

# **International Visual Literacy Association**



## **The program (and short abstracts) of the 42nd Annual Conference of the International Visual Literacy Association**

**Visual Literacy in the 21st Century: Trends, Demands and Capacities**

**IVLA 2010 | Cyprus**

September 29th to October 3rd, 2010

Limassol, Cyprus

## **Sponsors**

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**September 29- October 3, 2010**

**Visual Literacy in the 21st Century: Trends, Demands and Capacities**



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**Wednesday, September 29, 2010**

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| <b>Time</b>               | <b>Activity</b>  | <b>Location-Room</b>                     |
|---------------------------|--|--|
| 16:00-19:00               | <b>Registration-familiarisation with the conference site</b>   | <b>Hotel Entrance</b>                    |
| 16:00-18:00               | IVLA Board Meeting   | <b>Apollon</b>                           |
| 18:00-19:00               | First Timers' Session  | <b>Poseidon</b>                          |
| 19:00-19:30               | Opening ceremony   | <b>Athena</b>                            |
| 19:30-20:30<br>Keynote 1: | <b>Understanding and Transforming Visual and Multi-representational Learning</b><br><i>Shaaron Ainsworth, School of Psychology, University of Nottingham, UK</i> | <b>Athena</b><br><b>Chair: P. Search</b> |
| 20:30-23:00               | Reception  | <b>Next to the Pool</b>                  |

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**Thursday, September 30, 2010, Morning Sessions**

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**Two Parallel Sessions: 8:30-9:30**

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|                  |   |                            |
|------------------|---|----------------------------|
| 08:30-09:30      | <b>Parallel Session 1: Digital Exhibition</b>   | <b>Room Poseidon</b>       |
|                  | <b>“The Quick on the Draw” Digital Exhibition</b><br><i>Xenia Danos and Eddie Norman, Department of Design and Technology Loughborough University, UK</i> | <b>Chair: L. Semali</b>    |
| 08:30-09:30      | <b>Parallel Session 2: Workshop 1</b>   | <b>Room Apollon</b>        |
|                  | <b>The Meeting Point of Science and Art Is Linked Through Visual Thinking</b><br><i>Organizer: Ora N. Asael Silverstein, Israel</i>                       | <b>Chair: S. Aagard</b>    |
| 09:30-10:30      | <b>Life Beyond Tuft: Teach Your PGs to Sing</b>   | <b>Room Athena</b>         |
| <b>Keynote 2</b> | <i>Trevor Bounford (<a href="http://www.bounford.com">http://www.bounford.com</a>), UK</i>  | <b>Chair: M. Avgerinou</b> |
| 10:30-11:00      | Coffee break  |                            |

**11:00-13:00 Three Parallel Sessions**

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|             |   |                            |
|-------------|---|----------------------------|
| 11:00-13:00 | <b>Parallel Session 3: Visual Literacy and Learning I</b>   | <b>Room Poseidon</b>       |
|             | <b>Accurate Visual Display of the Three Logics Used in Instructional Diagrams</b><br><i>Simon Gates, Graduate School of Education, the University of Exeter, UK</i> | <b>Chair: N. Valanides</b> |
| 12:00-12:30 | <b>Graphicacy and Students’ Learning</b><br><i>Xenia Danos and Eddie Norman, Department of Design and Technology Loughborough University, UK</i>                    |                            |
| 12:30-13:00 | <b>Visual Scaffolding for Action Research Training</b><br><i>Maria D. Avgerinou, School of Education, DePaul University, Chicago, Illinois, USA</i>                 |                            |

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|             |   |   |
|-------------|---|---|
| 11:00-13:00 | <b>Parallel Session 4: Visual Literacy and Reasoning Skills</b>   | <b>Room Apollon</b><br><b>Chair: N. Eteocleous</b>  |
| 11:00-12:00 | <b>Visual Literacy and Visual Thinking: Keys to Problem-Solving</b><br><i>Annie Olson, Rebecca Westrup, Jessica Shook, Kaitlin DeGraffenried, and Brianna Arnett, LeTourneau University, USA</i>  |   |
| 12:00-12:30 | <b>Museum Websites: Messages Communicated through Multimodal Media: Reaching out to Educator or Not?</b><br><i>Pavlou Victoria and Eteocleous Nikleia, Department of Primary Education, School of Education, Frederick University, Nicosia, Cyprus</i>  |   |
| 12:30-13:00 | <b>Visual Media Literacy: Children's Reading between the Lines of the Short Films</b><br><i>Nilüfer Pembecioğlu, Radio Television Cinema Department, Istanbul University, Nuran Tuncer, Gaziosmanpaşa University, Mustafa Şenel, Kafkas University, Arzu Aslan, Istanbul Aydın University, and Marcel Macier, Yeditepe University, Turkey</i> |   |
| 11:00-13:00 | <b>Parallel Session 5: Visual literacy and Culture I</b>  | <b>Room Athena A</b><br><b>Chair: M. Ben-Peshat</b> |
| 11:00-11:30 | <b>The Multicultural Dimensions of Interaction Design</b><br><i>Patricia Search, Department of Language, Literature, and Communication, Rensselaer Polytechnic Institute, New York, USA</i>   |   |
| 11:30-12:00 | <b>The Invisible Landscape: A Coastal Study in Southern Italy</b><br><i>Paola de Sanctis Ricciardone and Gloria Di Rosa, University of Calabria, Department of Archaeology and History of Arts, University of Calabria, Italy</i>   |   |
| 12:00-12:30 | <b>Lions, Tigers, and Cougars. Oh My?</b><br><i>Danielle Burgess and Steven Aagard, College of Education, Department of Professional Studies, University of Wyoming, USA</i>  |   |
| 12:30-13:00 | <b>The School as a Cultural Campus</b><br><i>Ami Steinitz, The Ramat- Eliyau Art Workshop, Israel</i>   |   |
| 13:00-15:30 | <b>Lunch and General Session ➔ ALL delegates</b>  | <b>Room Mermaid Terras</b>                          |

**September 29- October 3, 2010**

**Visual Literacy in the 21st Century: Trends, Demands and Capacities**



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**Thursday, September 30, 2010. Afternoon Sessions**

**15:30-16:30 Three Parallel Sessions**

| <b>Time</b> | <b>Activity</b>   | <b>Location-Room</b>                                      |
|-------------|---|---|
| 15:30-16:30 | <b>Parallel Session 6: Panel Discussion 1</b>   | <b>Room Apollon</b><br><b>Chair: O. N. A. Silverstein</b> |
| 15:30-16:30 | <b>Visual Literacy in the 21<sup>st</sup> Century: Discussing Trends, Demands, and Capacities, and Identifying Common Ground for Potential Collaborations</b><br><i>Organizer: Maria D. Avgerinou, School of Education, DePaul University, Chicago, Illinois, USA</i><br><i>Participants: Eva Brumberger, Department of English, Virginia Tech, Blacksburg, VA, USA</i><br><i>Carla Galvão Spinillo, Department of Design, The Federal University of Paraná, Brazil</i> |   |
| 15:30-16:30 | <b>Parallel Session 7: Workshop 2</b>   | <b>Room Poseidon</b><br><b>Chair: V. Pavlou</b>           |
|             | <b>Visual Preference and Design Thinking</b><br>Organizer: <u>Janet Hethorn</u> , Department of Art, University of Delaware, USA  |   |
|             | <b>Parallel Session 8: Art Installation</b>   |   |
| 15:30-16:30 | <b>A Sense of Place</b><br><i>Patricia Search, Department of Language, Literature, and Communication, Rensselaer Polytechnic Institute, New York, USA</i>   | <b>Room Athena A</b><br><b>Chair: C. Vrasidas</b>         |
| 16:30-17:00 | <b>Coffee break</b>   |   |

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**Thursday, September 30, 2010. Afternoon Sessions**

