Association Supporting Computer Users in Education
"Our Third Quarter Century of Resource Sharing"

Proceedings of the 2021 ASCUE Summer Conference
53rd Annual Conference
June 14 – 16, 2021
The 2021 virtual conference will be delivered using the online events platform Hopin.
Web: http://www.ascue.org

ABOUT ASCUE

ASCUE, the Association Supporting Computer Users in Education, is a group of people interested in small college computing issues. It is a blend of people from all over the country who use computers in their teaching, academic support, and administrative support functions. Begun in 1968 as CUETUG, the College and University Eleven-Thirty Users' Group, with an initial membership requirement of sharing at least one piece of software each year with other members, ASCUE has a strong tradition of bringing its members together to pool their resources to help each other. It no longer requires its members to share homegrown software, nor does it have ties to a particular hardware platform. However, ASCUE continues the tradition of sharing through its national conference held every year in June, its conference proceedings, and its newsletter. ASCUE proudly affirms this tradition in its motto: "Our Third Quarter Century of Resource Sharing"

ASCUE's LISTSERVE

Subscribe by visiting the site http://groups.google.com/a/ascue.org/group/members and follow the directions. To send an e-mail message to the Listserve, contact: members@ascue.org Please note that you must be a subscriber/member in order to send messages to the listserve.

NEED MORE INFORMATION

Direct questions about the contents of the 2021 Conference to the co-chairs: Nicole Lipscomb-King, Georgia Baptist College of Nursing of Mercer University, 3001 Mercer University Dr. Atlanta, GA 30341, 678-547-6736, conference@ascue.org, and Elif Gokbel, Coastal Carolina University, PO Box 261954, Conway, SC 29528, 843-349-2351, conference@ascue.org, Web: http://www.ascue.org

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Association Supporting Computer Users in Education

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(years remaining in office including current year)

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Table of Contents

Keynote Speaker

We're excited to announce that our 2021 Keynote Speaker will be Dr. Andrea Han! Andrea is an Associate Director in the Centre for Teaching, Learning and Technology at the University of British Columbia, which is consistently ranked among the top 20 public universities in the world and was recently recognized as North America's most international university. Andrea directs a team of 15 who provide support faculty and academic units for learning design, online and hybrid course development, new program development, program evaluation and renewal, the evaluation of teaching tools and methods, and the Scholarship of Teaching and Learning.

Andrea has a PhD in Educational Leadership, Culture, and Curriculum from Miami University and her current research explores the connections between faculty teaching practices, faculty perceptions and institutional values. Andrea has worked in a wide variety of educational contexts having taught at the elementary, secondary and post-secondary levels and having worked in learning technology, learning design and curriculum development for over 20 years. In addition to her work at the CTLT, Andrea served from 2015-2020 as the President of the Association of Administrative and Professional Staff (AAPS) which is the bargaining unit for the approximately 5000 management and professional staff at UBC.

KEYNOTE ADDRESS
COVID-19 and the Future of Online Learning

The outbreak of COVID-19, and subsequent closing of college and university campuses worldwide, required higher education to rapidly change in ways never anticipated. When many campuses closed in the spring of 2020, for the first time in history, the number of students taking online courses exceeded the number left in classrooms and, while there is not yet conclusive data, that trend appears to have continued for the 2020-2021 academic year. This has forced faculty, staff and administrators (many of whom had little or no experience with online learning) to look at teaching and learning in new and innovative ways. Given this experience, we no longer question if COVID-19 will change higher education; rather, we now wonder how it will.

In this session we'll explore the known and potential impact of COVID-19 on the future of online learning. We'll look at whether faculty and administrator perceptions of online learning have changed, whether this might lead to an increase in online programs, and in what disciplines we are most likely to see changes. We'll explore how student assessment, learning spaces, and the use of Open Educational Resources are likely to change – as well as how these changes could impact diversity and accessibility in higher education. Finally, we'll explore the ways in which COVID may change the very structure of higher education credentials, specifically how the need to rapidly upskill in a changing economy has pushed learners to pursue micro-credentials instead of more traditional trade or professional programs.

ASCUE BOARD OF DIRECTORS FROM 1967 to 2021

At this conference we celebrate the 53rd anniversary of the founding of ASCUE at a meeting in July, 1968, at Tarkio College in Missouri of representatives from schools which had received IBM 1130 computers to help them automate their business functions and teach students how to use computers. They decided to form a continuing organization and name it CUETUG, which stood for "College and University Eleven-Thirty Users Group." By 1975, many of the member schools were no longer using the IBM 1130, and were requesting to be dropped from the membership lists. At the same time, other small schools were looking for an organization that could allow them to share knowledge and expertise with others in similar situations. At the 1975 business meeting the name was changed from CUETUG to ASCUE which stood for "Association of Small Computer Users in Education," and we opened membership to all institutions that agreed with our statement of purpose. In 2015, we decided that the word "Small" was misleading and changed our name to "Association Supporting Computer Users in Education" with the same acronym.

Our historian, Jack Cundiff, has collected the names and schools of the officers for ASCUE and its predecessor CUETUG for the last fifty years and we have printed these names on the following pages.

ASCUE BOARD OF DIRCTORS FROM 1967 to 1972

	1967-68	1969-70	1970-71	1971-72
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Program Chair	Wally Roth Taylor University	Jack Cundiff Muskingum College	Wally Roth Taylor University	James McDonald Morningside College
Past President	Al Malveaux Xavier, New Orleans	Ken Zawodny St. Joseph's College	Howard Buer Principia College	Jack Cundiff Muskingum College
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Board Members	James Folt Dennison University	James Folt Dennison University	James Foit Dennison University	John Orahood U. of Arkansas, LR
At Large	Don Glaser Christian Brothers C.	Don Glaser Christian Brothers	Don Glaser Christian Brothers	N. Vosburg Principia College
Public Relations				Dan Kinnard Arizona Western
Librarian				Jack Cundiff Muskingum College
Equip. Coordinator				
Web Coordinator				
Sponsor Relations Coordinator				
Location:	Tarkio College	Principia College	Muskingum College	Christian Brothers

ASCUE BOARD OF DIRCTORS FROM 1972 to 1976

	1972-73	1973-74	1974-75	1975-76
President	James McDonald Morningside College	Dan Kinnard Arizona Western	T. Ray Nanney Furman University	Larry Henson Berea College
Program Chair	Dan Kinnard Arizona Western	T. Ray Nanney Furman University	Larry Henson Berea College	Jack McElroy Oklahoma Christian
Past President	Wally Roth Taylor University	James McDonald Morningside College	Dan Kinnard Arizona Western	T. Ray Nanney Furman University
Treasurer	J. Westmoreland U. Tenn Martin	J. Westmoreland U. Tenn Martin	Jim Brandl Central College	Jim Brandl Central College
Secretary	Ron Anton Swathmore College	Ron Anton Swathmore College	Harry Humphries Albright College	Harry Humphries Albright College
Board Members	John Orahood U. of Arkansas, LR	Al Malveaux Xavier, New Orleans	Sister Keller Clarke College	Sister Keller Clarke College
At Large	N. Vosburg Principia College	Wally Roth Taylor University	Wally Roth Taylor University	Mike O'Heeron
Public Relations	Dan Kinnard Arizona Western	Dan Kinnard Arizona Western	Dan Kinnard Arizona Western	Dan Kinnard Arizona Western
Librarian	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College
Equip. Coordinator				
Web Coordinator				
Sponsor Relations Coordinator				
Location:	Georgia Tech	Morningside	Furman	Berea

ASCUE BOARD OF DIRCTORS FROM 1976 to 1980

	1976-77	1977-78	1978-79	1979-80
President	Jack McElroy Oklahoma Christian	Harry Humphries Albright College	Fred Wenn Caspar College	Doug Hughes Dennison University
Program Chair	Harry Humphries Albright College	Fred Wenn Caspar College	Doug Hughes Dennison University	J. Westmoreland U. Tenn Martin
Past President	Larry Henson Berea College	Jack McElroy Oklahoma Christian	Harry Humphries Albright College	Fred Wenn Caspar College
Treasurer	William Roeske Houghton College	William Roeske Houghton College	James Foit Central Ohio Tech	James Foit Central Ohio Tech
Secretary	Doug Hughes Dennison University	Doug Hughes Dennison University	Dave Dayton Grove City College	John Jackobs Coe College
Board Members	Dave Dayton Grove City College	Dave Dayton Grove City College	Jan C. King Chatham College	Wally Roth Taylor University
At Large	Fred Wenn Casper College	John Jackobs Coe College	John Jackobs Coe College	Jan C. King Chatham College
Public Relations	Dan Kinnard Arizona Western	Sister Keller Clarke College	Sister Keller Clarke College	Sister Keller Clarke College
Librarian	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College
Equip. Coordinator				
Web Coordinator				
Sponsor Relations Coordinator				
Location:	OK Christian	Albright College	Casper College	Dennison University

ASCUE BOARD OF DIRCTORS FROM 1980 to 1984

	1980-81	1981-82	1982-83	1983-84
President				
	J. Westmoreland U. Tenn Martin	John Jackobs Coe College	Jan Carver Chatham College	Wally Roth Taylor University
Program Chair				
	John Jackobs Coe College	Jan Carver Chatham College	Wally Roth Taylor University	Dudley Bryant Western Kentucky
Past President				
	Doug Hughes Dennison University	J. Westmoreland U. Tenn Martin	John Jackobs Coe College	Jan Carver Chatham College
Treasurer				
	Ron Klausewitz W. Virginia Weslyan	Ron Klausewitz W. Virginia Weslyan	Harry Lykens Mary Institute, St L.	Harry Lykens Mary Institute, St. L.
Secretary				
	Jan Carver Chatham College	Ken Mendenhall Hutchinson CC, KS	Ken Mendenhall Hutchinson CC, KS	John Jackobs Coe College
Board Members				
	Dudley Bryant Western Kentucky	Dudley Bryant Western Kentucky	William Roeske Houghton University	William Roeske Houghton University
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Public Relations				
	Sister Keller Clarke College	Sister Keller Clarke College	Sister Keller Clarke College	Sister Keller Clarke College
Librarian				
	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College
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Web Coordinator				
Sponsor Relations Coordinator				
Location:	U. Tenn Martin	Coe College	Chatham College	Taylor University

