

# SpringerBriefs in Education

For further volumes:

<http://www.springer.com/series/8914>



Andrea Gaggioli · Giuseppe Riva  
Luca Milani · Elvis Mazzoni

# Networked Flow

Towards an Understanding  
of Creative Networks

 Springer

Andrea Gaggioli  
Department of Psychology  
Catholic University of Sacred Heart  
Milan, Milano  
Italy

Luca Milani  
Department of Psychology  
Catholic University of Sacred Heart  
Milan, Milano  
Italy

Giuseppe Riva  
Department of Psychology  
Catholic University of Sacred Heart  
Milan, Milano  
Italy

Elvis Mazzoni  
Department of Educational Sciences  
University of Bologna  
Cesena  
Italy

ISSN 2211-1921

ISSN 2211-193X (electronic)

ISBN 978-94-007-5551-2

ISBN 978-94-007-5552-9 (eBook)

DOI 10.1007/978-94-007-5552-9

Springer Dordrecht Heidelberg New York London

Library of Congress Control Number: 2012948633

© The Author(s) 2013

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media ([www.springer.com](http://www.springer.com))

# Contents

<b>1</b>	<b>Introduction from Creativity to Creative Networks</b>	1
1.1	Creativity as a Complex Sociocultural Phenomenon	2
1.2	From Creative Genius to Creative Networks	6
1.3	The Role of Social Presence in Creative Networks	10
1.4	The Emergence of a Creative Network: Networked Flow	12
1.5	Using Social Network Analysis to Model the Evolution of Creative Networks	15
1.6	Toward an Integrated Model for the Study of Creative Networks	18
1.7	Conclusions	18
<b>2</b>	<b>The Cognitive Foundations of Networked Flow: Intentions, Presence, and Social Presence</b>	21
2.1	A New Model of Cognition	23
2.2	From Intention to Action	25
2.2.1	The Structure of Intention	26
2.2.2	Verifying the Efficacy of an Action: From the Body to Possible Worlds	30
2.3	From Action to Perception	34
2.4	From Perception to Presence	35
2.4.1	Presence as a Specific Cognitive Process	36
2.4.2	Social Presence as a Specific Cognitive Process	38
2.5	The Evolutionary Role of Presence and Social Presence	40
2.5.1	Presence and the Evolution of the Self	40
2.5.2	The Three Levels of Presence	42
2.5.3	The Three Levels of Social Presence	44
2.6	The Social Process: The Point of Contact Between Presence and Social Presence	46
2.6.1	Presence, Activity, and Optimal Experiences	47
2.6.2	The Result of Optimal Experiences: Memes	49
2.6.3	From the Group to Society: The Role of Narration	51
2.7	Conclusions: The Process of Networked Flow	52

<b>3</b>	<b>The Emergence of Networked Flow</b>	55
3.1	“Meeting—Persistence”	57
3.2	Reducing the Distance	60
3.3	The Liminality-Parallel Action.	62
3.4	Networked Flow	64
3.5	Networked Flow: Creation of the Artifact	66
3.6	Networked Flow: The Application of the Artifact in a Social Network	67
<b>4</b>	<b>Analyzing the Experience of Networked Flow Through Social Network Analysis</b>	71
4.1	A Brief Introduction to the Analysis of Social Interactions	71
4.2	SNA and Networked Flow: A Methodological Proposal	72
4.3	Groups, Social Networks, and Social Network Analysis	75
4.4	The Analysis of Small Groups Collaborating Online.	76
4.4.1	Originality in Small Groups Collaborating Online	77
4.4.2	Neighborhood Analysis: The Density of a Network	78
4.4.3	Analysis of Cohesion: Zones of Confrontation and Exchange in a Network	79
4.4.4	Centralization and the Communicative Structure of a Network.	80
4.4.5	An Interpretation of Density, Cohesion and Centralization.	83
4.4.6	Communicative Structures and Depth of Group Discussions	84
4.4.7	Cohesion and Group Creativity	86
4.5	Evolutionary Dynamics of a Web Social Network.	87
4.5.1	Connectivity Analysis; Strength, and Vulnerability in the Relations in a Network.	88
4.5.2	Being Part or Sub-Part of a Network: Segregation Analysis	89
4.5.3	Being Part or Sub-Part of a Network: Segregation Analysis	90
4.6	Modeling the Structural Dynamics of Interaction in Creative Learning Teams	92
4.7	Future Perspectives of Analysis: Text Mining and SNA	95
4.8	When and Why Do We Use SNA Indices?.	98
<b>5</b>	<b>Conclusion Networked Flow: A Future Vision</b>	101
	<b>References</b>	105
	<b>Index</b>	115