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| <b>Time</b>                                | <b>Activity</b>  | <b>Location-Room</b>                         |
|--|--|--|
| <b>17:00-19:00 Three Parallel Sessions</b> |  |  |
| 17:00-19:00                                | <b>Parallel Session 9: Visual Communication and Technology</b>   | <b>Room Poseidon<br/>Chair: J. Hethorn</b>   |
| 17:00-18:00                                | <b>Motivating Learning Through Integration of Multiple Literacies</b><br><i>Rhonda S. Robinson and Kristin Brynteson,<br/>Department of Educational Technology, Research,<br/>and Assessment, Northern Illinois University, USA</i>                                |  |
| 18:00-18:30                                | <b>Key Emerging Principles of the Visual Communication of Technology.</b><br><i>Cheng-Siew Beh, Kevin Badni and Professor<br/>Eddie Norman, Department of Design and<br/>Technology, Loughborough Design School,<br/>Loughborough University, UK.</i>              |  |
| 18:30-19:00                                | <b>Constructing Visual Representations of Stochastic Phenomena through Playing and Building Chance Games</b><br><i>Yianna Sirivianou and Nicos Valanides,<br/>Department of Education, University of Cyprus,<br/>Nicosia, Cyprus</i>                               |  |
| 17:00-19:00                                | <b>Parallel Session 10: Visual and Textual Information and Their Interaction</b>   | <b>Room Apollon<br/>Chair: E. Brumberger</b> |
| 17:00-18:00                                | <b>Making Meaning: Drawing Words, Writing Pictures</b><br><i>Susan Hassall, Higher Colleges of Technology –<br/>Dubai Men's College, United Arab Emirates</i>  |  |
| 18:00-18:30                                | <b>Digital, Visual and Linguistic, Literacies Concepts Apart or Concepts Related?</b><br><i>Eteokleous Nikleia, Pavlou Victoria and<br/>Tsolakides Symeon, Department of Primary<br/>Education, School of Education, Frederick<br/>University, Nicosia, Cyprus</i> |  |

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|-------------|---|--|
| 18:30-19:00 | <b>Learning with Visual Dynamic Representations:<br/>Problem Solving Differences between Field<br/>Dependent and Field Independent Learners</b><br><i>Charoula Angeli-Valanides and <u>Nicos Valanides</u>,<br/>University of Cyprus, Nicosia, Cyprus</i> |  |
| 17:00-19:00 | <b>Parallel Session 11: Visual Literacy<br/>and Art</b>   | <b>Room Athena A<br/>Chair: S. Dowling</b>   |
| 17:00-17:30 | <b>Art Education and the Compelling Need for<br/>Visual Literacy in the 21st Century</b><br><i>Pavlou Victoria and Tsolakidis Simeon,<br/>Department of Primary Education, School of<br/>Education, Frederick University, Cyprus</i>                      |  |
| 17:30-18:00 | <b>Documentaries as Scholarly Research:<br/>Honing Media and Visual Literacy through<br/>Community Engagement</b><br><i>Theresa Renee White, California State University,<br/>Northridge, USA</i>   |  |
| 18:00-18:30 | <b>Social semiotics in analyzing Global-local<br/>relations in Israeli Music Videos</b><br><i>Arielle Friedman, Oranim Academic College<br/>of Education, Israel</i>  |  |
| 18:30-19:00 | <b>A website that Integrates Visual Literacy with<br/>User Creation of Documentary-style Movies</b><br><i>Sherwood Dowling, Education Technology,<br/>Smithsonian American Art Museum, USA</i>  |  |
| 19:00-20:00 | IVLA Committee Meetings   | <b>Room Apollon,<br/>Poseidon and Athena</b> |
| After 19:00 | <b>Free time: Exploring the area</b>  |  |

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**Friday, October 1, 2010. Morning Sessions**

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**08:30-10:30, Three Parallel Sessions**

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| <b>Time</b> | <b>Activity</b>   | <b>Location-Room</b>                        |
|-------------|---|---|
| 08:30-10:30 | <b>Parallel Session 12: Visual Literacy: Implications for Teaching and Learning</b>   | <b>Room Poseidon<br/>Chair: R. Robinson</b> |
| 08:30-09:00 | <b>Teaching Visual Literacy Through Community-Based Projects</b><br><i>Eva Brumberger, Department of English, Virginia Tech, Blacksburg, VA, USA</i>  |   |
| 09:00-09:30 | <b>Balancing Ideas, Resources, and Approaches in a Team-based Museum Exhibition Design Process</b><br><i>Rachel I. Xidis, and Rhonda Robinson, Department of Educational Technology, Research &amp; Assessment, Northern Illinois University, USA</i> |   |
| 09:30-10:00 | <b>Visualizing Learning Designs: The Case of Design Practice</b><br><i>Charalambos Vrasidas, Fotini Theodoulou, Katerina Theodoridou, Christiana Aravi, and Irineos Pattis, CARDET – UNIC</i>   |   |
| 10:00-10:30 | <b>Verbal and Pictorial (Visual) Analogies in Texts: Comprehension of Science Concepts by Primary School Children</b><br><i>Pavlos Rigas and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus</i>                      |   |
| 08:30-10:30 | <b>Parallel Session 13: Visual Literacy and Culture II</b>  | <b>Room Apollon<br/>Chair: J. Lee</b>       |
| 08:30-09:30 | <b>Exploring Visual Language of Film in “Milking the Rhino”: Conflict between Globalization, Heritage Knowledge and Cultural Identity</b><br><i>Ladislaus M. Semali, The Pennsylvania State University, USA</i>                                       |   |

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|-------------|---|--|
| 09:30-10:00 | <b>Tibetan Prayer Flags: Its Visual and Political Significance.</b><br>Tenzin Yeshe and <u>Steven Aagard</u> , <i>Department of Professional Studies, University of Wyoming, USA</i>                            |  |
| 10:00-10:30 | <b>The Landscape of Military Cemeteries in Israel as a Multimodal Text.</b><br><i>Yael Guilat, Oranim Academic College of Education, Israel Shoshi Waksman, Levinsky College of Education, Israel</i>           |  |
| 08:30-10:30 | <b>Parallel Session 14: Interactive Poster Session</b>  | <b>Room Athena A<br/>Chair: S. Gates</b> |
| Poster 1    | <b>Say ‘Cheese’!: The Combination of Conventions and Exceptionality in Children’s Photographs</b><br><i>Päivi Setälä, The Aalto University, School of Art and Design, Finland</i>                               |  |
| Poster 2    | <b>Creating Rubrics with Graphical Representations for Performance Assessment</b><br><i>Peggy Pruisner, Wartburg College, IA, USA</i>   |  |
| Poster 3    | <b>Visual Representations of Shadow-and-Penumbra Phenomena by Prospective Elementary Teachers</b><br><i>Irene Efthimiou and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus</i> |  |
| 10:30-13:00 | <b>Visit to Archaeological Site of Kurium</b>   | <b>Refreshments on the bus</b>           |
| 13:00-15:00 | <b>Lunch at the Kurium Beach</b>  |  |
| 15:00       | <b>Departure from Kurium: Back to the conference site</b>   |  |

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**Friday, October 1, 2010. Afternoon Sessions**

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| <b>Time</b> | <b>Activity</b>   | <b>Location-Room</b>                     |
|-------------|---|--|
| 16:00-17:00 | Coffee break and Membership Meeting ➔ <b>ALL delegates</b>  | <b>Pool Area</b>                         |
| 17:00-19:00 | Three Parallel Sessions   |  |
| <b>Time</b> | <b>Activity</b>   | <b>Location-Room</b>                     |
| 17:00-19:00 | <b>Parallel Session 15: Visual Literacy and Culture III</b>   | <b>Room Poseidon<br/>Chair: A. Olson</b> |
| 17:00-17:30 | <b>Becoming the Other: Visual Interpretations of 'AVATAR' from the Socio-Political Communications Point of View.</b><br><i>Nilüfer Pembecioğlu, Radio Television Cinema Department, Istanbul University, Turkey</i>   |  |
| 17:30-18:00 | <b>Military and Political Photographs and Symbols in Jewish High School Websites in Israel: Analysis and Discussion.</b><br><i>Edna Barromi Perlman, School of Arts and Technology, Kibbutzim College of Education, Israel</i>  |  |
| 18:00-18:30 | <b>A Globalized New Age Spirituality: The Mental Map of the "New Central Bus Station" in Tel-Aviv deciphered through its visual codes and based on an ethno-visual research</b><br><i>Malka Ben-Peshat and Shoshana Sitton, School of Graduate Studies, Kibbutzim College of Education, Technology and Arts, Israel</i> |  |
| 18:30-19:00 | <b>Mis-visualizations of the Liquid-level Problem by Prospective Pre-secondary Teachers: Implications for Learning and Research</b><br><i>Maria Papageorgiou and Nicos Valanides, Department of Education, University of Cyprus</i>   |  |

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**Friday, October 1, 2010. Afternoon Sessions**

