

Learning Foreign Languages in the Digital Age  
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EdTech in China  
policies, research, teaching, market

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## **EdTech in China**

policies, research, teaching, market

- 1) Political strategies
- 2) Research landscape
- 3) Teaching practise
- 4) Market dynamics

# POLITICAL STRATEGIES

## POLITICAL STRATEGIES

Starting out early

### Networked education for universities

**1994**

#### **China Education and Research Computer Network**

中国教育科研计算机网

- connect most Chinese universities through the Internet

**2000**

#### **"Cross-Century Gardener Project"**

“跨世纪园丁工程”

- complete the construction of the China Teachers Network
- research and development of 36 online courses

**Until now**

#### **pilot colleges status for 45 colleges and universities**

试点院校设立网络教育学院

- online education colleges: pilot work for online FL teaching
- 8 categories, 51 majors, and nearly 300 courses
- material library and case studies Library

## POLITICAL STRATEGIES

Three frameworks

### 1. General educational reform

#### "National Medium and Long-term Education Reform and Development Plan (2010-2020)"

《国家中长期教育改革和发展规划（2010-2020）》

- Develop online learning courses
- Innovate online teaching models, update teaching concepts

#### 2015: Implementation of the "Internet+" plan

2015 年中国实施“互联网+”计划

- Chinese govt invested 1 bn \$ into EdTech startups in 2015 alone

#### 13th Five-Year Plan for Education Informatization by the MOE (2018)

中国教育部《教育信息化十三五规划》（2018）

- Networked, digital, personalized, and lifelong education system
- Learning society: everyone, everywhere, from time to time

→ lifelong learning

→ everyone can participate

## POLITICAL STRATEGIES

Three frameworks

### **2. Poverty reduction through equal educational opportunities**

#### **Govt-initiated programs**

- 2015-2017: MOOC application project → higher education in western region  
2015-2017 年教育部: MOOC 应用专项支持西部高等教育

#### **Private company/foundation-initiated programs**

- 100TAL 好未来 AI-Teacher evaluation in Yunnan

## POLITICAL STRATEGIES

Three frameworks

### **3. AI-Strategy**

#### **Interwoven AI-Strategy**

- China 2025
- Digitization of China

#### **World AI Conference / Education forum**

世界人工智能大会 / 教育主题论坛

## POLITICAL STRATEGIES

### Two EdTech Strategies

#### **1. AI+Education (AIED)**

##### **Xi Jinping**

- accelerate development of life-long, equal-oriented, suitable for everyone
- more open and flexible education

##### **International AI+Education conference**

国际人工智能与教育大会

- Xi Jinping lays out AIED strategy himself

##### **Scope of MOE plans for AIED:**

- "New Generation Artificial Intelligence Development Plan"  
《新一代人工智能发展规划》
  - "Artificial Intelligence Innovation Action Plan for Colleges and Universities"  
《高等学校人工智能创新行动计划》
- > setup of 50 AIED institutions within until 2020 (declared in 2019)
  - > smart classrooms in BFSU to improve teachers' ability
  - > 'Internet+Education' demonstration zone in Ningxia (10 dem zones 2020)



## POLITICAL STRATEGIES

Two EdTech Strategies

### 2. MOOCs

**"Opinions of the MOE  
on Strengthening the Application of Management  
in the Construction of Online Open Courses in Colleges and Universities" (2015)**

《教育部关于加强高等学校在线开放课程建设应用于管理的意见》(2015)

- until 2017: >1,000 national quality online open courses recognized
- by 2020: >3,000 national quality online open courses recognized

**Double Ten Thousand Plan "Main Points of Work of the DHE in 2018"**

双万计划 《高等教育司 2018 年工作要点》

- by 2020: 10,000 national and 10,000 provincial first-class O/O courses

## POLITICAL STRATEGIES

Pioneering digital education for the world

**China positions itself to lead the world in digital and smart education**

### **World MOOC Alliance**

世界慕课联盟

November 2020:

scheduled for first World MOOC Conference to establish world alliance

2019:

China MOOC conference 中国慕课大会 (MOE 教育部)

## POLITICAL STRATEGIES

### Intersections

#### Political and research spheres (1/2)

##### **Key Project of Ministry of Science and Technology (MOST)**

##### **"Research on International Standards of Online Learning Service Standards" (2017-2020)**

科技部重点课题“《在线学习服务规范》国际标准研究”（2017-2020）

- jointly undertaken by China National Institute of Standardization and Beijing Foreign Network Institute
- create a globally recognized ideal service paradigm
- form an international standard text