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	1984-85	1985-86	1986-87	1987-88
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Past President	Wally Roth Taylor University	Dudley Bryant Western Kentucky	Paul Pascoe Vincennes University	Jack Cundiff Horry-Georgetown
Treasurer	Harry Lykens Mary Institute, St. L	Harry Lykens Mary Institute, St. L	Maureen Eddins Hadley School Blind	Maureen Eddins Hadley School Blind
Secretary	John Jackobs Coe College	John Jackobs Coe College	John Jackobs Coe College	Dudley Bryant Western Kentucky
Board Members	Keith Pothoven Central College	Keith Pothoven Central College	Robert Hodge Taylor University	Robert Hodge Taylor University
At Large	Bob Renners Kenyon College	Carol Paris Goshen College	Carol Paris Goshen College	Ann Roskow Ister CC
Public Relations	Dough Hughes Dennison University	Wally Roth Taylor University	Wally Roth Taylor University	Wally Roth Taylor University
Librarian	Jack Cundiff Muskingum College	Jack Cundiff Muskingum College	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				
Web Coordinator				
Location:	W. Kentucky	Vincennet	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 1988 to 1992

	1988-89	1989-90	1990-91	1991-92
President	David Cossey Union College	Tom Warger Bryn Mawr College	David Redlawsk Rudgers University	Bill Wilson Gettysburg College
Program Chair	Tom Warger Bryn Mawr College	David Redlawsk Rudgers University	Bill Wilson Gettysburg College	Carl Singer DePauw University
Past President	Keith Pothoven Central College	David Cossey Union College	Tom Warger Bryn Mawr College	David Redlawsk Rudgers University
Treasurer	Maureen Eddins Hadley School Blind	Maureen Eddins Hadley School Blind	Tom Pollack Duquesne University	Tom Pollack Duquesne University
Secretary	Dudley Bryant Western Kentucky	Kathy Decker Clarke College	Kathy Decker Clarke College	Dagrun Bennett Franklin College
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Public Relations	Wally Roth Taylor University	Wally Roth Taylor University	Wally Roth Taylor University	Wally Roth Taylor University
Librarian	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				
Web Coordinator				
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 1992 to 1996

	1992-93	1993-94	1994-95	1995-96
President	Carl Singer DePauw University	Rick Huston South Carolina/Aiken	Mary Connolly Saint Mary's College	Paul Tabor Clarke College
Program Chair	Rick Huston South Carolina/Aiken	Mary Connolly Saint Mary's College	Paul Tabor Clarke College	Carl Singer DePauw University
Past President	Bill Wilson Gettysburg College	Carl Singer DePauw University	Rick Huston South Carolina/Aiken	Mary Connolly Saint Mary's College
Treasurer	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University
Secretary	Dagrun Bennett Franklin College	Dagrun Bennett Franklin College	Dagrun Bennett Franklin College	Dagrun Bennett Franklin College
Board Members	Mary Connolly Saint Mary's College	Gerald Ball Mars Hill College	Gerald Ball Mars Hill College	Rick Huston South Carolina/Aiken
At Large	Tom Gusler Clarion University	Tom Gusler Clarion University	Tom Gusler Clarion University	Tom Gusler Clarion University
Public Relations	Don Armel Eastern Illinois U.	Don Armel Eastern Illinois U.	Don Armel Eastern Illinois U.	Peter Smith Saint Mary's College
Librarian	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				
Web Coordinator				
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 1996 to 2000

	1996-97	1997-98	1998-99	1999-2000
President	Carl Singer DePauw University	Carl Singer(acting) DePauw University	Bill Wilson Gettysburg College	Dagrun Bennett Franklin College
Program Chair	Chris Schwartz Ursuline College	Bill Wilson Gettysburg College	Dagrun Bennett Franklin College	Carol Smith DePauw University
Past President	Mary Connolly Saint Mary's College	Mary Connolly Saint Mary's College	Carl Singer DePauw University	Bill Wilson Gettysburg College
Treasurer	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University
Secretary	Dagrun Bennett Franklin College	Dagrun Bennett Franklin college	Tom Gusler Clarion University	Nancy Thibeault Sinclair CC
Board Members	Richard Stewart Lutheran Theological	Richard Stewart Lutheran Theological	Nancy Thibeault Sinclair CC	Fred Jenny Grove City College
At Large	Rick Huston South Carolina/Aiken	Rick Rodger Horry-Georgetown	Rick Rodger Horry-Georgetown	George Pyo Saint Francis College
Public Relations	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College
Librarian	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				Rick Huston South Carolina/Aiken
Web Coordinator				
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 2000 to 2004

	2000-01	2001-02	2002-03	2003-04
President	Carol Smith DePauw University	Fred Jenny Grove City College	Nancy Thibeault Sinclair CC	Barry Smith Baptist Bible College
Program Chair	Fred Jenny Grove City College	Nancy Thibeault Sinclair CC	Barry Smith Baptist Bible College	George Pyo Saint Francis College
Past President	Dagrun Bennett Franklin College	Carol Smith DePauw University	Fred Jenny Grove City College	Nancy Thibeault Sinclair CC
Treasurer	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University
Secretary	Nancy Thibeault Sinclair CC	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College
Board Members	Barry Smith Baptist Bible College	Barry Smith Baptist Bible College	David Frace CC Baltimore County	David Frace CC Baltimore County
At Large	George Pyo Saint Francis College	George Pyo Saint Francis College	George Pyo Saint Francis College	Jim Workman Pikeville College
Public Relations	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College
Librarian	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator	Rick Huston South Carolina/Aiken	Hollis Townsend Young Harris College	Hollis Townsend Young Harris College	Hollis Townsend Young Harris College
Web Coordinator			Carol Smith DePauw University	Carol Smith DePauw University
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 2004 to 2008

	2004-05	2005-06	2006-07	2007-08
President	George Pyo Saint Francis College	Jim Workman Pikeville College	Lisa Fears Franklin College	George Pyo Saint Francis College
Program Chair	Jim Workman Pikeville College	Lisa Fears Franklin College	George Pyo Saint Francis College	Fred Jenny Grove City College
Past President	Barry Smith Baptist Bible College	George Pyo Saint Francis College	Jim Workman Pikeville College	Lisa Fears Franklin College
Treasurer	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Tom Pollack Duquesne University
Secretary	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College
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Public Relations	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College
Librarian	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris
Web Coordinator	Carol Smith DePauw University	David Diedreich DePauw University	David Diedriech DePauw University	Blair Benjamin Philadelphia Bible
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 2008 to 2012

	2008-09	2009-10	2010-2011	2011-2012
President				
	Fred Jenny Grove City College	Janet Hurn Miami U Middleton	Janet Hurn Miami U Middleton	Andrea Han U of British Columbia
Program Chair				
	Janet Hurn Miami U Middleton	Dave Fusco Juniata College	Andrea Han U of British Columbia	Tom Marcais Sweet Briar College
Past President				
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Treasurer				
	Tom Pollack Duquesne University	Tom Pollack Duquesne University	Dave Fusco Juniata College	Dave Fusco Juniata College
Secretary				
	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College
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	Andrea Han Miami U Middleton	Andrea Han Miami U Middleton	Mark Poore Roanoke College	Mark Poore Roanoke College
Public Relations				
	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College
Librarian				
	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				
	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris
Web Coordinator				
	Steve Weir	Steve Weir	Steve Weir	Steve Weir
Sponsor Relations Coordinator				
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Myrtle Beach

ASCUE BOARD OF DIRCTORS FROM 2012 to 2016

	2012-13	2013-14	2014-2015	2015-2016
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Program Chair				
	George Pyo Saint Francis College	Jeffrey LeBlanc U of NW Ohio	Terri Austin Roanoke College	Terri Austin Roanoke College
Past President				
	Andea Han U of British Columbia	Tom Marcais Sweet Briar College	George Pyo Saint Francis College	George Pyo Saint Francis College
Treasurer				
	Dave Fusco Juniata College	Dave Fusco University of Colorado	Mark Poore Roanoke College	Mark Poore Roanoke College
Secretary				
	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Kim Breighner Gettysburg College	Jean Bennett Coastal Carolina Univ
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	Jeffery LeBlanc U of NW Ohio	Luke VanWingerden USC Upstate	Bruce White The Apprentice School	Bruce White The Apprentice School
At Large				
	Mike Lehrfeld E. Tenn. State Univ.	Mike Lehrfeld E. Tenn. State Univ.	Mike Lehrfeld E. Tenn. State Univ.	Anthony Basham Berea College
Public Relations				
	Peter Smith Saint Mary's College	Peter Smith Saint Mary's College	Tom Marcais Sweet Briar College	Tom Marcais Sweet Briar College
Librarian				
	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown	Jack Cundiff Horry-Georgetown
Equip. Coordinator				
	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris	Hollis Townsend Young Harris
Web Coordinator				
	Steve Weir	Steve Weir	Steve Weir	Blair Benjamin Cairn University
Sponsor Relations Coordinator				
	Mark Poore Roanoke College	Mark Poore Roanoke College	Berte Thompson Messiah College	Jeffery LeBlanc U of NW Ohio
Location: Myrtle Beach		Myrtle Beach	Myrtle Beach	Myrtle Beach