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| <b>Time</b> | <b>Activity</b>  | <b>Location-Room</b>                      |
|-------------|--|---|
| 17:00-19:00 | <b>Parallel Session 16: Virtual Presentations</b>  | <b>Room Apollon<br/>Chair: T. Renne</b>   |
| 17:00-17:40 | <b>Educational Multimedia and the Need for Development of Visual Literacy Skills</b><br><i>Jean M. Kiekel, and Elizabeth E. Kirk University of Houston, Texas USA</i>  |   |
| 17:40-18:20 | <b>Visual Spice in the American Melting Pot</b><br><i>Lisa S. Banu, Purdue University, USA</i>   |   |
| 18:20-19:00 | <b>Neurological Understandings of Visual Communication in the 21st Century</b><br><i>Ann Marie Barry, Boston College, Massachusetts, USA</i>   |   |
| 17:00-19:00 | <b>Parallel Session 17: Visual Literacy and Learning II</b>  | <b>Room Athena A<br/>Chair: S. Hassal</b> |
| 17:00-18:00 | <b>Making Carbon Cycle Diagrams</b><br><i>Simon Gates, Graduate School of Education, the University of Exeter, UK</i>  |   |
| 18:00-18:30 | <b>Formation of the Comprehension of Environmental Concepts in Chemistry in General and Professional Secondary Education</b><br><i>Aira Krūmiņa, Daina Priede, and Silvija Kreile, University of Latvia, Faculty of Chemistry, The Center of Chemistry Education, University of Latvia, Riga, Latvia</i> |   |
| 18:30-19:00 | <b>Visualizing the Solutions of Chemical Problems Relating to Solubility</b><br><i>George Polizois, Ministry of Education and Religion, Greece, and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus</i>  |   |
| 20:30-24.00 | <b>Gala Dinner and IVLA Awards</b>   | <b>Mermaid Restaurant</b>                 |

## September 29- October 3, 2010

### Visual Literacy in the 21st Century: Trends, Demands and Capacities



## CYPRUS 2010 IVLA CONFERENCE

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### Saturday, October 2, 2010: A whole day excursion

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08:00-09.30 **IVLA Board Meeting (working breakfast)**

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09:30 **Departure from the entrance of the hotel**

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10:30 **Arrival at Nicosia**

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10:30-11:30 **Guided visit to the Archaeological Museum**

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11:30-13:00 **Guided visit and free time of the center of Nicosia**

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13:00 **Departure for Kakopetria village**

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13:45-16:00 **Lunch at Kakopetria**

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16:00 **Departure for Troodos Mountains**

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16:30-17:30 **Visit to Troodos Mountains and Platres**

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17:30 **Departure for Limassol**

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18:30 **Arrival at Limassol**

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**Free Time**

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**Sunday, October 3, 2010**

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**08:30-09:30 Two Parallel Sessions**

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08:30-09:30 **Parallel Session 18: Panel Discussion II** Room Poseidon  
Chair: P. Ricciardone

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08:30-09:30 **The Role of Aesthetics in Visual Literacy**  
*Organizer: Deborah Pratt Curtiss*  
*Participants: Janet Hethorn, Professor and Chair,*  
*Department of Art, University of Delaware,*  
*USA and Chair, Department of Art, University*  
*of Delaware, USA Ora N. Asael Silverstein, Israel*  
*Victoria Pavlou, Frederic University, Nicosia, Cyprus*

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09:30-10:00 **Coffee break**

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**10:00-12:00 Two Parallel Sessions**

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10:00-12:00 **Parallel Session 19: Applications of  
Visual Literacy** Room Poseidon  
Chair: N. Penbecioğlu

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10:00-11:00 **A Comparative Analysis of Two Presentation  
Tools for Manifesting Higher Order Thinking:  
PowerPoint vs. Comic Life**  
*Jung Lee, Frank Cerreto and Pamela Cross,*  
*Richard Stockton College of New Jersey, USA*

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11:00-11:30 **Visual Perceptions of Animated Conversational  
Agents: Emerging Issues on Designing  
Interactive Systems**  
*Katerina Theodoridou, Theano Yerasimou, and*  
*Charalambos Vrasidas, CARDET – UNIC*

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11:30-12:00 **Perceptions of the Nationally Bilingual “Other”  
through Students’ Visual Thinking: A Small-scale  
Research Based on the Intercultural Interactions  
in Primary Schools in Cyprus**  
*Floria Valanidou, Department of Education,*  
*University of Cyprus, Nicosia, Cyprus*

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|-------------|---|--|
| 10:00-12:00 | <b>Parallel Session 20: Visual Literacy and Learning III</b>  | <b>Room Apollon<br/>Chair: C. Spinillo</b> |
| 10:00-10:30 | <b>The Graphic Presentation of Warnings in Animated Visual Instructions: A Visual Literacy Perspective</b><br><i>Carla Galvão Spinillo and José Marconi B. de Souza, Department of Design, The Federal University of Paraná, Brazil</i> |  |
| 10:30-11:00 | <b>Fostering multimodal discourse analysis skills in classroom work: A social semiotic approach</b><br><i>Dimitra Makri and Efi Papadimitriou Department of Education, Aristotle University of Thessaloniki, Thessaloniki, Greece</i>   |  |
| 11:00-11:30 | <b>Development of an Audiovisual Literacy: Important Aspects of Using Audiovisual Media in the Czech Education</b><br><i>Jan Mašek, Department. of Visual Culture, University of West Bohemia in Plzen, The Czech Republic</i>          |  |
| 11:30-12:00 | <b>Modeling the Interactions in a Joint Cognitive System during Scientific Investigations</b><br><i>Andreas Chiras and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus</i>                              |  |
| 12:10-13:00 | <b>Closing Ceremony</b>   |  |
| 13:30       | <b>All delegates who will attend the closing ceremony will be invited for a Surprise Beach Party!!</b>  |  |

**Receptions, coffee breaks, and meals** mentioned in the program will be offered free of charge for the registered participants and registered accompanying persons. Visit to Kurium and the trip on Sunday (including the meals) will be also free of charge. **The GALA dinner** is not included in the registration and the participants who will attend **must pay 40 Euros**.

## ABSTRACTS

### Keynote 1

#### **Understanding and Transforming Visual and Multi-representational Learning**

*Shaaron Ainsworth, School of Psychology, University of Nottingham, UK*

When people are learning complicated new ideas, interpreting and constructing visual or multiple forms of representation can bring unique benefits. In other words, representations are powerful tools for learning but like all powerful tools they need careful handling if learners are to use them successfully. In this keynote presentation I will argue that many factors influence when and for whom particular combinations of representations will be beneficial and that accordingly our research should strive to be synthetic and integrative. Moreover, it is not enough to uncover which representations are most effective (and why) but we must also uncover how best to support learners to make meaning from visual and multi-modal representations.

### Keynote 2

#### **Life Beyond Tufte: Teach Your PIGs to Sing**

*Trevor Bounford (<http://www.bounford.com>), UK*

In order to convey information successfully to a diverse audience, working amongst the cacophony of modern day visual bombardment, the information designer needs to create harmonious compositions that appeal to the eye. In almost all contexts, it isn't good enough to strip away all extraneous decoration and present bare visual graphics. The designer has to employ visual sophistication in order to catch and hold the attention. This does not mean distorting the information beyond recognition. It means giving attention to the context of the publication, paper or digital, and paying due regard to the level of visual sophistication, or otherwise, of the targeted audience. Current software facilitates, and encourages, complex delivery, yet the careful designer has to pick and choose, employing the useful and discarding the useless, holding in mind the overall appearance. Much as a composer must consider the symphonic order of the composition, the successful visual designer keeps in mind the overview whilst accurately executing the detail.

