

厦门大学高等教育科学研究所

清 洁 高 等 教 育 系 列 丛 书

思维能力与教学

主 编 林钟敏



厦门大学出版社

厦门大学高等教育科学研究所
《清洁高等教育系列丛书》

THINKING ABILITY AND EDUCATION

思维能力与教学

——《大学生思维心理学》续集——

林钟敏 主编

厦门大学出版社

1993. 10

1992

[闽]新登字 09 号

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厦门大学出版社出版发行

福建省新华书店经销

江西宜黄县印刷厂印刷

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开本 850×1168 1/32 10.65 印张 270 千字
1993 年 10 月第 1 版 1993 年 10 月第 1 次印刷

印数:1-1500 册

ISBN 7-5615-0736-4/G·134

定价:5.00

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《清洁高等教育系列丛书》序

中国社会主义现代化建设的中心是经济建设,经济建设的根本任务在于提高生产力,科技是第一生产力,科技的传递与发展的基础是教育,尤其是培养高级专门人才的高等教育。为了适应经济与科技的发展,高等教育要深化改革,提高质量,高等教育的改革与发展,需要理论与政策的指导。因此,开展高等教育研究,是一项促进科技进步、经济繁荣、社会发展的战略性任务。

厦门大学高等教育科学研究所是中国第一所以高等教育为研究对象的科研机构,高等教育学的硕士、博士授予点,全国重点学科点。为了适应新时期改革开放的需要,决定推出一套《清洁高等教育系列丛书》,以期促进高等教育科学研究的发展,为当前我国高等教育深化改革,为高等教育学科建设做出贡献。

本丛书主要选编本所研究人员对高等教育理论与实践的最新的科研成果。

《清洁高等教育系列丛书》是菲律宾爱国华侨、著名企业家、钢铁工业巨子蔡清洁先生赞助出版的。蔡先生身居海外,心怀祖国,以弘扬中华文化,发展教育事业为己任。近年来捐资办学数以千万计。对于高等教育的发展,尤为关注,特为厦门大学新建留学生楼,并在本所设置学术研究基金。其远见卓识,可钦可佩。在中国教育界,由企业家资助出版丛书,尚不多见。本丛书的推出,不仅在高等教育学术研究上将产生深远影响,而且在企业家与教育界合作方面也将成为范例。

厦门大学高等教育科学研究所
《清洁高等教育系列丛书》编辑委员会

PREFACE

—BENJAMIN SERIES ON HIGHER EDUCATION

The central issue of the socialist construction in China is economic construction, and the essence of economic construction is to enhance the productive forces. Science and technology is the first productive force, and the base of the transmission and development of science and technology is education, especially higher education which trains people for senior level professional skills. In order to meet the development of economy, science and technology, it is necessary to deepen the reform in higher education and to raise its quality. The reform and development of higher education needs the guidance of educational theories and policies. Therefore, the research on higher educational science has become a strategic task for the improvement of science and technology, promotion of economic prosperity and development of the society.

The Institute of Higher Education Science, Xiamen University was the first scientific research institute in China with higher education as its object of study. It is an institute with qualification to award master and doctoral degrees, and it is also one of the key institutes in China.

In order to meet the needs of reform and opening in the new period, the institute has decided to publish a series of books, the *Benjamin Series On Higher Education*, hoping to contribute its share in promoting the research of higher education, deepening the reform of higher education in China, and developing the discipline of higher education.

The series includes the latest achievements by the institute's staff in the research of higher educational theories and practice.

Benjamin Series on Higher Education is published under the support of Mr. Benjamin G. Chua, JR. who is a patriotic overseas Chinese in the Philippines, a famous entrepreneur, and a king in the iron and steel industry. Mr. Benjamin G. Chua, JR. lives abroad, but has his own country at heart. He regards the development of Chinese culture and education as his personal duty. In the past few years, Mr. Benjamin G. Chua, JR. has donated a great sum of money for running schools. He pays special attention to the development of higher education and has contributed to build a Foreign Student Building in Xiamen University. He also set up a fund for academic research in the Institute of Higher Education Science, Xiamen University. His foresight and sagacity deserve our great admiration. In the educational circles of China, it is the first time to publish a series of books under the support of an entrepreneur. The publishing of the series will not only have a far-reaching influence in academic research of higher education, but also set a good example for further cooperation among entrepreneurs and educational circles.

