



ECAE RESEARCH AND DEVELOPMENT NEWSLETTER

SPRING ISSUE 2019

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ECAE 2019 GRANT FUND AWARDS

Congratulations to the following teams of researchers, who have been awarded ECAE 2019 Grant Funding to carry out their research:

Dr. Shaljan Areepattamannil

for his study entitled *“What factors contribute to Mathematics and Science Performance of school children in Abu Dhabi? A multilevel exploration with PISA and TIMSS”*.

The purpose of the study is to explain the student-, teacher-, and school-level factors associated with mathematics and science performance of school children who took part in the latest cycles of PISA and TIMSS from Abu Dhabi.

Dr. Ieda Santos, Dr. Shaljan Areepattamannil, Ms. Sumaya Saqr, Dr. Michael Melkonian, Ms. Tracey White and Dr. Genny Villa

for their study entitled *“Learning with and about makerspaces:*

teachers’ perceptions of makerspace professional development”. The purpose of the study is to explore the design and implementation of makerspace professional development in the form of workshops through the experience and perceptions of a sample of teachers.

Dr. Martina Dickson, Dr. Melissa McMinn, Mrs Sharon Osei-Tutu and Dr Dean Cairns

for their study entitled *“Feeling like a Scientist: Factors affecting children’s selections of technology tools in the science classroom”*. The purpose of the study is to explore ways in which students’ science identity impacts upon their choices of methods to perform science measurements, and to identify whether using technological devices to ‘perform’ science leads children to ‘feel like a scientist’.

All research and grant proposals are reviewed thoroughly by ECAE Research Committee, and ECAE Institutional Review Board / Research Ethics Committee. The committees work hard to give constructive feedback which hopefully encourages researchers in their work. Many thanks to the reviewing members of the two committees serving our research community this year:

Research Committee:

Dr. Rida Blaik-Hourani, Dr. Martina Dickson, Dr. Mohamed Seghier, Dr. Cara Williams and Dr. Shaljan Areepattamannil.

Institutional Review Board / Research Ethics Committee:

Dr. Claudine Habak, Professor Myint Khine, Dr. Michelle Kelly, Dr. Michael Melkonian, Ms. Kacy Morgan and Mr. Mubarak Al Jabri.



NEW PUBLICATIONS

Congratulations to the following researchers who have had journal articles accepted into top-ranking (Q1) journals this year:

Dr. Claudine Habak, Dr. Mohamed Seghier and Professor Mohamed Fahim

*Habak, C., Seghier, M. L., Brûlé, J., Fahim, M. A., & Monti, O. (2019). Age Affects How Task Difficulty and Complexity Modulate Perceptual Decision-Making. *Frontiers in Aging Neuroscience*, 11 (28).*

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6405634/>

This article explains how every action we take involves a decision, which relies on a multitude of perceptual cues that we are often unaware of. The way in which perceptual information is presented can lead to varying cognitive demands, even when difficulty is controlled, and this pattern changes with age: simpler image structure seems more difficult with age than complex structure. This suggests that what we consider to be straightforward definitions of difficulty actually vary with age, and that we should assess what constitutes simplicity or complexity for different groups.

Dr. Mohamed Seghier

*Seghier, M.L. (2019). Categorical laterality indices in fMRI: a parallel with classic similarity indices. *Brain Structure and Function*, 1-7.*

<https://link.springer.com/article/10.1007%2Fs00429-019-01833-9>

This article explains how the two hemispheres of the human brain are not completely symmetrical in terms of anatomy and function. This work presents a novel way to measure the relative differences in function between the two hemispheres in an unbiased way.

Dr. Martina Dickson

*Dickson, M. (2019). Academic Motherhood in the United Arab Emirates. *Gender, Place and Culture*, 1 (21).*

<https://www.tandfonline.com/doi/abs/10.1080/0966369X.2018.1555143>

Academic mothers juggle two busy and demanding roles. In this article, the ways in which the dual spheres of academia and motherhood interweave are explored within the context of expatriates working in the UAE.