## Parallel Session 1: Digital Exhibition

#### **Quick on the Draw Digital Exhibition**

*Xenia Danos and Eddie Norman, Department of Design and Technology Loughborough University, UK*

The aim of the exhibition is to show how people in many walks of life use drawing as an essential part of their work. It explores the varied uses of drawing. People make drawings to help them understand, think, work out problems, record and communicate ideas and information to other people. Most people involved in design will appreciate the value of drawing whether made by hand or by using a computer. Drawing in the broadest sense is

the 'language' of designing, supplementing numbers and words as the essential way of making design ideas visible. Looked at from the point of view of cognitive science, drawing is a modelling medium, unique to humans and with a special role in human intelligence. The exhibition includes case studies of designers using drawings in architecture, town planning, industrial and textile design and fireworks design. In all these cases, the purpose of drawing is to help the designer develop ideas and to share them with other people. But the exhibition also shows drawing playing a key role in, for example, the building trades, public administration, palaeontology, geology, social work, mathematical analysis, window cleaning, highway planning, theatre, business, ergonomics and teaching! The fact is that drawings are everywhere but are mainly taken for granted. Drawing is an intellectual activity that links sensing, feeling, thinking and doing. Making and interpreting marks is common to all people and cultures. Drawing is extraordinarily versatile and has a huge repertoire of forms and uses. In the Twenty-first century drawing continues to be as widely used as at any time in the past. Its scope and power has been dramatically extended by the computer. QUICK ON THE DRAW is designed to give an engaging and entertaining glimpse of the wide scope of drawing in contemporary society.

**Reference:** Baynes, K. 'Quick on the Draw', The Design ND Technology Magazine for Schools, Colleges and Universities, Number 84, Autumn 2009.

## Parallel Session 2: Workshop I

### The Meeting Point of Science and Art Is Linked Through Visual Thinking

*Organizer: Ora N. Asael Silverstein, Israel*

Life story might sometimes provide a good way of demonstrating an idea. My life story might be such a case. I would like to show that Visual Thinking and the fields of Visual Literacy and Visual Education can be used as tools both in science education, (mainly in concept formation) and during the process of creating artistic work. Based on this understanding I have decided to publish my academic English papers together with a short summary of my doctoral thesis, all of which show the above, in a book called: *The Spiral of Life or Seeing the Meaning* (papers, 2003-1992, Telem books, Israel 2009).

Having gone through my dissertation which concentrated on the fields of science teaching and Visual Literacy and reviewed my latest annual papers that are under the disciplines of Visual Literacy, Metaphoric Expressions and Symbolism; I found that it is easy to see and understand through them the role of imagery both in the process of concept formation and also in artistic creativity. Being a Hebrew writer my mode of expression is mostly verbal. I also paint from time to time and use multimedia expressions.

My English papers in the years 1992-1996 deal with subjects such as "imagery in Scientific and Technological Literacy for All" (1995) and are concerned with science teaching. After the publication of my first poetry book (1996) my paper presentation was titled "Imagery, Concept formation and Creativity – From Past to Future" (1997).

The papers after that are concerned with my activities in the community and in addition, with my contribution to the feminist aspect of other activities and projects that are involved with the Visual Literacy Field Research. I have written more papers, based on

my travels, looking into the human symbols which are to be observed in natural vistas.

Science and art meet not only in my papers, they meet within the human brain at the specific point of Visual thinking (1997, pp 100). Both scientific thinking and artistic thinking are to be observed attached to a specific word while forming a scientific concept where there might be also an idiosyncratic formation of a concept or an idea which forms the artistic approach of the individual.

I would like to emphasize that every author should and needs to remember that it is only that metaphoric writing which permits the reader to think in pictures; Creating a process by which the reader understands the text and a connection is formed between the reader, the text and it's author. At the same time, every teacher should remember that only by performing visual thinking will there be concept formation and what we call: understanding.

### **Parallel 3: Visual Literacy and Learning I**

#### **Accurate Visual Display of the Three Logics Used in Instructional Diagrams**

*Simon Gates, Graduate School of Education, the University of Exeter, UK*

This presentation gives visual literacy rules for diagrams, of interest to all who make and use instructional diagrams. Diagrams combine logics for: visual literacy; visual design; narrative sequence. Some can be translated precisely into speech and writing. A survey of carbon cycle diagrams for schools revealed many with logic faults, impairing their educational use. Solutions are presented.

**Keywords:** Visual literacy; diagram design; educational narratives

#### **Graphicacy and Students' Learning**

*Xenia Danos and Eddie Norman, Department of Design and Technology Loughborough University, UK*

Graphicacy is the ability to communicate through visual images. Three case studies were conducted in the USA, Cyprus and UK identifying where, how and why images are used across curricula. The development of the taxonomy of graphicacy used as a research tool is described and the results from the comparative studies discussed. Similar patterns of usage and purposes were found.

**Keywords:** graphicacy, cross-curricular, comparative study

#### **Visual Scaffolding for Action Research Training**

*Maria D. Avgerinou, School of Education, DePaul University, Chicago, Illinois, USA*

This case study explored online teacher perceptions of action research through the use of visual metaphors. The goal was to assist teachers articulate and monitor the development of their own meaning construction of the action research methodology, with the view to facilitating and empowering their cognitive growth as teacher-researchers. The identified types of visual metaphors assisted participants and instructor toward eliminating specific

cognitive and affective hindrances, while capitalizing upon and further developing existing strengths.

**Keywords:** visual metaphors; visual scaffolding; action research

## **Parallel Session 4: Visual Literacy and Reasoning Skills**

### **Visual Literacy and Visual Thinking: Keys to Problem-Solving**

*Annie Olson, Rebecca Westrup, Jessica Shook, Kaitlin DeGraffenried, and Brianna Arnett, LeTourneau University, USA*

This paper will inform researchers and educators about the launching of a 5-year cross-cultural study of the relationship between visual literacy / visual thinking and problem-solving ability. A 2003 global assessment of problem-solving ability among youth produced dire results. Theorists have long connected problem-solving to visual competencies. This research undertakes to specify those competencies and how to integrate them into education.

**Keywords:** visual thinking, problem-solving, visual globalization

### **Museum Websites: Messages Communicated through Multimodal Media: Reaching out to Educator or Not?**

*Pavlou Victoria and Eteokleous Nikleia, Department of Primary Education, School of Education, Frederick University, Nicosia, Cyprus*

This paper is concerned with the evaluation of museum web sites' usability by student-teachers. Having an in-depth understanding of how they use and interpret museum web sites, of their pedagogic needs and of how new technologies can change the way they engage with cultural interpretation can lead to the design of more meaningful online engagement with the museum and its collections.

**Keywords:** museums, web-site evaluation, student-teachers

### **Visual Media Literacy: Children's Reading between the Lines of the Short Films**

*Nilüfer Pembecioğlu, Radio Television Cinema Department, Istanbul University, Nuran Tuncer, Gaziosmanpaşa University, Mustafa Şenel, Kafkas University, Arzu Aslan, Istanbul Aydın University, and Marcel Macier, Yeditepe University, Turkey*

The brain starts to collect images starting from the very first day of life and the cumulative impact of all these collected images establishes the life style as well as expectations, the character of the child, the chosen or preferred readings throughout the life. Even if the economic, social and global issues are the most important topics discussed in the modern world, the main impact of the visual media is often underestimated. This paper discus the findings of a Project. During the research, children aged between 3-6 were taken as the sample group and their understanding of visual media is questioned through the short films. Totally 150 children were taken as the sample from three different cities. As for the methodology both qualitative and quantitative techniques were used as well as the focus

group discussions. Regarding the age and gender differences as well as the small town and city distinctions this paper intends to concentrate only on the findings regarding the media literacy in general.

**Keywords:** media literacy, children, short films

## **Parallel Session 5: Visual literacy and Culture I**

### **The Multicultural Dimensions of Interaction Design**

*Patricia Search, Department of Language, Literature, and Communication, Rensselaer Polytechnic Institute, New York, USA*

Interaction design in multimedia computing creates a new form of digital semiotics that redefines cultural boundaries and integrates virtual and physical spaces. This paper presentation shows educators and researchers how various forms of interaction design, ranging from social networking to mobile computing, create multisensory experiences and collaborative environments that support multicultural communication.

**Keywords:** Multicultural communication, interaction design, digital semiotics

### **The Invisible Landscape: A Coastal Study in Southern Italy**

*Paola de Sanctis Ricciardone and Gloria Di Rosa, University of Calabria, Department of Archaeology and History of Arts, University of Calabria, Italy*

The presentation gives some outcomes of an anthropological research in a small area of the Calabrian coast (Italy). Since the last three decades this region adopted a strategy of “development” based on a disregard (public and private) of the natural and historical heritage. The result often consists in wide coastal territories completely destroyed, secular skylines unrecognizable, compact towns surrounded by a plethora of tall shapeless buildings and so forth. The research analyzes the connection between local visual illiteracy and this massive visual pollution.