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	2016-17	2017-18	2018-2019	2019-2021
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Program Chair				
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Past President				
	Jeffery LeBlanc U of NW Ohio	Terri Austin Roanoke College	Jean Bennett Coastal Carolina	M.J. Clark Lynchburg College
Treasurer				
	Mark Poore Roanoke College	Mark Poore Roanoke College	Brad Weaver Wabash College	Brad Weaver Wabash College
Secretary				
	Jean Bennett Coastal Carolina Univ	Carmen Morrison NC State College	Carmen Morrison NC State College	Carmen Morrison NC State College
Board Members				
	MJ Clark Sweet Briar College	Matthew Tyler Coastal Carolina Univ	Matthew Tyler Coastal Carolina	
At Large				
	Carmen Morrison North Central State	Jacqueline Stephen Mercer University	Terrie Bethea-Hampton Campbell University	
Public Relations				
	Tom Marcais Sweet Briar College	Tom Marcais Washington & Lee	Tom Marcais Washington & Lee	Tom Marcais Washington & Lee
Librarian				
	Jack Cundiff	Jack Cundiff	Jack Cundiff	Jack Cundiff
Equipment Coordinator				
	Hollis Townsend Young Harris College	Hollis Townsend Young Harris College	Hollis Townsend	George Warriner III Coastal Carolina
Web Coordinator				
	Blair Benjamin Cairn University	Blair Benjamin Cairn University	Blair Benjamin Cairn University	Blair Benjamin Cairn University
Sponsor Relations Coordinator				
	Jeffery LeBlanc U of NW Ohio	Tina Stuchell U of Mount Union	Tina Stuchell U of Mount Union	
Location:	Myrtle Beach	Myrtle Beach	Myrtle Beach	Online

Using Modern Chess Software for Opening Preparation

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Abstract

A wide variety of modern chess software products is available to the modern professional and amateur chess players alike, helping them improve their chess skills and prepare for online and traditional tournaments. These products include chess user interfaces (UIs), traditional Alpha-Beta (AB) and emergent Neural Network (NN) chess engines, game databases, opening databases and electronic books, chess-specific cloud services, tournament broadcast tools, online tutorials, tactical problem collections, and endgame tablebases (EGTBs). All of these tools except the last two categories can be used to work on opening preparation, an important component of chess training. In this paper, the author presents his computer-based approach to opening preparation tested in chess classes at the Russian School of Indiana for advanced beginner players. The materials used to develop the approach included game openings from the games played in the Free Open-Source Chess Engine Contest (FOSCEC) broadcast online by the author's CIT students at Purdue Polytechnic Columbus. We will discuss the choices of tools and equipment, how the more popular and/or promising opening variations were identified and analyzed, the lessons learned, and the future work.

INTRODUCTION

Chess is a classical turn-based strategy game played on an 8x8 physical or virtual board with white and black pieces (pawns, knights, bishops, rooks, queens, and kings). The game enjoys broad popularity worldwide, as its rules are pretty easy to learn, the design is well-balanced, and the gameplay can be a lot of fun. However, the task of mastering the deeper intricacies of chess presents a formidable challenge. Many software applications have been developed to implement chess as a video game on numerous electronic platforms and help millions of novices, seasoned amateurs, and chess professionals improve and maintain their skills. These applications include the following.

1. Chess engines capable of analyzing the game's positions and playing the game. They utilize variations of the traditional *Alpha-Beta (AB)* minimax algorithm, emergent techniques based on *Neural Networks (NN)*, and, most recently (since 2020), extremely successful hybrids thereof, such as Stockfish 12+ with *NNUE (Efficiently Updatable Neural Network)* for position evaluation (Stockfish, 2021).

2. Game databases, such as Mega Database (2020) of human over-the-board (OTB) games, Tim Harding's UltraCorr 2021 database of correspondence games (UtraCorr, 2021), and CCRL's database of games played by computer chess engines (CCRL, 2021).

3. Chess user interfaces (UIs) that facilitate communication between the user and the engine(s) and/or databases. They include both commercial products, such as ChessBase 16 (2021), and free solutions, such as Arena (2021) or Shane's Chess Information Database (SCID, 2021).

4. Chess tournament broadcast tools, such as Norman Schmidt's CCCC (2018).
5. Opening databases and electronic books for chess engines to use early in the game and for human players to explore and learn chess openings. They include the Cerebellum opening book for Brainfish by Thomas Zipproth (Cerebellum, 2021) and Fauzi Dabat's opening book (Fauzi, 2021).
6. Chess-specific cloud services, such as the ChessBase Engine Cloud (2021).
7. Tactical problem/puzzle collections, such as those available at chess.com (2021) and lichess.org (2021).
8. Endgame tablebases (EGTBs), such as Ronald de Man's Syzygy (2021) and the pioneering 7-piece Lomonosov tablebases (2012) calculated at the Computer Science Department of Moscow State University.

A chess game is traditionally divided into three stages: *opening*, where a lot of attention is paid to piece development and control over the center of the board; the *middlegame*, with its tactics and strategies of attack and defense; and the *endgame*, where few pieces are left on the board, so the kings become active and pawn promotion gains utmost importance. All of the software tools listed above except the last two categories can be used to work on opening preparation, an important component of chess training.

In this paper, the author, an International Chess Federation (FIDE) National Instructor, presents his computer-based approach to opening preparation tested in chess classes taught online at the Russian School of Indiana (2021). The materials used to develop the approach include openings from the computer chess games played in the Free Open-Source Chess Engine Contest (FOSCEC, 2014) broadcast online by the author's CIT undergraduate students at Purdue Polytechnic Columbus as part of the chess-related projects described in detail in the author's previous work (Gusev, 2018).

In the next sections of the paper, we will discuss the choices of tools and equipment, how the more popular and/or promising opening variations were identified, ordered, illustrated, and analyzed. We will then present our conclusions and discuss plans for the future work.

TOOLS AND EQUIPMENT

Even though many modern chess engines have been ported to other platforms, such as Linux and Android (Abshire and Gusev, 2015), the author used Windows laptops, desktop workstations, and servers for this project to take advantage of the convenient chess GUI tools — ChessBase 13, Deep Fritz 14 (2014), and Arena 3.5.1. The author enhanced the truly massive Computer Chess Rating Lists (CCRL) database of 3,172,504 games played in 2005-2019 by adding 215,485 engine games from numerous other sources, including 4 seasons of FOSCEC, 44 themed opening tournaments ran by the author in 2012-2019, the first 15 seasons of the Top Chess Engine Championship (TCEC) (2021), the Chess Engines Grand Tournament (CEGT) archive, 8 Computer Chess Championship (CCC) events (CCC, 2019), the FastGM (2021) archive, World Computer Chess Championship (WCCC) and World Chess Solving Championship (WCSC) events held by the International Computer Games Association (ICGA) (2021), the AlphaZero vs. Stockfish 8 match, Frank Quisinsky's FEOBOS project (2018), etc. This tool dubbed CCRL+ was then used, along with Mega Database 2019 (7,519,541 Over the Board (OTB) games)) and the engine evaluations from the ChessBase Cloud, combined with the local Cfish evaluations (Cfish, 2017) to identify the more popular and/or promising variations to bring to the attention of the author's advanced beginner chess students. This part of the work was completed using ChessBase 13.

For the purpose of illustration, the popular variations were extended using Brainfish version from February 8, 2019 configured to use its Cerebellum opening book under Arena 3.5.1. The details of the process will be explained in the subsequent sections.

The rationale for tool and equipment selection, besides the obvious availability considerations, involved the realization that the current situation is opposite to what the author experienced back in the 1980s, when it was hard to find comprehensive information on chess openings. We have too much data! No person can view, much less analyze, millions of games. Some of the modern Big Data is of much better quality than what was available in the old days, while some other information is just as unreliable as it used to be. We have selected tools and equipment suitable for quick massive statistical processing of the chess game data.

IDENTIFICATION OF POPULAR VARIATIONS

The two big categories of what the students of chess should learn are *what to do* and *what not to do* in the openings. We will concentrate on the former aspect, leaving the latter to the authors of books on opening traps and catastrophes, such as (Wall, 2010). That other kind of books has great entertainment value, but should not be substituted for serious opening research of more practical value.

Initially, we aimed at selecting 1,023 popular and/or promising variations, this "magic number" being the limit of how many games Arena 3.5.1 can play in one match. Our rule of thumb was, therefore, to stop splitting Mega Database 2019 variations once they were down to approximately 7,519,541:1,023 = 7,350 games per variation. We took into consideration the percentages of points won by the white and provided by ChessBase, along with the cloud and local engine evals. The *Principal Variation* (PV) is a sequence of moves that an engine considers best and therefore expects to be played. The number of PVs to be analyzed locally in a given position remained set at 5 most of the time, so as to explore at most 5 possibilities at a time.

As expected, the variations would not split evenly on popularity. Furthermore, even as we kept track of how many variations we expected to pick starting from each position, we kept encountering "promising" continuations, which, while not being popular, showed good percentages and good computer evals. Once we were down to four variations to pick starting from a given position, we were able to complete selection directly, with a little bit of effort.

One major nuisance that made our recursive process more complex was that, from time to time, we would stumble upon a popular *transposition* of moves leading to the same position that we had encountered or were about to encounter elsewhere in the search tree. (Not all move transpositions are legal, and not every legal transposition of moves is safe.) We kept track of such popular transpositions and added their contributions to the corresponding positions to allow more branching to happen afterwards, according to the total combined popularity of the position.

