

Artificial Intelligence in Education 2018
London, United Kingdom
June 30, 2018

**Workshop Proceedings:
Assessment and Intervention during Team Tutoring**

Workshop Co-Chairs:

Anne M. Sinatra, Ph.D.

NSRDEC Simulation and Training Technology Center (STTC)

Jeanine A. DeFalco, Ph.D.

Oak Ridge Associated Universities & NSRDEC STTC

Workshop Committee:

Robert Sottolare, Ph.D.

NSRDEC STTC

Elyse Burmester

Dignitas Technologies

Noel Cal

Dignitas Technologies

Stephen Gilbert, Ph.D.

Iowa State University

Art Graesser, Ph.D.

University of Memphis

Joan Johnston, Ph.D.

NSRDEC STTC

Rodney Long

NSRDEC STTC

Copyright © 2018 for all papers contained in these proceedings
are held by its authors.

Copying permitted for private and academic purposes.

Preface

This workshop was conducted in conjunction with the 19th Artificial Intelligence in Education Conference (AIED) which was part of the London Festival of Learning in June 2018. This workshop focused on different applications of team tutoring within intelligent tutoring systems (ITSS). The workshop included many examples of team tutoring in action in different domains, as well as considerations for creating team tutors. The goals of this workshop included identifying use cases and approaches in team tutoring. Additionally, there was a focus on challenges encountered in team tutoring and how they were overcome by the attendees. The workshop ended on a discussion which identified commonalities in the work and approaches of the attendees, as well as steps forward for team tutoring. These challenges and solutions in team tutoring are captured within the proceedings papers in this volume.

June 2018

Anne M. Sinatra and Jeanine A. DeFalco

Table of Contents

Introduction to Assessment and Intervention during Team Tutoring <i>Anne M. Sinatra, Jeanine A. DeFalco & Robert Sottolare</i>	1
Analysing Groups' Problem-solving Process to Characterize Collaboration within Groups <i>Adeniran Adetunji, Judith Masthoff, & Nigel Beacham</i>	5
Considerations for Dealing with Real-Time Communications in an Intelligent Team Tutoring System Experiment <i>Anne M. Sinatra, Stephen Gilbert, Michael Dorneich, Eliot Winer, Alec Ostrander, Kaitlyn Ouverson, Joan Johnston & Robert Sottolare</i>	28
Simulating Collaborative Learning through Decision-Theoretic Agents <i>David V. Pynadath, Ning Wang & Richard Wang</i>	36
Framework for Effective Teamwork Assessment in Collaborative Learning and Problem Solving <i>Pravin Chopade, Saad Khan, Kristin Stoeffler, David Edwards, Yigal Rosen & Alina von Davier</i>	48
Indeterminacy and Context Challenges in Automated Team Assessment and Tutoring <i>Wayne W. Zachary</i>	59