

在确定与不确定之间

——复杂性的教育研究



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序

选择“以复杂性思维来观照教育”这样一个论题,也就把论者置于了争论之中。“复杂性何谓”以及“复杂性之于教育”本身就是不确定的。迄今为止,尽管人们对科学的反思在不断地深化,科学本身的发展所凸现的“复杂性”、“复杂性科学”、“复杂性意谓”成为这个时代研究的热点,但到底“复杂性是什么”、“什么是复杂性”,仍是众说纷纭,没有“确定”的界定。而将还没有“同一性”的“复杂性”引用于教育研究,也就带来了“复杂性之于教育”的不确定性,必然面临着“复杂性”引用于教育研究的适宜性问题以及以“复杂性”来观照教育的可能性和方法论问题。

文雪博士以《在确定与不确定之间——复杂性的教育研究》这样一个本身就极富争议的议题作为自己的博士学位论文选题,是需要一些勇气 and 智慧的。尽管它是以风靡世界的复杂性科学探索为背景生发出来的,但如何将复杂性引用于教育研究、如何以复杂性思维来把握教育活动及其活动中的各种要素、关系都是需要一定的哲学理论基础和教育学理论基础的,而更根本的可能还在于要有“复杂性”本身所倡导的思维和方法论。作为文雪的博士生导师,我欣慰的是,文雪在这些方面具有较扎实的基础和较高的综合素质,能大致顺畅地将教育理论和教育现实在“简单性”和“复杂

性”之间进行着研究的思维转换,形成了对教育有一定深度的理论思考和实践反思,进一步表明了论者本身所强调的进行教育研究的意义:学科研究本身就是学科本身,而不是工具,学科研究更多的在于学科思维,并不完全在于学科的知识体系。

《在确定与不确定之间——复杂性的教育研究》一书其核心思想主要体现在这样几个方面:

一是用复杂性思维来看待教育活动。在自然是确定的还是不确定的两极诘问中,教育研究因为“科学”的强势而延引了科学的研究范式。以“还原论”和“决定论”为根本特征的科学研究简单性思维对教育的影响是深刻而根本的。在简单性的思维视角里,教育是确定的,是有规律可循的,是可以线性控制和效果预测的。但教育活动不管是其系统构成、系统与外界环境(自然、社会等)还是从事教育实践活动的人都是极其复杂的,是简单的线性分析、因果决定论所无法完全把握的。对教育活动要进行非线性的、整体的、关系的、过程的思维把握。

二是注重教育的情境化意义和关注教育事件。从非线性的思维角度来看,教育过程是一个目的选择过程、事件耦合过程和意义生成过程;从时间不可逆的角度来看,教育时间是人的发展方向和成长空间,人的发展是一个不可逆的演化过程;从复杂系统自组织性来看,教育是一个保有自身边界的开放的系统;从知识性质的演变来看,教育内容(课程资源)是不确定的。因此必须强调教育的情境化意义和重视教育事件。

三是视教育规律为一种“中间”描述。在简单性科学研究中,教育规律是客观的、刚性的存在。而在复杂性的思维里,由于内随机复杂性,规律并不呈现唯一、必然的因果联系。教育规律是在教

育实践活动中生成的,反映的是教育活动中更有可能发生的联系。教育规律是确定性与不确定性的一种中间描述,是有弹性的。

但相应地,因为复杂性研究本身的发展问题,对复杂性的认识还没有一个共识的、确定的“定论”,其引进教育研究也就还存在很多的歧义。该书首先就存在着教育的“复杂性”研究的共识的局限性;其次由于复杂性之于教育研究还是一个新的尝试,书中多是对一般教育理论研究和教育实践问题的反思,还欠缺建设性的思考。就复杂性的教育研究而言,也还需要实践的运用和检验。

《在确定与不确定之间——复杂性的教育研究》是文雪在其博士论文基础上成书出版的,较好地保持了论文的严谨和论证力度,作为他的博士生导师,对于他博士期间研究成果的显现化,感到由衷地高兴,也期望他在今后的实践工作中存有更精深的学术追求。