With those practical considerations in place, the manual selection process produced a set of 1,442 popular and/or promising variations and 167 popular transpositions. Given that the first move 1. e4 occurs in 50.9% (~1/2) of the OTB games, and the move second to that in popularity, 1. d4, happens in 31.9% (~1/3) of the games, the variations were divided nearly uniformly into six volumes:

> Volume 1. Sicilian Defense (1. e4 c5) — 304 variations (21.1% of all selected variations) to cover 20.4 % of all OTB games in Mega Database 2019.

Volume 2. Open Game (1. e4 e5) — 219 variations (15.2% of variations) to cover 12.4% of the games.

Volume 3. Non-Sicilian Semi-Open Games: 1. e4 e6 (French Defense), 1. e4 c6 (Caro-Kann Defense), 1. e4 d6 (Pirc Defense), 1. e4 d5 (Scandinavian Defense), 1. e4 g6 (Modern Defense), 1. e4 Nf6 (Alekhine Defense), 1. e4 Nc6 (Nimzowitsch Defense), 1. e4 b6 (Owen Defense), and 1. e4 a6 (St. George Defense) — 254 variations (17.6% of variations) to cover 18.0% of the games.

Volume 4. Indian Defense (1. d4 Nf6) — 249 variations (17.3% of variations) to cover 17.0% of the games.

Volume 5. Non-Indian responses to Queen's Pawn Game (1. d4 followed by moves other than 1… Nf6) — 238 variations (16.5% of variations) to cover 14.8% of the games.

Volume 6. Openings that do not begin with 1. e4 or 1. d4: 1. Nf3 (Reti Opening), 1. c4 (English Opening), 1. f4 (Bird Opening), 1. g3 (Benko Opening), etc. — 178 variations (12.3% of variations) to cover 17.2% of the games. (~0.2% of the games "fell through the cracks", due to their very unusual openings. This number will grow considerably, once we take into consideration unusual continuations ignored later in the tree search.)

ORDERING THE POPULAR VARIATIONS

Many traditional books on chess openings, including the famous Encyclopedia of Chess Openings (ECO, 2000-2008), begin their discourse with rare variations to proceed gradually to the more common ones. Even as we stored the ECO codes assigned automatically by ChessBase and Arena, we have opted for the lexicographic ordering based on our hex *line codes* that capture priorities of the variations according to their Mega Database popularity, with some exceptions made for promising variations. Figure 1 shows a fragment of an Excel worksheet illustrating our greedy Bottom Line Up Front (BLUF) approach, where the "bottom line" is the *first line*, in the conventional chess terminology.

For example, Line 300 (not seen in the figure) has the hex line code of 11C, where the hexadecimal digit C corresponds to the decimal number 12. The corresponding variation is 1. e4 c5 2. b4 (B20 Sicilian: Wing Gambit). Indeed, 1… c5 is the most popular response to 1. e4, and 2. b4 is the 12th most popular reply to that, after 2. Nf3 (1), 2. Nc3 (2), 2. c3 (3), 2. d4 (4), 2. f4 (5), 2. d3 (6), 2. c4 (7), 2. b3 (8), 2. Bc4 (9), 2. Ne2 (A), 2. g3 (B), and before 2. a3 (D). Even though we do not envision the need to consider more than 15 continuations in a practical opening position, we could use subsequent letters of the English alphabet after F (the largest hexadecimal digit corresponding to the decimal 15) if we needed to — G for the hypothetical 16th choice, H for the 17th choice, and so on, thus trivially extending our approach.

Notice that Line 1 in Figure 1 corresponds to the ECO code of B98 (Sicilian: Najdorf, 7.f4 Be7), which means that the information on this line would be found near the end of the second volume (Volume B) of the Encyclopedia of Chess Openings. This line was played in 12,360 Mega Database 2020 OTB games (0.154%), 8,580 UltraCorr 2021 correspondence games (0.379%), and 3,196 CCRL+ engine games (0.094%).

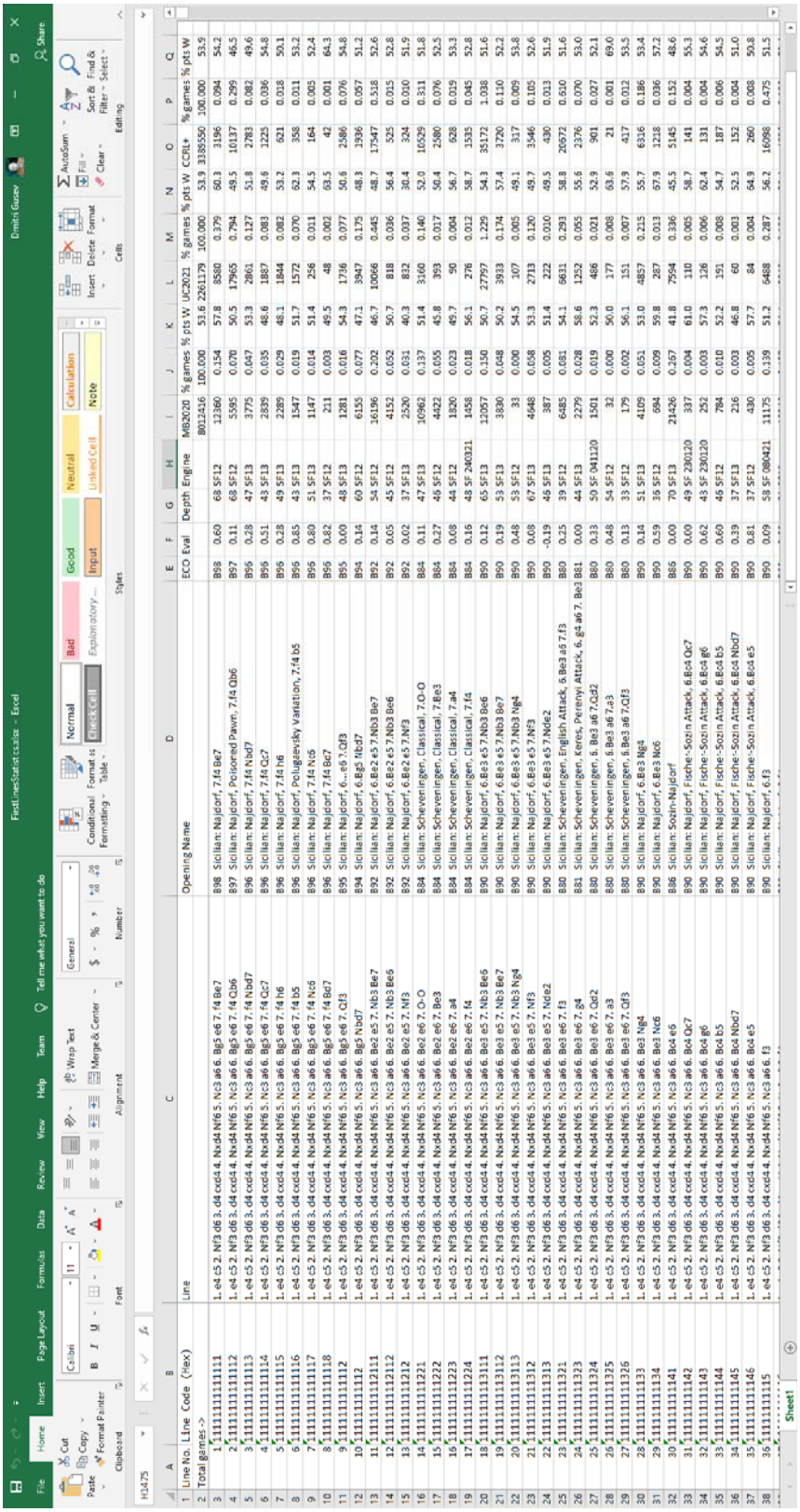

Figure 1. Lexicographic ordering of the selected popular variations by hex line codes.

For comparison, Line 300 (Wing Gambit) has occurred in 5,306 Mega Database 2020 games (0.082%), 1,528 UltraCorr games (0.068%), and 1,268 CCRL+ games (0.037%). Notice that the end positions of Line 1 and Line 300 are not at the same tree depth relative to the classical starting position. The term *ply* in chess denotes half of a move. Line 1 goes 14 plies deep, while Line 300 is only 3 plies deep. Arena screenshots of the end positions of these two selected popular variations are shown in Figure 2.

Figure 2. End positions of 2 selected popular variations — Line 1 (top) and Line 300 (bottom).

Our job is not done here, because we haven't given our chess students an idea how the events may unfold in each of the selected popular and/or promising variations. Clearly, no advanced beginner is going to study thousands (or hundreds) of games per variation, and neither should they attempt it. Our approach to extending the selected popular variations using Brainfish with Cerebellum will be explained in the next section of the paper.

ILLUSTRATING THE POPULAR VARIATIONS

We ran Arena 3.5.1 matches of Brainfish version from February 8, 2019, configured with its Cerebellum opening book playing blitz games of chess against itself to extract the first lines for the previously selected 1,442 popular and/or promising variations and 167 popular transpositions. Brainfish was configured to always play the best move from its opening book until it ran out of the book moves. The way Arena records the games has allowed us to distinguish Cerebellum's first line continuation of the selected popular variation from how the middlegame and endgame stages subsequently played out under the short time control of 3 minutes per game plus 2 seconds of time increment per move (3' +2" in the conventional chess notation).

Figure 3 shows a position after Move 18 and chess notation for Game 111 of Volume 1 of the resulting First Lines collection. The game illustrates Line 111 of the selected popular variations set, our hex line code 11121111111111111111, ECO code B33, Sicilian: Pelikan, Chelyabinsk, 9. Nd5 Be7, 11. c3 O-O.

Figure 3. Screenshot of Game 111 of the First Lines collection viewed in ChessBase 13.