**Keywords:** landscape and heritage preservation; visual il/literacy; material culture.

### **Lions, Tigers, and Cougars. Oh My?**

*Danielle Burgess and Steven Aagard*

*College of Education, Department of Professional Studies, University of Wyoming, USA*

An examination of visual appearance, social interaction and dating behavior of individuals using Lyn Lacey’s theory “the Goals of Visual Literacy.” Two of the five goals were specifically applied to behaviors and visual representation of women in their thirties and forties. Goal three refers to the recognition and appreciation of visual imagery and cultural and historical differences in image creation.” While goal four outlines the discriminating nature of consumers in understanding advertising visuals in a modern society. Recent behaviors and visual representations are associated with the portrayal of men and women by the media, powerful influence in setting behavioral patterns.

### **The School as a Cultural Campus**

*Ami Steinitz, The Ramat- Eliyau Art Workshop, Israel*

A pedagogic and learning purpose places the school at the focal point of delicate practices that shape individual aspiration and social responsibilities. School curriculums, teaching methods, communal and environmental realities create the perceptions that outline personal and collective developments. Public education signifies the formation of socio-cultural ideas that represent civil principles.

The School as a Cultural Campus perceives visual language, artistic creation and exhibition as the main creative tools that enable an essential expression of the school cultural core. Since 2001 the Ramat-Eliyau Art Workshop experiment a program that link up school curriculums, artist in residence and a school art gallery. The program connects learning, creative and curatorial experiences. Different school curriculums: geometry, literature, science, geography are transformed to a creative visual processes and finalized in a school gallery presentation. The curriculum contents are associated with community, environment and cultural records that affect the students' contemporary reality.

The School as a Cultural Campus redefines the school visual and creative setting by generating actual transfers' experiences that leads kids between main school learning content, visual, community and environmental knowledge, artist studio work and curatorial presentations.

### **Parallel Session 6: Panel Discussion I**

#### **Visual Literacy in the 21<sup>st</sup> Century: Discussing Trends, Demands, and Capacities, and Identifying Common Ground for Potential Scholarly Collaborations**

*Organizer. Maria D. Avgerinou, School of Education, DePaul University, Chicago, Illinois, USA*

The twofold purpose of this panel is to discuss trends, demands and capacities of Visual Literacy as those emerge internationally at the outset of the 21<sup>st</sup> Century; and, to identify some common ground for potential scholarly collaborations. The latter refers mainly to conference presentations (i.e. EARLI 2011, & AERA 2011) as well as academic publications since various journals (JVL, JRTE, etc.) have expressed an interest in a special *Visual Literacy in the 21<sup>st</sup> Century* issue. A third possibility concerns book proposals for new and/or existing publications. The group that will be formed out of this session is anticipated to continue engaging in online conversations beyond the end of the conference, in order to fulfill any goals determined in this panel session.

### **Parallel Session 7: Workshop 2**

#### **Visual Preference and Design Thinking**

*Organizer: Janet Hethorn, Department of Art, University of Delaware, USA*

This paper explores methods of understanding visual preference, and embeds these approaches within the context of design thinking. As a user centered approach to

developing products and solutions, design thinking can be enhanced by visual literacy concepts, and through incorporating awareness of visual preference. Examples provided demonstrate how this contributes to a more powerful design process and meaningful design solutions.

**Keywords:** design thinking, user-centered, aesthetics

## **Parallel Session 8: Art Installation**

### **A Sense of Place**

*Patricia Search, Department of Language, Literature, and Communication, Rensselaer Polytechnic Institute, New York, USA*

Experience design is expanding the aesthetics of interactive electronic art by using symbols and actions to integrate the physical space of the viewer with the intangible world of cyberspace. In this interactive art installation, two people interact with different computer programs and experience new forms of spatial, temporal, and rhythmic links in interactive multimedia art.

**Keywords:** Experience design, interaction design, multimedia art

## **Parallel Session 9: Visual Communication and Technology**

### **Motivating Learning Through Integration of Multiple Literacies**

*Rhonda S. Robinson and Kristin Brynteson, Department of Educational Technology, Research, and Assessment, Northern Illinois University, USA*

This paper presentation details a research and practice project which facilitated the teacher training, design, development, and implementation of a multi-literacy unit. Four teachers with their classes planned and created multidisciplinary, 4th and 5th grade science units, using digital stories as a culminating activity. The partnership team integrated research, verbal, visual, technology, art and science literacies into the creation of fact-based interactive digital stories. Project details and products will be shared, and the research findings discussed. Teachers and teacher educators will learn how visual literacy and multi-literacies were developed through these activities and will understand how to create such a multidisciplinary unit for grades K-8.

### **Key Emerging Principles of the Visual Communication of Technology**

*Cheng-Siew Beh, Kevin Badni and Professor Eddie Norman, Department of Design and Technology, Loughborough Design School, Loughborough University, UK*

A literature survey concerning visual communication of technology (VCT) and links to designing and innovation is reported. Greater understanding of the principles governing the VCT is developed, e.g. their support of the representation of technology within the context of design education. Relevant evidence concerning VCT principles for use in teaching and learning materials or delivery strategies is developed.

**Keywords:** technology, designing and communication

### **Constructing Visual Representations of Stochastic Phenomena through Playing and Building Chance Games**

*Yianna Sirivianou and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus*

This paper will discuss the use of a computer-based and game-playing environment and the implementation of tools within that environment, in the construction of visual representations of stochastic phenomena. The paper will focus on part of the data taken from a bigger study that took place in a school in Cyprus, in which ten children aged 11 to 12 were engaged in playing and building chance games. Here we examine the affordances of the setting in the construction of visual representations about the sample space and the outcomes. The findings suggest that in a well thought out environment children are able to construct mathematical understandings about stochastic phenomena.

## **Parallel Session 10: Visual and Textual Information and Their Interaction**

### **Making Meaning: Drawing Words, Writing Pictures**

*Susan Hassall, Higher Colleges of Technology – Dubai Men’s College, United Arab Emirates*

This paper takes the theoretical idea of picture book types based on verbal/visual combinations which was explored in a doctoral thesis “An Investigation into the Relationship Between Verbal and Visual Texts in First Stories” Hassall and applies the ideas to a second language setting. In particular with male tertiary Emirati students studying art history. The results show an engagement with visual texts and a delight in manipulating words and pictures to create meaning. There will be numerous visual examples accompanying the talk/paper.

### **Digital, Visual and Linguistic Literacies or Literacy: Concepts Apart or Concepts Related?**

*Eteokleous Nikleia, Pavlou Victoria and Tsolakides Symeon*

Department of Primary Education, School of Education, Frederick University, Cyprus

The development of numerous high-order skills such as critical thinking, analysis, synthesis, and evaluation (Eteokleous, et al., 2010) is considered a great necessity for future citizens to adapt themselves to a technology-oriented, interconnected, and complex environment. It is suggested that students (future citizens) should become “multiliterate” (The New London Group, 1996). Given the above, the current study identifies the need and examines the development of literacy in the following three domains: digital, visual and linguistics. Specifically, it investigates the development of educational material by pre-service teachers through which the three literacies are integrated. The Multimedia Builder (MMB) educational software was used aiming to relate the three literacies and achieve the concept of “multiliteracies”. A case study approach was employed to collect qualitative data through discourse analysis and focus groups. Forty-five 3rd year

Frederick's University pre-service elementary teachers were the sample of the study. Based on the evaluation criteria developed for each literacy the study analyzes and discusses the development of the three literacies through the exercises performed, the integration of the three literacies and how the uses and importance of each literacy are re-defined and re-estimated within the multiliteracies perspective. It also summarizes the difficulties faced by the teachers, and explains the preference towards particular literacy/-ies. Finally, it can be suggested that the MMB appears to be a good example where students can 'strike a balance' between the three literacies and thus develop valuable educational material where students are required to take into consideration multiple modes of thinking.

### **Learning with Visual Dynamic Representations: Problem Solving Differences between Field Dependent and Field Independent Learners**

*Charoula Angeli-Valanides and Nicos Valanides, University of Cyprus, Nicosia, Cyprus*

The study investigated the extent to which two types of instructional materials and learner field dependence-independence affected learners' cognitive load, time spent on task, and problem-solving performance in a complex system with a computer modeling tool. One hundred and one primary student teachers were first categorized into field-dependent, field-mixed, and field-independent learners based on their performance on the Hidden Figures Test, and were then randomly assigned to two experimental conditions. One group received a static diagram and a textual description in a split format, and the second group received the same static diagram and textual description in an integrated format. MANOVA revealed that the split-format materials contributed to higher cognitive load, higher time spent on task, and lower problem-solving performance than the integrated-format materials. There was also an interaction effect, only in terms of students' problem-solving performance, between field dependence-independence and instructional materials, indicating that the facilitating effect of the integrated-format materials was restricted to the field-independent learners. Conclusions are drawn in terms of how the well-documented split-attention effect manifests itself irrespective of students' FD/I.