是为序。

扈中平

2006年9月26日

摘 要

“简单性”和“复杂性”，是科学活动的两种不同的研究取向。一直以来，以“还原论”、“决定论”为基本特征的“简单性”科学所取得的非凡成就，使得“简单性”成为了科学研究的独有趋向，并演变为人们的思维方式、话语方式，甚至成为了人的生活方式。人们赞美“简单性”孤岛而忽视了还有“复杂性”海洋。但是科学本身的发展也在不断地拓展自身的“疆界”，我们现在逐渐知道，“简单性”并不能唯一有效地说明、解释自然、世界的图景。我们所生活的世界是复杂的，不是“简单性”就能完全描绘的。

“复杂性”来自于混沌和秩序的边缘，它留下的是未竟的结论，目前对它还没有一个明确的界定和理论体系，甚至也还没有一个能够广泛运用的定论。但“复杂性”代表着一种新的态度，提供了一种看问题的新的视角和一种全新的世界观、方法论。这也为我们思考、研究教育提供了一种新的视角。

在教育实践中，人们总是期望遵循一定的教育规律，付出一定的教育努力和教育追求，就会获得期望的教育回报。但这种线性的、简单性的教育“理想”却并不总是具有实践效应，教育的现实并不那么理所当然，有时甚至适得其反。因为教育是复杂的，对教育必须作“复杂性”研究。

在简单性的思维视野里，教育是确定的，只要从事教育活动的人遵循一定的教育规律，按照确定的教育目的（目标），在确定的教

育时间和空间里,选择确定的教育内容和方法,实施确定的教育控制,就会获得确定的教育效果。而在复杂性的思维视野里,教育是不确定的,由于存在“蝴蝶效应”和非线性耦合,任何教育行为都不会产生人们所期望的教育效果。

教育过程非线性、教育时间不可逆、教育知识不确定、教育系统自组织等教育的复杂性使得教育具有不确定性。我们必须寻求教育的情境化意义和关注教育事件。

当然,简单性和复杂性并不是隔离的,它们共生、互补、统一。教育的确定性和不确定性也是共生的、统一的,共生统一于教育生活。

论文共有五部分:

导论:阐释了不同语境中“复杂性”的涵义,指出了“复杂性”已成为一个时代凸显的研究范畴。科学在经历了“简单性”占统治地位的长期发展后,“复杂性”的涌现提示我们永远不要使概念封闭起来,要以一种新的思维方式和研究范式来把握研究对象。相比较简单性思维的“还原论”、“决定论”而言,复杂性思维更强调“非线性思维”、“整体思维”、“关系思维”和“过程思维”。教育的复杂性研究,目前虽然不甚多但也不少,通过对这些研究的综述强调了教育复杂性研究应注意复杂性运用于教育研究的适宜性问题和教育研究者的多元意识、敏感意识的问题。指出教育研究必须以复杂性研究所提供的方法论指导和宏观思路上的启示来研究教育的具体问题,应用复杂性研究的适宜于教育的原理和方法,深入研究教育活动,为教育实践提供可资信赖和依据的理论指导。

第一章:分析了从宗教和科学的产生就为着人的“安身”来看,确定性的寻求是人的实践活动的基本价值取向,是人的期待和理

想。由于科学的强势话语和非凡成就,人的实践活动的基本规范和评判标准基本上以“科学”为准绳,科学的信念、方法、理论成为了人的实践活动的需要和规则。而科学的成就又是建立在简单性原则基础上的,所以,确定性的寻求某种程度上来说是一种“简单性”取向。教育活动作为人类特有的实践活动,也有一个确定性的寻求历程,而这个历程是伴随着科学的发展和扩张历程的。所以,教育的确定性就打上了“简单性科学”的烙印:追求教育学的科学化、追求教育研究的科学主义倾向。这样,以“简单性”研究范式为取向的确定性教育就表现出某种简单性:教育的预成论人性假设、教育活动的简化、教育的秩序化倾向等。

第二章:指出了简单性科学为人们描述的是一幅完全确定性的世界图景,教育的确定性似乎也构成了教育的理论研究和实践行为的追求。但科学自身发展的“复杂性”的凸显,表明“确定性”丧失而“不确定性”显现,教育也要(在)检审自身的确定性和不确定性。从复杂性的视角来看,教育过程是非线性的、教育时间是不可逆的、教育系统是自组织的、教育知识是不确定的。教育具有不确定性。

