

Improving Educational Evaluation & Quality in China

改进中国教育评价和质量

Measuring Educational Quality in China: Concepts and Evidence

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Conference on School Effectiveness and
School Improvement in China
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Plan 报告安排

- **Why is Educational Quality Important?** 教育质量为何重要
- **What is Meant by Value Added ?** 何谓「增值」评量
- **Introduction to IEEQC project** 项目简介
- **IEEQC Research Aims**
- **IEEQC Summary of Findings**

Why is 'Educational Quality' important?

教育质量为何重要

For individuals – achieving their own economic, social and cultural objectives:

就个人而言 – 成就个人的经济、社会和文化目标:

- Increased lifetime salary 毕生工资的增加
- Improved health 健康的改善
- Longer life 更长的寿命

For society – lower crime/conflict, promotes responsible, active, productive citizenship, equity, increased economic growth

就社会而言 – 降低犯罪/冲突，提倡有责任、积极有生产力的公民，公平，促进经济成长

Moreover there is increasing influence from international legislation promoting education quality and the principles of relevance, equity, rights eg 1990 United Nations Convention on the Rights of the Child; 1990 Education for All; 2000 Millennium Development Goals and Dakar framework.

而且，受到与日具增的国际法影响，推动了教育质量和相关的原则，公平以及权利

Defining Educational Quality

教育质量之定义

“.....depends on the selection of relevant elements, the assessment of the character of these elements and the weighting given to their relative importance. The assessment of quality is thus complex and value laden”

‘端赖于所选取之相关要素和其评价的特点，以及所赋予这些要素之间相对的重要性。评价质量也因而复杂且具价值负载的特质’

OECD: schools and quality – an international report (1989), pg 27

经济合作与发展组织：‘学校与教育质量’国际项目报告（1989），页27

Defining Educational Quality 教育质量之定义

Defining Educational Quality – focus on student outcomes 重点在学生在学习结果

Two principles characterise most attempts to define quality in education:

- (1) The first identifies learners' **cognitive development** as the major explicit objective of all education systems. Accordingly, the success with which systems achieve this is one indicator of their quality
- (2) The second emphasizes education's role in promoting **values and attitudes of responsible citizenship** and in nurturing **creative and emotional development**. The achievement of these objectives is more difficult to assess and compare across countries.

UNESCO (2004) Education for All (EFA) Global Monitoring Report 2005: The Quality Imperative. Page 17.

界定教育质量的尝试大都坚持两条原则:

首先，要将学习者的认知技能发展认定为一切教育系统的主要明确目的。因此，特定教育系统能否成功地做到这一点，便成为衡量其教育质量的一项指标。

第二项原则，强调教育在促进负责公民应具有的价值观念和处世态度，以及在培养创造能力和情感发展方面所发挥的作用。评估实现这些目标的情况难度较大，且不易在国家之间作比较。

