



# Positive Learning in the Age of Information



## PLATO NEWSLETTER 12/2021

Dear colleagues, as 2021 comes to an end, we would like to give you an annual review of our realized meetings, publications, and further progress in the PLATO project.

We would also like to wish you and your families a wonderful holiday season and look forward to further collaboration with you in 2022!

### Meetings in 2021

#### **DIAPASON Kick-Off Meeting**

On April 20, 2021, the DIAPASON Kick-Off Meeting took place (online). The five scholarship holders, Anika Kohmer, Alice Laufer, Amina Antonia Touzos, Dominik Braunheim, and Patryk Czerwinski, were welcomed by their mentoring professors: Mita Banerjee, Walter Bisang, Marcus Maurer, Jochen Roeper, Christian Schemer, and Olga Troitschanskaia.

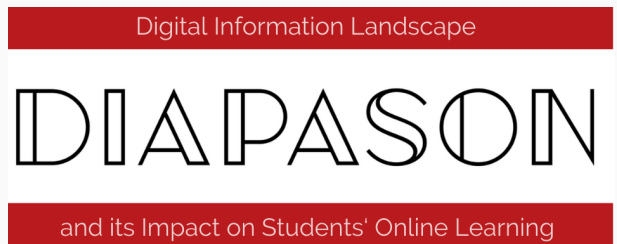
#### **PLATO International Advisory Board Meeting**

On May 6, 2021, the PLATO International Advisory Board Meeting took place (online) and with invited national and international critical friends. During this meeting, the current state in PLATO was presented and the further strategic development of PLATO was critically discussed by 29 participants, including PLATO Principal Investigators, members of the Scientific Advisory Board, and national and international critical friends.

# Research Training Group 'DIAPASON'

As of 2021, the Gutenberg Council for Young Scientists at JGU Mainz is funding the new interdisciplinary research training group (GRK) DIAPASON "Digital Information Landscape and its Impact on Students' Online Learning." DIAPASON focusses on the structural and semantic analysis of the online information landscape in which higher education students acquire most of their (domain-specific) knowledge nowadays. The relationship between the online information available and how students in higher education use it for purposes of studying, particularly in the domains of economics and medicine, are investigated.

Five three-year fellowships were awarded in May this year:



## DIAPASON scholarship holders



**Anika Kohmer**



**Alice Laufer**



**Amina Antonia Touzos**



**Patryk Czerwinski**



**Dominik Braunheim**

# BRIDGE

## Performance Assessment and Training

In the BRIDGE project *"Practical educational processes in law and teacher training and medicine using digital media"*, new approaches for performance assessment and digital training for young professionals' generic and domain-specific online reasoning in law, medicine, and teacher practice are developed and tested. This project is part of the "Research for the Design of Educational Processes under the Conditions of Digital Change" program.

Nowadays, young professionals are increasingly turning to online sources for information and learning. Critical reasoning from online information for learning and professional processes in the domains of medicine, law, and teaching is considered a highly relevant competence facet. However, online information seeking and corresponding competencies of young professionals in job-specific educational processes have not been researched yet. There is a lack of valid domain-specific assessments for different professions and learning tools that could effectively foster the competent use of online information in practice among young professionals.

To close that gap, the BRIDGE project team developed and tested computer-based online performance assessments and corresponding training tools to find a way to validly measure and promote generic and domain-specific critical online reasoning among young professionals from these three domains. The extent to which young professionals improve in using online information with greater reflection when creating job-specific documents after receiving specific online training is measured through the analysis of process and performance data. This data analysis is based on innovative approaches, including text mining and educational data mining.



# Research Unit 'CORE'



Deutsche  
Forschungsgemeinschaft

In 2020, an initial proposal for establishing a new interdisciplinary research group was submitted to the German Research Foundation (DFG). Following the positive evaluation of this proposal, the long proposal is currently being prepared. The proposed research group "Critical Online Reasoning in Higher Education ('CORE')" focuses on the skills students need to study successfully at universities that use the Internet as an important learning environment and information source. Based on PLATO's strong prior research, CORE systematically and explicitly addresses current challenges of online learning in higher education by combining the strengths of multiple disciplinary approaches and applying qualitative and quantitative analyses to generate innovative integrative models, timely research findings, and a unique educational research dataset that, combined, provide a promising avenue for long-term research and development in higher education.