## **Parallel Session 11: Visual Literacy and Art**

### **Art Education and the Compelling Need for Visual Literacy in the 21st Century**

*Pavlou Victoria and Tsolakidis Simeon, Department of Primary Education, School of Education, Frederick University, Cyprus*

In this paper a qualitative study is presented in an effort to understand how future teachers view the role of 'reading' art within art lessons and the school curriculum in general. It aims to highlight issues concerned with visual literacy and 'reading' images by non-art specialists having as a theoretical framework issues discussed in aesthetic education and discourse analysis.

**Keywords:** art education, non-art specialists, discourse analysis

### **Documentaries as Scholarly Research: Honing Media and Visual Literacy through Community Engagement.**

*Theresa Renee White, California State University, Northridge, USA*

This paper aims to highlight the methods by which students creatively used visual media—documentaries—to transform media consumption into an active and critical process. Through service learning and civic engagement, they developed visual and media literacy and gained greater awareness of the potential for misrepresentation and manipulation in visual texts. They also developed digital production skills and challenged ideas of representations of African American men in media.

**Keywords:** Documentary, Visual, Literacy

### **Social semiotics in analyzing Global-local relations in Israeli Music Videos**

*Arielle Friedman, Oranim Academic College of Education, Israel*

In this paper presentation, a social semiotic analysis of Israeli music videos is presented and examined in order to identify the method's pro and cons in the context of analyzing visual culture in a glocal mass communication. The intended audience is researchers interested in the implications of global-local relations on visual literacy and in semiotic methodology.

**Keywords:** social semiotics, music videos, global-local interconnections

### **A website that Integrates Visual Literacy with User Creation of Documentary-style Movies**

*Sherwood Dowling, Education Technology, Smithsonian American Art Museum, USA*

The *Picturing the 1930s* website is the content portion of a collaborative project with the University of Virginia. The site introduces visitors to museum artworks, provides context, and empowers users to create documentaries that demonstrate understanding of content. UVA is undertaking a study to address the effect of integrating primary source documents into the curriculum through student-created digital documentaries.

**Keywords:** student-created digital documentaries, web 2.0, virtual exhibition

## **Parallel Session 12: Visual Literacy: Implications for Teaching and Learning**

### **Teaching Visual Literacy Through Community-Based Projects**

*Eva Brumberger, Department of English, Virginia Tech, Blacksburg, VA, USA*

This paper examines the effectiveness of community-based projects in teaching visual communication and visual literacy more broadly. It addresses these questions: What benefits do community-based projects bring to visual communication pedagogy? What particular complexities might such projects bring to the visual communication classroom that they may not bring to other types of courses? Does the value added outweigh potential costs?

**Keywords:** pedagogy, service learning, client projects

### **Balancing Ideas, Resources, and Approaches in a Team-based Museum Exhibition Design Process**

*Rachel I. Xidis, and Rhonda Robinson, Department of Educational Technology, Research & Assessment, Northern Illinois University, USA*

This paper presentation examines the team approach to exhibition design used at the Chicago History Museum. Key area of focus rests upon finding a balance in the array of complex factors that impact the exhibition design process including: trends relative to exhibition design in museum field, demands pertaining to visitor needs and stakeholder preferences, and capacities driven by available resources.

**Keywords:** exhibitions, design, team

### **Visualizing Learning Designs: The Case of Design Practice**

*Charalambos Vrasidas, Fotini Theodoulou, Katerina Theodoridou, Christiana Aravi, and Irineos Pattis, CARDET – UNIC*

This paper will discuss national and EU funded projects focusing on visual representations of learning designs. We will address three key questions: (1) How can designs be represented? (2) What is the value and use of different forms of representation? (2) How can designs be shared and how are different pedagogical approaches represented in different design representations?

### **Verbal and Pictorial (Visual) Analogies in Texts: Comprehension of Science Concepts by Primary School Children**

*Pavlos Rigas and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus*

The present study investigated the extent to which the use of textual and pictorial analogies can facilitate primary school pupils' comprehension of abstract scientific concepts. The sample consisted of 714 fourth-, fifth-, and sixth-grade students from 40 intact classes from urban and rural areas. The pupils provided initially their demographic data and were then administered four pre-tests. The students from each intact class were randomly divided into 3 equal groups (two experimental groups and a control group). All students studied textual materials relating to the use of white blood cells, the process of photosynthesis and the structure of the animal cell. The students of the control group studied textual materials without any analogies, while the students of the first and second experimental groups studied texts with either only textual, or with textual and pictorial analogies, respectively. The students, after returning the respective textual materials, were administered a test including memory and inferential questions. They were also asked to select, among four devices whose their functioning was presented diagrammatically, a device that could be the best analogy for the functioning of the eye. Statistical analysis of the data identified some interaction effects among the independent variables of the study. The quantitative and qualitative analysis of the collected data clearly indicated that the students that studied texts with double analogies had significantly better achievement than all the other students in the post-tests. Older

students also performed significantly better than younger students, and there was no significant difference between the performance of boys and girls. The overall results indicate that the combined effect of textual and pictorial analogies contributed significantly to primary school pupils' comprehension of abstract scientific concepts.

**Keywords:** Analogical reasoning, general mental ability, textual and pictorial analogies, working memory.

### **Parallel Session 13: Visual Literacy and Culture II**

#### **Exploring Visual Language of Film in “Milking the Rhino”: Conflict between Globalization, Heritage Knowledge and Cultural Identity.**

*Ladislav M. Semali, The Pennsylvania State University, USA*

As a visual language of storytelling, films use visual languages because their visuals are iconic and they resemble the object they represent. This on-sight presentation helps audiences to rethink the seriousness and calculated representations of indigenous peoples in mainstream media. I examine the portrayal of the Maasai within the film---“Milking the Rhino”---as an example of commodifying their culture for commercial gains and publicity in travel writings, travelogues, and brochures. This presentation concludes that these images are not mere exotic entertainment but a systematic manufacture and reconstruction of managed images to yield what Said (1978) called a new object of knowledge suitable for commoditization or display of human kind for economic gain.

#### **Tibetan Prayer Flags: Its Visual and Political Significance.**

*Tenzin Yeshe and Steven Aagard, Department of Professional Studies, University of Wyoming, USA*

The visual-intensive presentation that describes the significance of Tibetan prayer flags to Tibet, Tibetan culture, and Tibet's political struggle. The presentation briefly discusses the history of Prayer flags and its birth in the international arena. The presentation will also address the visual, cultural, political, and spiritual significances of prayer flags to Tibet and to the citizens of the world.

**Keywords:** Prayer flags, Tibet, Tibetan Buddhism

#### **The Landscape of Military Cemeteries in Israel as a Multimodal Text.**

*Yael Guilat, Oranim Academic College of Education, Israel Shoshi Waksman, Levinsky College of Education, Israel*

The aim of the current study is to present the landscape of the military cemeteries in Israel as a text embedded in social- political context. Based on an analysis of military sections in Israeli cemeteries, we will present that the elements that reflect uniformity and dominance in the commemorative space have become part of a system that now includes various voices, languages and modalities.

**Keywords:** Mourning, Commemorative landscape, Multimodality.

## **Parallel Session 14: Interactive Poster Session**

### **Say ‘Cheese’!: The Combination of Conventions and Exceptionality in Children’s Photographs**

*Päivi Setälä, The Aalto University, School of Art and Design, Finland*

The photographic expression of children has not been researched as rigorously as the compositions of adults. This paper is part of a of a doctorate research project, which proposed photographs taken by 6-7 -years old children. The presentation in poster session will demonstrate that those photographs have both conventional forms and “rebellion” against conventional expression which points towards a special visual literacy. The intended audience is composed of teachers, students and other professionals interested in visual literacy.

