

Course on ICT in Education for Rural Development

Concept Note

1. Background

Throughout history, technological innovations have profoundly influenced the world landscape and the course of human civilization. In recent years, the integration of advanced technology represented by artificial intelligence, big data, Internet of Things, virtual reality, etc. in education has transformed the way of teaching and learning, and has promoted constant innovations in educational theories, culture and ecology. In China, the ICT application in education has demonstrated great potential in bridging the education gap between urban and rural areas and optimizing resources allocation, especially in the process of poverty alleviation through education.

However, technological innovations often disproportionately benefited the urban population. Inadequate access to information, lack of resources, and shortage of trained teachers have reframed the rural population from obtaining high-quality education opportunities. In the context of rapid urbanization, with large number of rural populations migrating into cities, the number of rural students and schools has dropped sharply, leaving rural education more difficult to sustain. Technological innovations, while opening up broad possibilities for rural education innovation and development, also generated new concerns such as widening digital divide, inadequate digital literacy of teachers and students, and failure in localizing resource to the rural context, bringing about discussions on whether technology could substantially bring about revolutionary changes in education and promote universal access to quality education. Leveraging the power of technology to better promote inclusive education and social development in rural areas has become an important issue, especially under the context of rural revitalization.

China has accumulated a wealth of practice in the use of educational technology for rural education and development. Deciphering and interpreting China's practices in applying ICT for education and development, and elaborating on the context, conditions, motivation mechanism and development impact of technology-driven development will contribute to identifying feasible paths for ICT4D in rural communities and enriching relevant research for the broad development studies.

ICT in Education for Rural Development is an important module of INRULED's

course series on *Education and Rural Development*, embodying INRULED's commitment to understanding China's experiences in utilizing ICT for rural education development and communicating them to the wider developing world. Under the development framework, this course focuses on the concrete practices of China and examines the value, mechanism and impact of technology in promoting sustainable rural development.

2. Course Objectives

Through this course, students will:

- Gain an in-depth understanding of the domestic and international practice of ICT in education for rural development, analyze the key role of technology in the development process, identify the mechanism of ICT for development, and reflect on the challenges faced by rural communities in promoting sustainable rural development. UNESCO's practices in promoting ICT in education for development will also be introduced.
- Develop competencies and innovative mindset to apply ICT to solve rural education problems and formulate project proposals.
- Develop enthusiasm and engagement to rural development issues, and broaden the international perspective.

3. Participants

This course is mainly designed for colleague students, development practitioners, and government administrators interested in ICT for rural education and development.

4. Main Contents

- Rural education and ICT application (3 class hours)

The session mainly outlines the educational problems in rural areas, introduces the application of ICT in rural education, and elaborates on the advantages and innovative value of ICT in solving educational problems in rural areas.

- ICT in education for rural development: case study (3 class hours)

The session introduces structural functionalism, and conduct a detailed analysis of the cases of ICT for rural education. It will encourage students to reflect on how ICT projects fit into the local context from adaptation, goal achievement, integration,

to maintenance.

- ICT in education for rural development: motivation mechanism and impact (4 class hours)

The module introduces the evolution of development theories and development concepts, explores the path of technology to promote development, and reviews the dynamic mechanism and development impact of ICT application.

- Challenges and reflections on ICT in education for rural development (3 class hours)

From the perspective of development effectiveness and sustainability, the session conducts an in-depth analysis of the challenges in ICT application in rural education context, further introduces participatory development and gender mainstreaming strategies, and explains the reflections and related practices of international organizations such as UNESCO on development issues.

- Coaching on project proposal writing (3 class hours)

This module mainly introduces the purpose, main content and template of the project proposal. Combining with the content of the course, the session explains the key components of the project proposal and aims to cultivate students' competencies to apply knowledge into real practices. When coaching, the content of this module can be broken into four parts to be combined with the corresponding four sessions.

5. Course Organization and Expected Output

The course adopts a project-based learning approach, which consists of classroom learning and ICT project proposals. Classroom learning has a total of 16 class hours and five sessions, using course lectures, case studies, etc., to introduce concepts, tools and experiences related to ICT in promoting rural development, and to prepare students for the identification and design of ICT projects.

The project proposal is the final output of project-based learning. In the project proposal, students will design ICT projects to respond a certain problem in rural education in their country, and showcase their innovation on leveraging technology to promote rural development. The project proposal will mainly present: the background of the project and the problem, the project objective, the advantages of ICT applications, the motivation mechanism of the project, the development impact, and the reflection on the effectiveness and sustainability of the project.

Throughout the project-based learning process, the classroom teaching is highly consistent with the key content of the project proposal. The thinking and reflections conducted in the classroom are to motivate students to incorporate their thinking into the final project design, so as to practice the concept of “learning by doing” and cultivate their problem-solving skills.

6. Course Evaluation

- Process evaluation: students’ participation in class discussions, completion of exercises, and the quality of interaction
- Summative evaluation: project proposal evaluation to test students’ knowledge acquisition and application.