以非线性来看待教育过程,它是一个目的过程、是一个事件耦合过程、是一个意义生成的过程;从时间不可逆的角度来看,人的发展有着时间的演化方向、不可重复,是一个非连续的过程,要强调人的成长、发展过程中的遭遇和唤醒;从自组织的角度来看,教育系统是一个保有自身边界的开放系统,要注重教育内容(课程)的丰富性,并强调教育实施的内部行为和外部环境的作用;知识性质的解构和个人知识的提出,说明教育知识具有不确定性,必须关注知识学习的境遇性、个人性、开放性。

教育的不确定性,对我们研究和实践教育行为具有重要的意义,它提醒我们要注意寻求教育的情境化意义,要关注教育事件。

第三章:讨论了“简单性”和“复杂性”是相依共生的;确定性和不确定性也是彼此关联的,不是对立的。教育的确定性和不确定性共生统一于教育生活之中,教育生活是教育确定性和不确定性共生之域。人在教育生活中成长生成,教育在人的生活中展开,促进人的生成,教育是“成人”之学。那么,来源于教育实践和指导教育实践的“教育规律”就不是预成论的因果决定论的“先在”,而是在教育生活中不断生成的,是一种对教育确定性与不确定性的“中间描述”。

结语:简单性原则是科学研究的一种主导思维方式,但它告诉我们的可能不是关于教育的全景;教育研究需要一种跨越“学科”界限的“复杂性思维”。简单性思维和复杂性思维在教育研究中不是对立而是相依的,只是存在着选择的偏移。两者的互补才有可能形成关于教育研究的真实。

关键词

教育活动 简单性 复杂性 教育的确定性 教育的不确定性

Abstract

Both the “simplicity” and the “complexity” are the two kinds of different research orientations to the scientific activity. All through, the science of “simplicity” which based on “analytics” and “determinism” has obtained the outstanding achievement. This makes the “simplicity” become the only tendency to scientific research, develop into mode of thinking and words way in which people are engaged in people’s practice activity, and even become people’s life style. Because of the advantage of the simplicity science, we can say that “simplicity” occupies the centre status of words during people’s practical experience of life. People have ignored the ocean of “complexity” while praising the isolated island of “simplicity”. But just scientific development of itself is expanding its “boundary” constantly. We can glimpse at that the “simplicity” is unable to explain and prove the nature and world effectively by itself only. The world which we live in is a complicated one, and it can’t be totally described by “simplicity” only.

The “complexity” coming from the edge of chaos and order left an unfulfilled conclusion. At present, There is no a clear definition and theoretical system concerning complexity, even a final conclusion that can be used extensively too. But the “complexity” represents a kind of new attitude, offers a kind of new perspective to study problem, and reflects a kind of new world outlook and methodology, so it offers us a kind of new perspec-

tive to think and study educational activity too.

In educational practice, people always expect that education can reciprocate themselves while following the certain educational law, or making great efforts and pursuing to educational action. But such linear and simple education ideal has not always gained practice effects, and the reality of educational practice even does run counter to desire sometimes so naturally. Because education is complicated, we must do “complexity” research to educational activity.

Education is certain in the thinking vision of simplicity. People may gain practice effects as a result of their educational action so long as they engaged in educational activities following the certain education law, or according to the certain purpose of education, or being in the certain education time and education space, or choosing the confirmed content and method of education, or implementing the certain education control. But in the thinking vision of complexity, education is uncertain. Because of the “butterfly effect” and “non—linear coupling”, none educational action can produce desired education result just. Education is uncertain because there are complexity characteristics in education itself such as educational course is non—linear, educational time is irreversible, educational system is self—organized, and educational knowledge is uncertain. So people should quest the situation meaning of education and pay attention to the incidents of education.

Of course, the “simplicity” and the “complexity” are not separated, they are symbiosis. The complementation of the simplicity and the complexity forms people’s studying mode to cog-

nize and transform the world integrally. The certainty and the uncertainty of education are symbiosis too, and they are unified in the educational life.

