebraic thinking. Perhaps she was most known for her understanding of Vygotskian psychology and the application of cultural historical theory in mathematics education. As such, she was appointed to SUNY-Moscow State University Faculty Exchange Program where in 1990 she was invited by the Academy of pedagogical sciences in the USSR, to participate in joint research projects in Moscow, Tbilisi, and Volgograd. While there, she studied methods of V. V. Davydov, a famous Russian psychologist, who had established a scientific study group investigating different teaching and curricular approaches. According the Dr. Schmittau,

Rather than developing algebra as a generalization of number, Davydov's curriculum develops algebraic structure from the relationships between quantities such as length, area, volume, and weight. The arithmetic of the real numbers follows as a concrete application of these algebraic generalizations. The instructional approach, while similar to constructivist teaching methodology, emanates from a very different theoretical perspective, namely, the findings of Vygotsky and Luria that cognitive development is enabled by overcoming obstacles for which previous methods of solution prove inadequate. . . . The differences with the US curriculum are sufficiently profound as to constitute a paradigm shift (p. 60 & p. 86).

Dr. Schmittau used these approaches in the 1990s in the United States on children learning mathematics in elementary school.

Dr. Jean Schmittau was a very private person though those that worked with her have many fond memories of their interactions with her. When recalling memories, Sheryl Maxwell remarked that Jean Schmittau was a brilliant mathematics educator who was not aware of her own unique expertise. She laughingly chuckled as she related this story. "On a trip to an RCML Conference where I would interact with Jean, Vicki Schell and I decided we needed to discuss both Vygotsky and Davydov theories before Jean would discover what little we knew about these giants of education. However, we became so involved in this preparatory discussion during a lengthy layover at the airport facility, we only later realized that people were slowly vacating the area around us. . . OOPS!"

Sheryl also recalled another memory when she worked with Jean to enable RCML to publish its own journal. Sheryl and Jean talked via phone frequently as they were instrumental in the creation of the *Investigations in Mathematics Learning* journal. "The process was you called her, leaving a message and then she would call you back (almost immediately) if she was physically there. Then, you would talk for more than an hour. The topics we perused ranged widely, but you were always intrigued with the quality of what had been

discussed.” Anyone who ever had a telephone conversation with Jean reports similar experiences. A typical telephone conversation with Jean could span topics including the state of education, walks with her border collie, the evils of calculators, her experience fending off her cheese from cockroaches in Russia, the American obsession with wrapping things in plastic, the benefits of organic food, the plot of Republicans to privatize education, the effect basketball had on her knees, the growing lack of attention to APA formatting, and the wellness of your family.

Dr. Schmittau’s knowledge and genuine interest in a variety of topics as well as her ability to truly listen helped her to be an excellent editor. She really listened to you intensely, questioning you to clarify your meanings. Then she would give you her ideas. If there existed a glimmer of a unique idea in a manuscript, she would give the author suggestions as to how to accentuate these points to develop the rewrite. Sheryl recalled, “I learned from Jean that when she submitted her own manuscripts to journals, they were generally accepted without a rewrite -- remarkable!” When reviewing manuscripts for the RCML journal, Jean Schmittau had an open-mind and would consider publishing different investigations whose conclusions may counter the NCTM approach to teaching mathematics. She believed there needed to be a place where all ideas could be shared.

Dr. Schmittau’s teaching was subtle, inspiring, and ahead of its time. Her pedagogical influence affected hundreds of mathematics teachers in the Northeastern states. In addition to the courses she taught at Binghamton University, Dr. Schmittau was the lead mathematics educator on a teacher leader quality grant for elementary and middle school teachers in the area for over ten years. The teachers in this project sorely miss her presence and expertise. Dr. Beth Burch, the current dean of the Graduate School of Education at Binghamton University, remarked, “Among teachers she had few peers, and teaching was truly her gift to the world.” In the mathematics methods classes she taught, she masterfully guided class assignments and discussions to lead future teachers to a deep conceptual understanding of the topics. Rachel Bachman recalls, “There was always time to think about things deeply. Dr. Schmittau had a way of asking questions of us that made us stop and think about the math we did so automatically and mindlessly. I remember that she had us think about why $\sqrt{3} = 3^{1/2}$ for three weeks. Each class she would ask what progress we had made; each time she concluded that we could have another class to think about the question. Only later did I learn that she went through this same process with all of her classes.”