## PLATO Special Track

### IFKAD 2022

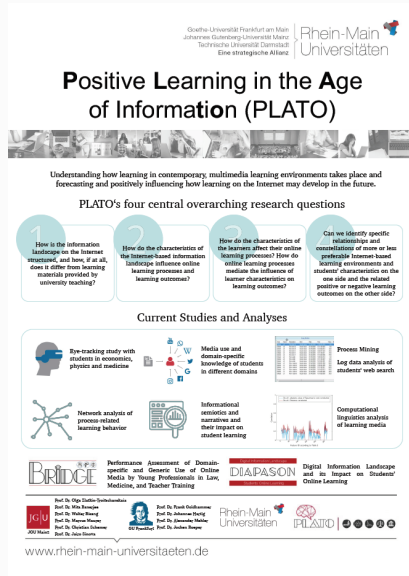
We are pleased to announce that we have been accepted for a Special Track with PLATO at the annual IFKAD (International Forum on Knowledge Asset Dynamics) conference in 2022. In this context, we will be able to design several sessions at the international conference and include numerous contributions from PLATO research. Next year's 17th IFKAD conference will be held in Lugano, Switzerland, from June 20–22, 2022.

In this Special Track session, we will include presentations focussing on the following topics:

- Challenges and opportunities of online knowledge provision
- The information landscape on the Internet
- Informal learning online







## Presented Poster

September, 13th, 2021:

### Rhine-Main Universities Alliance Open Day

As part of the RMU Open Day, PLATO presented its research framework and central findings during a poster presentation called "Market of Possibilities".

## Conference attendance 2021

### Business and Economics Education Annual Conference 2021

#### (Jahrestagung der Berufs- und Wirtschaftspädagogik (BWP))

Bültmann, A.-K., Zlatkin-Troitschanskaia, O., Brückner, S., Nagel, M.-T., Fischer, J., Maur, A. & Schmidt, S. (2021, September 15–17). *Kritischer Umgang mit Online-Informationen von Lehramtsreferendaren mit Fach Wirtschaft*. BWP, Bamberg, Germany.

### Empirical Educational Research Annual Conference 2021

#### (Digitales Konferenzjahr der Gesellschaft für die Empirische Bildungsforschung (digiGEBF21))

PLATO Symposium: *"The Effect of Digital Media Use and Online Information Selection on Learning Success in University and Vocational Studies"*. Lead: Zlatkin-Troitschanskaia, O., Hartig, J. & Goldhammer, F.

#### Presentations

Hahnel, C. & Goldhammer, F. (2021). *Effektive Bewertung und Auswahl von Online-Informationen: Eine Frage des Alters und Bildungsniveaus?* DigiGEBF, Germany.

Braunheim, D., Fischer, J., Zlatkin-Troitschanskaia, O., Beck, K., Schmidt, S., Nagel, M.-T. & Shavelson, R. (2021). *The Role of Students' Beliefs when Critically Reasoning based on Multiple Contradictory Sources of Information in Performance Assessments*. DigiGEBF, Germany.

Molero, D., Zlatkin-Troitschanskaia, O., Nagel, M.-T. & Schmidt, S. (2021). *Das Civic Online Reasoning Assessment für die Hochschulbildung in Deutschland: Kritischer Umgang der Studierenden mit Online-Informationen*. DigiGEBF, Germany.

## Publications (Selection)

We are very happy to inform you of our new PLATO special issue “Progressions in Learning in the Age of (Mis)Information – Advances in Higher Education Learning Research” that was published in the renowned journal *Studies in Higher Education* (Volume 46, Issue 10) and includes the following articles:

Aichele, C., Hartig, J., & Michaelis, C. (2021). Assessing learning progress: validating a test score interpretation in the domain of sustainability management. *Studies in Higher Education*, 46(10), 2047-2062.

Banerjee, M., & Zlatkin-Troitschanskaia, O. (2021). The gap between knowledge and belief: narrative, affect and students' deeper learning in higher education. *Studies in Higher Education*, 46(10), 2087-2098.

Gardner, H. E., & Fischman, W. (2021). Does truth have a future in higher education?. *Studies in Higher Education*, 46(10), 2099-2105

Hahnel, C., Goldhammer, F., Kroehne, U., Mahlow, N., Artelt, C., & Schoor, C. (2021). Automated and controlled processes in comprehending multiple documents. *Studies in Higher Education*, 46(10), 2074-2086.