You can observe that Brainfish has extended the 11-move (22-ply) popular variation with its 13-ply Cerebellum first line. After that, you see a series of blitz game moves, starting with the 18th move of the black, 18… Qd7, complete with its computer evaluation of -0.14 at a modest depth of 26 plies and the expected PV. The game result was a draw, owing both to the nearly even evaluation of the end position of the popular variation (0.26 at Depth 49 by Stockfish 13) and to the exactly even strength of the computer opponents (Brainfish playing against itself). Interestingly enough, not a single game from Mega Database 2020, UltraCorr 2021, or CCRL+ has reached the position after Move 18. 17. a3 appears to be a novelty.

We decided to look at the win/draw/loss statistics of the 1,442 main games of the First Lines collection grouped into six Volumes. The stats by Volume are illustrated in Figure 4.

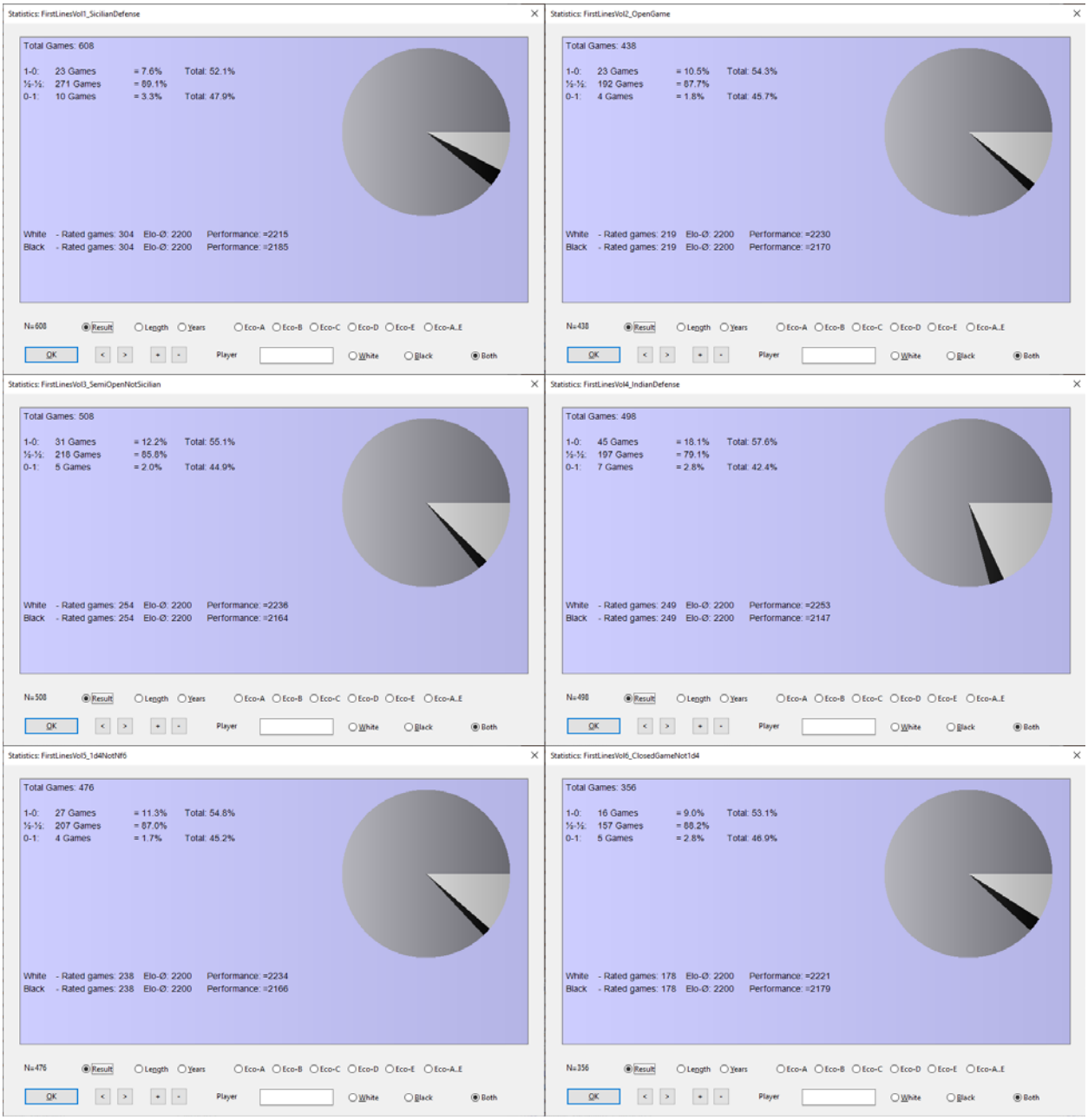

Figure 4. Win/draw/loss statistics for the six Volumes of the First Lines collection of games.

The numbers of "Total Games" displayed above include the selected lines of popular variations that have no game results recorded for them. The stats in Figure 4 confirm that our approach to selecting variations was sound, overall. Indeed, the white got 53.6% of points in Mega Database 2020, 53.9% in UltraCorr 2021, and 53.9% in CCRL+ (with our Brainfish games added). In the next section, we will present and discuss more detailed statistical analysis of the material of Volume 1, Sicilian Defense.

ANALYSIS OF THE POPULAR VARIATIONS

For the popular variations in Volume 1 of our First Lines collection (Sicilian Defense), we have retrieved numerous computer evaluations, primarily by Stockfish 12 and Stockfish 13, from ChessBase Engine Cloud, and filled the remaining few gaps with our local Stockfish 12 evals. We have added evaluations for 30 transpositions and 48 extra variations aimed at the students interested in in-depth research of the Sicilian. The depths of the engine analysis ranged from 32 to 82 plies, with the median value of 47 plies. We then used Excel to produce a linear regression fit of the computer evals to the corresponding percentages of points scored by the white in the CCRL+ database. The resulting graph is shown in Figure 5.

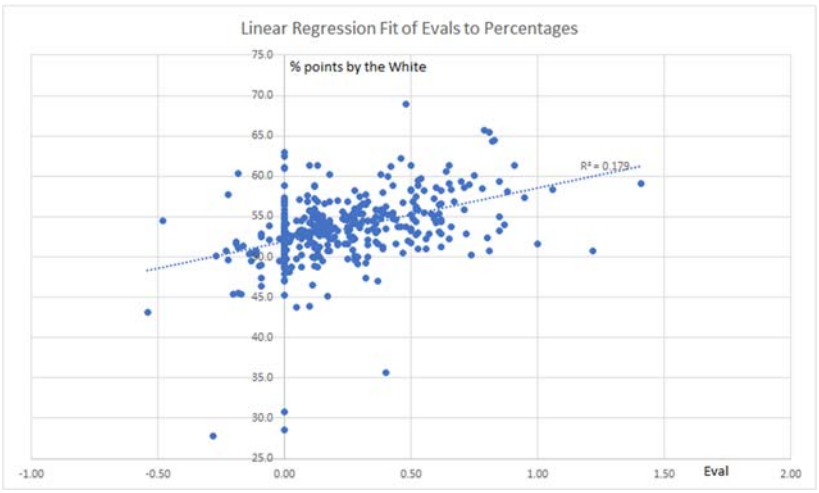

Figure 5. The linear regression fit of evals to CCRL+ percentages for Vol. 1 of First Lines.

The most curious observation here is that the engines that played with the white pieces in CCRL+ games have managed to score so well in the variations given the zero eval ("even game") by Stockfish 12 or Stockfish 13. Our follow-up analysis that seems to indicate that the computer evals for nearly even positions seemingly trend toward zero as the depth of computer search increases is illustrated in Figure 6.

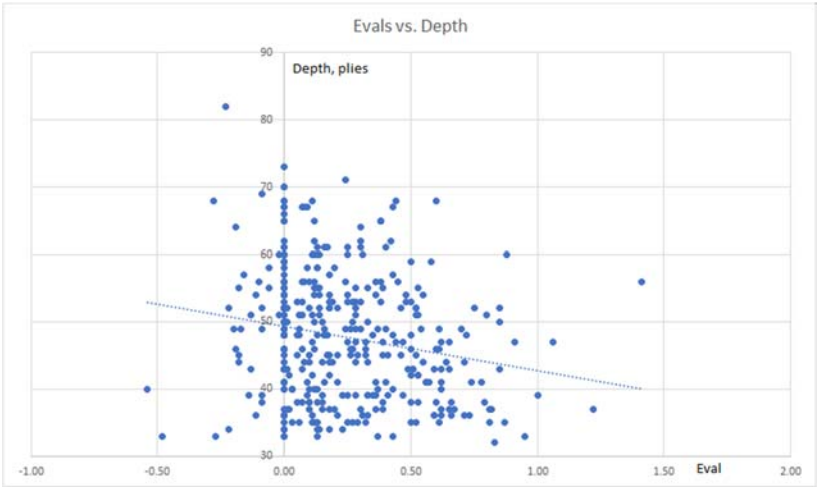

Figure 6. Evals vs. Depth.

In other words, the chess engine sees fewer and fewer chances of beating itself starting with a nearly even position as its analysis gets deeper and deeper. This does not worsen its chances of beating a weaker engine starting

from the same position. It's also important to realize that the computer eval of zero fails to distinguish a game with even chances from a "dead draw" that's practically unavoidable.

From a practical player's standpoint, it appears that some of these high-depth zero evals are misleading, as they make their variations look less promising in comparison to some others that have not been analyzed to the same depth. Meanwhile, the assessments derived from the statistics of Monte Carlo tree search (CPW, 2021) may sometimes be proven unreliable by encounters with hard-to-find refutations that lurk like the proverbial "skeletons in the closet", ready to jump out and wreak havoc on the board. In other cases, evaluations may optimistically reflect existence of a narrow path to an acceptable position that has to be navigated extremely carefully to avoid the many "landmines". A player naturally gifted with an exceptionally good memory may still choose to learn and memorize the intricate details to be able to play the corresponding variation successfully against those less knowledgeable.