Rachel recalled an encounter Dr. Schmittau had with a fellow mathematics educator about his frustration concerning the underachievement of the preservice teachers in the class he was currently teaching. Jean said she had never encountered this sort of trouble, and her colleague jokingly teased, “Because your students are scared of you.” Later Jean inquired of Rachel, “Is that true? Are my students scared of me?” She was genuinely concerned and hurt by this thought. Though indeed Jean was often seen as an intimidating person, her students actually saw a side of her that no one else did. She truly cared about her students as people and as future educators. We were not scared of her; we were inspired and challenged by her.

Dr. Schmittau’s mentoring was also restrained but inspiring. Vicki Schell has overheard authors who have commented that never, in their experiences of submitting manuscripts to journals, had they received such support and encouragement. Jean encouraged the use of “guest editors” to develop and oversee special issues. During her rein as editor, special issues appeared on Vygotskian psychology and mathematics education, geometry, language in the learning of mathematics, and technology. Personally, Vicki realized, Jean was quietly sharing herself. Early in her career, Vicki wished to attend an international conference in Quebec, but her institution would not pay for out-of-the-country travel. Jean suggested that Vicki fly to Binghamton, stay with her for a day or two, and then they would drive together to the conference.

Jean Schmittau was buried in her family’s plot in Ohio, with a memorial service planned by friends from the area. The Graduate School of Education will commemorate her at their Twelfth annual Teacher Leader Quality Partnership Summer Institute to be held in June 2015. There, her former students will demonstrate “Dr. Schmittau’s Lessons” that show her teaching influence.

References

Schmittau, J., & Morris, A. K. (2004). The development of algebra in the elementary mathematics curriculum of V. V. Davydov. *The Mathematics Educator*, 8(1), 60-87

Report on the 42nd Annual Conference of the Research Council on Mathematics Learning

By Christa Jackson, Travis Olson and Jeff Shih

February 26 – 28, 2015
Las Vegas, NV

The 42nd Annual RCML Conference, Mathematics Curriculum: Paving the Road to Student Learning, was held at the Alexis Park Resort and Hotel in Las Vegas, NV, February 26 - 28, 2015. We had 162 paid registrants. This was the first year we had poster sessions at the conference, and we had 12 posters. We also had 81 sessions presented during break out sessions Friday and Saturday. In addition, the Founders' Lecture was presented by Dr. Daniel Brahier and the Wilson Memorial Lecture was presented by Alex and Juli Dixon.

Dr. Brahier's presentation, entitled *Principles, Actions, and RCML*, discussed the NCTM publication *Principles to Actions*, examined how mathematics education has gone through a transformation over time, and how the teaching and learning of mathematics can be shaped for all students.

Alex and Juli Dixon's presentation, *How do we fill the gaps? A case study approach to rethinking RtI*, examined ways students with special needs can learn mathematics with understanding when given the opportunity.

The break out sessions included sessions on a variety of topics including technology, differentiated instruction, flipped classrooms, teacher beliefs, teacher knowledge, preservice teacher preparation, and mathematical identities. Each proposal was peer reviewed by a panel of three reviewers selected from a pool of conference committee members and additional volunteers in order to provide high quality sessions. A huge "Thank You!" goes to each of the reviewers: Robert Afonso, Mollie Appelgate, Chris Austin, Kayla Blyman, Jonathan Bostic, Kelley Buchheister, Laura Callis, Maureen Cavalcanti, Kansas Conrady, Becky Darrough, Bill Deleeuw, Eileen Faulkenberry, Angela Krebs, Maranda Miller, Travis Olson, Sarah Roberts, Thomas Roberts, Alejandra Salinas, Sasha Wang, and Sean Yee.

A special thank you is extended to the UNLV College of Education for sponsoring the Founders' and Wilson Memorial Lectures, the UNLV Provost's Office for printing the program booklets, the UNLV Center for Mathematics, Science and Engineering Education for sponsoring the poster session, and EAI Education for donating conference bags for the attendees.

Thank you to Keith Emmert for preparing the layout of the program booklet. Finally, we would like to thank the UNLV doctoral students: Amy Adkins, Charles Allen, Lina DeVaul, Taro Ito, and Cathrine Maiorca, for their help before and during the conference.

RCML Conference Proceedings

The conference proceedings for the 42nd Annual Meeting of the Research Council on Mathematics Learning (201) were edited by Megan Che and co-edited by Keith Adolphson. The conference proceedings can be accessed via the RCML website. We would like to thank all the reviewers for their time and willingness to serve RCML. Watch for information regarding submission of papers for the proceedings for the 43rd Annual Meeting of the Research Council on Mathematics Learning (2016).