7. Teaching Materials

- Recommended reading
 - 1) Adera, E. O., Waema, T. M., & May, J. D. (Eds.). (2014). ICT pathways to poverty reduction: Empirical evidence from East and Southern Africa. IDRC.
 - 2) CurtisJ.Bonk, 焦建利（译）. (2011). 世界是开放的，华东师范大学出版社.
 - 3) Adera, E. et al (eds) (2014) ICT Pathways to Poverty Reduction, Practical Action Publishing, Rugby, UK.
 - 4) Chib, A. et al (eds) (2015) Impact of Information Society Research in the Global South, Springer, Singapore.
 - 5) Elder, L. et al (eds) (2013) Connecting ICTs to Development, Anthem Press, London.
 - 6) Heeks, R. (2009) The ICT4D 2.0 Manifesto: Where Next for ICTs and International Development?, Development Informatics Working Paper no.42, CDI, University of Manchester, UK.
- PPTs, exercises and reference materials
 - 1) Sen, A. (1988). The concept of development. Handbook of development economics, 1, 9-26.
 - 2) Avgerou, C. (2010). Discourses on ICT and development. Information technologies and international development, 6(3), 1-18.
 - 3) Zheng, Y., Hatakka, M., Sahay, S., & Andersson, A. (2018). Conceptualizing development in information and communication technology for development (ICT4D).
 - 4) 武芳 & 刘善槐.(2020).信息化消弭城乡教育发展鸿沟的空间、障碍与路径. 中国电化教育(02),30-36. doi:CNKI:SUN:ZDJY.0.2020-02-005.
 - 5) 赵晓冬,朱廷劭 & 曾海军.(2017).教育信息化的国际行动框架研究. 中国远程教育 (10),20-25. doi:10.13541/j.cnki.chinade.20171019.003.
 - 6) 叶利 & 丁贤勇.(2018).新时代浙江农村文化礼堂数字化发展探析. 观察与思考 (12),104-109. doi:CNKI:SUN:GCYS.0.2018-12-014.
 - 7) 岳改玲.(2010).新媒体时代的参与式文化研究(博士学位论文,武汉大学).<https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CDFD1214&filename=1011065747.nh>

- 8) 周荣庭 & 管华骥.(2010).参与式文化:一种全新的媒介文化样式. 新闻爱好者(12),16-17.
doi:10.16017/j.cnki.xwahz.2010.12.052.
- 9) 杨秋婷.(2020).结构功能主义视角下乡村治理体系的要素构成与运行逻辑(硕士学位论文, 华南理工大学).
- 10) 刘润忠.(2005).试析结构功能主义及其社会理论. 天津社会科学 (05),52-56.
doi:10.16240/j.cnki.1002-3976.2005.05.010.
- 11) 王荣 & 曾海军.(2013).联合国教科文组织 ICT 促进教育发展相关项目分析,开放教育研究,(2),108-119.
- 12) 苗逢春 & 章瑚纬. (2013).联合国教科文组织教育信息化战略: 面临挑战、重点领域和主要成果,世界教育信息,(19),9-17.
- 13) 黄磊,胡彬, &刘桂发. (2011).参与式发展理论: 一个文献综述,大众科技, (11), 231-233.
- 14) 张玉婷.(2014).《巴黎宣言》框架下的援助有效性研究——以埃塞俄比亚教育援助为例,比较教育研究,(2),86-91.
- 15) 兰国帅,张怡, 魏家财,郭倩, 张巍方,孔雪柯. (2021).提升教师 ICT 能力驱动教师专业发展——UNESCO《教师 ICT 能力框架(第3版)》要点与思考, 开放教育研究, (4), 45-52.
- 16) EDUCAUSE. 2020 EDUCAUSE Horizon Report TMTeaching and Learning Edition, <https://www.educause.edu/horizon-report-2020>Caroline Haddad. (2009). Promoting GENDER EQUALITY in Education, UNESCO Bangkok.

● Case materials

- 1) 乡村教师信息化素养提升的“闽中实践”.
<https://baijiahao.baidu.com/s?id=1702254043234932641&wfr=spider&for=pc>.
- 2) 北京师范大学未来教育高精尖创新中心,<https://aic-fe.bnu.edu.cn/>.
- 3) 信息化推进教育精准扶贫脱贫: 行动与效果. https://www.sohu.com/a/277286753_100886.
- 4) “掌上校园”, 使管理更具智慧.<https://baijiahao.baidu.com/s?id=1705219623025709257&wfr=spider&for=pc>.
- 5) 互联网+教育的一个典型案例. https://www.sohu.com/a/73903897_404494?spm=smpc.content.share.1.1627472625359hDGo9w0#comment_area.
- 6) 邓沛然,李胜利.(2007).对新农村建设背景下农村教育问题的思考,河北学刊, (5),151-154.
- 7) ICT Transforming Education in Africa Final project report. United Nations Educational, Scientific and Cultural Organization.
- 8) 乌云特娜. (2013).波兰农村教育发展中的问题及其政策分析,外国教育研究,(2),123-127.

● Project proposal template and evaluation brochure

To be added