##### **Education Informationization Think Tank of the Ministry of Education**

教育部教育信息化智库

- "Future Roadmap" Experimental School Development Guide 1.0" (2020)
- National Open University
- Digital Learning and Educational Public Service Engin. Research Center  
→ Beijing Normal University
- Digital Learning Support Technology Engineering Research Center  
→ Northeast Normal University
- National Digital Learning Engineering Technology Research Center  
→ Central China Normal University

## POLITICAL STRATEGIES

### Intersections

#### **Political and research spheres** (2/2)

##### **Global Smart Education Conference**

“全球智慧教育大会”

Organizer:

Beijing Normal University Future Education Advanced Innovation Center  
"Mobile Learning" Ministry of Education-China Mobile Joint Laboratory (Key Laboratory of MOE)  
北京师范大学智慧学习研究院

##### **Smart Language Education International Conference**

语言智能教育国际会议

Organizer:

ChinaCALL

# RESEARCH LANDSCAPE

## RESEARCH LANDSCAPE

Non-FLL Core

### Research on digitization of education (1/2)

#### 1. University research

##### Beijing Normal University

Future Education Advanced Innovation Center (AICFE) (Yu Shengquan)  
北京师范大学未来教育高精尖创新中心（余胜泉领导下）

- FLL-related research in VR/AR, robotics-learning platform

##### Shaanxi Normal University

Key Lab of Modern Teaching Technology (Hu Weiping)  
现代教学技术教育部重点实验室（胡卫平领导下）

## RESEARCH LANDSCAPE

Non-FLL Core

### Research on digitization of education (2/2)

#### 2. Non-university research

- state/govt institutes
- associations
- alliances
- organizations
- enterprises
- state media

#### **People's Daily Online**

人民网

"How to 'evolve' and 'break through' the online education industry under the epidemic"  
seminar on online education development countermeasure

#### **People's Political Consultative Conference News / Conference Network**

人民政协报社、人民政协网:

"Internet+ Helps Balance Educational Resources Seminary"

## RESEARCH LANDSCAPE

Foreign language learning as core

**Research on digitization of foreign language learning** (1/2)

### **Beijing Foreign Studies University**

Key Laboratory of Artificial Intelligence and Human Language

人工智能与人类语言重点实验室

Language Intelligence Teaching Research Center

语言智能教学研究中心

School of Online Education, Beijing Foreign Studies University (2000)

北京外国语大学网络教育学院（2000）

Chinese-English-Chinese Comparative Research Association Language Intelligence Teaching Committee (ChinaCALL) (2012)

中国英汉语比较研究会语言智能教学专业委员会（ChinaCALL）（2012）

Key project: „Design and Development of Multilingual Online Learning Platform" (2020-2022)

北京外国语大学重点课题“多语言在线学习平台的设计与开发”（2020-2022）



## RESEARCH LANDSCAPE

Foreign language learning as core

**Research on digitization of foreign language learning** (2/2)

**Guangdong University of Foreign Studies**

广东外语外贸大学

Conference

"Integrated Development of Artificial Intelligence and Foreign Languages and Literatures"

(2019, 2020)

“人工智能与外国语言文学融合发展”会议（2019年+2020年）

## RESEARCH LANDSCAPE

Research outside of universities

### Corporate research

#### **iFlytek**

科大讯飞

- iFlytek Research Institute 科大讯飞研究院
- iFlytek Beijing Research Institute 科大讯飞北京研究院
- iFlytek A.I. Education Research Institute 科大讯飞 A.I.教育研究院

#### **Qingrui Education**

清睿教育

Beijing Competent Educational Technology Research Institute

北京胜任力教育科技有限公司

"Practical Research on New Models of English Teaching and Learning Based on Online Learning Space"

(applied and approved 2017)

《基于网络学习空间的英语教与学新模式实践研究》课题

## RESEARCH LANDSCAPE

Intersection of institutional research and business (1/3)

### Cooperation models

#### 1. Commissioned research

- Keda commissions Beiwai research

#### 2. Strategic embedded joint research

- Sogou w/ Qinghua institute for AI research
- Keda Xunfei w/ Beiwai
- Netdragong and Keda Xunfei w/ BNU

