Learning Foreign Languages in the Digital Age
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Goethe Institute Peking & Institut francais

EdTech in China
policies, research, teaching, market

Michael Schwinkowski
research team representative
EdTech in China
policies, research, teaching, market

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

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

2015: Implementation of the "Internet+" plan

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

13th Five-Year Plan for Education Informatization by the MOE (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 好未來 Al-Teacher evaluation in Yunnan
POLITICAL STRATEGIES

Three frameworks

3. Al-Strategy

Interwoven Al-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

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)

- 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”

- 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)

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)

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

Shaanxi Normal University

Key Lab of Modern Teaching Technology (Hu Weiping)
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

"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

"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 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研究院

"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
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**
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

Beiwei Online (Beijing) Education Technology Co., Ltd. (2001):
"Beiwei Online-Education Information Service Project"; "Beiwei 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

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)
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
Online teaching in primary and secondary schools

- 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
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
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
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
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
Teacher demand exceeds supply (survey)

- used at universities 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**

北京外国语大学和外语教学与研究出版社 (北京外研)

Digital platform: Waiyan Online

- 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

- 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 traning 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 Englisch – 哒哒英语
- Acadsoc – 阿卡索外教网
- italki
- Best Learning Englisch – 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

→ Al-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
- releaves 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 继课大数据

**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 recogntion 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
The westerners can't beat up Chinese in the Mobile Age, is it because they can't free another hand when eating?

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