**Keywords:** photograph, children, composition

### **Creating Rubrics with Graphical Representations for Performance Assessment**

*Peggy Pruisner, Wartburg College, IA, USA*

Rubrics for assessment purposes are widely used in classrooms at all levels. Although many teachers use rubrics, few design them using graphical representations even though graphics could be advantageous when used with nonreaders, visual learners, or when seeking to effectively picture performances. This poster session – designed for elementary, secondary, and collegiate teachers – provides directions for creating rubrics with graphical representations that illustrate skills, processes, and behaviors as well as suggestions for integrating these rubrics into instructional practices and performance assessment.

**Keywords:** graphical representations, rubrics, performance assessment

### **Visual Representations of Shadow-and-Penumbra Phenomena by Prospective Elementary Teachers**

*Irene Efthimiou and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus*

An experimental setting was used with three equal small groups of 60 fourth-year students (prospective primary school teachers) in a laboratory setting. A rectangular wooden block having mounted in the middle of each side an incandescent electric lamp consisted the experimental device. Each lamp could be replaced by other lamps having colored bulbs and could be turned on and off independently, while it was also possible to change the position and the distance of each lamp from the center. A two-dimensional model of a house, made of opaque cardboard, was also mounted upright at the center of the wooden block. The model showed a house with an inclined roof, a chimney, and one door and two windows represented by three movable pieces of cardboard, so that the door and the windows could be kept open or closed. Students were asked to predict and draw the position and other characteristics of the shadow, when each lamp, or two different lamps, on the same or on the opposing sides of the block, were turned on. Students were then asked to perform the respective experiments and compare their

drawings with the experimental outcomes. This process was repeated four times starting with only one light source (white or colored) and moving to two light sources (white or colored). Experiments were deliberately selected and sequenced in order to create cognitive dissonance in students' thinking and facilitate the process of conceptual change. A delayed post-test was finally used for evaluating students' progress in terms of their conceptions about shadows.

### **Parallel Session 15: Visual Literacy and Culture III**

#### **Becoming the Other: Visual Interpretations of 'AVATAR' from the Socio-Political Communications Point of View.**

*Nilüfer Pembecioğlu, Radio Television Cinema Department, Istanbul University, Turkey*

21st century is full of discussions of being/becoming the "self" and "identity" is one of the basic questions. Even if the social /human rights are supporting the 'self' there is always 'the other' in the middle of a conflict. 'The Other' is the disappointed, dismissed and excluded one in the society. This year the visual world is discussing the success of the film Avatar, a long waited and most acclaimed film. What's lying behind this success and how the film could be interpreted in different ways regarding the theme and the characters? This paper is an attempt to evaluate the film through different theories of communication as well as deciphering, comparing and contrasting it with the other films such as "The Associate", "Face Off", "Simone1" and "Prince of Persia". Contrary to the previously chosen ways, the "recent" otherness is seen and used as a conflict resolution technique or a trauma therapy facilitator and 'The Other' is just one of us, leaving the answer to our own hands as "ARE WE BECOMING THE OTHER"?

**Keywords:** the other, self, Avatar

#### **Military and Political Photographs and Symbols in Jewish High School Websites in Israel: Analysis and Discussion.**

*Edna Barromi Perlman, School of Arts and Technology, Kibbutzim College of Education, Israel*

An analysis of visual material found in websites of Jewish high schools in Israel: photographs of military and political ceremonies, activities and Israeli symbols. The presentation will discuss the introduction of Israeli national values in school websites and explore the educational implications of the uses of this visual material.

**Keywords:** websites, high schools, photographs

#### **A Glocalized New Age Spirituality: The Mental Map of the "New Central Bus Station" in Tel-Aviv deciphered through its visual codes and based on an ethno-visual research**

*Malka Ben-Peshat and Shoshana Sitton, School of Graduate Studies, Kibbutzim College, Israel*

This paper will present the findings of an ethno-visual research focusing on a mental map sorted out mainly of images, artifacts and practices in the "New Central Bus Station" in

Tel Aviv. This huge and complex building comprises a stage for multi-cultural encounters and interactions among diverse communities of users. Hundreds of steel photographs methodically taken on the site and its environments represent its visual culture. A semiotic analysis of these photographs has revealed a “glocalized” version of New Age spirituality based mainly on the visual codes deciphered out of local New Age expressions and hybrids.

**Keywords:** visual culture, mental map, New Age

### **Mis-visualizations of the Liquid-level Problem by Prospective Pre-secondary Teachers: Implications for Learning and Research**

*Maria Papageorgiou and Nicos Valanides, Department of Education, University of Cyprus*

Visualization is an important way for human beings to learn and perceive things (Dastani, 2002). The question is whether humans who have everyday experiences of natural phenomena visualize them correctly and are able to present these visualizations. One example is how do human beings visualize the surface of the water in a container when the container is tilted. This problem is known as the Water-Level Task (WLT). The WLT was developed to measure a child’s ability to perceive space within a Euclidean reference system. A questionnaire was given to 99 prospective pre-primary and primary teachers of the University of Cyprus concerning the liquid level task. The analysis showed that everyday experiences and images of tilted bottles or glasses are not correctly visualized.

**Keywords:** visualizations, liquid-level problem, everyday experience

## **Parallel Session 16: Virtual Presentations**

### **Educational Multimedia and the Need for Development of Visual Literacy Skills**

*Jean M. Kiekel, and Elizabeth E. Kirk University of Houston, Texas USA*

Today’s students are surrounded by images, however schools still rely on text-based materials. The Internet and educational multimedia are creating challenges for teachers to determine appropriate multimedia materials for classroom use. During this session, attendees will recognize how the design of visual elements of educational multimedia can be used to enhance understanding and assist in improving readability.

**Keywords:** information design, visual literacy, readability

### **Visual Spice in the American Melting Pot**

*Lisa S. Banu, Purdue University, USA*

In 1910, California tile-maker and teacher, Ernest Batchelder, published his book of ‘Design in Theory and Practice’ in order to promote a formal visual language independent of European historical tradition. Consistent with an American aesthetic prioritizing innovation and individuality, Batchelder constructs his theory of design on harmonized line and space, ‘spiced’ with formal deviance, writing “Harmony and contrast, unity and variety, – these are not terms of opposite meaning. Contrast is the spice that gives interest to harmony. Unity with variety interests us; but with uniformity our interest

ceases.” In teaching his design language, Batchelder was also teaching ways of relating parts to a whole in harmony (and in contrast) that extends beyond formal relationships. Through his design theory, he was protecting the individual creativity of his students while teaching them a shared visual language. This paper uncovers the pedagogical and political role of visual deviation from a patterned language by presenting Batchelder’s illustrated theories. The study concludes by asking, does Batchelder’s notion of visual deviation as distinction rather than deformation still hold today, a hundred years later, in 2010? Is difference still the spice of American design, if there is no shared visual language? Or is it all spice, no substance?

### **Neurological Understandings of Visual Communication in the 21st Century**

*Ann Marie Barry, Boston College, Massachusetts, USA*

Cognitive neuroscience is the foundation for understanding visual communication. This paper is intended for a general audience and explores five key neurological concepts that form the basis for understanding visual communication in the 21st century: seeing as belief; media as emotional reality; visual learning as a constant; mirror neurons and imitative behavior; patterns and memory as cultural identity.

**Keywords:** visual neurocognition; visual learning; media as visual culture

## **Parallel Session 17: Visual Literacy and Learning II**

### **Making Carbon Cycle Diagrams**

*Simon Gates, Graduate School of Education, the University of Exeter, UK*

Suitable for anyone interested in making informational diagrams, for example: Teachers in Middle/ Upper High School in the USA (pupil ages from 11 years); Key Stages 3 and 4 (pupil ages from 13/14 – 16) in the UK, and for college lecturers: in England they would cover an age range from 16 – 19 years. Also of interest to those who cater for general adult education.

### **Formation of the Comprehension of Environmental Concepts in Chemistry in General and Professional Secondary Education**

*Aira Kr ūmiņa, Daina Priede, and Silvija Kreile, University of Latvia, Faculty of Chemistry, The Center of Chemistry Education, University of Latvia, Riga, Latvia*

In schools of Latvia, chemistry is taught in grades 8 and 9, in contrast to many other countries, where chemistry is a part of science subjects. Graduates of primary schools have an option to continue their studies in general or professional secondary schools. Different is the way of teaching/learning of chemistry. Majority of professional secondary school students study Chemistry and Environmental science, while students of general secondary schools acquire environmental processes that are integrated in the content of Chemistry subject. The comprehension of the basic items and problems of the concrete science field are based on the successful acquiring of subject. It’s important to start forming correct, scientifically precise understanding of concepts already in school. An important role in this process plays the didactical approach selected by teacher. Only

correct understanding of concepts allows students to use newly acquired knowledge for developing their logical thinking and establishing links with other concepts. In our research, graduates of different schools and different countries (Latvia, Lithuania, Estonia, Poland, Russia and others) have been enclosed in order to evaluate their understanding about environmental chemical processes.