Key Laboratory of Artificial Intelligence and Human Language

北京外国语大学人工智能与人类语言重点实验室

is doing research together with

- Peking University
- HKUST iFlytek
- Huawei Technologies

## RESEARCH LANDSCAPE

Intersection of institutional research and business (2/3)

### **University enterprises (1): Self-developed platforms and products**

#### **School of Online Education, Beijing Foreign Studies University (2000)**

北京外国语大学网络教育学院（2000）

"China Foreign Language Online Education Expert" brand

“中国外语网络教育专家”品牌

Beiwai Online (Beijing) Education Technology Co., Ltd. (2001):

"Bewai Online Education Information Service Project"; "Bewai Online Class"

北外在线（北京）教育科技有限公司（2001）：“北外在线·教育信息化服务项目”；“北外网课”

#### **Foreign Language Teaching and Research Press**

"Waiyan Online" “外研在线”

autonomous foreign language learning management and MOOC platform

## RESEARCH LANDSCAPE

Intersection of institutional research and business (3/3)

### **University enterprises (2): Joint ventures**

#### **"Waiyan Xunfei"**

“外研讯飞”

testing and grading system jointly launched by  
Foreign Language Teaching Research Press (BFSU)  
HKUST Xunfei (Keda Xunfei)  
外语教学与研究出版社与科大讯飞合作推出的考试系统

# TEACHING PRACTICE

## TEACHING PRACTICE

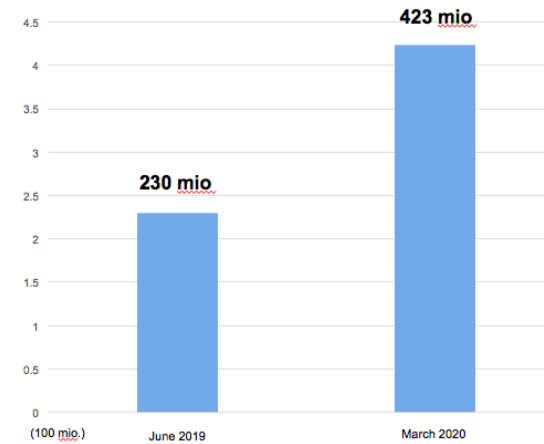
Numbers (1/2)

Internet users:  
close to 1 bn

Users of online education offerings:  
doubled because of Covid-19 up 200 mio to over 400 mio



*Share of population who uses online education*



*Total number of online education users (March 2020)*

## TEACHING PRACTICE

Numbers (2/2)

### **Students participating in online courses:**

COVID-19 outbreak as accelerator of student online learning:

265 million students have turned to online courses since

K12-system:

50 mio middle school students in China study at home

Bachelor system:

>1 mio teachers

→ 1,1 mio courses

→ 17,2 mio lessons

→ 22,3 mio students

→ viewed 3,5 bn times



## TEACHING PRACTICE

### Online teaching in K-12 system (1/2)

#### **Online teaching in primary and secondary schools** 中小学线上教学

- organized by: provincial and municipal educational institutions
- provided through: cable TV, computers, tablets
- led by: MOE: *"Notice on Work Arrangements for 'Suspension of Classes without Suspension' during the postponement of the opening of schools"*

#### **Digital Learning Support Technology Engineering Research Center (MOE)**

- "Famous Teacher Cloud Class"
- "Eat System"
  - 3 mio quality resources
  - 3 mio test questions
  - 100k test papers
  - 100k micro-classes

#### **Free online courses from market providers**

Xueersi Online School launched a synchronized free live class on campus:  
>60 million students watch every day

## TEACHING PRACTICE

Online teaching in K-12 system (2/2)

### Evaluation from parents

(survey)

Parents are generally dissatisfied with online teaching

- lack of interaction
- lack of personalized teaching
- poor learning results
- too long screen time which is harmful to eyesight
- students can't concentrate
- requirements for parents are too high

→ coming along the way:

