Research on the Construction of Basic Education Informatization in China

Presenter: Aixia Li
Contributor:
  Chao Wang
  Jiahui Ruan
  Lijiao Yue
  Xiaoqing Gu
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Informatization of basic education is an important part of national informatization strategy, which is the key to realize the modernization of education.
Research Object

82 typical application cases of the implementation of ICT in China from 2017 to 2018

analyze

general situation of Chinese informationized education

significance

reference for primary and secondary school leaders and teachers
According to the level of economic development, China is divided into three regions: the eastern region (relatively high level of economic development), the central region (average level of economic development) and the western region (relatively low level of economic development).

<table>
<thead>
<tr>
<th>Region</th>
<th>number of K12 schools</th>
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<tbody>
<tr>
<td>eastern region</td>
<td>30</td>
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<tr>
<td>central region</td>
<td>24</td>
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<tr>
<td>western region</td>
<td>18</td>
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</tbody>
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Research Method

Text of Cases \rightarrow Natural Language Processing

\rightarrow Topic Modeling

Topics

\rightarrow statistics comparison analysis
Results: Topics

- informationized education equipment (software and hardware)
- pattern of teacher training
- classroom application model
- type of applied courses
- type of collected data
- informatization implementation mode
- goal that applies informatization
- teaching goal of informationization
Results: overall situation of informationized education equipment—software
Results: regional correlation of informationized education equipment—software

- software
- east
- middle
- west

<table>
<thead>
<tr>
<th>Software</th>
<th>East</th>
<th>Middle</th>
<th>West</th>
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<tbody>
<tr>
<td>Application of learning programming</td>
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<td>Brain feedback training techniques</td>
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<td>Education resource platform</td>
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<td>Educational games</td>
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<td>High-definition intelligent broadcast system</td>
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<td>Homework system</td>
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<td>Interactive teaching system</td>
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<td>Mathematical learning system</td>
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<td>Mobile APP for learning</td>
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<td>MOOC</td>
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<tr>
<td>Online integrated service platform</td>
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<td>Online learning platform</td>
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<td>Real-time diagnostic analysis system</td>
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<td>Real-time feedback system</td>
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<td>Recording and broadcasting system</td>
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<td>Robot programming</td>
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<td>Screen shareware</td>
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<td>Synchronous distance teaching system</td>
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<td>Virtual stadiums</td>
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<td>WeChat official platform</td>
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There are many kinds of software used by the schools in the eastern part of China. The most frequently used is online learning platform, followed by mobile app for learning and cloud platform.

Homework system, online integrated service platform, mobile APP for learning, online learning platform, WeChat official platform are the commonly used by schools in central China.

The kinds of software used by schools in the western region are relatively few, so the distribution is relatively centralized. The most frequently used are synchronous distance teaching system and WeChat official platform.

Cloud platform and mobile APP for learning are popular on a national scale. Homework system is preferred in the schools in central region. WeChat official platform is also used in central region besides the western region.
Results: overall situation of informationized education equipment—hardware
Results: regional correlation of informationized education equipment—hardware

- east
- middle
- west

- 3D Printing
- camera
- computer
- conductive ink
- digital reading room
- DVD
- electronic whiteboard
- e-schoolbag
- feedback equipment
- handwriting board
- high-definition camera equipment
- iPad
- Intellective whiteboard
- intellectual writing pen
- High-definition sound pick-up
- interactive electronic whiteboard
- learning workshop
- maker space
- Metro Card
- mobile learning corridor
- multimedia classroom and equipment
- network center
- network construction
- off-campus activity base
- offline practice base
- Pad
- projector
- recorded broadcast equipment
- room where teachers prepare lessons...
- smart classroom
- smart library
- smartphone
- touch screen integrated machine
- TV
- VCD
- wearable devices
There are many kinds of hardware used by the schools in the eastern part of China. The most frequently used is iPad, Pad, 3D Printing, computer, interactive electronic whiteboard, maker space, smart phone, multimedia classroom and equipment.

Pad, computer classroom, computer, recorded broadcast room, network construction, e-schoolbag, and smart phone are commonly used by schools in central China.

The most frequently used are Pad, recorded broadcast room, digital laboratory, computer, multimedia classroom and equipment in the schools in western China.

There are more schools equipped with iPad in the east than in the west. Most mobile devices used in schools in western China are Pad and touch screen integrated machine. The electronic whiteboards used in schools in the eastern region are interactive electronic whiteboards. The electronic white board used in schools in western China is mostly non-interactive. Schools that use interactive whiteboards work with technology companies.

Schools in the eastern region focus on the introduction of 3D printing equipment and systems. The central region focuses on the introduction of smart phones; More attention is paid to multimedia equipment and classrooms in the western region.
Result: overall situation of teacher training mode in K12 in China
Results: regional correlation of teacher training mode

mode of teacher training

- east
- middle
- west
Results: regional correlation of teacher training mode

- There are many popular teacher training modes used in the eastern region: classroom teaching competitions, experts come to the school for guidance, going to pilot school to learn experience, training on resource construction. Among them, compiling guided learning plan and creating school-based curriculum are the teacher training modes that only appears in the eastern region.

- The popular teacher training modes used in the central region are remote network synchronous teaching, remote online teaching and research, and training on the use of teaching tools.

- Training on the use of teaching tools, remote network synchronous teaching, training on information-based teaching, remote online teaching and research, and training on the production of microlecture video account for the vast majority of the teacher training modes in primary and secondary schools in the western region.

- Training on information-based teaching and training on the production of microlecture video have been applied on a national scale.
Results: classroom application model
Results: types of applied course
Results: types of collected data
Results: informatization implementation mode
Results: goal that applies informatization
Results: teaching goal of informationization
Discussion

Economic factors
Geographical environment
Ease of use of technology
Teaching philosophy of the school
Openness of the school

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Thanks!