We have also estimated that the main lines of Volume 1 were played in 86.1% of the Mega Database 2020 OTB Sicilians and 87.7% of the UltraCorr 2021 correspondence Sicilians.

CONCLUSIONS AND FUTURE PLANS

The First Lines collection is a novel and useful tool for showing chess students a map of the modern openings' complicated landscape to help them pick openings and variations that suit their emerging individual styles for future in-depth study. The collection can then serve them as a good starting point for building their personal opening repertoires by concentrating on some of the openings and specific variations when playing the white pieces and preparing to play other openings and variations with the black pieces. Many unwanted openings and variations can be avoided, sometimes by cleverly selecting the right transposition of moves. We believe that it is to the students' advantage to learn what works well first, along with the general principles of development in the opening, and only then study opening traps for fun at their leisure. At the same time, the First Line collection helps us avoid the situation in which a trainer would naturally tend to push students toward the openings that the trainer knows best and prefers to play. Those openings may or may not fit the students' styles — attacking, defensive, or balanced.

The author plans to continue to refine and update the First Lines collection. Among possible future projects, the author considers the possibility of converting the First Lines collection into a modern book on openings for beginners and chess instructors, in an electronic and/or traditional paper format.

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Presenter's Bio:

Dmitri A. Gusev is an Associate Professor in Computer and Information Technology (CIT) at the Purdue Polytechnic Institute. His primary research interests are imaging, graphics, game development, visualization, and computational linguistics.

Review of *People Before Things* by Chris Laping

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Abstract

People Before Things delivers an entertaining and informative overview of factors that impact why some organizations fail when implementing new technologies and others succeed. The author, Chris Laping, has more than 25 years of experience in information technology and business transformation. All leaders of technology have experienced push back when implementing new technologies, and this book provides insight on assisting leaders in making "change" more transformative. This book is an excellent resource not only for technology leaders and enthusiasts, but it is beneficial for all leaders of any organization. In reviewing this book, the principal criteria included advice, content, organization, and reference sources. Laping discusses his own real-world experiences that consist of failures and successes of leading IT change efforts while providing support and advice to assist readers in becoming change leaders.

During the session, presenters will discuss best strategies when implementing change as shared by Chris Laping.

Presenters' Bios:

Dr. Ashley Johnson-Holder is an instructor and coordinator of literacy at Fayetteville State University. She teaches courses at the undergrad and graduate levels. Her research interests include literacy, technology, teacher prep assessments, and digital and informational literacies.

Dr. Terrie Bethea-Hampton is an instructor and coordinator of technology at Campbell University. She is a National Board Certified Professional Teacher and teaches courses at the undergrad and graduate level. Dr. Bethea-Hampton is a certified online instructor for NC Virtual Public Schools.

Keywords: Change Leaders, Alignment, Design, Capacity

Introduction

People Before Things delivers an entertaining and informative overview of factors that impact why some organizations fail when implementing new technologies and others succeed. The author, Chris Laping, has more than 25 years of experience in information technology and business transformation. All leaders of technology have experienced push back when implementing new technologies, and this book provides insight on assisting leaders in making "change" more transformative. This book is an excellent resource not only for technology leaders and enthusiasts, but it is beneficial for all leaders of any organization. In reviewing this book, the principal criteria included advice, content, organization, and reference sources. Laping discusses his own real-world experiences that consist of failures and successes of leading IT change efforts while providing support and advice to assist readers in becoming *change leaders.*

Overview of Book

Chapter 1 is centered around Patrick Lencioni's framework, which proposes that team members must feel prepared, nurtured, and supported for a change to be successful. Stemming from this belief, the author shares that failure is not a choice people make, and that failure is a positive step in the process of reaching success.

Chapter 2 is focused on change leaders as it opens up stating that change leaders are different than everyday leaders, as they not only provide communication and vision, but they are patient as their team builds their new knowledge base. This is where three terms discussed frequently, *alignment, design, and capacity* are brought to light. Laping mentions that these three terms have more influence on success than any others. Alignment means that leaders must inform their team of why a change is happening and needed. At the same time, design refers to making sure the process in the transition is easy for individuals to comprehend. Lastly, capacity implies that leaders grant their members the time needed to master the change, which may mean taking some tasks from their roles and responsibilities. When these three terms (alignment, design, capacity) are carried out during change, people are activated during the process and become more loyal and engaged.

Chapter 3 is titled "*Absence Doesn't Make the Heart Grow Fonder,*" which reminds leaders that they must be present during change and provide consistent support to their team. Chapter 4 goes back to alignment, as the author encourages the reader to understand that when team members know the "why" for the change, the change then becomes transformative as individuals will want to make a difference for the organization. If there is misalignment, the leader should take the initiative to pause and clean up the mess before continuing to the next step, which is design. "Design" is the focus of Chapter 5 as the author restates that leaders must be present during this process to provide clarity when confusion may arise. When leaders are present, this fosters the implementation to stay on track. Human-centered design is also a considerable focus of chapter 5 as Laping reemphasizes that leaders must demonstrate patience and communication during change. The author encourages leaders to listen to people's needs rather than force-feed them during implementation. When leaders show their team members that they are genuinely interested in making their lives easier, this indicates that their leadership style enables them to put people before things.

Multitasking is a popular exercise of today's generation, as they think this leads to more success, however, Laping points out that research supports that this activity is limiting individuals as our brains are not capable of multitasking. This leads to the discussion of capacity in chapter 5, as the author encourages leaders to give team members ample time to learn the new technology being implemented fully. When decks are not cleared, employees resist the change and hate coming to work.

Chapter 6 is all about the Vital Few, which speaks volumes to the success of a new initiative, as this implies that leaders must make sure that employees are only bothered with the critical elements of the business while learning the change. Individuals who are bothered by unnecessary tasks in the workplace become exhausted when trying to uphold these responsibilities while managing a transition. Laping points out that laziness is often confused by exhaustion when change is taking place in an organization.

Chapters 7 and 8 lead the reader through factors affecting why some people fail at change. Leaders must foster communication during transitions, and communication must be present to activate people for change and offered in different formats to meet employees where they are. For example, while millennials may prefer texting or facetime for support, other generations may appreciate a face-to-face conversation or a phone call. This method creates effective communication, which eliminates noise and disengagement during a change adoption.

Chapter 9 ties back into chapter 1, reemphasizing that failure is learning. The author encourages leaders to embrace failure in an organization as this will assist them in being change leaders. Change leaders also foster a culture of peer coaching, modeling, and support as team members like to learn from others and share their knowledge. Chapters 10 and 11 wraps up the focus of the book as Laping encourages readers to offer a listening ear when change is underway, which helps leaders win the hearts of their teammates. He goes on to share that leaders must show empathy when team members struggle with technology and offer long-term support, which fosters engagement and participation.

Implications for Leaders

Overall, this is a meaningful and informative text regarding the factors that assist organizations in the successful implementation of adopting change. Strategies such as Pat's framework and human-centered design are discussed to help leaders in the successful implementation of change. This text has the potential to broaden the knowledge of leaders and assist them in becoming change leaders. This text is accessible and an easy read for individuals wanting to enhance leadership skills and assist them in becoming transformative. It would be beneficial to add this text to college courses that focus on leadership and organizational management.

Recommended Citation

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Roundtable Panel Discussion: LMS Plugins and LTI Integrations

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Abstract

This session provides an opportunity to discuss and hear about how other institutions are handling LMS Plugins and LTI Integrations. This includes administration, deployment, licensing, suggestions, and perhaps unpredictable complications.

Presenter's Bio:

Anthony Basham is the LMS Coordinator/Projects Coordinator at Berea College. Anthony has many years of experience working with faculty using cutting-edge educational technology with teaching and learning in the emerging and evolving classroom environment.

Using a Learning Management System as a Resource for Students in your Major

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Abstract

This presentation will cover the use of a learning management system to supply majors in a program with the information, materials, and forms that they need to complete their degree. Setting up this type of site for majors also allows for messaging and announcements to be sent to students in the degree. In addition, the site provides the opportunity for majors to begin networking with other students in their program. This networking is especially important for degrees that are offered virtually. Course and textbook information can be provided as well as job and internship opportunities. Tips on using a learning management site, how to get it set up, and ideas for material to include will all be covered. In addition, ways of engaging students in the use of the site will also be discussed.

Presenter's Bio:

Dr. Marna Burns teaches psychology and human services courses at the College of Professional Development of Mercer University. She has also served as Human Services Program Coordinator for over 10 years. For fun she trains her dogs (standard poodles) in obedience, scentwork, parkour, and tricks.

Blackboard Exemplary Course Program (ECP) – Are Your Courses "Exemplary?" - A Focus on the ECP Rubric: An Overview

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Abstract

If you teach entirely online or web-enhanced, building your courses using a scholastically proven method incorporating best practices of teaching online pulled from 20+ years of Blackboard, Inc. experience is a logical consideration. Goal: Facilitate student success in an online environment!

The Blackboard Exemplary Course Program (ECP) Rubric will be used as the main reference point for exemplary practices in Course Design, Interaction and Collaboration, Assessment, and Learner Support. We will cover the Who, What, and Why of the ECP Rubric!

Participants will leave with tips and tricks to build a new course or update an existing one based on established quality standards. (Note: While the ECP was applied using Blackboard Learn, this session is also appropriate for those using the other Learning Management Systems (LMS) such as Blackboard Ultra, Moodle, etc.)