Conference Highlights



Daniel Brahier, Professor of Mathematics Education, Bowling Green State University, and junior high mathematics teacher, St. Rose School in Perrysburg, Ohio, provided the Founders Lecture on Friday afternoon. His talk was entitled, “Principles, Actions, and RCML.”

Description: With the publication of *Principles to Actions*, the National Council of Teachers of Mathematics has revisited the research and revised its vision for reforming mathematics education. Similarly, RCML refocused its direction and mission with the change from its former name of RCDPM and continues to evolve. In this session, Brahier explored the transformation of mathematics education over time and how RCML can help to shape the future of the teaching and learning of mathematics for all students.



Alex Dixon and Julie K. Dixon, University of Central Florida, provided the Wilson Lecture on Thursday evening. Their talk was entitled, “How do we fill the gaps? A case study approach to rethinking RtI.”

Description: *Alex Dixon* was a normal, bright, healthy girl, when a sudden onset of a mysterious illness took over her life. Months of treatments failed to provide relief from acute pain and muscle spasms. Doctors across the country were at a loss. A last attempt at treatment - brain surgery - stopped the spasms but caused a massive stroke. At age 12, Alex had to relearn everything. Now 17, Alex shares her story and her amazing recovery. She provides a personal account of strategies for supporting a student with special needs to learn mathematics with depth.

PHOTOS FROM THE CONFERENCE



RCML Business Meeting Minutes

February 27, 2015
Las Vegas, Nevada

- 12:26 Called to order by Past-President Mary Swarthout
Members raise their hands for first time attendees, first year members, tenured faculty, those who have attended 10+ years
Results of elections:
Secretary – Sarah Pratt
Conference Committee: New members - Hope Marchiando & Bill McGalliard
Mary introduces President Juliana Utley
- 12:32 Projects minutes of business meeting (from 2014 Newsletter)
- 12:35 Melfried Olson motion, Keith Adolphson second; vote in favor
- 12:36 Kerri Richardson, Treasurer Report
Netted
Publications account
Regular account – PayPal now a part; noticed increase due to ease of PayPal
3 year overview
2012- \$2441.23
2013 - \$3669.72
2014 - \$8169.90
Increase due to more journal subscriptions
Bob Drake – motion; Alan Zollman – second; voted in favor of approval
- 12:38 Sarah Pratt – membership report
Member Update as of February 25, 2015:
Membership for 2015: 171 (with 12 outstanding to pay)
Members from 2014 who have not renewed: 65
- 12:44 Sheryl Maxwell – publications report
Business manager
Newsletter – newest in February 2015; sent by Summer Bateiha from Qatar
Journals – newest issue of Volume 7 Issue 3; any new members can write their name on the list and will receive this copy in the mail in April
Vicki Schell (not present)– asking for those who want to review articles for the journal; include 2 areas of expertise
Prize drawing – 17 journals to give away: Jacob Musal, Laura Tapp, Sarah High, Lauren Wells, Maureen Grady, Keith Hubbard, Nicole Bamford, Trina Davis, Molly Weinburgh, Matt Roscoe, Rebecca Gault, Ken Butler, Stephanie Capen, Nickolaus Ortiz, Danya Corkin, Carolyn Mitten, Susie Morrissey
- 12:52 Eileen Faulkenberry, VP of Conferences
160 registrations!
1st year for poster sessions
Great sessions already; Founders Lecture will be at 4:30, posters can be taken down at that time;
Conference Chair: Gabriel Matney – Messi local contact; booked near Sea World; last weekend in February 25-27, 2016