Open Access Journal Article Funding

The following article was published open-access in a Q1 journal, courtesy of ECAE funding. Open access to a small number of articles in high ranking journals will be funded this year in order to increase the number of views, downloads and citations of the article. **Congratulations!**

*Areepattamannil, S., & Santos, I. M. (2019). Adolescent students' perceived information and communication technology (ICT) competence and autonomy: Examining links to dispositions toward science in 42 countries. *Computers in Human Behavior*, 98, 50-58*

<https://www.sciencedirect.com/science/article/pii/S0747563219301451>

The article, employing a self-determination theory perspective, investigates the relationships of perceived competence in ICT usage and perceived autonomy related to ICT usage with dispositions toward science—enjoyment of science, interest in broad science topics, science self-efficacy, and epistemological beliefs about science - among 258,192 adolescent students from 10,767 schools in 42 PISA 2015 participating countries.

INTERNATIONAL RESEARCH CONFERENCE PRESENTATIONS

Congratulations to our faculty who recently travelled to present at international conferences, funded by ECAE.



Dr. Dean Cairns, who presented at the New Perspectives in Science Education conference in Florence, Italy from the 21st - 22nd March, 2019



Dr. Suha Al-Hassan, who presented at the 2019 SRCD Biennial Meeting, Baltimore, Maryland, USA on the 20th - 23rd March, 2019.



STUDENT RESEARCH NEWS

Educational Neuroscience Conference

Four B.Ed. Year 4 Action Research students presented two posters at the Educational Neuroscience conference held at Bab Al Qasr on March 10th and 11th. One of the abstracts was also accepted for publication in *Frontiers in Human Neuroscience*.

Congratulations to **Ameera Salem Hussain Shikhan Bawazeer** and **Mariam Ahmed Salman Yousef Alhammadi** (supervised by Dr. Michelle Kelly) for their poster entitled: *Functional Behavior Assessment of Challenging Behavior in Individuals with Autism*

And to **Noura Ali Ahmed Saleh Alansi** and **Kulood Abdulaziz Qasim Abbadi Mohamed** (supervised by Dr. Michelle Kelly) for their poster entitled: *Technological Advances in Functional Communication Training for Students with Autism*

B.Ed. 4 Action Research Projects

The final year students are currently busy finishing off writing up and submitting their Action Research projects under their advisors' supervision. We wish them luck and look forward to their presentations of this research!

M.Ed. Research Projects

16 M.Ed. research projects were received by the Research Office and were reviewed and approved by the ECAE Institutional Review Board / Research Ethics Committee. The research topics were extremely diverse, with a few examples given here:

- > Exploring Abu Dhabi Teachers Perceptions Towards Centralizing the Education System in the UAE
- > The Effectiveness of Mand Training Using a Communication Device on Increasing Vocal Verbal Requests with an Individual with Autism Spectrum Disorder.
- > A reality check on positive education in UAE kindergartens

The students are now busy writing up their projects, with their research advisors' support. Many thanks to the ECAE Institutional Review Board / Research Ethics Committee who reviewed and approved these projects!





THE LIFE OF AN EDUCATIONAL RESEARCHER

We interviewed Dr. Suha Al Hassan, who is an Associate Professor in the Counselling, Special Education and Neuroscience Division, to find out about her life as an Educational Researcher.

Can you please tell us what led to you becoming an academic researcher?

It's a good question! It is part of who we are as academics and faculty. We need to publish and write, but apart from that, for me I've been working with children since I graduated from university. Working with children, so many questions arise and you think – why do children behave like that, why do parents react in one way or another? Sometimes questions arise related to practitioners – teachers, physicians, how they deal with parents and children. So this might have been the thing that triggered me to work more on my research skills, and working with other researchers. To find the answers to all these questions!

Tell us about your areas of research interest

Children are very much my area of interest, and family in general. You can't really research children apart from the family and the community at large, anyone who is related to children including teachers, practitioners. So my research interests have grown over the years. I used to focus more on learning disabilities, learning problems, issues related to child psychology, and then this expanded into effective school teaching practices. For ten years now I have focused more on also parenting practices, which is related, and practices of inclusion.