SLP 智慧学伴, other AI-enhanced offerings

## TEACHING PRACTICE

Smart Learning Platform 智慧学伴 & VR/AR

### **Advanced Innovation Center of Future Education of Beijing Normal University**

北京师范大学未来教育高精尖创新中心

"Smart Learning Companion" Educational Robot

“智慧学伴”教育机器人

Smart Education Public Service Platform-Smart Learning Companion

智能教育公共服务平台——智慧学伴

### **Beijing Normal University "VR/AR+Education" Laboratory**

北京师范大学“VR/AR+教育”实验室

Customized resources in response to the requirements of schools:

e.g. Tsinghua Primary School English language learning module

## TEACHING PRACTICE

### MOOCs (1/3)

#### iCourse

#### 爱课程发展历程

- July 2011: MOE+MOF launched [National Excellent Open Course Project](#)
- November 2011: launched [Aicourses.com](#)
- June 2013: first batch of [resource sharing classes](#) went online
- May 2014: [China University MOOC](#) went online
- December 2014: MOOC students in universities exceeded **1 mio**
- December 2017: MOOC students in universities exceeded **40 mio**
- March 2019: MOOC students in universities exceeded **86 million**
- registered students almost **20 million**
- 2020: **992** open video courses and **2,884** resource sharing courses  
→ **total of 4146 courses and 12,491 MOOC courses**

#### Missions for target groups:

- Teachers: [Teachers' ability to improve MOOC](#)
- Secondary vocational and higher vocational education students: [China Vocational Education MOOC](#)
- Junior and senior high school students who are able to learn more: [Chinese University Prerequisite MOOC](#)
- Undergraduates: [Chinese University MOOC \(Credit Course\)](#)
- Enterprises and institutions: [personalized customized MOOC](#)

## TEACHING PRACTICE

### MOOCs (2/3)

#### **Specialised MOOC for foreign language learning**

##### **Chinese College Foreign Language MOOC Platform (BFSU publishing arm)**

中国高校外语慕课平台（外研社创办的）

#### **Other platforms that provide national boutique online open courses**

- School Online (Tsinghua University, October 2013)
- wisdom Tree
- Human Health Agency MOOC
- Chinese MO Class
- ecX
- Beijing University Quality Course Research Association
- Good University Online
- Excellent Lesson Alliance

## TEACHING PRACTICE

MOOCs (3/3)

### Usage of MOOCs: Mixed teaching

#### Foreign Language MOOC Alliance of Chinese Universities

中国高校外语慕课联盟

"2nd UMOOCs Selection of Excellent Cases of Mixed Teaching Based on MOOCs"

“第二届 UMOOCs 基于慕课的混合式教学优秀案例评选”

### Content and platform internationalisation: INCOMING

#### Cooperation and content sharing agreements w/ largest ed providers

- top universities, Coursera etc.

### Content and platform internationalisation: OUTGOING

#### Xuetang Online 学堂在线 and iCourse 爱课程

- 500 english-language courses
- market coverage: >100 countries

## TEACHING PRACTICE

### CALL

#### **Teacher demand exceeds supply (survey)**

##### used at

- university FLL depts.

##### missing

- personalisation
- actionable feedback
- ...

##### looking for

- > CALL 2.0 powered by AI

# MARKET DYNAMICS



## MARKET DYNAMICS

### Numbers

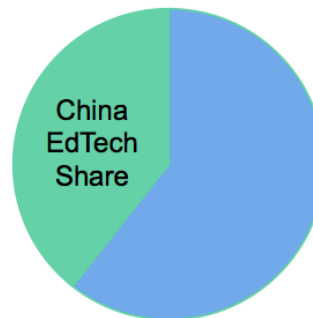
#### **Global EdTech market:**

200 bn \$ (2020)

#### **China EdTech market**

66 bn \$ (10% growth Y-O-Y)

- second-largest market worldwide
- top 2 to 4 of largest EdTech co from China
- 20 EdTech unicorns: 9 from China
- 3 FLL pure-plays (out of these 9)
- 4 others w/ FLL as important segment (out of these 9)



## MARKET DYNAMICS

### Numbers

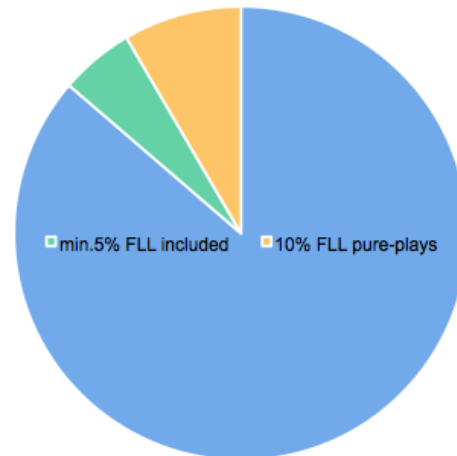
English learners in China:

300 mio

FLL amongst 100 largest EdTech providers in China:

FLL pure-plays: 10 %

FLL included: min. 5 %



## MARKET DYNAMICS

State-owned foreign language learning market

### **Traditional FLL publishing houses also leaders in the digital age**

#### **Beijing Waiyan**

北京外国语大学 and 外语教学与研究出版社 (北京外研)

Digital platform: Waiyan Online

外研在线

- FLL-MOOC platform
- CALL for universities: w/ Keda Xunfei 科大讯飞: Waiyan Xunfei 外研讯飞

#### **Shanghai Foreign Language Education Press (SFLEP)**

上海外语教育出版社 (“外教社”)

WE Foreign Language Smart Teaching Platform

WE 外语智慧教育平台

- content transformation: online-games for kids and parents (subtitling movies and other IP)

## MARKET DYNAMICS

Private FLL market digitization

### Market description

- 90 bn \$ after-school tutoring market in China
- parents market

### Shift in business models

#### Offline private tutoring schools

- gone non-existent during Covid-19 and ongoing

#### Live and VOD teacher-based platforms

(Xueersi 学而思网等好未来旗下的产品, koolearn 新东方在线...)

- digital transformation enhanced by Covid-19

#### One-to-one offerings (native speaker<>student in China + extra training and video library)

(VIPkid, itutor, Dada...)

- digital natives

#### → Virtual tutoring natural winner of crisis

- Yuanfudao 21 times YOY WAU
- Xueersi 50 times YOY – transferring its offline clientele online

## MARKET DYNAMICS

FLL market leaders (1/2)

### Largest private FLL platforms

(MOOCs not included)

Top-10 FLL offerings in China:

- VIPKid
- iTutorGroup 麦奇教育
- Hujiang – 沪江
- Dada English – 哒哒英语
- Acadsoc – 阿卡索外教网
- italki
- Best Learning English – 贝乐学科英语
- Landi English – 兰迪少儿英语
- Magic Ears – 魔力耳朵
- Putao ABC – 葡萄英语 (葡萄智学)

## MARKET DYNAMICS

FLL market leaders (2/2)

### **Significant pure-play FLL+AI market participants below Top-10**

- Banyu – 伴鱼少儿英语
- Baicizhan – 白词斩
- 51Talk
- Aileqi – 爱乐奇
- Molikonglong – 魔力恐龙

### **Leading AI-enhanced platforms with non-pure-play FLL offerings**

- Yuanfudao – 猿辅导
- Zhangmen – 掌门教育
- Zuoyebang – 作业帮
- Squirrel AI Learning – 义学教育-松鼠 AI
- Jike – 级课大数据

## MARKET DYNAMICS

7 intelligentization engines

### #1: Cost & competition

#### increasing competition

- increasing number of one-to-one providers
- traditional offline/O2O providers turn digital
- 2020 Covid-19 market dynamics

#### Increasing cost

- increasing wages for native speakers 14-25 \$ / hr

#### → AI-enhanced cost dumping offerings

- 2018 Liulishuo 流利说
  - 2019 Putao Zhixue (Putao English): 10 RMB / hr = > 10% cost
- > Tier 3-5 cities can participate = equal educational opportunities

## MARKET DYNAMICS

7 intelligentization engines

### **#2: Machine Translation**

- Zhongyi Yutong 中译语通 – 37 languages
- Trio.AI 三角兽 (Trio.AI)
- Keda Xunfei 科大讯飞: 实时机器翻译
- NiuTrans 小牛翻译



## MARKET DYNAMICS

7 intelligentization engines

### **#3: Homework overload & Grading importance**

#### **Phenomenon: homework helpers**

Example 17zuoye: three-party platform (students-parents-teachers)

- raised 250 \$ (before corona 2018)
- 15 % of all online ed users (60 mio)
- >100,000 schools
- frequently used by university students

#### **Automatic Writing Evaluation 自动批改**

Examples: 51pigai, pigai.org, iwrite by Beiwai Waiyanshe

- releases the burden of teacher
- current research impact on
  - writing process
  - writing performance
  - teacher performance