联合国教科文组织（2004）：2005年《全民教育 - 提高质量势在必行》，页17

Every Child Matters Agenda

每個孩子都重要



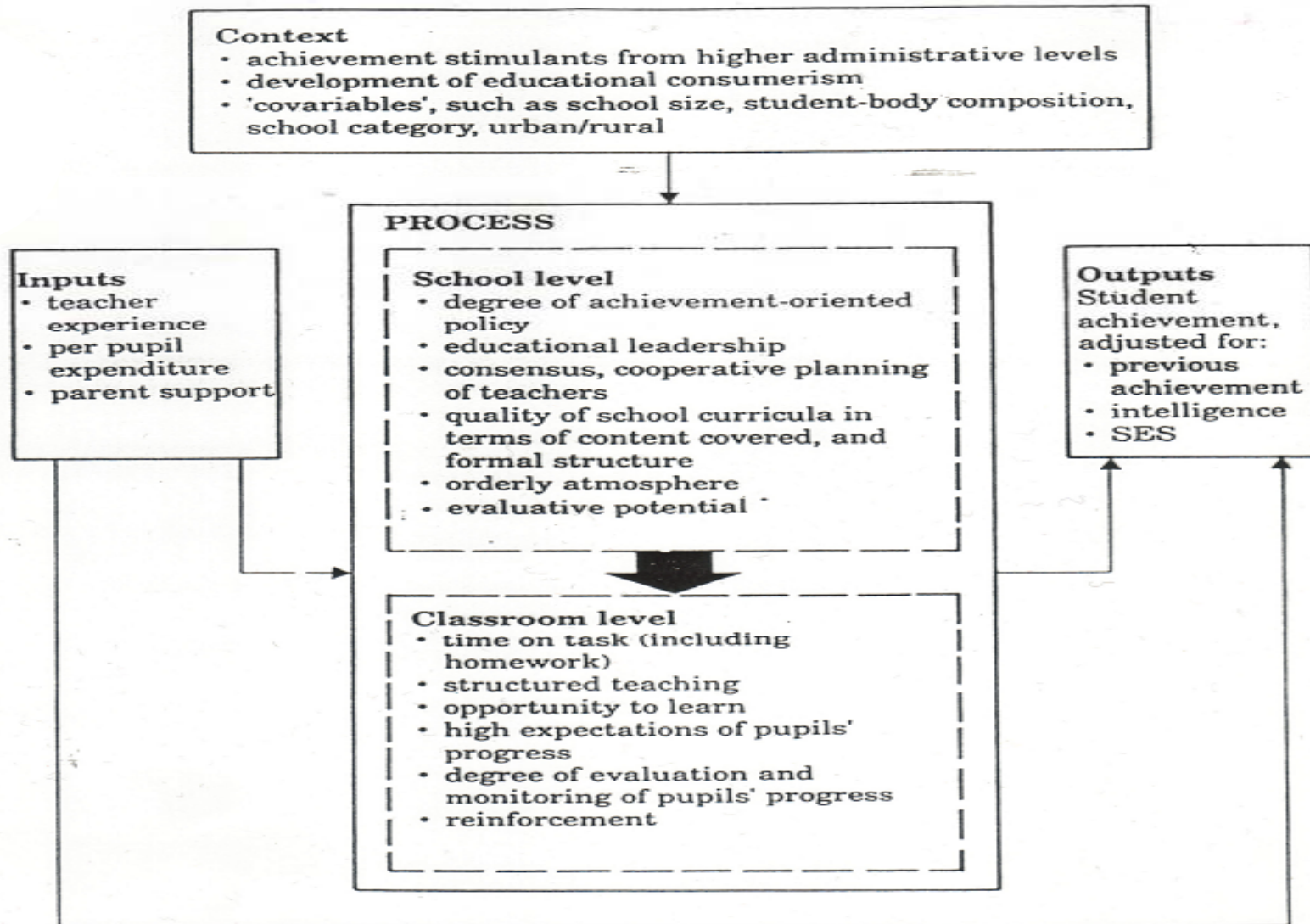
The Children's Act 2004 requires schools to work with other professionals to ensure 5 key outcomes for all children:

2004年儿童法令強調，学校协调所有专业服务部门，确保儿童、青少年工作达到五大目标：

- Being healthy 保持健康
- Staying safe 保证安全
- Enjoying and achieving 愉快成长和成就
- Making a positive contribution 作出积极贡献
- Economic well being 实现经济富裕



An Integrated Model of School Effectiveness – Scheerens (1992)



The Processes of Effective Schools

有效学校教育的过程

1. The processes of effective leadership 有效的领导
2. The processes of effective teaching 教与学效能
3. Developing & maintaining a pervasive focus on learning 以学习为焦点
4. Producing a positive school culture 建立正面的学校文化
5. Creating high & appropriate expectations for all 对学生持有适宜的高期望
6. Emphasising student responsibilities & rights 强调学生的责任及权利
7. Monitoring progress at all levels 在各层面监察进展
8. Developing staff skills at the school site 教职员发展
9. Involving parents in productive & appropriate ways 家长参与

(Adapted from Teddlie & Reynolds 2000)

Cheng, K-M., & Wong, K.-C. (1996)

Suggests that most of the general features of an effective school prevalent in the literature are readily existent in the school system in China, in particular:

- There is consistent support of education from the community;
- There is a demonstrated high degree of professionalism among teachers whose prime concern is student learning;
- There is a built-in tradition of quality assurance; and
- There are coherent high expectations of students (p33)

In other words,

....schools in China bear most of the characteristics of an “effective school (pg36)

Why do we need to evaluate education quality?

