Translational Systems Sciences

Volume 17

In 1956, Kenneth Boulding explained the concept of General Systems Theory as a skeleton of science. He describes that it hopes to develop something like a "spectrum" of theories—a system of systems which may perform the function of a "gestalt" in theoretical construction. Such "gestalts" in special fields have been of great value in directing research towards the gaps which they reveal.

There were, at that time, other important conceptual frameworks and theories, such as cybernetics. Additional theories and applications developed later, including synergetics, cognitive science, complex adaptive systems, and many others. Some focused on principles within specific domains of knowledge and others crossed areas of knowledge and practice, along the spectrum described by Boulding.

Also in 1956, the Society for General Systems Research (now the International Society for the Systems Sciences) was founded. One of the concerns of the founders, even then, was the state of the human condition, and what science could do about it.

The present Translational Systems Sciences book series aims at cultivating a new frontier of systems sciences for contributing to the need for practical applications that benefit people.

The concept of translational research originally comes from medical science for enhancing human health and well-being. Translational medical research is often labeled as "Bench to Bedside." It places emphasis on translating the findings in basic research (at bench) more quickly and efficiently into medical practice (at bedside). At the same time, needs and demands from practice drive the development of new and innovative ideas and concepts. In this tightly coupled process it is essential to remove barriers to multi-disciplinary collaboration.

The present series attempts to bridge and integrate basic research founded in systems concepts, logic, theories and models with systems practices and methodologies, into a process of systems research. Since both bench and bedside involve diverse stakeholder groups, including researchers, practitioners and users, translational systems science works to create common platforms for language to activate the "bench to bedside" cycle.

In order to create a resilient and sustainable society in the twenty-first century, we unquestionably need open social innovation through which we create new social values, and realize them in society by connecting diverse ideas and developing new solutions. We assume three types of social values, namely: (1) values relevant to social infrastructure such as safety, security, and amenity; (2) values created by innovation in business, economics, and management practices; and, (3) values necessary for community sustainability brought about by conflict resolution and consensus building.

The series will first approach these social values from a systems science perspective by drawing on a range of disciplines in trans-disciplinary and cross-cultural ways. They may include social systems theory, sociology, business administration, management information science, organization science, computational mathematical organization theory, economics, evolutionary economics, international political science, jurisprudence, policy science, socioinformation studies, cognitive science, artificial intelligence, complex adaptive systems theory, philosophy of science, and other related disciplines. In addition, this series will promote translational systems science as a means of scientific research that facilitates the translation of findings from basic science to practical applications, and vice versa.

We believe that this book series should advance a new frontier in systems sciences by presenting theoretical and conceptual frameworks, as well as theories for design and application, for twenty-first-century socioeconomic systems in a translational and transdisciplinary context.

Akira Tajino
Editors

A Systems Approach
to Language Pedagogy

Editor
Akira Tajino
Department of British and American Studies
Nagoya University of Foreign Studies
Aichi, Japan

Kyoto University
Kyoto, Japan

Foreword

It is with pleasure that I am able to introduce this new addition to our Translation Systems Sciences series. This volume represents the collaborative efforts of Dr. Akira Tajino and his research associates at Kyoto University, as well as distinguished scholars from other institutions in Japan, including Dr. Hajime Terauchi, President of the Japan Association of College English Teachers (JACET). All of the contributors have extensive experience in language teaching, research, and practice at various institutions and in various capacities.

This volume, unique in the field of both educational linguistics and education in general, presents a systems approach to language pedagogy, amalgamating various research areas that have traditionally been approached separately. Recognizing among practitioners and researchers a need to frame individual research disciplines in the "bigger picture" of language pedagogy as a whole, Professor Tajino achieves this adeptly in his application of principles from my field, systems science and systems thinking. His introductory chapter is supported by his colleagues' chapters, each of which may be read as a stand-alone entry or as part of a whole in this comprehensive work.

When I first met Professor Tajino on the campus of Lancaster University in the UK, about 35 years ago, we were both already grappling with the ideas and concepts that would shape our research in the years to come. Since then, we have collaborated to develop the common curriculum of English for Academic Purposes (EAP) at Kyoto University, aspects of which have been published in the journal, *Journal of English for Academic Purposes* (Elsevier, 2005), and in the volume, *The Future of University English Education* (Iwanami Shoten, 2005). Professor Tajino is a leading researcher in the field of EAP and was director of Kyoto University's International Academic Research and Resource Center for Language Education until March 2018 and is thus intimately aware of the multifaceted nature of language education.