## MARKET DYNAMICS

7 intelligentization engines

### **#4: Social media/internet giants know NLP/AI**

#### **Bytedance**

- core competency of Bytedance: AI & NLP
- *FLL pure-plays*: GogoKid; Guagualong English 瓜瓜龙英语
- *AI education*: Jike Big Data 级课大数据

#### **Alibaba**

- 2015 iTutor 200 mio \$ round

#### **Huawei**

- setting up learning platform

#### **Tencent**

- 2015 Yuanfudao investment

#### **Two phenomena:**

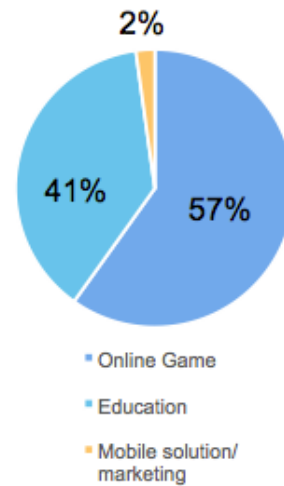
1. Internet giants build up EdTech and FLL profile
2. EdTech co in M&A spree themselves (900 NLP co's & startups)

## MARKET DYNAMICS

### 7 intelligentization engines

#### **#5: Gaming industry pushes into Ed game** (1/2)

Exemplary transformation from games pure-play Netdragon Websoft to education provider  
网龙网络、网龙华渔: Big data, AI, 3D, VR



*Netdragon Websoft 2019 revenue by product segment*

## MARKET DYNAMICS

### 7 intelligentization engines

#### #5: Gaming industry pushes into Ed game (2/2)

##### **Netdragon shift after 2020:**

building worlds largest production base for digital ed content

- setup campus to house 100-200 digital education startups
- capacity of 15,000 people to

##### **Gamification of educational offerings in China:**

VR-Teachers

- Zhangmen – 掌门教育
- Jiliguala – 叽里呱啦

## MARKET DYNAMICS

7 intelligentization engines

### **#6: Incoming investment, competition & talent**

#### **Incoming investment**

- IDG led first rounds in Yuanfudao (Tencent only followed in D-round)
- Warburg Pincus lead investor before March 2020 G-round in Yuanfudao

#### **Incoming competition**

- Market leaders: Pearson
- Niche players: Storyplanet (NLP-based annotation-embedding in stories)

#### **Incoming talent**

- Top teams recruited from Ivy League and Silicon Valley Big-5
- Advisory boards from top US universities

## MARKET DYNAMICS

7 intelligentization engines

### **#7: Outgoing investment & international outreach**

#### **Building int' portfolio (for home market first)**

- 100 TAL 好未来: integrates Codemonkey from Israel
- ND 网龙: uses different non/integrated investments to expand into developing world
  - edmodo (K12-learning community): MOE 2020 to put all students on = 22 mio students, 1 mio teachers – „New Normal“
  - Promethean (interactive panels) in dev' countries (OBOR)
  - Jumpstart (learning games enhancing innovation abilities)

#### **Building int' alliances**

- Squirrel Learning AI establishing itself as pioneer in AIED
  - gives 1mio \$ prize money for AAAI
  - organizing int` events on AIED (with IEEE Learning Technology Standards Committee (LTSC), endorsed by International Artificial Intelligence in Education (IAIED) Society)

#### **Participating in world markets**

- Squirrel Learning AI develops offerings for math and Chinese learning

## MARKET DYNAMICS

### OUTLOOK

#### From speech recognition to speaking-enabler

- *Current trend:* China's strength in NLP, speech recognition and automatic writing form basis for FLL tech leap

→ PutaoABC + SLP 智慧学伴 theoretical approaches may translate into „killer app for speaking“

#### Learning robots become learning platforms

- *Current trend:* flood of learning robots for under-7-yrs olds

→ innovation in teaching methods and didactics concepts integrated in robot learning

→ integration of smart learning tools into classrooms largest potential in China

#### Coding becomes the new English (and math) / FLL with AI teachers

- *Current trend (1):* FLL leaders invest in coding platforms, AI becomes part also of education in after-school
- *Current trend (2):* K-12 system has 50,000 coding students (30% BJ) with plans for ADAS 自动驾驶 curriculum

→ AI becomes fourth core curriculum of Chinese basic education

→ China becomes AI leader in and through AIED

→ FLL in China will be AIED-dominated in private and public sector



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