Presenter's Bio:

I have taught 20+ years in the Computer and Information Technologies field with over 10 years of experience teaching online using Blackboard and related Learning Management Systems. I recently earned the Blackboard Exemplary Course Program award, plus the KCTCS Optimizing Online Learning program.

Teaching Computer Programming in Higher Education Using Storytelling

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Abstract

Computer programming is an essential skill in computer science. It is important to identify a good method of teaching computer programming to students. We have learned that Scratch is the most effective tool for teaching programming in K-12. Alice is also used at many colleges and universities for beginners in programming courses. Scratch or Alice uses storytelling. Storytelling and programming are considered the ideal combination when introducing programming concepts beginners. Storytelling motivates programming and is a way of presenting the basic concepts behind object-oriented programming. We discuss how storytelling is applied to teach computer programming in higher education. Existing programming teaching methods focus on how to teach. Instead, we need to encourage students to grasp important concepts in algorithms or programming languages by relating concepts to real-life examples. The important concepts should be seen in the context of real-life examples using storytelling. This paper presents a computer programming teaching method with storytelling, examples, techniques, advantages, and disadvantages. We believe this paper provides educators with a means of using storytelling for computer programming in higher education.

Presenter's Bio:

Namyoun Choi teaches computer science as an assistant professor at Milligan University in Tennessee. She received her Ph.D. and a master's degree from Drexel University in Pennsylvania and her B.S. degree from Ewha Womans University in Korea.

Teaching Amazon Web Services (AWS) Certification Courses Online

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Abstract

Is cloud computing the future of data infrastructure? The answer is absolutely. When a company can save 50% to 75% (or more) on its IT infrastructure costs, converting to a cloud solution is a great option. One result is that now and in the future, the demand for cloud-trained IT professionals is high. Starting salaries for Cloud certified IT professionals ranges from $80, 000 to over $100,000 a year. To meet this demand, Amazon Web Services (AWS) has created two educational entities, Amazon Educate and the AWS Academy. Both services seek to create more AWS certified IT professionals. This presentation will cover three major topics. First, the presenter will describe the journey from learning about the AWS Academy to certification of Ashland Community and Technical College (ACTC) as a member institution of the Academy. Second, the journey of ACTC getting approval for a new program in Cloud Computing. Finally, attendees will see how the AWS curriculum has been integrated into a Blackboard course for AWS Cloud Practitioner certification.

Presenter's Bio:

Randolph Cullum is a graduate of Marshall University and the Florida Institute of Technology. He is currently the Coordinator of the CIT program at Ashland Community and Technical College. He is also the Chair of the CIT Curriculum Committee for the Kentucky Community and Technical College System.

Proper Preparation Planning for Extra Credit at the Start of an Online Class

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Abstract

The end of semester extra credit ask can be a recurring problem in some classes. One way to help prevent that is to create a suite of extra credit activities tailored to advancing the goals of the course. In a one credit, online library course, LIBR 103, a set of extra credit activities was made available every week for students to complete, or not, on their own time. The extra credit activities were either solo, online games on information literacy topics, or activities that encouraged student-to-student interaction in the course management software message boards. This presentation will discuss how the activities were chosen or developed, how they advanced the learning outcomes of the course, and what was learned for future semesters. Attendees will come away with ideas for creating and structuring extra credit activities that support course learning objectives in an online class.

Presenter's Bio:

Kimberly Foster is an Information Literacy Librarian at Coastal Carolina University. She teaches LIBR 103, provides library instruction, and develops tools to support student, faculty, and staff research.

Using 360° Videos to Enhance the Student Experience

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Abstract

360° videos are videos where all directions of the space are filmed simultaneously. This technology allows a viewer to pivot around the location where the camera is present. For educators, this technology allows them to create more immersive video experiences for students without the requirement of a virtual reality headset. Using 360° cameras, educators can record outdoor spaces, and in-door locations, which cannot be visited on a field trip, and students can view the entire setting. In this presentation, the presenter will share about her use of 360° videos and give the audience tips and tricks for how to use this technology themselves. Throughout the presentation, the speaker will show different examples of 360° videos to give the attendees ideas for how they may wish to use the technology.

Presenter's Bio:

Lauren Hays Ph.D., is an assistant professor of instructional technology at the University of Central Missouri. In this role, she teaches courses in the areas of research, leadership, and emerging technologies. Prior to her current position, she worked as an academic librarian.

Change Your Mind...Create New Results: The Neuroscience of Change

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Abstract:

There is a science behind how to engage our brain to change, in order to demonstrate a next level of success in such areas as innovation, productivity, leadership and influence, and stress reduction.

This ground-breaking content, developed by Dr. Joe Dispenza, is based on 25 years of research in neuroscience and is now making its way into corporations and organizations worldwide.

You will be introduced to a neuroscience-based approach to change and creating next-level results and outcomes.

In this interactive presentation, you will learn how to:

- Use a model for change that will immediately enable you to access a greater level of your potential.
- Think greater than your current environment and circumstances to achieve your desired results.
- Go from living in Survival to living in Creation.
- Use a Tool for overcoming any challenge or obstacle to produce your desired results and outcomes.

Presenter Bio:

Judy has 20 years of corporate training and leadership experience in optimizing global teams for top organizations in industries such as pharmaceutical, information technology, and manufacturing. Her company, Evolution Solutions, is now teaching the neuroscience of change to companies worldwide.

Blending Roles and Pushing Forward: Opportunities in Supporting Learning during COVID and Beyond

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Abstract:

In this roundtable discussion, I'll share how my role's evolvement led to professional growth and how you can use my experience to grow yourself and (or), support your team.

How will this session help the participants? The learners will walk away with a short toolkit of "things you can do to maintain your professional growth and "to stay slightly sane." This is my personal toolkit-work in progress.

Background-my role before COVID hits-moving forward; now you "have to do this." Learn about online and blended course delivery, balancing keeping on top of profession and sharing suggested best practices with the group, being an ambassador for a large organization-and using my volunteer work in Open Education to support the team.

Presenter's Bio

Irene Knokh has been the Instructional Design and Technology Board Editor, World Languages Associate Editor (Russian), and Professional Development and Coaching Board member for several years with Merlot.org.
Irene is an Instructional Designer (Instructional Learning Senior), and Program Coordinator in the Department of Professional Development and Education for Nursing at the University of Michigan Hospital System. She consults staff, nurses, nurse educators, and nurse specialists, in her department and in the hospital on topics such as engaging learning, teaching, instructional design and technology. She's been in instructional technology and design field for over 10 years.
Irene co-leads a campus Instructional Special Interest Group and is a volunteer in the Teaching and Learning with Technology organization on campus. She regularly teaches workshops through the Teaching and Technology Collaborative at the University of Michigan on subjects from Qualtrics to MERLOT! She gives follow up volunteer teaching/tech consultations to her campus workshop attendants. She is a peer reviewer for the Emerging Technologies for Online Learning International Symposium (Joint Symposium for the Sloan Consortium and MERLOT), and Virtual Worlds Best Practices in Education Conference.
She's also a reviewer for Innovations in Education and Teaching International Journal, and EDUCAUSE, in addition to being EDUCAUSE Ambassador, and a blog writer.
Irene received her B.A. from Eastern Michigan University with honors in General Studies, German, and Sociology, a minor in French, and her M.A in Sociology from Eastern Michigan University. She received her M.Ed. with an emphasis on Instructional Technology and a Graduate Teaching Certificate from Wayne State University.

A Systemwide LMS-Based System for Supporting Student Mental Health & Wellbeing

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Abstract:

In recent years, higher education has become increasingly aware that positive mental health and wellbeing is key to academic success (Keyes et al., 2012; El Ansari & Stock, 2010). Yet despite increased attention to these challenges, many students are not aware of and do not know how to access resources for supporting their mental health and wellbeing (UBC 2019 undergrad experience survey). Further, while instructors recognize that student wellbeing is key to academic success (Keyes et al., 2012; El Ansari & Stock, 2010) and want to address this issue, they are often unsure how to do so systematically. In this session, we'll discuss some of the mental health and wellbeing challenges students face along with the approach the University of British Columbia took to develop a Student Learning and Wellbeing module that was integrated in Canvas. The module, a collaboration between multiple central support units, was piloted by ~ 40 instructors (from a variety of disciplines) teaching more than 50 courses. We will share the development process, informal feedback received from instructors and students about the module's impact (due to Covid-19), and changes made to the module as a result of Covid-19 to support remote teaching and learning.

Presenters' Bios:

Marie provides leadership in the design and development of courses by collaborating with instructors to support their teaching goals. She works with faculty to identify needs, recommend and implement solutions, and support the evaluation of the changes.

As Learning Commons Coordinator, Emma manages the development and delivery of various programs and services in the Chapman Learning Commons at UBC-Vancouver that support and enhance students' learning and academic growth, leadership, and engagement.

Using Zoom Breakout Rooms to Facilitate a Large Number of Student Presentations in a Nursing Research Course

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Abstract

The COVID-19 pandemic has dramatically changed education with the rise of virtual learning. As a result, educators created innovative ways to facilitate learning that required replacement of the traditional F2F approach while still providing an enhanced learning experience. The purpose of this proposal is to present an exemplar approach of using Zoom breakout rooms to effectively deliver a large number of student presentations during a 3-hour class. A nursing research course enrolled with 110 students utilized the Zoom breakout feature to deliver student groups' end-of-semester projects. There were 30 projects with 3 to 5 students per group. There were 6 faculty in the course who evaluated 6 pre-assigned student groups on presentation day. The course coordinator, who was also included in the number of faculty in the course, created a master worksheet in Excel that denoted arrangement of student groups and faculty for presentation day. There were 8 breakout sessions with transitions between breakout rooms occurring every 15 minutes. The design of the large group presentations using Zoom breakout rooms was an innovative way to facilitate learning and demonstrated how a technology tool can be expanded to achieve learning objectives.