- Proposals due September 15, 2015; encourage proceedings paper
Thanks to Program Chair, Christa Jackson
Thanks to Conference Co-Chairs, Jeff Shih & Travis Olson
- 12:56 Megan Che & Keith Adolphson, Proceedings Editor and Co-Editor
Megan – thank you to reviewers, asked for raised hands
Thanks to Keith and working together, to share and distribute effort
Traci Carter – editorial assistant; thanks for the org
40% acceptance rate; 23 accepted from submissions
Proceedings given in flash drive at conference check-in
Question: How do you get to be a reviewer? Send an email to Keith Adolphson that you are interested
- 1:02 Eileen – change to program: Darlinda & Landa was scheduled at 8:00 am will now be in Apollo 7 at 3:30
- 1:03 Mary – call for nominations
Nomination forms on tables
Any questions about what these positions entail, please talk to officers
Self-nominations accepted, feel free to nominate
Nominations will be given in the October newsletter,
- 1:05 Past presidents, officers, conference committees
Recognition and awards of:
Conference chair, Travis Olson & Jeff Shih
Program chair, Christa Jackson
Keith Adolphson
Awards for past conference chairs, Angela Kribbs and Thomas Faulkenberry
Proceedings chair and co-chair: Megan Che & Keith
Secretary: Darlinda Cassel
Past-President: Mary Swartout
Recognize the Memorial Scholarship recipient for this year
Honoring David Davison
Winner Jonathan Bostic
- 1:12 Juliana Utley – No old business
Any new business
In the future we will be cleaning up the new by-laws
Jonathan: any consideration for moving to paper and online format?
JU: yes
JB: would you describe?
JU: Had a phone conversation with long-term members, Vicki & Sheryl; exploring a lot of options; I hope to be able to give a more definitive answer next year; looking at online and hard-copy or only online
- 1:14 Bob Drake motion to adjourn; Gabriel Matney – second; voted in favor
Adjourned

Respectfully submitted

Sarah Pratt

The PULSE of INVESTIGATIONS

Sheryl A. Maxwell
VP for RCML Publications
April 2015

I enjoyed visiting with my RCML colleagues at the recent Conference in Las Vegas! Additionally, I delighted in meeting so many new members. We are pleased to introduce our journal, **INVESTIGATIONS** IN MATHEMATICS LEARNING, to more professionals. The Volume 7, Number 3 issue of our official RCML Journal will soon be mailed to all subscribers and members of RCML. With your continued membership in RCML, you will receive a steady stream of issues.

We are now seeking subscribers for the Volume 8 issues. To help us increase our subscriber list please check with your college and/or university to see that they are receiving the official RCML journal, **INVESTIGATIONS** IN MATHEMATICS LEARNING, so others can be introduced to it. If your college/university does not receive our journal, here is the information that you can share with them. One of our members found that a friendly visit to the library personnel was all that was needed to place his university on the subscription list! The price is very reasonable!

An **Institutional** subscription to **INVESTIGATIONS** IN MATHEMATICS LEARNING is \$80.00 per Academic Year for an institution located in the United States and \$100.00 per Academic Year for an institution located outside the United States. The remittance is due in July of the previous Academic Year. Currently, RCML has institutional subscriptions from colleges/universities throughout the United States and even mail 37 journals to institutions in other parts of the world.

Send payment to:

INVESTIGATIONS IN MATHEMATICS LEARNING
c/o Dr. Sheryl Maxwell, RCML VP for Publications
289 Crestmont Cove,
Cordova, TN 38018-6904

This information is repeated on the inside cover of each issue in case you misplace this newsletter.

We hope that you will consider writing a manuscript for the upcoming issues of **INVESTIGATIONS** IN MATHEMATICS LEARNING. You can contact the editor at rcmleditor@cox.net and even submit your manuscript electronically as an attachment. The table of contents of past issues are available at <http://web.unlv.edu/RCML>, our RCML website.

MEMBERSHIP REPORT

Greetings from your Membership Coordinator. In 2015, we now have **173** members! That is fantastic, up from 130 last year at this time! All members will receive the next volume of *Investigations in Mathematics Learning*, starting in September. Thank you!

The new method for membership is underway and working well. The RCML Board voted last year to use Wufoo as a platform for membership and conferences. We hope that you will contact any one of us if you have any input regarding this new process. It seems successful so far!

If you have any questions about the status of your membership or wish to update your contact information, please email Dr. Sarah Pratt: rcmlmembercoordinator@gmail.com. Thank you for being a part of RCML – and look for renewal messages to come your way soon!

MEMBERSHIP FOR 2015

Membership dues are \$40 for full members, \$34 for students, and \$55 for international members. Payment is due on **January 1st** for the calendar year **2015**. The RCML membership form can be found at this web page: <https://rcmlconference.wufoo.com/forms/membership-form/> Payment is accepted through this form using PayPal. *One does not have to have a PayPal account to use the secure PayPal system.* If, however, anyone joining or renewing who wishes to pay using a check, the check should be made payable to **RCML** and mailed to the RCML Treasurer, Dr. Kerri Richardson, UNCG-TEHE Dept., PO Box 26170 SOEB, Greensboro, NC, 27402.

Please consider recruiting your colleagues to become members. You may direct them to the RCML membership page to sign up online.

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