为何需要评价教育质量

- **Accreditation** – to formally regulate desired levels of quality of educational outcomes and provisions
认证制 – 用于正式规限教育成果之质量与教育之提供所期望的标准
- **Accountability** – to hold education systems accountable for their functioning and performance and support democracy in education
问责制 – 主张教育体系对其功能和表现负起责任，并且支持民主的教育
- **Improvement** - as a mechanism to stimulate improvement in education and organisational learning
进步 – 可作为一个激励机制，藉以改善教育和组织学习

Also enhanced evaluation processes are required alongside decentralisation policies 另外，随着权力下放政策，需要强化评价过程

(Scheerens, Glas & Thomas, 2003)

Measuring Quality – some issues to consider

评估质量时 – 要考虑的议题

- From whose perspective is quality judged?
从谁的角度来评判质量
- Which area of activity within an organisation determines quality?
由组织中那一领域的活动来决定质量
- At what level of the organisation is quality analysed?
是分析组织中那一阶层的质量
- How is quality defined in terms of time?
如何在时间维度上 界定质量
- What data are used to form an opinion of quality?
用什么数据信息来构成对质量的看法
- What standards or measures are used in order to make quality judgements?
用什么标准或度量来评断质量

(adapted from J. Scheerens, 1992, **Effective Schooling: Research, theory and practice**, London: Cassell)

Policy Context in China 中国的政策环境

The 9th 5-Year Plan for China's Educational Development by 2010:

“Effective measures need to be taken to solve the problems of solely pursuing high continuation rate and of heavy burdens for students. More efforts will be devoted to those schools with poor performance to reduce the discrepancy between key schools and non-key schools.”

(source: The 9th 5-Year Plan for China's Educational Development and the Development Outline by 2010, China, 1996)

‘采取有力措施，使长期存在的片面追求升学率和学生课业负担过重等问题得到有效解决。加强薄弱中学建设，淡化和逐步缩小非重点学校和重点学校的差距’

(信息来源：全国教育事业“九五”计划和2010年发展规划)

Policy Context in China 中国的政策环境

More recently at 2009 National People's Congress, the Chinese Premier Wen Jiabao reiterated the need to prioritise educational development and outlined an initial focus on five key areas (NPC, 2009) :

2009年，国务院总理温家宝的政府工作报告中，强调政府坚持优先发展教育事业，**2009年内**要重点抓好五个方面：

- promote fairness in education 促进教育公平
- optimise the education structures to develop vocational education 优化教育结构、大力发展职业教育
- improve the quality of teachers 加强教师队伍建设
- advance well-rounded education 推进素质教育
- implement a program to ensure that all primary and secondary school buildings are safe and promote standardisation in the construction of rural primary and secondary schools

实施全国中小学校舍安全工程，推进农村中小学标准化建设

Empirical studies using the concept of value added in China mainland are rare, for example 中国学校 效能增值测量的实证研究证据非常少:

Tang, L.C. & Liang, L.L. (2005).学校效能评价的尝试(An Exploratory Study of School Effectiveness Using Value Added Method).上海教育科研(*Shanghai Research on Education*), 4, 24-26.

Ding(丁延庆), Y. Q., & Xue(薛海平), H. P. (2009). 高中教育的一个生产函数研究A study on the education production function with high school data. 华中师范大学学报(人文社会科学版)Journal of Huazhong Normal University(Humanities and Social Sciences), 48(2), 122-128.

China is also notably missing from international comparative studies of school effects (e.g. Scheerens 2001).

Therefore further research on this topic is both timely and essential to explore the potential of value added methodology to enhance school effectiveness and school evaluation methods in China.

在这方面从事进一步的研究，以探索运用增值评量方法，以提高中国学校效能和学校评价方法，既重要又适时。

What Is Meant by Value Added

何谓「增值」评量

Assumption – schools add ‘value’ to the achievement of their students. However, raw results describe the grades that students have obtained.

概念的假设 – 是学校增加其学生成就的值，而原始考试成绩是描述学生所得到的分数。

Approaches – produce an estimate of the extra value that is added by schools to student attainment (or attitudes) over and above the progress or improvement that might be expected in a normative sense.

增值法 – 推估一额外值，该值是学校加诸在学生学业成就（或态度）的一般预期进步或改进之上的额外之值。

What Is Meant by Value Added

何谓「增值」评量

Value added measures thus seek to establish whether students in some schools make relatively greater or less progress than those in other schools over a specific period of time – after adjusting for varying intake achievement and factors

因此，增值测量试图说明在一段特定时间内，某些学校的学生是否比其它学校的学生取得了相对较大或较小的进步 — 经过调整不同入学成绩和一些因素後的测试结果

What Is Meant by Value Added

何谓「增值」评量

The most effective schools would be those where student progress exceeds expectation.

相较于其它学校，最有效能的学校是其学生之进步超过了预期最多。

Value added – both an indicator of a school's effectiveness and a tool for head teachers and their staff to use to analyse the extent to which they have effectively raised pupil achievement.

