

Elisabeth Bauer M.Sc.

Leopoldstraße 13, 80802 München, Deutschland
elisabeth.bauer@psy.lmu.de
+49(0)89 2180-17444

Curriculum Vitae

Personal Data

Name **Elisabeth Bauer M.Sc.**
Year of birth **1993**

ORCID <https://orcid.org/0000-0003-4078-0999>
ReserachGate <https://www.researchgate.net/profile/Elisabeth-Bauer-6>
Google Scholar <https://scholar.google.de/citations?user=QUM0fvMAAAAJ&hl=en>

Research Interests

- Scientific reasoning and argumentation
- Diagnostic skills
- Adaptive feedback
- Simulations and simulation-based learning

Short Bio

Elisabeth Bauer studied Educational Sciences in her Bachelor's at LMU Munich and Psychology: Learning Sciences in her Master's at LMU Munich. In 2017, she started working as a research associate with Professor Frank Fischer in the BMBF funded project FAMULUS. Since 2019, she is also a PhD candidate in the current cohort of the REASON international doctoral school. Her research interest are scientific reasoning and argumentation in the context of diagnosing and its facilitation using simulation-based learning and automated adaptive feedback.

Academic Qualification

Since 10/2019 **LMU Munich (Germany), PhD student in the third cohort of the international doctoral school REASON**
Subjects: psychology (major) and educational sciences (minor)

12/2018 – 09/2019 **LMU Munich (Germany), Associated PhD student in the second cohort of the international doctoral school REASON**
Subjects: psychology (major) and educational sciences (minor)

Since 10/2017 **LMU Munich (Germany), PhD student of the Doctoral Training Program in the Learning Sciences**
Subjects: psychology (major) and educational sciences (minor)

10/2015 – 09/2017 **LMU Munich (Germany), Master of Science student**
Subjects: Psychology in the Learning Sciences
Degree: M.Sc. (1.4)

Elisabeth Bauer M.Sc.

10/2011 – 09/2014 **LMU Munich (Germany), Bachelor of Arts student**
Subjects: educational sciences (major), psychology (minor)
Degree: B.A. (2.0)

Work Experience

Since 10/2017 **LMU Munich (Germany), Education and Educational Psychology, work unit of Prof. Dr. Frank Fischer**
Research associate and PhD student

2013 – 2017 **Several internships and working student appointments (at LMU University Hospital, Deutsche Bahn, Petschwork Consulting)**
Working student and intern

Third party funding

Since 10/2019 **REASON - Scientific Reasoning and Argumentation, international doctoral school**, funded by Elite Network of Bavaria (ENB, an initiative of the Bavarian Ministry of Science and the Arts).
(Phase 1: ~251.000 EUR; Phase 2: ~251.000 EUR)
Status: PhD student

12/2018 – 09/2019 **REASON - Scientific Reasoning and Argumentation, international doctoral school**, funded by Elite Network of Bavaria (ENB, an initiative of the Bavarian Ministry of Science and the Arts).
(Phase 1: ~251.000 EUR; Phase 2: ~251.000 EUR)
Status: Associated PhD student

Since 10/2017 **DFG-Forschungsgruppe COSIMA: Förderung von Diagnosekompetenzen in simulationsbasierten Lernumgebungen in der Hochschule** (in cooperation with TU Munich), funded by German Research Foundation (DFG). (Phase 1: ~254 000 EUR; Phase 2: ~270 000 EUR)
Status: Associated PhD student

10/2017 – 06/2020 **FAMULUS - Förderung von Diagnosekompetenzen durch adaptive Online-Fallsimulationen in Medizin- und Lehramtsstudium** (in cooperation with Institute of Health Education, LMU Munich and Ubiquitous Knowledge Processing Lab, TU Darmstadt), funded by the Federal Ministry of Education and Research (BMBF). (~306 000 EUR)
Status: Project staff and PhD student

Commitment to self-administration

Since 12/2019 Student representative for the REASON international graduate school LMU Munich (Germany)

Elisabeth Bauer M.Sc.