Like any other human activity system, language education is, of course, an undertaking with various stakeholders. Concerned parties not only include students and teachers but also administrative and support staff, policymakers, and the

taxpayers who fund them, each bringing with them a multitude of values and opinions.

Acutely aware of the fact that both language and pedagogy are inherently human endeavors, Professor Tajino and his research associates have come together in this project to apply systems thinking in developing a more accessible understanding of the complexities of language education which remains cognizant of the human element. They not only compile into this volume the essence of their theoretical research and practices in language education so far but also advance the enterprise.

I trust that this volume will be of benefit to a wide variety of stakeholders in language education and be a valuable resource for teachers, teacher trainers, and course coordinators. Furthermore, I sincerely hope that this work will stimulate further discussions on language pedagogy and encourage greater interdisciplinary collaboration.

Translational Systems Sciences,   Kyoichi Kijima
Professor Emeritus,
Tokyo Institute of Technology
Daito Bunka University,
Tokyo, Japan
1 November 2018

Preface

A Systems Approach to Language Pedagogy: Why This Book Now?

To create a deeper and more holistic understanding of issues that surround language pedagogy, or more specifically foreign language pedagogy, the present volume uses a systems approach to organize relevant issues in a more accessible manner for all of its stakeholders and to further develop areas of related research.

Language Pedagogy as a Human Activity System

Language pedagogy can be viewed as a complex human activity system. It involves a number of stakeholders, such as teachers, students, and administrators, in a single educational organization. In such an organization, interaction can take place among the stakeholders in different groups, and decisions may be made at different functional levels through communication for a common purpose, i.e., making language pedagogy more relevant and meaningful to everyone involved.

It seems undebatable that the roles of the stakeholders in language pedagogy are naturally interrelated. In practice, however, complexity in communication arises in human activity systems when different stakeholders follow their own individual agendas and function in separate structures. It is our belief that communication could be improved between *silos* by the adoption of a systems approach (see Chapter "Toward Managing Language Pedagogy and Language Teaching Research").

This communication may often take place in situations in which a variety of classroom factors, such as student motivation and teaching methodologies, interact with one another in a complex and sometimes unexpected manner. Furthermore, the complexity of the entire human activity system is compounded by the demands placed on all of its stakeholders to work together for a common purpose.

Arranging Language Pedagogy for Communicative Purposes

It is essential to clarify what is expected of the system's stakeholders. As Hasan (1988) suggests, human communication can be developed by the so-called five Ws and one H, i.e., who, what, where, when, why, and how. With these communication starting points, we can begin to arrange the elements of language pedagogy. Interestingly enough, these can also be organized in a simple and straightforward manner with a canonical, meaning-based clause-structure pattern of English. We discuss the applicability of this human activity system for language pedagogy that follows the English language clause-structure pattern in Chapter "Teaching English Grammar for Communicative Purposes: A Systems Approach".

We aim to arrange the complex phenomena of language pedagogy in a way which helps to clarify the relative positions of each of these and systematize the phenomena from a wider yet unified perspective. Combining the component parts of current foreign language pedagogy in different ways may create a new inter-component research area in language pedagogy which can offer an alternative to the limited communication that is endemic among stakeholders of intra-component research, also known as the silo effect (see, e.g., Tett 2015).

Viewing Language Pedagogy from a Holistic Perspective

We, practitioners and researchers, often do not recognize the relationships and relative positions of each of our individual research areas and classroom teaching experiences. We travel determinedly along on a single pathway shared by our research field colleagues and fellow teachers. The result being that we are able to go into greater depth and detail and share breakthrough insights within our separate groups.

This is crucial, of course, on its own—as research. However, true breakthroughs can only be achieved if the whole picture of language pedagogy is mutually understood, since it is a complex phenomenon. In doing so, we are able to create a common field for investigations by researchers and practitioners by combining the component parts of language pedagogy, e.g., the nature of language acquisition, pedagogical grammar, vocabulary teaching, etc.

The Outline of This Volume

Understanding the above situation, and in an attempt to bring together the somewhat disparate but nevertheless interrelated fields in language education, this volume also structures itself within the 5W1H framework (Fig. 1).