What do you find most enjoyable about your research work?

Early in my research career, I used to research directly with children and I didn't depend on research assistants, and I enjoyed that. Now I'm enjoying and focusing more on multicultural research. There are more similarities than differences! There is more research in the western world

comparing to the Middle East and now we are investigating issues and problems here. We are bridging the gap in the literature, which is one of the drivers for us getting more funding for the project. When you complete one research study, it generates more questions for the next.

Under what circumstances do you do your best research writing?

Like most people, I don't like distractions when I write. I can read even if it's noisy around me, but when it comes to putting my thoughts together and to write I like my own space. With kids at home, and colleagues and students at work, I've adapted! I try to find the best time to write. The most challenging thing about research is just finding time. Not funds, not finding colleagues to collaborate with – these are all available. But just time, for writing a proposal, thinking, collecting reliable data, writing it up.

What tips or advice would you give to new researchers?

Research things that you really love and have a passion for! To be really motivated, you need to look for things that you really like and enjoy, and that are needed in the community you work in. At the end of the day you need to research things that have value! The good researcher can balance these needs.

Thank-you very much!



ECAE RESEARCH SEMINARS



On Thursday January 31st, **Dr. David Litz** presented his research on Triglossia and the promotion of Arabic Literacy in the UAE.

This research took place within the context of educational change in the UAE during the last 15 years. The study reported on the exposure of Emirati children to the Arabic language by documenting Emirati parents' language practices with their children at home and factors affecting their use of Arabic.

Recommendations which came out of the study included the promotion of MSA/Classical Arabic at home and school through government programs, an increase in the quotas for Arabic language in the school and customize one (or more) day(s) per month to speak classical Arabic in all lessons in the school, and Arabic-medium teachers working to revolutionize their approach to teaching MSA to make it more appealing to students.

This was followed by a presentation given by **Dr. Claudine Habak**, (Chair of the ECAE Institutional Review Board / Research Ethics Committee) on Ethics Guidelines for research. During the presentation, reminders were given about the need to prioritise ethics while carrying out research, and to adhere to the four key principles involving merit and integrity, justice, beneficence and respect.

Dr. Claudine also gave poignant reminders about the need for consideration of risk, harm, burden and benefits (which depend on a study population, situation, time and culture) when designing a research study, and which the



Four Principles of Ethical Evaluation

<ul style="list-style-type: none"> • Study design • Researcher competence and experience • Process, outcomes and benefits, clear to all  <p>Merit & Integrity</p>	<ul style="list-style-type: none"> • Reasonable procedures, non-exploitative, well-considered • Fair distribution of costs and benefits, inclusive • Special protections for vulnerable persons • Relevant to the community participating  <p>Justice</p>
<ul style="list-style-type: none"> • Do no harm! • Wellbeing of participants: Physical, Mental, Social, Spiritual • Maximize benefits for research & minimize risks to participants: equal benefits to all participants  <p>Beneficence</p>	<ul style="list-style-type: none"> • Protect autonomy • Protect confidentiality and privacy • Treating people with courtesy and respect • Informed consent  <p>Respect</p>

members of the IRB/REC take closely into account when reviewing a research proposal. After the presentation there was opportunity for members of the audience to ask questions and raise any uncertainties with regards to research ethics.

In the second seminar of the series this semester, on Thursday 28th February, the ECAE community was treated to two presentations. **Dr. Mary Lynn Woolsey** presented on Assessing the Functional Outcomes of Children with Hearing Loss in Abu Dhabi, and **Dr. Farouq Al Meqdadi** gave a talk about Pre-service Teachers' Absolute Value Equations and Inequalities Solving Strategies and Errors.

Dr. Farouq Al Meqdadi's talk focused on an analysis of college students' difficulties and errors while solving absolute value equations and inequalities, including how they solve these. Dr. Farouq explained that equations and inequalities are fundamental in understanding many concepts in any mathematical course including Algebra, Geometry and Calculus. He described how previous studies have shown that students have difficulties developing proper conceptual understanding of equations and inequalities.