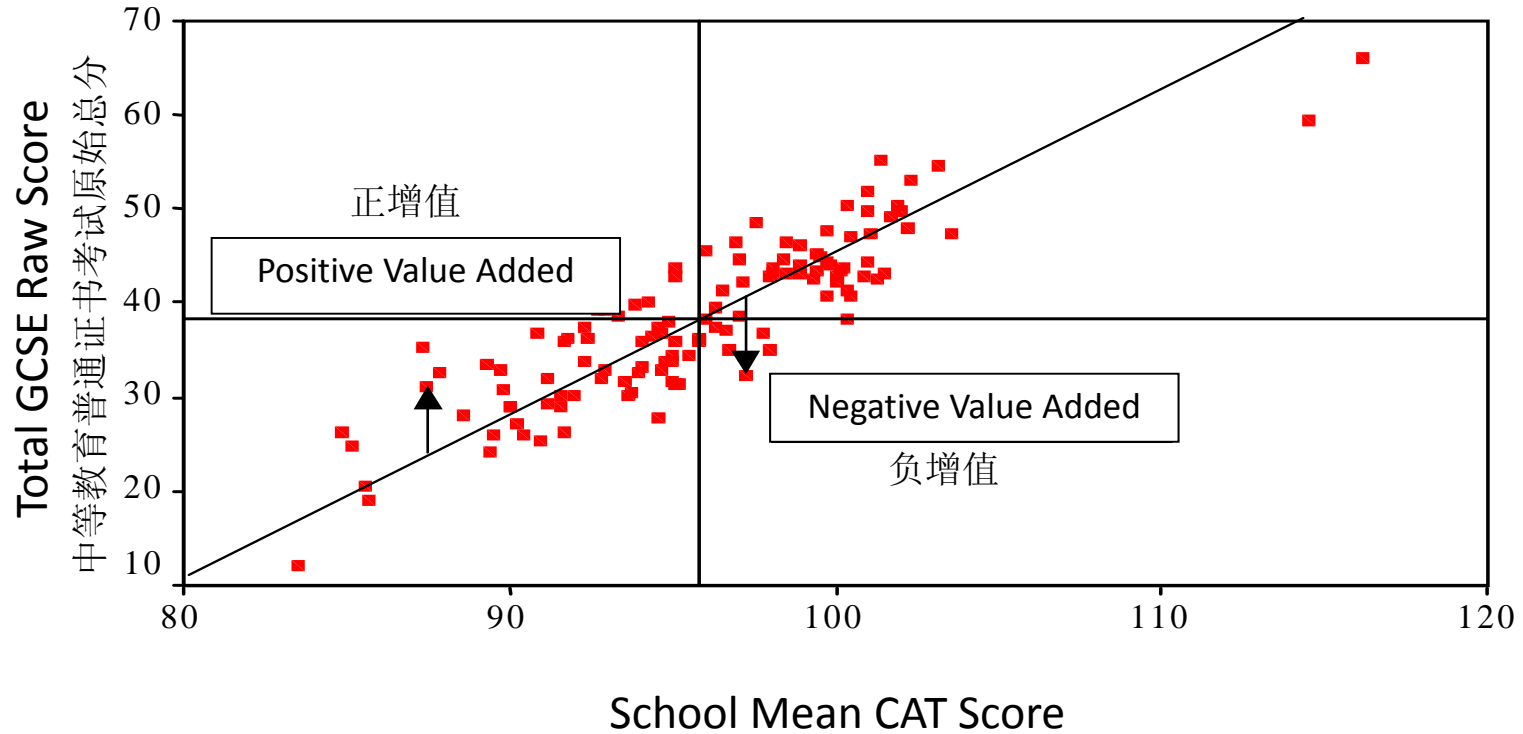
学校效能的一个指标，是校方分析其对提高学生成绩水平作用的工具。

However, there are some limitations to value added methodology and approaches to school evaluation which need to be well understood.

然而，在运用增值法以评价学校时，当对其局限性有所理解。

Lancashire VAP 2001

Mean CAT and Mean Total GCSE Score



(学校平均的总认知能力的分数)

Correlation $r = 0.88$ (相关系数)

Introduction to IEEQC Project

- In China, raw measures of pupils' academic outcomes and HE entrance levels are frequently viewed as the key indicators of school quality. As a result schools with disadvantaged intakes tend to be judged unfairly, while complacency is possible amongst schools with more able pupils and it is difficult to identify best practice.
- An alternative approach examines the relative progress of pupils during their time at school and this methodology - often referred to as value added - is widely regarded as providing more accurate measures of school effectiveness than the raw results.
- Therefore, it is important to look closely at the opportunities and potential for enhancing educational quality in China via innovative school evaluation methods and school effectiveness research.