Presenter's Bio:

Dr. Natasha Laibhen-Parkes has facilitated student learning by "teaching with and about technology." As a result, she has intentionally incorporated various technologies in the classroom to support the teaching-learning process to better prepare her students for the nursing workforce.

All the Power of Amazon Web Services – For Free

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Abstract

Over the past few years at ASCUE, we've had a variety of presentations that focus on leveraging various Amazon Web Services for cloud computing. What if you could access all that power at no cost to you or your institution?? Sounds amazing, right?! It's possible through a program Amazon offers called AWS Educate. If you enroll your campus as a member institution, your faculty and students can have access to free credits to utilize throughout the AWS platform. Plus, there are a variety of other benefits included! Come join this presentation by Tom Marcais to learn more about this program and how Washington and Lee University is implementing it on their campus.

Presenter's Bio:

Tom is the Senior Technology Integration Specialist - STEM at Washington and Lee University. He facilitates the use of technology providing end-user support for staff and faculty. In this role, he analyzes workflows and specific job needs for departments and recommends technology solutions.

Inclusive Writing-to-Learn Pedagogy Leads Upper-level Undergraduates to Authorship and Publication

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Abstract

With Inclusive writing-to-learn pedagogy, students gain important metacognitive and critical thinking skills in a supportive peer environment that is specifically tied to course curriculum and results in a true publication. Such activities also develop highly-transferable scientific communication, professional and technical writing, as well as teamwork skills that are expected in professional careers.

This session will share the experiences of a faculty-librarian team in implementing tailored writing-to-learn pedagogy in an upper-level biology course. Students were taught to identify, locate, and read scientific literature, to properly write about and cite the work of others, and to effectively cite and manage scientific references. Regular student-teacher interactions supported individual progress and created opportunities for peer review, experiential learning, and informal mentoring. A team of volunteer students engaged in additional editing and compilation to prepare the manuscript for publication.

Attendees of all experiences in writing-to-learn pedagogy should expect to share and take away ideas and tested methods to adapt to their courses.

Presenter's Bio:

Eric Resnis is Head of Research and Scholarship at Coastal Carolina University's Kimbel Library, where he serves as liaison librarian for the life and physical sciences. He regularly publishes and presents strengthening liaison roles, and demonstrating library impact towards institutional outcomes.

Molecular developmental biologist, Chiara Gamberi is Assistant Professor of Biology at Coastal Carolina University. Stemming from her research, Gamberi developed inclusive write-to-learn pedagogy to engage undergraduates in active learning and creative scholarship.

All or None of the Above: Innovative Ways to Use Multiple Choice Questions to Facilitate Learning

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Abstract

This paper/session will present/discuss innovative ways and considerations in creating and/or generating multiple choice questions to extend the range of coverage of Bloom's hierarchy of educational goals by making it easier for a student to learn the concepts rather than memorize answers. The Spring 2020 semester provided a unique opportunity to collect data and compare student performance and behavior before and after COVID-19 during which time about 60 students answered almost 100,000 questions on practice and actual exams. Before COVID, the course was fully in-class. After COVID, it was fully on-line. Data summary, analysis, handling errors and/or new information after-the-fact, etc., will be covered and discussion encouraged.

Presenter's Bio:

Robin has a BS (physics) from West Point, a PhD (computer science) from Penn State, and has attended/presented at ASCUE many times since 1994. After 25 years of teaching, he did ten years of software development/research in industry, before taking a one-year visiting teaching position in 2019.

This Title Refers to Itself: Interesting Self-reference Issues in Theory and in Practice

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Abstract

Self-reference refers to something referring, directly or indirectly, to itself. Some people are amused by such references, some annoyed, but the concept of self-reference leads to paradoxes that are at the foundational core of mathematics, computational and data science, information and randomness, and more. This paper/session will present/discuss an interesting and sometimes amusing history of self-paradox and how the results surface in real life in interesting ways in daily computer usage - ways in which a knowledgeable IT person or CS faculty might want to be familiar. From incompleteness to uncomputability, the halting problem, algorithmic information theory, etc., a lot of this material was used in beginning programming classes through programming language design and data science classes. Ideas and discussion are encouraged.

Presenter's Bio:

Robin has a BS (physics) from West Point, a PhD (computer science) from Penn State, and has attended/presented at ASCUE many times since 1994. After 25 years of teaching, he did ten years of software development/research in industry, before taking a one-year visiting teaching position in 2019.

Imagining Digital Learning in a Post-pandemic World: Where Do We Go From Here

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Abstract

In this roundtable, participants will discuss how they foresee higher education adapting to the post-pandemic world in regard to: 1) faculty training for the digital learning space, 2) changes in student learning modality preferences, 3) increased online degree options, 4) plans to reflect upon the instructional modality shift and continue to build learner confidence in the online learning space.

*Planned roundtable participants will consist of: individuals from administrative positions, online learning departments, faculty development centers, information technology services, faculty and students.

*Subject to change due to COVID-19

Presenters' Bios:

Matthew is an Instructional Designer & Technologist with the Coastal Office of Online Learning (COOL) at Coastal Carolina University (CCU).

Sherri has worked in the field of digital and online learning and educational technology for over 20 years. At Coastal, in addition to her primary duties as the Senior Executive Director with Digital Learning, she also serves as a teaching associate in the Department of Psychology.

Open Pedagogy in the First Year Writing Hybrid Course

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Abstract

Open Pedagogy encourages students to engage in experiential learning as both editors and content creators in much of the course design. Once I began opening up areas of my course and teaching, I found that my relationship with my online hybrid writing students improving in ways I had not foreseen. Offering students the chance to cocreate course policies helped reframe the syllabus from a contract into a conversation about what they were learning and how they learned.

During this session, I will discuss how OP functions in the first-year writing digital online space. Attendees will view several openly licensed student-created projects that are hosted on Sutori, an interactive presentation platform. These projects range from course policy cocreation, rubric collaboration, media-rich video projects students created for use in future courses. The interactive portion of the session will invite attendees to share their thoughts on OP using videos they record on Flipgrid to engage in an asynchronous discussion about the presentation.

Presenter's Bio:

Marc Watkins is a Lecturer in the Department of Writing and Rhetoric at the University of Mississippi. His teaching and research interests are in digital pedagogy and Open Educational Resources. In addition to teaching, he has published a number of short stories, including being awarded a Pushcart Press prize.

A Course Development to Teach Programming Concepts to First Year Engineering Students Using LEGO and MATLAB

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Abstract

A new course is proposed to help the 1st year engineering students build the foundational concept of programming using LEGO EV3 and MATLAB. This course consists of two parts: Basics part and Projects part. For the Basics part, students learn and practice basic knowledge of programming. For the Projects part, students conduct two assigned projects and one open-ended project. Application problems for the Basics part were systematically designed to enhance students' understanding. To confirm the effectiveness of this course, the level of difficulty, repetition, active learning and toy effects were measured. The results of the level of difficulty of application problems show that the level increases overall gradually from the beginner level to the advanced level. The results of the repetition show that the topics in the Basics part are systematically repeated. The results of the active learning show that this new course has a higher percentage of active learning activities. The results of the effects of using LEGO and MATLAB as a toy show that students successfully develop and maintain interest while they practice complicated codes. Therefore, this course is promising to be effective to teach the foundational concepts of programming.

Presenter's Bio:

Il Yoon is an assistant professor at the University of North Georgia, where Il Yoon teaches introductory engineering courses and coordinates the pre-engineering program. Il Yoon has developed project-based curriculums to help students understand the basics of engineering and programming.

Culturally Responsive Computing, a Framework for Addressing the Equity Gaps in Technology Education

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Abstract:

With the ever-growing integration of digital technology into educational and instructional settings, considering the significant opportunities they offer, the digital equity in technology education, particularly among the socially and culturally disadvantaged groups has been an important yet disregarded issue. There is still a lack of adequate educational and professional opportunities for socially and culturally marginalized learning communities in Science, Technology, Engineering, and Mathematic (STEM), and the lack of considering the social and cultural dimensions of science and technology and the intersections between cultural capital and computational thinking in STEM is an under-researched area. Thus, exploring the cultural content of curriculum and dominant structures of schools could lead to the design of culturally relevant learning technologies.

In order to address the existing equity gaps particularly among underrepresented social and cultural groups in education, culturally responsive computing (CRC), a framework with roots in culturally responsive Pedagogy (CRP) and critical race theory (CRT), is explored. This paper explores the major principles of CRC such as intersectionality, community-engaged digital innovation, and techno-social activism and offers guidelines on how to design and develop new learning technologies that could include cultural practices and address the existing structural barriers, community problems and social justice issues in education and technology. This paper also addresses the significance of CRC education in making community connections, developing the social construction of identity among the racially and ethnically underrepresented learning communities and promoting techno-social activism which could lead to the development of future technological social agents.

Presenters' Bios:

Sam is an Instructional Technology Designer working at University of British Columbia. He has two masters: in English Language Teaching, and in Media and Technology Studies Education from UBC. He has been designing curriculum and online courses for years and he has been working at four Faculties and seven Departments at UBC. In terms of research, he focuses on five major areas: 1) Instructional Technology Design, 2) Interactive Design 3) Media and Technology Studies 4) Computer-assisted Learning 5) Game-based Assessment

Stephen Petrina is a Professor at the University of British Columbia. He specializes in how we learn media and technology across the lifespan, and especially how students and teachers innovate in makerspaces and virtual spaces. He has published in various fields including Media Studies, Science and Technology Studies (STS) and Science, Technology, Engineering, and Mathematics education (STEM). He is currently researching the philosophy of media and technology for children and youth.

Presenters Index