Best practices and recommendations for digital inclusion through resilient infrastructure
17th Internet Governance Forum @ Addis Ababa, Ethiopia
28 November 2022

Determinants of Digital Inclusion in Higher Education: Exploring the Ethiopian Context

- Theme: Digital Inclusion – Education
- Presenter: Wondwossen M. Beyene (PhD), Freelance Researcher, Hawassa University

Presentation Outline

- Research team
- Introduction
- Research methodology
- Research findings and outcomes
- Recommendations
- Conclusions

Research team

- Wondwossen M. Beyene (PhD), Freelance Researcher, Hawassa University

- Abraham T. Mekonnen (PhD), Hawassa University

- Samson Alemayehu Mamo, Hawassa University

Introduction

- SDG-4: Ensure inclusive and quality education for all
  - ICT help to withstand disruptions (E.g. COVID-19)
- Ethiopia: 24% Internet users, 68% households with mobile telephone[1][2]
- Ethiopia- ICT in education:
  - SchoolNet, Ethernet, “inclusive computer laboratories” in ESDP V [3]
- Digital Inclusion
  - The definition skewed towards the technical aspect [4]
  - Need for a comprehensive policy for digital inclusion in Education
- This Research:
  - identify barriers of access to and use of ICT in higher education, recommend solutions

Research methodology

- Five first generation universities selected
  - Addis Ababa University, Hawassa University, Bahir Dar University, Jimma University, Arba Minch University
- Exploratory sequential mixed method was used
  - Structured Interviews with fifteen university staff members (including collage deans, teachers, ICT directors selected purposefully)
  - Paper questionnaire filled by undergraduate students (n=398 sample selected out of 75,206 students using stratified proportionate sampling. Later, the sample grew to 418)

Research findings and outcomes

Access to ICT and Barriers

- ICT access - respondents:
  - More respondents have smartphones (90%) than computers (43%)
  - Most respondents depend on their universities for internet access: libraries(39%), Wi-Fi areas (36%)
  - Problems with shared access facilities (e.g. no. of computers, weak Wi-Fi) were the most mentioned.
- Digital services- content
  - **Availability**: scarcity of digital content, mismatch between what is available and what students' want (e.g. for students with visual impairment)
  - **Usability**: lack of "one card" system, excessive clicks to use LMSs
  - **Accessibility**: lack of inclusive design practices
- "No barriers"? Some respondents said so.
  - Barriers reveal themselves through **usage** and **activities** that require the use ICT.