**Keywords:** comprehension of chemistry, environmental concepts, general and professional secondary education

### **Visualizing the Solutions of Chemical Problems Relating to Solubility**

*George Polizois, Ministry of Education and Religion, Greece, and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus*

Students at the upper secondary school level should have mastery and feel comfortable in applying the mathematics that seem necessary and useful for solving chemistry problems. The language of mathematics is of course complimentary to the language of chemistry and the joint application and contribution of these two languages should provide solutions rather than answers to relevant chemical problems (Meija & Bisenieks, 2004). The algebraic methods which usually provide algorithmic formulas cannot contribute to in-depth conceptual understanding of chemistry and cannot trigger or foster the development of higher-level thinking skills (Robinson, 2003). For these or similar problems dealing with simple proportionality, several approaches for solving them have been proposed, such as, the application of proportions, the dimensional unit analysis, the application mathematical formulas etc. Despite these attempts, these problems are the focus of numerous publications and comparative research articles, because of their frequent use in chemistry and other science subjects, but mainly because several obstacles/difficulties for their correct conceptualization by secondary school students have been identified in the literature (Cohen, Kennedy-Justice, Pai, Torres, Toomey, DePierro, & Garafalo, 2000). Thus, we propose and try to provide specific examples of how to invest on graphical representations for visualizing the solutions of simple or complex chemical problems relating to solubility and mixing of several water solutions. We expect that these representations can be employed by chemistry teachers as powerful tools for correctly conceptualizing simple as well complex chemical problems that appear frequently both in mathematics and chemistry textbooks. The respective visualizations can circumvent the difficult and complex mathematical (algebraic) solutions or even facilitate the application and understanding the nature of these problems by investing on powerful visualizations than can also foster the development of higher-level thinking skills.

## **Parallel Session 18: Panel Discussion II**

### **The Role of Aesthetics in Visual Literacy**

*Organizer: Deborah Pratt Curtiss*

If I were to believe some of my teaching colleagues, it would appear that esthetics is a dirty word or a nuisance, in the minds of their students today. I will offer a way to approach and think about esthetics that is not elitist, judgmental, or precious. Opportunity for discussion of ways to address esthetics in both teaching and creative work will follow.

### **Parallel Session 19: Applications of Visual Literacy**

A Comparative Analysis of Two Presentation Tools for Manifesting Higher Order Thinking: PowerPoint vs. Comic Life

*Jung Lee, Frank Cerreto and Pamela Cross, Richard Stockton College of New Jersey, USA*

We studied the relative impact of two technological tools as means for demonstrating higher order thinking. Using Bloom's taxonomy, we compared students' presentations created in PPT and Comic Life for the presence of examples of varying level of thinking. This study will provide the empirical evidence supporting claims about the limitation of PowerPoint as a tool for communicating higher order thinking, and an alternative solution.

**Keywords:** higher order thinking skills, power point, comic life

### **Visual Perceptions of Animated Conversational Agents: Emerging Issues on Designing Interactive Systems**

*Katerina Theodoridou, Theano Yerasimou, and Charalambos Vrasidas, CARDET – UNIC*

This paper presentation discusses findings from three research studies that involved the use of animated conversational agents for educational purposes. The discussion revolves around findings pertaining to students' perceptions and affective outcomes related to the agents' image, interactivity, and humanness. The presentation concludes with guidelines that educators and instructional designers should consider when developing learning environments, in which agents are integrated.

### **Perceptions of the Nationally Bilingual “Other” through Students’ Visual Thinking: A Small-scale Research Based on the Intercultural Interactions in Primary Schools in Cyprus**

*Floria Valanidou, Department of Education, University of Cyprus, Nicosia, Cyprus*

The paper presents a small-scale research aiming at investigating indigenous and immigrant primary school students' perceptions on the national and lingual diversity/otherness encountering in their schooling environment. Students' perceptions partly arise from a visual thinking process being stimulated by the usage of scenarios - “real” texts that could “talk out” pictures and images to them according to their experiences – intercultural in this case. The research methodology as a whole is based on the model of grass-root analysis that is the idea of transferring knowledge and methodology from the persons actually experiencing a situation with the view to develop the main research instruments. The way students both indigenous and immigrants, represent the nationally (bi)lingual “Other” visually thinking and verbally describing upon reflecting on scenarios being constructed according to real schooling experiences of them is interesting: it depicts information in a manner that is conducive to acquiring insights, developing an elaborate understanding and/or communicating their own experiences. Content, Thematic and Discourse Analysis is performed on the basis of certain criteria arising from the research questions, the theoretical background, the interviews' and focus groups' Data so as to extract students' perceptions. Findings are

discussed in the light of certain frameworks of intercultural education/debate and visual culture studies.

### **Parallel Session 20: Visual Literacy and Learning III**

#### **The Graphic Presentation of Warnings in Animated Visual Instructions: A Visual Literacy Perspective**

*Carla Galvão Spinillo and José Marconi B. de Souza, Department of Design, The Federal University of Paraná, Brazil*

This paper discusses the information content and graphic presentation of warnings in animated visual instructions, through an analytical study. This aimed to identify the visual characteristics of warnings, their means of presentation, and possible effects on users/readers' perception and comprehension of the hazard/risks represented. This session is mainly indented to developers of instructional material and animation, and its outcomes are expected to contribute to the design of information to users.

**Keywords:** warnings, animated instructions, visual literacy

#### **Fostering multimodal discourse analysis skills in classroom work: A social semiotic approach**

*Dimitra Makri and Efi Papadimitriou, Department of Education, Aristotle University of Thessaloniki, Thessaloniki, Greece*

This paper investigates multimodal discourse analysis skills needed to develop primary education students in order to identify, understand and explain the intra- and inter-modal interactions of semiotic resources are integrated to construct different kinds of meanings. In preparing for this kind of work with children we have designed a classroom intervention adopted from social semiotic accounts of “visual grammar” which posit the metafunctional organization of meaning-making resources and especially the compositional/textual metafunction. Preliminary results suggest that this kind of multimodal discourse analysis in the classroom enables students to be aware of the intersemiotic relations in page-based multimodal texts. Session content is appropriate for teachers, students and for individuals interested in educational perspectives of multimodal discourse analysis.

**Keywords:** Multimodal discourse analysis, social semiotic theory, textual metafunction, intersemiotic relations.

#### **Development of an Audiovisual Literacy: Important Aspects of Using Audiovisual Media in the Czech Education**

*Jan Mašek, Department. of Visual Culture, University of West Bohemia in Plzen, The Czech Republic*

The paper will be primarily interested in analyzing how film and audio-visual media can help to develop an audiovisual literacy and apply some educational curriculum topics. Author will digestedly systemize some aspects of using audiovisual messages in diverse

contexts of the Czech educational and society practice. **Keywords:** audiovisual literacy, film, Czech education

### **Modeling the Interactions in a Joint Cognitive System during Scientific Investigations**

*Andreas Chiras and Nicos Valanides, Department of Education, University of Cyprus, Nicosia, Cyprus*

In this paper, we outline an innovative framework for analysis of interactions of a joint cognitive system during scientific investigations. Sixty dyads consisting of two sixth-grade students were instructed to interact with a device and investigate its functioning. The students were explicitly instructed to think aloud prior and after any experiment with the device, to keep a record of their observations and to jointly decide how to proceed with their investigations. At the end of the investigation, each dyad was required to report its final conclusions concerning the functioning of the device. This procedure was based on Klahr and Dunbar's (1988) study, who conceptualized scientific investigation as a dual search, a search in a space of hypotheses and a search in a space of experiments. The software INSPIRATION has been used for visually representing the kind of interactions and the different thinking elements that the members of each dyad exhibited, as they were attempting to investigate the functioning of the device. These visual representations were used to compare the role and the contribution of the students in the investigation, such as, the degree of their collaboration, symmetry of partners' activity etc, particularly useful for understanding the mechanisms of collaboration.









