



Interthinking

PUTTING TALK TO WORK

KAREN LITTLETON and NEIL MERCER

INTERTHINKING

Through using spoken language, people are able to think creatively and productively together. This ability to ‘interthink’ is an important product of our evolutionary history that is just as important for our survival today. Many kinds of work activity depend on the success of groups or teams in finding joint solutions to problems. Creative achievement is rarely the product of solitary endeavour, but of people working within a collective enterprise.

Written in an accessible and jargon-free style, *Interthinking: Putting talk to work* explores the growing body of work on how people think creatively and productively together. Challenging purely individualistic accounts of human evolution and cognition, its internationally acclaimed authors provide analyses of real-life examples of collective thinking in everyday settings including workplaces, schools, rehearsal spaces and online environments.

The authors use sociocultural psychology to explain the processes involved in interthinking, to explore its creative power, but also to understand why collective thinking isn’t always productive or successful. With this knowledge we can maximize the constructive benefits of our ability to interthink, and understand the best ways in which we can help young people to develop, nurture and value that capability.

This book will be of great interest to academic researchers, postgraduates and undergraduates on education and psychology courses and to practising teachers. It will also appeal to anyone with an interest in language, creativity and the role of psychology in everyday life.

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PREFACE

In any area of research, ideas develop through collective as well as individual efforts.

This book has emerged in part from the ‘interthinking’ and collaborative work of a number of researchers who have, over 20 or so years, been committed to finding theoretically informed ways of helping people to think together. Special thanks are due to Lyn Dawes, whose creative and inspiring (inter)thinking contributed to the development of the concept of ‘interthinking’ and who provided constructively critical comments on earlier drafts of the manuscript. The ideas presented here have also been shaped by the work of: Douglas Barnes, Caroline Coffin, Liz Dobson, Derek Edwards, Rebecca Ferguson, Rosie Flewitt, Julia Gillen, Sara Hennessy, Christine Howe, Cindy Kerawalla, Ruth Kershner, Judith Kleine Staarman, Dorothy Miell, Sylvia Rojas-Drummond, Phil Scott, Benson Soong, Alison Twiner, Eva Vass, Paul Warwick, Denise Whitelock, David Whitebread and Rupert Wegerif.

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Notes on transcription

For our own data we have used a very simple transcription format, in which speech is rendered as grammatical phrases and sentences, to represent the sense that we, as researchers with access to the raw data, made of what was said. Information about equipment, non-verbal aspects of communication and any other contextual information that we considered pertinent to the analysis is to be found in italics in a column or in parentheses. Our judgement was that the inclusion of additional information at our disposal, such as length of pauses or other prosodic and contextual details, would be distracting to readers and irrelevant to the issues we are addressing. Non-word utterances such as ‘mm’/‘ooh’ are included when they are judged to have a communicative function (e.g. to show surprise, agreement, or to extend a speaker’s turn in the face of possible interruptions). Words spoken emphatically are in italics. Simultaneous speech is shown by the use of brackets ([]) preceding each utterance. Where the accurate transcription of a word is in doubt, it is in parentheses. When utterances could not be heard or deciphered, we say so.

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UNDERSTANDING INTERTHINKING

Introduction

Imagine you are back in school, in a science lesson. The teacher begins the lesson by saying that it will be about the solar system. She says she is going to ask a member of the class to explain to everyone why the moon seems to change shape, over the course of a month. She is looking directly at you. How do you feel? If you are/were a confident and knowledgeable science student, you may not feel at all worried, knowing that you can provide a clear answer. But it is at least as likely that you feel anxious and very unsure that you can provide the right answer. Imagine now a different classroom scenario. The teacher introduces the same topic, but this time she says she is going to give you all five minutes to talk together in groups of three to decide why you think the moon changes shape. One of you will then act as spokesperson for the group, to give the class your agreed answer. Does this scenario make you feel any different? If the prospect of providing an answer now makes you feel less anxious, then that is a tribute to the power of the process we are going to describe in this book – *interthinking*.

Our aim is to explain how, mainly by using spoken language, people are able to think creatively and productively together. We call this process ‘interthinking’ to emphasize that people do not use talk only to *interact*, they *interthink*. As we will explain, we consider this ability to be one of the defining characteristics of our species, an important product of our evolutionary history that is at least as important today as it ever was. Many kinds of workplace activity depend on the success of groups or teams finding solutions to problems that arise. Surveys commonly report that an ability to work effectively in teams is one of the characteristics that employers

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most hope to find in young people joining their workforces. Being able to work with others is also a requirement for active participation in democracy and the life of any community. Although there is a tendency to associate great achievements with the efforts of individuals, recent studies of creative achievement highlight the importance of the intellectual relationships and collective enterprises that those individuals were involved in (see, for example, Sawyer 2012). Interthinking has been necessary for the development and dissemination of all human knowledge and understanding. However, as we will all know from personal experience, collective thinking is not always productive or successful. Two heads are not always better than one, and we need to understand how and why that is the case.