WHO	DOES	WHOM	WHAT	WHERE	WHEN	HOW	WHY
Teachers	teach	language learners with L1 knowledge (Ch 2)	grammar (Ch 3)	in the classroom (Ch 5)	throughout life (Ch 6)	by instructional design (Ch 7)	for specific purposes. (Ch 10)
			vocabulary (Ch 4)			by team teaching (Ch 8)	
						through collaboration (Ch 9)	

Fig. 1 Managing language pedagogy: An outline

Chapter "Toward Managing Language Pedagogy and Language Teaching Research" is an overview that expands upon some of the issues raised in this preface, illuminating further the reasons why it is relevant to reevaluate these issues now. Chapter "Language Acquisition: A Systemic View from Cognitive Linguistics" deals with the *whom* of teaching, our learners. It illustrates the process of language acquisition and instruction through a comparison of the similarities and differences between first and second language learning and teaching. Chapters "Teaching English Grammar for Communicative Purposes: A Systems Approach" and "Vocabulary Teaching: A Systemic Perspective" deal with the *what* (the linguistic content) of instruction, presenting a systems approach to grammar instruction and integrating soft systems methodology into vocabulary teaching, respectively. Chapter "Surveying the Landscape of Second Language Classroom Research" examines the *where*, with both the nature of the classroom and the sources of practitioner research given a thorough treatise. Chapter "A Soft Systems Approach to Lifelong Learning" revisits *when* we learn, with a particular focus on lifelong learning. A discussion of *how* to look at course design from an SSM viewpoint is addressed in Chapter "A "Softer" Instructional Systems Design for Language Pedagogy", while Chapter "Team Teaching and Team Learning: SSM Applied to the Team-Taught Classroom" utilizes a soft systems approach to teacher collaboration. Chapter "Interaction in the Language Classroom: A Systems Approach" also investigates *how,* but from the position that SSM can facilitate learner cooperation and collaboration. Finally, Chapter "Systems Thinking: An ESP Genre Approach" addresses the *why* of language learning and teaching through the lens of language for specific purposes.

Of course, the content introduced in the chapters listed above is by no means an exhaustive account of all of the fields of foreign language pedagogy. Nevertheless, it is hoped that by framing some of the key areas in this way, individual researchers may be aided in situating their own research, and communication between individual research areas might be encouraged, leading to new and more fruitful collaboration with even richer emergent properties.

I hope this book can provide an opportunity for readers to see the whole picture of foreign language pedagogy and create for themselves, by means of a systems approach, a new way of connecting its component parts.

Kyoto, Japan   Akira Tajino
10 December 2018

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About the Editor and Contributors

Editor

Akira Tajino Ph.D., Professor Emeritus at Kyoto University, is currently Professor of Educational Linguistics at Nagoya University of Foreign Studies, Japan. His research interests include English for Academic Purposes (EAP), classroom research, and pedagogical grammar. He was formerly the Director of International Academic Research and Resource Center for Language Education at Kyoto University and is a Recipient of the JACET (Japan Association of College English Teachers) Award for Excellence in Teaching (2011) and the JACET Award for Excellence in Academic Publication (2014). He is the (co)author/editor of more than 20 books, including *Researching Language Teaching and Learning: An Integration of Practice and Theory* (Peter Lang, 2009), *Team Teaching and Team Learning in the Language Classroom: Collaboration for Innovation in ELT* (Routledge, 2016), and *A New Approach to English Pedagogical Grammar: The Order of Meanings* (Routledge, 2018). He has served on the editorial panel of several journals, including *ELT Journal* (Oxford University Press). e-mail: tajino@nufs.ac.jp

Contributors

David Dalsky Ph.D., is Associate Professor of Social Psychology and a founding member of the International Academic Research and Resource Center for Language Education (i-ARRC) at Kyoto University. He is interested in using EAP, Exploratory Practice, and Team Learning for e-classroom intercultural collaborative projects, which involve materials development related to indigenous psychological concepts in Japan, China, Indonesia, and Germany. e-mail: dalsky.davidjerome.8u@kyoto.u.ac.jp

Kyoko Hosogoshi Ph.D., is currently Associate Professor at the Faculty of Letters at Kyoto Prefectural University. She has taught on EAP courses at various universities in Japan. Her research interests include academic listening instruction utilizing advance organizers and textual information. She has also investigated skill-integrated tasks for task-based language teaching. e-mail: hosogoshi@kpu.ac.jp

Toshiyuki Kanamaru is Associate Professor in the International Academic Research and Resource Center for Language Education at Kyoto University. He holds a Ph.D. in Human and Environmental Studies from Kyoto University. His research interests include cognitive linguistics, natural language processing, vocabulary acquisition, and academic writing teaching. e-mail: kanamaru@hi.h.kyoto-u.ac.jp

Yoshitaka Kato Ph.D., is Lecturer in the Faculty of General Education at Chubu University, Japan. He teaches EAP classes utilizing various small group activities. His research interests include classroom research, cooperative and collaborative language learning, and task-based language education. e-mail: kato44taka@isc.chubu.ac.jp

Sayako Maswana Ph.D., is Associate Professor of Applied Linguistics at Mejiro University, Tokyo. She is currently conducting research on genre analysis. She has published articles in journals such as the *Journal of Asia TEFL*, *Ampersand*, and *Asian ESP Journal*.