The results of their study indicated that the participants may have a conceptual misunderstanding of absolute value inequalities, but also that further research is needed to explore ways that may help students overcome the difficulties they face when solving absolute value equations and inequalities.



This talk was followed by Dr. Mary Lynn Woolsey's presentation about assessing the functional outcomes of children with hearing loss in Abu Dhabi. This work won a coveted ADEK funding award in 2018. Dr. Mary Lynn began the session by giving an overview of the challenges of locating and identifying children with hearing loss in Abu Dhabi, due to a variety of factors including lack of co-ordination, insufficient follow up with parents of young babies and toddlers, leading to a lack of information availability later on. The audience participated in a short test designed to simulate a high frequency loss. Even with a mild hearing loss, none of the participants could identify any of the words. This activity illustrated the powerful effects of a hearing loss on language acquisition and the importance understanding the effects of noise in the learning environment.





RESEARCH PROJECT FOCUS: EMOTIONAL INTELLIGENCE

We focus in this newsletter edition on a research study being carried out by **Dr. Rida Blaik-Hourani**, **Dr. David Litz** and **Dr. Scott Parkman** entitled: *Emotional Intelligence, Educational Improvement, and Professional Development Pathways: The Case of Abu Dhabi School Administrators*

Research Synopsis

Abu Dhabi is undergoing educational changes and school reforms that necessitate improving and developing public school leaders' skills. Abu Dhabi school leaders are anticipated to perform within specific professional standards. These professional standards embed emotional intelligence attributes. It is well researched that in order to improve schools, leaders need to demonstrate various dimensions of emotional intelligence. This study attempts to explore Abu Dhabi public school leaders' emotional intelligence within Goleman's (2007) five dimensions. This includes: a) self-awareness, b) managing emotions, c) motivating oneself, d) empathy, and e) social skills.

This research project addresses the following questions:

1. What emotional intelligence do school leaders exhibit along the following five dimensions: a) self-awareness, b) managing emotions, c) motivating oneself, d) empathy, and e) social skills?

2. How do school leaders utilize their emotional intelligence attributes professionally speaking?
3. Do schools leaders face challenges pertaining to emotional intelligence skills and attributes?

This research employs mixed methods tools. The study included a random sample that consists of 30% of all Abu Dhabi government schools. The random sampling included cycle 1, 2 and 3 schools. The total number of research participants (a variety of leadership and administrative roles) were 123 and they were involved in the quantitative component of this research and 30 research participants who took part in the quantitative data collection were interviewed.

Findings portrayed the following emerging themes:

Emotional intelligence and dimensions for educational leaders

Emotional intelligence and reflective practices

Emotional intelligence and professional development

Emotional intelligence and school transformation

Emotional intelligence and leading the people and the organization



REMINDERS FROM THE RESEARCH OFFICE

Funding for Journal Fees – Open Access

If you have received, or are about to receive, an official acceptance from a high quality journal (e.g. Q1 ranking in SJR database or equivalent) where open access options are available, please send an email outlining the details to research@ecae.ac.ae.

Research Conferences

Faculty are encouraged to apply to present their research at high quality, national and international conferences in areas directly applicable to their areas of interest and expertise. Maximum allowable conference expenditure per faculty is 15,000 AED, starting from the calendar year Jan 1st 2019. Conferences provide fantastic opportunities to share work, gain feedback, and networking / possible collaboration opportunities too. We also greatly benefit from you sharing your presentation with your ECAE community upon your return. The conference application form is available on the portal (research forms), so please start researching good conferences to send your abstracts to! Best of Luck!

Annual ECAE Research Forum

This will take place in June, and there will be opportunities for faculty and staff to present posters and presentations. Please start thinking of research abstracts to submit; the official call will be made very soon.

SUMMER NEWSLETTER

Please share any research news: publications, exciting findings, study approvals etc. with the Research Office for inclusion in our Summer Newsletter next academic year!

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