List of courses taught

*Courses
(German-
speaking)*

- Diagnosekompetenztraining im Rahmen der Staatsexamensvorbereitung Pädagogische Psychologie des Lehrens und Lernens (Teacher education; partially with Julia Murböck & Heidi Gesell): winter term 2017/2018
- Seminar zu Lehren- und Lernen II „Einführung in die Mediendidaktik und didaktisches Design mit Learning Management Systemen“ (B.A. Educational science): summer term 2018
- Übung zu Empirische Forschungsmethoden I-1 (B.A. Educational science): winter term 2018/2019, winter term 2019/2020, winter term 2020/2021
- Übung zu Empirische Forschungsmethoden I-2 (B.A. Educational science): summer term 2019, summer term 2020, summer term 2021

*Courses
(English-
speaking)*

- REASON Retreat (REASON doctoral school; with Frank Fischer & Larissa Kaltefleiter): Winter term 2019/2020, winter term 2020/2021
- Scientific Reasoning & Argumentation II (REASON doctoral school; with Christopher Osterhaus): summer term 2020
- Learning, Instruction, Training and Instruction I (M.Sc. Psychology: Learning Sciences; partially with Michael Sailer): summer term 2018, summer term 2019
- Learning, Instruction, Training and Instruction II (M.Sc. Psychology: Learning Sciences): winter term 2019/2020

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Publications

Journal articles with peer-review (3)

- (1) **Bauer, E.**, Fischer, F., Kiesewetter, J., Shaffer, D. W., Fischer, M. R., Zottmann, J. M., & Sailer, M. (2020). Diagnostic Activities and Diagnostic Practices in Medical Education and Teacher Education: An Interdisciplinary Comparison. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.562665>
- (2) Fink, M. C., Radkowitz, A., **Bauer, E.**, Sailer, M., Kiesewetter, J., Schmidmaier, R., Siebeck, M, Fischer, F., & Fischer, M. R. (2020). Simulation research and design: a dual-level framework for multi-project research programs. *Educational Technology Research and Development*, 1-33. <https://doi.org/10.1007/s11423-020-09876-0>
- (3) Kiesewetter, J., Sailer, M., Jung, V., Schönberger, R., **Bauer, E.**, Zottmann, J., M., Hege, I., Fischer, F., & Fischer, M. R. (2020). Learning clinical reasoning: how virtual patient case format and prior knowledge interact. *BMC Medical Education*, 20(73). <https://doi.org/10.1186/s12909-020-1987-y>

Book chapters and conference proceedings with peer-review (6)

- (1) **Bauer, E.**, Sailer, M., Kiesewetter, Fischer, M. R., & Fischer, F. (2021). Pre-Service Teachers' Argumentations in the Context of Assessment. *The Interdisciplinarity of the Learning Sciences. 15th International Conference of the Learning Sciences (ICLS) 2021 Proceedings*, (pp. 669- 672). International Society of the Learning Sciences.
- (2) **Bauer, E.**, Sailer, M., Kiesewetter, J., Schulz, C., Gurevych, I., Fischer, M. R., & Fischer, F. (accepted). Learning to Diagnose Students' Behavioral, Developmental and Learning Disorders in a Simulation-Based Learning Environment for Pre-Service Teachers. In F. Fischer & A. Opitz (Eds.), *Learning to Diagnose with Simulations*. Springer.
- (3) **Bauer, E.**, Sailer, M., Kiesewetter, J., Schulz, C., Pfeiffer, J., Gurevych, I., Fischer, M. R., & Fischer, F. (2019). Using ENA to analyze pre-service teachers' diagnostic argumentations: A conceptual framework and initial applications. In E. Brendan, Misfeldt, M., & Siebert-Evenstone A. (Eds.), *International Conference on Quantitative Ethnography* (pp. 14-25). Springer. https://doi.org/10.1007/978-3-030-33232-7_2
- (4) **Bauer, E.**, Sailer, M., Kiesewetter, J., Shaffer, D. W., Schulz, C., Pfeiffer, J., Gurevych, I., Fischer, M. R., & Fischer, F. (2020). Pre-Service Teachers' Diagnostic Argumentation: What is the Role of Conceptual Knowledge and Cross-Domain Epistemic Activities? In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences. 14th International Conference of the Learning Sciences (ICLS) 2020 Proceedings*, (pp. 2399-2400). International Society of the Learning Sciences. <https://doi.org/10.22318/icls2020.2399>
- (5) Pfeiffer, J., Meyer, C. M., Schulz, C., Kiesewetter, J., Zottmann, J., **Sailer, M.**, Bauer, E., Frank, F., Fischer, M. R., & Gurevych, I. (2019). FAMULUS: interactive annotation and feedback generation for teaching diagnostic reasoning. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language*

Elisabeth Bauer M.Sc.