In our earlier publications, we have argued that schools need to help children become more adept at collaborative thinking and problem solving (for example, Mercer & Littleton 2007). Yet this is not widely recognized as an important educational imperative: we have struggled to get government ministers to see that this is as important as the development of children's literacy and numeracy (though teachers more readily understand and recognize that this is the case). In this book, we will justify our stance by explaining how people can learn to use talk to think creatively together and productively, across a range of situations, partly with the aim of persuading more people of the strength of this educational argument. We will consider how the process of interthinking takes place in educational and non-educational settings. One of us has written about such matters before (Mercer 2000), but quite a lot of interthinking by us and our colleagues has happened since then. Using the resources provided by research and examples from various kinds of collective activity, we will explain how interthinking works – why it sometimes goes right and why it sometimes goes wrong. Our hope is that the conclusions we reach will suggest some practical guidance for anyone concerned with maximizing the effectiveness of group-based problem-solving and other creative activity.

Individual and collective thinking

We are both psychologists, and as students we found that learning and problem-solving were treated in psychology as processes that individuals engage in alone. At the time, that seemed quite reasonable; but it seems less sensible now. In our experience since then – as psychological researchers, colleagues at work, carers of young children, teachers and learners and in life more generally – learning and problem-solving have commonly been social, and highly communicative, processes. Faced with a problem, people do not usually depend only on what they each have stored in their individual brains.

In everyday settings, as opposed to in psychological laboratories, people rarely tackle problems in strict isolation. They depend a lot on each other to find out what they need to know, and commonly work with others to create new knowledge and understanding. Even in schools, where we have done most of our research, and where the products of individual learning are regularly assessed, it is hard to separate the process of 'learning' (by which is generally meant the acquisition of some new knowledge or skill by an individual) from 'teaching' (meaning the active efforts of another person to help them gain new understanding). Learning is improved by good teaching, and good teachers achieve the best results with attentive, highly motivated learners. In everyday life, solving problems commonly involves interactions with other people and it is usually motivated by shared concerns and goals. Success in achieving shared goals depends, in part, on how well people communicate with each other while pursuing them, so understanding how to maximize the effectiveness of interthinking could be of real practical value. However, the ubiquity and importance of thinking collectively has not been reflected in the extent or scope of research about it. The study of the process of interthinking, and of the role of language in it, has been strangely neglected.

Reading the works of other researchers in psychology, linguistics, sociology and other relevant subjects, we have often felt that we were going to turn the next page and find that interthinking would be analysed and explained. This includes such influential, engaging and informative books as *Creative Collaborations* (John-Steiner 2000), *Group Creativity: innovation through collaboration* (Paulus & Nijstad 2003), *The Stuff of Thought: language as a window into human nature* (Pinker 2007), *Why We Collaborate* (Tomasello 2009) and *Language: the cultural tool* (Everett 2012). Instead, however, we would turn the pages to find authors setting off on a different trajectory, pursuing an answer to their own (perfectly legitimate) line of enquiry. Taking the route we expected them to take would no doubt have seemed to them a diversion from their intended journey. But we have still found their work useful. To differing extents, those publications, and others we will refer to throughout the book, all reflect a growing recognition of the way that language, in both its form and use, is thoroughly integrated with the cognitive processes humans use to make sense of the world and to solve the problems they jointly encounter.

The fields of research on which we will draw are quite disparate: they include applied social psychology, developmental psychology, the sociology of organizations, neuroscience, linguistics, philosophy and educational research. As we will go on to describe in Chapter 2, there have been some important studies by applied social psychologists of team-based activity in

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the workplace. There has also been a good deal of research on collaborative creativity (as discussed in Chapters 3 and 5) and on collaborative learning and problem-solving in educational settings (which we will refer to in Chapters 4 and 5). Educational researchers have mainly been interested in how collaborative learning helps improve the understanding and attainment of individual students, but such research also helps us understand the processes by which people learn and interthink successfully together. There is a wealth of research in developmental psychology and linguistics on how children's early use of language, through their involvement in dialogues with older people, helps their cognitive development. In Chapter 5 we will draw some conclusions from its findings about how people learn to successfully 'co-regulate' their joint thinking activities.

Our evolution as interthinkers

The study of human evolution has been, for most of its history, the province of biologists; but in relatively recent years it has also been actively colonized by psychologists and social anthropologists. One of their main interests has been in understanding the development of the human brain, not so much as a physical structure but as a distinctive, indeed unique, functioning organ. They have therefore aimed to explain how evolutionary pressures on our ancestors in the battle for survival could selectively favour some kinds of thinking capability rather than others. Initially, this tended to focus on individual intelligence, with claims that those individuals who could process environmental information most effectively would be able to grasp chances for survival that others less able would not. In line with the biologist Richard Dawkins' (1976) influential book *The Selfish Gene*, these accounts tended to focus on individual sensory and information-processing abilities and how competition between individuals who were better or worse endowed in that respect resulted in them having more or less offspring. That is, it was argued that as a species we evolved with increasingly complex brains because of competition among humans, and not only because of the competitive struggle with members of other species.

More recently, it has been suggested by some evolutionary scholars, such as Robin Dunbar (1998), that an explanation of our evolutionary success that relies only on the ability of individuals to process environmental information is not well matched to the capacities of the human brain. Instead, it has been suggested that the design and capacity of the human brain reflect the survival advantages of being able to make sense of complex social relationships. Becoming able to organize communities in which people took on a variety of complementary roles gave early humans a survival