IEEQC Project 项目

- Led by the Graduate School of Education (GSOE) University of Bristol (UOB), In collaboration with China National Institute for Educational Research (CNIER) in Beijing

由布里斯托大学教育学院主持，并与中国中央教育科学研究所合作实施

- Project team 项目团队

UOB: Sally Thomas, Wen-Jung Peng

CNIER: Tian, Huisheng; Li, Jianzhong; Ma, Xiaoqian;
Ren, Chunrong; Wu, Xiangrong; Zhang, Chong

布里斯托大学：萨丽·汤姆斯、彭文蓉

中央教育科学研究所：田慧生、李建忠、马晓强
任春荣、武向荣、张冲



University of
BRISTOL

Aims of the IEEQC Project 项目目的

- To enhance understanding of the complex nature of school effectiveness in China and how local context may play a key role in determining definitions of educational effectiveness & quality

增进对中国学校效能复杂本质的理解，以及地方教育行政部门和学校在如何界定教育效能和质量方面发挥关键作用

Aims of the IEEQC Project 项目目的

- To provide new insights and extend current theories about the impact of student characteristics, and school context, and process factors on students attainment and progress at school using innovative quantitative methodology (multilevel modelling) and the relevance of these factors in the evaluation of school performance in China

以新的视角和扩展现有理论，在评价中国学校表现过程中，运用创新的定量研究方法（多水平模型），探讨学生特征、学校情境、投入和过程因素，对学生成就及其在校期间取得进步的影响和这些因素的相关性

Aims of the IEEQC Project 项目目的

- How western approaches to evaluating educational quality may be adapted and developed to take account of local contexts and priorities.

如何运用和开发西方评价教育质量的方法去考虑当地背景和优先事项的需求

Studies of the IEEQC Project 项目内容

- IEEQC Study 1: Exploring stakeholder views and issues of local context and priorities (and sustainable capacity building) in relation to educational evaluation and quality in China

研究子项目一：探讨在中国教育评价和质量方面，相关关键利益攸关方的看法及有关当地背景和优先考虑事项的议题（以及可持续发展的能力建设）。

- IEEQC Study 2: Examining the nature, size and extent of school effectiveness in China using value added measures.

研究子项目二：运用增值评量法探索中国学校校能的本质、大小和范围。

Conclusions so far – study 1

迄今的结论 — 研究子项目一

- Stakeholder perceptions of educational quality can be understood in terms of outcomes, context, inputs and processes [reflecting typical western models of SER] but also in terms of equity

主要利益相关方对教育质量的见解在结果、情境、投入和过程方面（反映了典型西方学校效能的模式），但各方见解也包括了公平方面

- In China student outcomes may be perceived as relatively broader than elsewhere [Su Zhi] and historically for a longer time period [Confucius philosophy]

与其它地方相较，在中国，自古以来，对学生结果（素质）的看法较为广泛（儒家哲学）

- School evaluation in China is seen by some stakeholders as not scientific or systematic and also not sufficiently focused on school improvement - evaluation methods need to be improved

一些主要利益相关方认为，中国的学校评价不科学或没有系统化，并且没有充分着重在学校进步方面 — 评价方法有必要改进

Conclusions so far – study 1

迄今的结论 — 研究子项目一

- Value added measures of student progress are seen as a fairer, more scientific and a welcome new approach to evaluating schools in China

在中国，以检验学生进步为主的增值评量法被视为一较公平、较科学且受欢迎的新评价学校的方法

- However some schools already use this approach in a simple or informal way [Boading project], and further guidance would be helpful

然而，一些学校已经以简易或非正式的方式采用此方法（保定研究项目），因此，更进一步的指导**将有助于**此方法的实践

Conclusions so far – study 1

迄今的结论 — 研究子项目一

Stakeholders also thought that to successfully introduce “value added” measures and methods in China would required:

主要利益相关方也认为，要成功的引进增值评量法至中国，需要：

- careful integration with current evaluation systems in China to reflect all-round development and a recognition that students and parents are strongly focused on raw examination scores.

谨慎的与现有评价制度整合，来反映学生全面发展，以及认可学生和父母仍旧注重原始考试分数的现况

- widespread and comprehensive training is needed for policy makers, school staff, evaluators and public to enhance understanding of the “value added” concept, data collection procedures and statistical methods.