- Processing and the 9th International Joint Conference on Natural Language Processing* (pp. 73-78). <https://www.aclweb.org/anthology/D19-3013.pdf>
- (6) Schulz, C., Meyer, C. M., Kiesewetter, J., **Sailer, M.**, Bauer, E., Fischer, M. R., Fischer, F. & Gurevych, I. (2019). Analysis of automatic annotation suggestions for hard discourse-level tasks in expert domains. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics* (pp. 2761-2772). <https://www.aclweb.org/anthology/P19-1265.pdf>

Conferences (17)

- (1) **Bauer, E.**, Sailer, M., Kiesewetter, J., Fischer, M. R., & Fischer, F. (2018, September). *Förderung von Diagnosekompetenzen durch simulationsbasiertes Lernen im Lehramtsstudium: Effekte sequenzieller vs. holistischer Fallsimulationen*. Presented at the 51. Kongress der Deutschen Gesellschaft für Psychologie (DGPs), Frankfurt am Main, Germany.
- (2) **Bauer, E.**, Sailer, M., Kiesewetter, J., Fischer, M. R., & Fischer, F. (2021, June). *Pre-Service Teachers' Argumentations in the Context of Assessment*. Paper presented at the International Conference in the Learning Sciences (ICLS), online.
- (3) **Bauer, E.**, Sailer, M., Kiesewetter, J., Fischer, M. R., & Fischer, F. (2021, August). *Pre-Service Teachers' Diagnostic Argumentation: Diagnostic Accuracy Is Not Enough*. Presented at the 19th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI), online.
- (4) **Bauer, E.**, Sailer, M., Kiesewetter, J., Fischer, M. R., & Fischer, F. (2021, September). *Diagnostisches Argumentieren von Lehramtsstudierenden*. Presented at the Tagung der Fachgruppe Pädagogische Psychologie (PAEPSY), online.
- (5) **Bauer, E.**, Sailer, M., Kiesewetter, J., Schulz, C., Pfeiffer, J., Gurevych, I., Fischer, M. R. & Fischer, F. (2019, October). *Using ENA to Analyze Pre-service Teachers' Diagnostic Argumentations: A Conceptual Framework and Initial Applications*. Paper presented at the International Conference on Quantitative Ethnography (ICQE), Madison WI, US.
- (6) **Bauer, E.**, Sailer, M., Kiesewetter, J., Shaffer, D. W., Schulz, C., Pfeiffer, J., Gurevych, I., Fischer, M. R., & Fischer, F. (2020, June). *Pre-Service Teachers' Diagnostic Argumentation: What is the Role of Conceptual Knowledge and Cross-Domain Epistemic Activities?* Accepted as poster and short paper at the International Conference in the Learning Sciences (ICLS), online.
- (7) **Bauer, E.**, Sailer, M., Schulz, C., Kiesewetter, J., Fischer, M. R., Gurevych, I., & Fischer, F. (2019, August). *Diagnostic activity patterns of preservice teachers in learning with case-simulations*. Presented at the 18th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI), Aachen, Germany.
- (8) Jung, V., Schönberger, R., Sailer, M., **Bauer E.**, Fischer F., Fischer M. R., & Kiesewetter J. (2018, September). *Der Effekt von Vorwissen und Falldarbietungsformat auf die Diagnoserichtigkeit und den prozeduralen Wissenserwerb Medizinstudierender*. Presented at the Jahrestagung der Gesellschaft für Medizinische Ausbildung (GMA), Wien, Austria.
- (9) Kiesewetter, J., Jung V., Sailer, M., Schoenberger R., **Bauer E.**, Zottmann J., Hege I., Fischer F., & Fischer M. R. (2018, August). *Fostering diagnostic competence with whole cases vs. serial cue cases: Effects of whole case vs. serial cue on learning process and outcomes*. Paper presented at the Association of Medical Education Conference, Basel, Switzerland.
- (10) Sailer, M., **Bauer, E.**, Hofmann, R., Kiesewetter, J., Glas, J., Gurevych, I., & Fischer, F. (2021, August). *Effects of automatic adaptive AI-based feedback on*

Elisabeth Bauer M.Sc.