The thesis has five parts in all:

Exordium: the part explains the meaning of “complexity” in different linguistic context, and points out that the “complexity” has already become the new prominent research category for the era. Today the “complexity” is cluing us never to make the concept seal, but study problem in a new thinking method and research method after the science of simplicity going through the long-term dominating development. The thinking of complexity emphasizes “non-linear thinking”, “whole thinking”, “relation thinking” and “course thinking” opposite to the thinking of simplicity which based on “analytics” and “determinism”. We must do a complexity survey to education. Although there is a lot of educational research in a view of complexity, I want to rethink that if “complexity”, starting from natural scientific research, can apply to education after summarizing these educational complexity studying. We must notice the question of the feasibility to study education in a view of complexity, and the question of educational researchers’ multifarious and sensitive consciousness. The part points out that educational research should study educational concrete problems by the guidance of methodology and macroscopical inspirer which offered by the research of complexity, and study educational activity profoundly by the theories and means of “complexity” which is applied to education feasi-

bly. Then the educational research may offer the theoretical direction what can be trustful and reliable for educational practice.

Chapter one: The part analyses that the seeking of certainty is people's expectation, ideal, and the basic value orientation to people's practice activity with the coming into being of religion and science to people's "live". Because of the outstanding achievement obtained by the science of simplicity, the "simplicity" has become the basic criterion by which people standardize and judge their practice activity. So the faith, method, and theory of the science of simplicity have become the need and rule of people's practice activity. But the scientific achievement is based on the principle of simplicity, so the seeking of certainty is a orientation of simplicity in a sense. As a mankind's peculiar practice activity, Education also has a course to seek it's certainty following the course of the scientific development and expansion. Thus the seeking of educational certainty has branded the "simplicity" right away. It pursues the scientification of pedagogy, and the scientism of educational research. In this way, the certainty of education taking the mode of "simplicity" in scientific research has behaved some certain simplicity, such as the pre-being humanity hypothesis of education, the simplification of educational activity, and the order inclination of education.

Chapter two: The part points out that the world is a total certain world in the view of simplicity. And the certainty of education seems to form the pursuit of educational theoretical research and practice action in the view of simplicity. But the

“complexity” of science development of itself emerging indicates that “uncertainty” is appearing and “certainty” is losing. So we must rethink the certainty and uncertainty of education. Now we know that education is uncertainty with a complexity survey to education. The part analyses and discusses the complexity of education, and points out that educational process is non—linear, educational time is irreversible, educational system is self—organized, and educational knowledge is uncertain.

The part even more points out that the educational process is a purpose course, an incident coupling course, and a meaning becoming course in the view of non—linearity; The person’s development is a time direction course of evolution, a unrepeatable and a non—sequential course in the view of irreversibility. And we must emphasize the significance of encounter and awakening in the course of person’s growth and development; The part points out too that the educational system is a open system with it’s own border, and it is a self—organized system. We should pay attention to the abundance of the educational content (course), and emphasis on the function of the educational inside action and the external environment condition likewise; and The educational knowledge is uncertainty with the deconstructing of knowledge nature and the putting forward of personal knowledge, We should pay close attention to the situation, individual and opening of the knowledge studying.

It is important for us to study and practise education activity to point out that education is uncertainty. It reminds us that we should quest the situation meaning of education and pay more attention to the incidents of education.

Chapter three: The part discusses that the “simplicity” and “complexity” are not isolated, they are interdependent intergrowth. The certainty and uncertainty are related each other, they do not set against. The certainty and uncertainty of education are symbiosis, they are unified in the educational life. And the part points out that the education life is the land of educational certainty and uncertainty symbiosing. Person grows up and educational activity actualized to promote a person to be a human in the educational life. Therefore the educational law we are exploring should be the middle narration of certainty and uncertainty, and it should be becoming in the educational practice, it is not only a pre-being law with causal determinism.

Conclusion: The part sums up that the simplicity principle is a leading mode of thinking of scientific research, but it may not tell us about panorama of education. The “complexity thinking” is a need to study education which emphasizes “non-linear thinking”, “whole thinking”, “relation thinking” and “course thinking” opposite to the thinking of simplicity which based on “analytics” and “determinism”. The simplicity thinking and complexity thinking are not opposed but interrelated each other. There is a leaning principle to choose worthily in the studying of education. Only the interpenetration of the two ways to study education may engenders the own language of the pedagogy.



Key words

Educational activity; simplicity; complexity; certainty of education; uncertainty of education