Research findings and outcomes…

ICT Use and Motivation

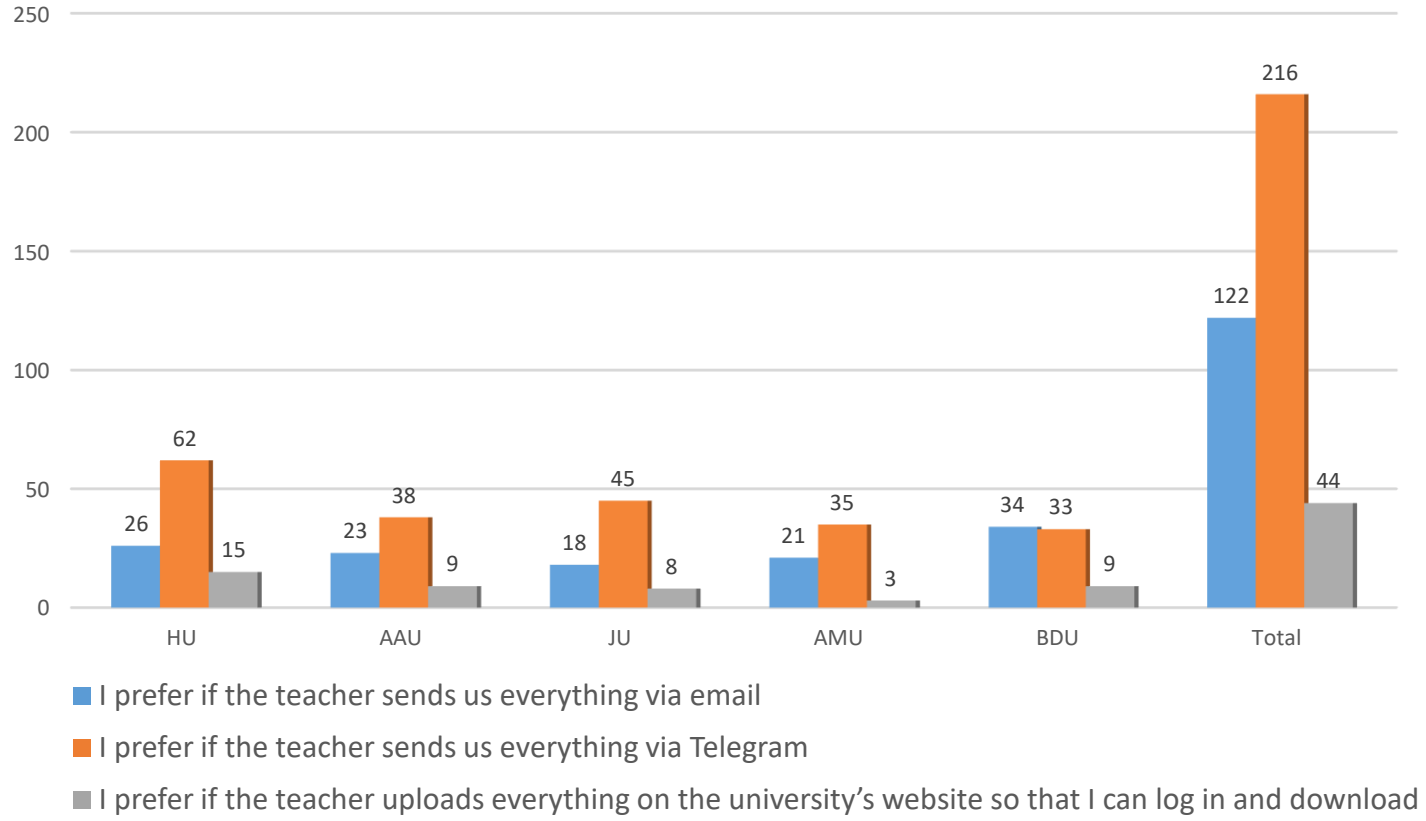

Fig. 1. Students' preferred ways for obtaining digital reference materials

- Students/teachers lack of Interest to use university portals
  - Usability and accessibility issues
  - Popularity of "least interactive" technologies)
- Lack of norms to enforce consistent use of digital services (e.g. LMSs)
  - Some teachers use, some don't
  - Some teachers see LMSs as additional/extra tasks
  - Teachers don't expect their students to use LMSs