Nagel, M. T., Reichert-Schlax, J., Zlatkin-Troitschanskaia, O., Klose, V., Weber, M., & Roeper, J. (2021). The relationship between medical students' media use and learning progress. *Studies in Higher Education*, 46(10), 2063-2073.

Neumann, I., Sorge, S., Hoth, J., Lindmeier, A., Neumann, K., & Heinze, A. (2021). Synergy effects in learning? The influence of mathematics as a second subject on teacher students' physics content knowledge. *Studies in Higher Education*, 46(10), 2035-2046

Schiering, D., Sorge, S., & Neumann, K. (2021). Promoting progression in higher education teacher training: how does cognitive support enhance student physics teachers' content knowledge development?. *Studies in Higher Education*, 46(10), 2022-2034.

Zlatkin-Troitschanskaia, O., Hartig, J., & Goldhammer, F. (2021). Progressions in Learning in the Age of (Mis) Information (PLATO)–Advances in Higher Education Learning Research.

Zlatkin-Troitschanskaia, O., Hartig, J., Goldhammer, F., & Krstev, J. (2021). Students' online information use and learning progress in higher education–A critical literature review. *Studies in Higher Education*, 46(10), 1996-2021.

### *Further publications*

Zlatkin-Troitschanskaia, O., Brückner, Nagel, M.-T., Bültmann, A.-K., S., Fischer, J., Schmidt, S. & Molerov, D. (2021). Performance Assessment and Digital Training Framework for Young Professionals' Generic and Domain-Specific Online Reasoning in Law, Medicine and Teacher Practice. *Journal of Supranational Policies of Education*, 13, 9-36.

## Accepted conference papers

### American Educational Research Association (AERA) 2022 Annual Meeting

Braunheim, D. & Zlatkin-Troitschanskaia, O. (2022, April 21–26). Dealing with Uncertainty and Ambiguity while Assessing Multiple Contradictory Sources. AERA, San Diego, California.

Fischer, J., Zlatkin-Troitschanskaia, O., Bültmann, A.-K., Nagel, M.-T. & Maur, A. (2022, April 21–26). *Domain-specificity of online information use in solving job-related tasks in law, medicine, and teaching*. AERA, San Diego, California.

Kohmer, A. & Zlatkin-Troitschanskaia, O. (2022, April 21–26). Development and implementation of a training to assess and improve university students' critical online reasoning. AERA, San Diego, California.

Nagel, M.-T., Zlatkin-Troitschanskaia, O., Molerov, D., Brückner, S., & Schmidt, S. (2022, April 21–26). *Assessing University Students' Critical Online Reasoning and the Impact of Personal Characteristic*. AERA, San Diego, California.

### National Council on Measurement in Education (NCME) 2022 Annual Conference

Susanne, S., Zlatkin-Troitschanskaia, O., Shenavai, K., & Bültmann, A.-K. (2022). *Exploring Learning Pathways in a Critical Online Reasoning Assessment among graduates*. NCME, San Diego, California.

### World Education Research Association (WERA) 2022 Focal Meeting

Maur, A., Zlatkin-Troitschanskaia, O., Bültmann, A.-K., Shenavai, K., Fischer, J., Nagel, M.-T. & Schmidt, S. (2022, April 22–25). Profiles of Generic Critical Online Reasoning among Young Professionals in Medicine, Law and Teaching. WERA, San Diego, California.

*PLATO Symposium: Level and Profiles of Young Professionals' Critical Online Reasoning in Law, Medicine, and Teacher Practice. Lead: Zlatkin-Troitschanskaia, O., Mehler A., & Roeper, J.*

Bültmann, A.-K., Zlatkin-Troitschanskaia, O., Schmidt, S., Nagel, M.-T., Fischer, J., Maur, A. & Brückner, S. (2022, April 22–25). Performance Indicators of Online Information Processing Behaviors of Young Professionals while Solving Critical Reasoning Tasks. WERA, San Diego, California.

Konca, M., Lücking, A., Mehler, A., Nagel, M.-T., & Zlatkin-Troitschanskaia, O. (2022, April 22–25). Computational educational linguistics for "Critical Online Reasoning" among young professionals in medicine, law and teaching. WERA, San Diego, California.

Nagel, M.-T., Zlatkin-Troitschanskaia, O., Bültmann, A.-K., Fischer, J., Schmidt, S., Maur, A. & Brückner, S. (2022, April 22–25). The Relationship between Web Search Behaviour and Website Characteristics, and Young Professionals' Critical Online Reasoning. WERA, San Diego, California.