Daniel Roy Pearce is Doctoral Candidate at the Graduate School of Human and Environmental Studies, Kyoto University. He has 5 years of teaching experience at the secondary level in the Yamagata Prefecture of northeast Japan and has been a summer Lecturer at Nara Women's University. His research interests include team teaching, teacher training, and pedagogical grammar. e-mail: pearce.roy.26e@st.kyoto-u.ac.jp

Yosuke Sasao Ph.D., is Associate Professor of Applied Linguistics in the Institute for Liberal Arts and Sciences at Kyoto University, Japan. His research interests include vocabulary acquisition, language assessment, pedagogical grammar, and academic writing. His articles have been published in journals such as *ITL-International Journal of Applied Linguistics*, *Language Teaching Research*, and *Language Testing*. e-mail: sasao.yosuke.8n@kyoto-u.ac.jp

Craig Smith was Professor and Director of the Community Engagement Center at Kyoto University of Foreign Studies, Japan. He received the 2011 Japan Association of College English Teachers Award for Excellence in Teaching. He authored and coauthored papers in books and international journals, including *Language Teaching Research* (SAGE, 2005) and *Team Teaching and Team Learning in the Language Classroom: Collaboration for Innovation in ELT* (Routledge, 2016).

Ryan W. Smithers is Associate Professor in the Department of Intercultural Studies at Otani University, Japan. He is also currently a Ph.D. candidate at Kyoto University and Chief Editor for the *Osaka JALT Journal*. His 20 years of TEFL experience have inspired his research interests in pedagogical grammar, reflective practice, and lifelong learning. e-mail: ryansmithers@gmail.com

Tim Stewart is Professor of TESOL at Kyoto University in Japan and a founding Faculty Member of the International Academic Research and Resource Center. He has been supervising graduate students' classroom research for over 10 years and has published on TESOL classroom research, team learning, team teaching, and professional development. He has served as an Editor for TESOL International Association journals and books since 2006. Most recently, he was the Series Editor for the six-book series TESOL Voices (TESOL Press). e-mail: stewart.timothywilliam.3m@kyoto-u.ac.jp

Akira Tajino Ph.D., Professor Emeritus at Kyoto University, is currently Professor of Educational Linguistics at Nagoya University of Foreign Studies, Japan. His research interests include English for Academic Purposes (EAP), classroom research, and pedagogical grammar. He was formerly the Director of International Academic Research and Resource Center for Language Education at Kyoto University and is a Recipient of the JACET (Japan Association of College English Teachers) Award for Excellence in Teaching (2011) and the JACET Award for Excellence in Academic Publication (2014). He is the (co)author/editor of more than 20 books, including *Researching Language Teaching and Learning: An Integration of Practice and Theory* (Peter Lang, 2009), *Team Teaching and Team Learning in the Language Classroom: Collaboration for Innovation in ELT* (Routledge, 2016), and *A New Approach to English Pedagogical Grammar: The Order of Meanings* (Routledge, 2018). He has served on the editorial panel of several journals, including *ELT Journal* (Oxford University Press). e-mail: tajino@nufs.ac.jp

Sachi Takahashi is currently Associate Professor in the International Academic Research and Resource Center for Language Education (i-ARRC) at Kyoto University, Japan. She received her M.A. and Ph.D. in International Cultural Studies from Tohoku University. Her research interests include instructional design, EAP, TBLT, materials development, and e-Learning. e-mail: takahashi.sachi.4n@kyoto-u.ac.jp

Kazumi Taniguchi Ph.D., is Professor of Cognitive Linguistics at Kyoto University. She received a doctorate from Osaka University in 2004. After teaching at the Faculty of Education at Osaka Kyoiku University for 13 years, she moved to the Graduate School of Human and Environmental Studies at Kyoto University in 2012 and there has been teaching classes of general English and cognitive linguistics. e-mail: taniguchi.kazumi.8n@kyoto-u.ac.jp

Hajime Terauchi   Ph.D., is Professor of English Language and Dean of the Faculty of Commerce, Takachiho University, Tokyo. He has a B.A. in Civil Law (Keio University, Japan), an M.A. in English Language Teaching (University of Warwick, UK), and a Ph.D. in English Language Teaching (University of Warwick, UK). He is President of the Japan Association of College English Teachers (JACET). e-mail: hajime7272@gmail.com