**Institute of Higher Education Science
of Xiamen University
Board of Editors for Benjamin Series
on Higher Education**

前 言

《思维能力与教学》是《大学生思维心理学》的续集。《大学生思维心理学》侧重从发展心理学的角度研究大学生的思维特征和规律。本书侧重从教学、学科和学习等教育心理学的眼界探索大学生思维能力的本质、差异以及在教学和学习中的培养及发展，兼顾教学改革问题。

本书共分三编。第一编，思维能力：从大学生思维能力的成分入手，着重阐明大学阶段得到较充分发展的思维监控能力及其特征，介绍不定形和定形化思维能力的相互作用，并论述和验证大学生思维能力的个别差异和性别差异。同时，专章补充前书未及细谈的创造性思维能力问题。第二编，思维能力与教学：根据大学生思维能力发展与教学的密切关系，一方面，选择大学教学中两门有代表性的专业课程，阐述在专业课程中如何培养大学生的思维能力；另一方面，介绍一门普遍适用的培养大学生思维技能的心理学课程。这两组不同方面的内容对于大学生的特殊和普遍的思维能力的发展、协调，对于具有特殊性和普遍性的思维策略之有机结合、相辅相成，颇有裨益。第三编，思维能力与学习：首先扼要地介绍当代有影响的各种学习理论和学习方法，其次通过调查研究叙述我国大学生学习心理和方法的一般特点，对社会和教育协力培养好大学生的学习动机和思维能力寄以厚望。最后，根据我们的研究结果及大学生过去和现在的学习情况，对大学生思维能力的发展和学习方法的改进，提出四个方面的自我培养措

施。

本书注重理论与实践的结合,专业课程与教育心理学的结合。同时,对当前心理学界争论较大的问题进行实验研究,以便采各家之长为高等学校实际的教学工作和大学生学习方法的改进服务。为了达到这个目的,邀请了各专业课程教授、教师 and 研究生参加本课题的研究和撰写。这有利于使本书既成为一本前后连贯,相互印证、补充的专业书籍,又体现了撰写人的专业特色、工作经验和写作风格。这是一本理论性较强,又深入浅出的实用性思维心理学类书籍,可供各种类型的高等学校师生参考。

参加本书写作的人员较多。经过编选、统稿后,其中三章采用了不只一位作者的文章或段落。本着尊重撰稿人的辛勤劳动和为了简便、明了起见,除在目录中标明各章作者外,又将各章节主要作者注于相应的一章或一节之末,以利于查阅。

编者限于水平,不妥之处在所难免,衷心希望专家、学者不吝赐教。

林 钟 敏

1993年2月于厦门大学

Foreword

Thinking Ability and Education is the Continuation of Thinking Psychology of College Students. In the Thinking Ability and Education we lay particular emphasis on educational psychology, to explore the nature, differences and development of thinking ability within college students, and to foster thinking ability in teaching and learning; while in Thinking Psychology of College Students we pay more attention to the characteristics and developing law of thinking from the perspectives of developmental psychology.

The book is divided into three parts:

In the first part, thinking ability, we discuss the components of thinking ability in the Chapter one, Section one, monitoring component and its characteristics are the emphasis in this section. Fluid and crystalized abilities of thinking are introduced in Section two. Then, we explore the determinants of the thinking differences, and research the differences within the college students and between the different sex.

We discuss thinking ability and teaching in the second part. According to the close relations between thinking ability and teaching, two kinds of articles are selected. On the one side, there are two very experienced professors explain the teachings of 2 specialized courses and how to fostering the thinking abilities of college students. On the other side, a psychologist introduces a new course—"Learning to Learn", which is a psychological course to teach the general thinking skills to the students, it is

applicable to different courses. The specialized and general thinking skills are complementary to each other. When the students combined these two kinds of skills together, their thinking abilities will be advanced.

The third part contains thinking ability and learning. First, we introduce briefly the main points of the contemporary learning theories and learning strategies, so that the readers might form a general survey of this area. Next, an investigation concerning the learning and study strategies of college students is reported. In this research, we took the samples from 4 different college and universities, these subjects cover the students of liberal arts, agriculture, science and engineering. Therefore we can explore the characteristics of learning motivation and learning strategies of college students from different aspects. In the light of these characteristics of our subjects, we suggest some methods to enhance the learning motivation and learning strategies for the college students to train by themselves.

Thinking Ability and Education is laid stress on the relations which connect the theories with the practices, and combine the specialized courses with the educational psychology. At the same time, we expound some challenging problems in psychological area with our experiments, so that the readers might adopt or learn from other's good view points and to overcome their shortcomings in their teachings and learnings. This is a practical psychological treatise, it is theoretically strong, and yet explain the profound in more simple terms. The book can be used by the teachers and students in the universities, colleges, and senior high schools for reference.

The empirical investigations explain in this book conducted by my colleagues ,graduate students and me ,and the expenses of publication were funded by grants from the Special Scientific Research Foundation of State Education Commission For the doctoral institute ,and the Higher Education Scientific Research Foundation of Benjamin G. Chua ,JR. for publication. I am very grateful for their support.

Xiamen,September 1993

Lin ,zhongmin
Institute of Higher
Education Science
Xiamen University

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