广泛和全面的培训来加强政策制定者、学校教职员、评估者和大众对增值概念、数据搜集程序和统计方法的了解，是有必要的

- Regional or City focus is needed for the evaluation, as a national base of comparison may not be relevant in a country as diverse as China

对未来增值评价的建议。

Advanced suggestions for Chinese value-added evaluation in future

“觉得英国的这套学校效能评价的成果非常有价值，在观念方面非常有价值，在方法方面也有意义。但是到了中国以后，可能得进行一定的改造和丰富。如果不改造，在中国会消化不良。”

The interviewee argued that the value added evaluation method must be modified to apply in China. *“The results of the method are very valuable, very valuable in concept, the method also makes sense. But in China, you may have to carry out a certain degree of transformation and enrichment. If you do not transform according to the Chinese context, it can not be applied well”* (505-507, NPM1).

Conclusions so far – study 2

迄今的结论 — 研究子项目二

- **First year of data collection and the results are estimates** – need to explore further, clarify and confirm using equivalent data from subsequent cohorts/years

第一年的数据搜集，结果是估计值 — 需要搜集随后数年相等的数据，作进一步的探究、阐明和确认

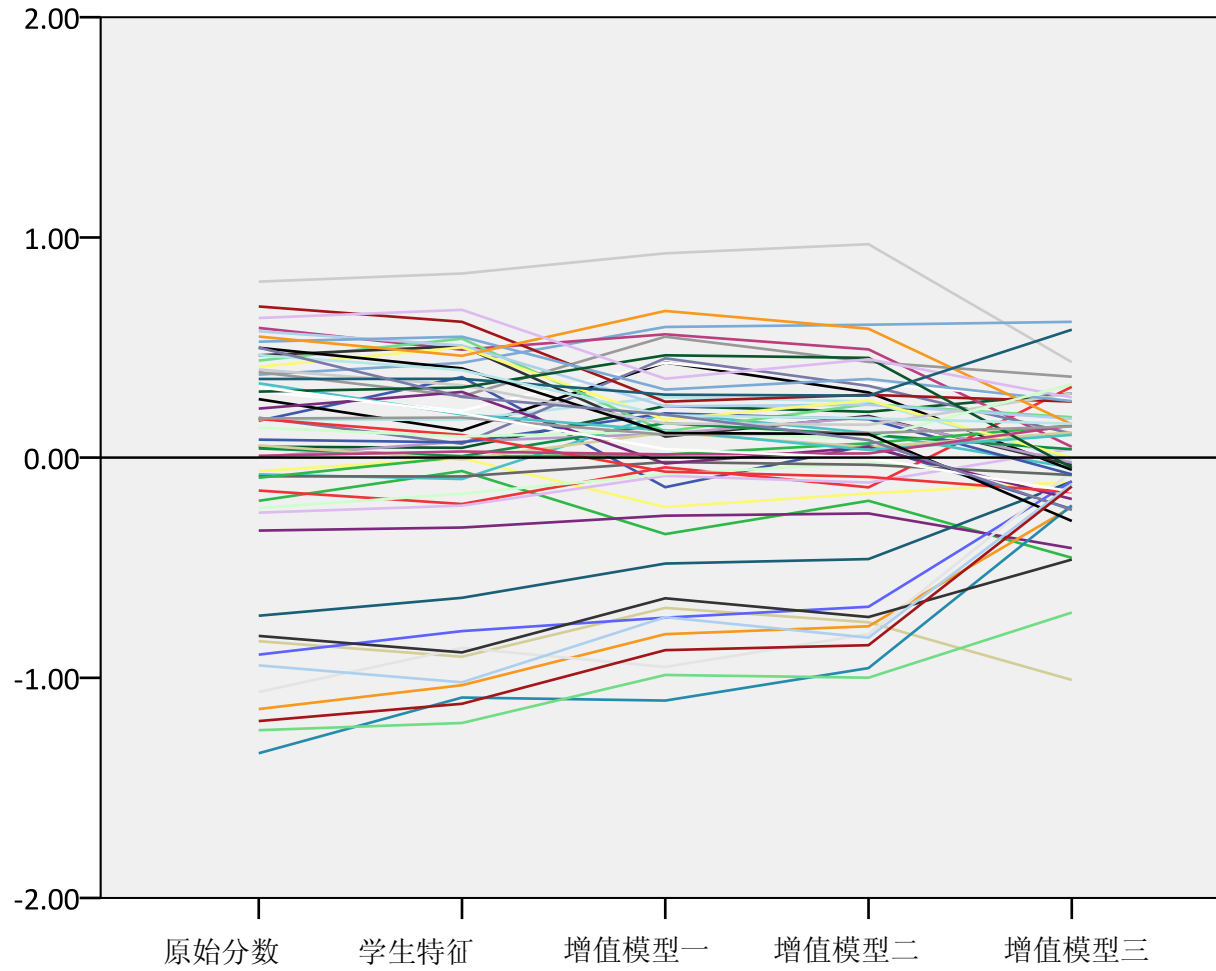
- **School Effects and the Best “value added” model** – needs to take account of students prior attainment, individual background characteristics and school context