- diagnostic skills of pre-service teachers*. Presented at the 19th Biennial Conference of the European Association for Research on Learning and Instruction (EARLI), online.
- (11) Sailer, M., **Bauer, E.**, Hofmann, R., Kiesewetter, J., Glas, J., Gurevych, I., & Fischer, F. (2021, September). *Automatisches adaptives Feedback zur Förderung von Diagnosekompetenzen in der Lehramtsausbildung*. Presented at the Tagung der Fachgruppe Pädagogische Psychologie (PAEPSY), online.
 - (12) Sailer, M., **Bauer, E.**, Kiesewetter, J., Pfeiffer, J., Schulz, C., Gurevych, I., Fischer, M. R., & Fischer, F. (2020, March). *Automatisches Adaptives Feedback in simulationsbasierten Lernumgebung zur Förderung von Diagnosekompetenzen in der Lehrerbildung*. Presented at the Tagung der Gesellschaft für Empirische Bildungsforschung (digiGEBF21), online.
 - (13) Pfeiffer, J., Meyer, C. M., Schulz, C., Kiesewetter, J., Zottmann, J., Sailer, M., **Bauer, E.**, Fischer, F., Fischer, M. R., Gurevych, I. (2019, November): *FAMULUS: Interactive Annotation and Feedback Generation for Teaching Diagnostic Reasoning*. Paper presented at the Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP), Hong Kong, China.
 - (14) Schäßner, P., **Bauer, E.**, Schulz, C., Gurevych, I., Fischer, M. R., & Kiesewetter, J. (2019, September). *The role of epistemic activities on diagnostic outcomes in medical students' learning with two different virtual patient case formats* Presented at the Tagung der Gesellschaft für Medizinische Ausbildung (GMA), Frankfurt, Germany.
 - (15) Schulz, C., Kiesewetter, J., Sailer, M., **Bauer, E.**, Fischer, F., Fischer, M. R., & Gurevych, I. (2018, October) *The Theory of Scientific Reasoning and Argumentation in Practice*. Paper presented at the Conference on Bridging the Gap between Formal Argumentation and Actual Human Reasoning. Bochum, Germany.
 - (16) Schulz, C., Meyer, C. M., Kiesewetter, J., Sailer, M., **Bauer, E.**, Fischer, M. R., Fischer, F., & Gurevych, I. (2019, July). *Analysis of Automatic Annotation Suggestions for Hard Discourse-Level Tasks in Expert Domains*. Paper presented at the 57th Annual Meeting of the Association for Computational Linguistics (ACL), Florence, Italy.
 - (17) Schulz, C., Sailer, M., Kiesewetter, J., **Bauer, E.**, Fischer, F., Fischer, M. R. & Gurevych, I. (2018, October). *Automatic Recommendations for Data Coding: a use case from medical and teacher education*. Paper presented at the IEEE eScience Conference, Amsterdam, Netherlands.

Invited talks (2)

- (1) **Bauer, E.**, Sailer, M., Kiesewetter, J., Schulz, C., Gurevych, I., Fischer, M. R. & Fischer, F. (2019, May). *Learning to diagnose in simulations: Towards automated feedback*. Invited talk at the International Symposium on Dyslexia & Dyscalculia: Digital Diagnostics, Intervention and Game-Based Learning (LONDI), LMU Klinik und Poliklinik für Kinder- und Jugendpsychiatrie, Psychosomatik und Psychotherapie, Munich, Germany.
- (2) **Bauer, E.** (2021, September). *Förderung von Diagnosekompetenzen mittels simulationsbasiertem Lernen und automatisiertem, adaptivem Feedback*. Invited talk at the Bundeskongress für Schulpsychologie 2021 (BUKO), online.