最佳的增值评量模式 — 必须纳入学生入学时的能力、个别的背景特征和学校情境等因素.学校效应 — 当纳入学生和学校情境因素于模型中，学校间在增值评量效能方面呈现统计显着性差异。另外，学校在原始分数评价和增值评量的表现上，也呈现统计显着性差异

Type of Feedback – Total

模型的类型 – 高考总分

RQ2

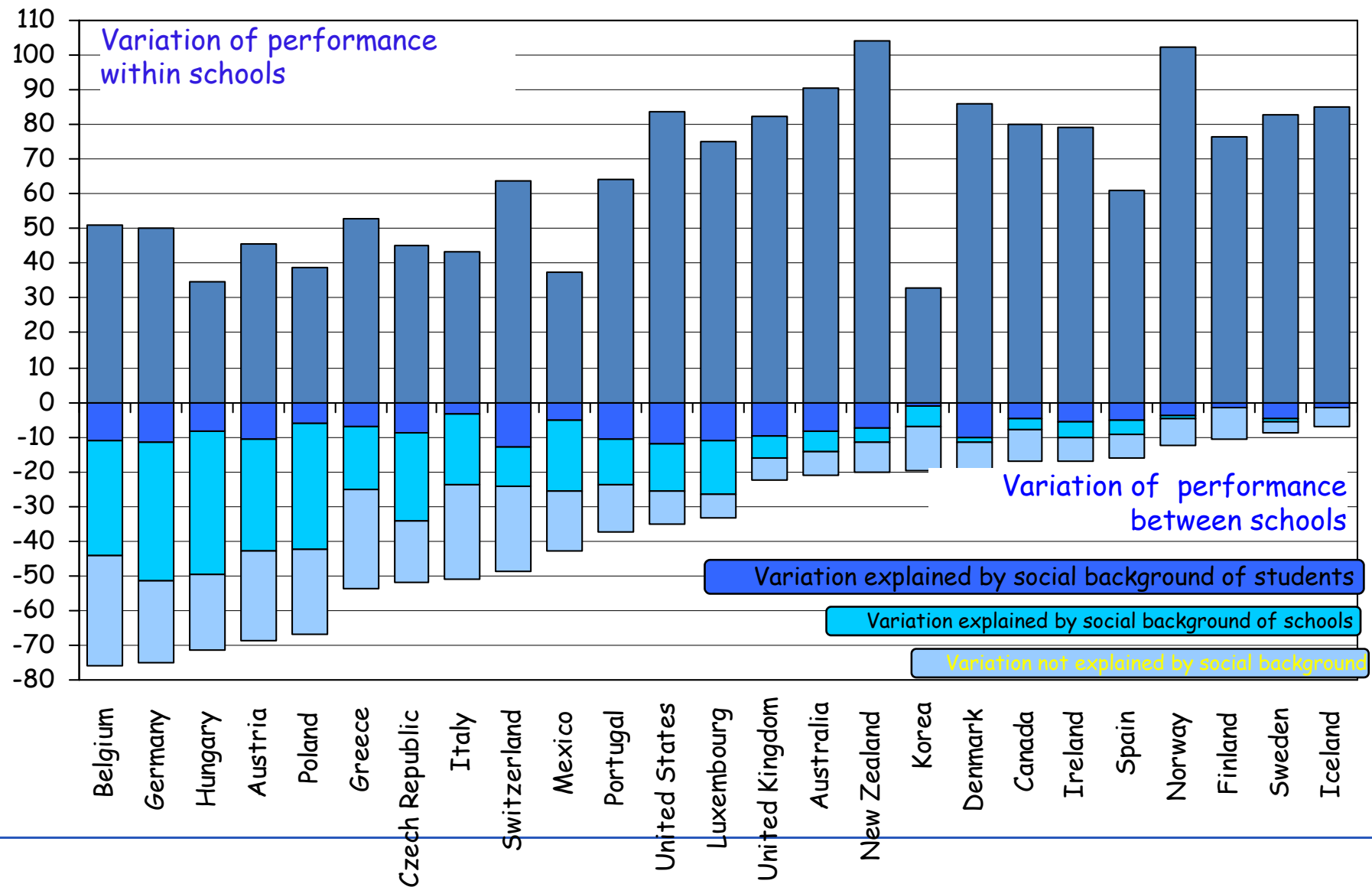


Type of feedback 模型类型

Research Findings 研究发现

(LEA2-2level)	% school variance explained 被解释的学校间变异(%)				
	Model 模型	Total 总分	Chinese 语文	English 英语	Maths 数学
Student effort 学生努力		9.2	8.8	8.3	8.3
Student characteristics 学生特征		12.2	11.2	12.0	11.4
School input 学校投入		47.6	50.1	44.5	49.6
School process 学校过程		63.6	62.4	59.5	62.2
Student attitude 学生态度		14.4	13.9	14.9	11.4
School context 学校情境		75.0	77.9	77.8	71.9
Prior attainment only 中考成绩		33.4	30.0	37.9	32.5
Value Added Model II 增值模型二		38.5	36.1	43.7	36.6
Value Added Model III 增值模型三		72.2	73.4	74.9	67.4
Value Added Model IV 增值模型四		84.7	85.3	84.5	82.2
Value Added Model V 增值模型五		85.2	85.9	84.9	82.4

Variation in reading performance (PISA 2000)



After McGaw, 2008. Expressed as a percentage of the average variation in student performance in OECD countries

Conclusions so far – study 2

迄今的结论 — 研究子项目二

- **Differential school effects** – statistically significant differences within schools between different groups of student (according to prior ability) but less evidence between different subject departments

区别性学校效应 — 学校内，学校对不同学生群（以入学时的能力区分）的影响有统计显著性差异，但对不同学科间的效应少有影响

- **Difference in results between regions** – therefore a national “value added” system may be inappropriate

不同地区有不同的结果 — 因此，可能不适宜建立一个国家层级的增值评量体系

IEEQC lessons learned so far

从项目研究发现所获得的启示

- “Value Added” measures would provide an important and welcome addition to current school evaluation systems in China but need to be aware of limitations.

在现有的中国学校评价体系，增值评量法会是一个额外的重要且受欢迎的评价方法，但必须对其局限性有所了解

- A new government focus on school self evaluation and school improvement would be welcomed by stakeholders, as well as reform of HE entrance requirements to reduce focus on raw examination scores.

主要利益相关方欢迎政府将焦点放在学校自我评价和改进上，以及高等教育入学条件的改革，降低对原始考试分数的注重

- Data quality is crucial - rigorous and systematic longitudinal data collection procedures are required to ensure data quality, as well as explicit agreements between schools, administration and research organisations taking responsibility for data collection.

数据的质量是关键 — 必须有严谨和系统化的纵向数据收集程序，以确保数据品质，并且与学校、行政单位和研究机构对数据收集责任上，有明确的协议

IEEQC lessons learned so far

从项目研究发现所获得的启示

- Differences in examination systems between provinces and cities (particularly at lower educational levels) means that creating a national “value added” system would be very difficult. However “value added” evaluation systems are feasible now for regions or cities. Consider the possibilities for regional student databases within a nationally agreed framework.

省市之间不同的考试制度意味着，建立全国性增值评量系统有一定的难度。然而，增值评量系统亦适用于区域或市范围。因此，可考虑在全国协议的框架下，建立区域性数据库。

- The evidence suggests that a range of “value added” measures are required – eg for different subject outcomes and groups of students. Also consider extending to non-academic outcomes such as vocational and attitude measures

研究证据显示，需要有不同的增值评量，例如针对不同的学科和不同的学生群。而且，可将此方法拓展并运用到非学业结果，诸如职业教育和学习态度方面

- Widespread and comprehensive training is required in evaluation concepts and methods 需要有广泛和全面有关评价概念和方法的培训

Improving Teacher Development and Quality in China: examining schools as effective professional learning communities

「改进中国教师发展和教育质量」研究项目

ITDEQC Study 1: Interviews with stakeholders about teachers professional development and the relevance of professional learning communities in Chinese schools to enhance student outcomes

子项目一：访谈主要利益相关方，有关教师专业发展和中国学校专业学习共同体的相关性，提高学生学习结果

ITDEQC Study 2: Multilevel modeling analysis to examine trends over four years in the nature, size and extent of school effectiveness in China using value added measures. Student and school surveys will be used, as well as a teacher survey to examine the impact of teacher development factors on student outcomes

子项目二：运用增值评量多水平模型，通过考察 4 年趋势，探讨中国学校效能的本质和范围。例外，经由学生、学校和教师问卷调查所搜集的数据信息，也将用于探讨教师发展因素对学生学习结果的影响。

Thank you for listening!

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