Research findings and outcomes…

Digital Literacy

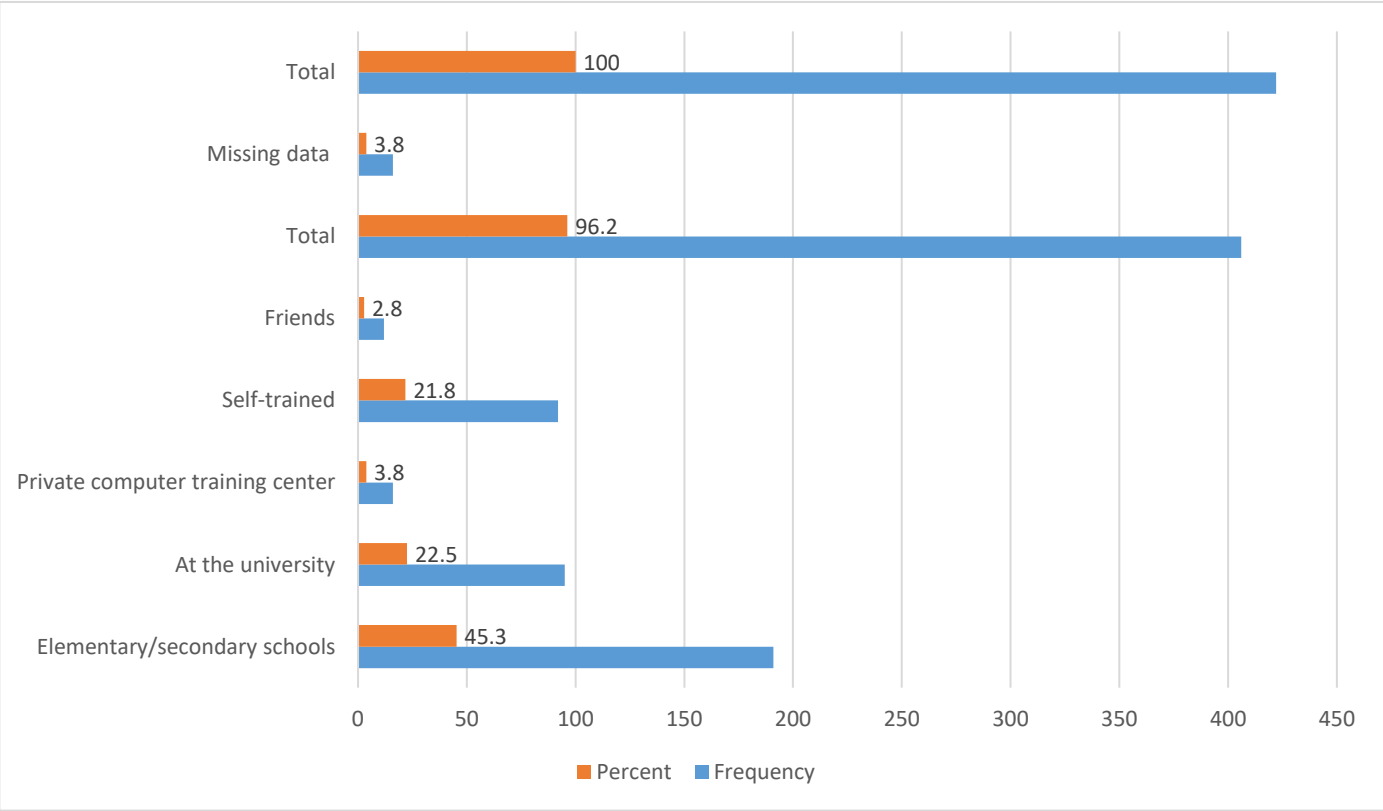

Fig. 2. Students' ICT skills acquisition

- Teachers as well as students at different levels of digital literacy
  - Digital literacy = computer literacy + ICT literacy + media literacy + information literacy [7]
- Differences in digital literacy has caused differences in the use and production of lesson materials and use of ICT.

Recommendations

- Improve in-campus and off-campus access to ICT
  - In-campus (e.g. computer rooms), off-campus (e.g. public libraries, community networks)
- Upgrade disability centres in universities to inclusion centres
  - To recommend, design, enforce, follow-up digital inclusion norms
- Identify digital literacy needs, plan training programs
  - Create collaboration between university libraries, computer centers, media centers
  - Integrate digital literacy in the teachers' Continuous Professional Development (CPD)
- Digital Services Design, digital content acquisition
  - E.g. mobile-friendly design, content in alternative formats, use accessibility guidelines
- Motivate ICT use in education
  - Intrinsic (digital literacy), extrinsic (Digital inclusion policy to enforce consistent use)

Conclusion

- The research identified structural, organizational and personal issues a digital inclusion endeavor has to tackle
  - **Structural**: urban-rural background, ICT education at lower schools, Access to the Internet
  - **organizational**: universities ICT& Content management strategy, inconsistent practices in the use of education technology, digital services design
  - **Personal**: inability to afford a computer, low level of digital literacy, lack of motivation to use ICT services…
- A digital inclusion policy that identifies and tackles personal, organizational and structural barriers like those identified in this research would be important

References

[1] https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx

[2] https://www.itu.int/itu-d/reports/statistics/connectivity-in-the-least-developed-countries-status-report-2021/#:~:text=The%20newly%20launched%20Connectivity%20in,States%20(UN%2DOHRLLS)%2C

[3] Ethiopia-Ministry of Education (2016). A Master Plan for Special Needs Education/Inclusive Education in Ethiopia 2016-2025.

[4] https://mint.gov.et/president-sahle-work-zewde-calls-on-diligent-efforts-of-countries-to-make-digital-technology-inclusive-and-accessible/?lang=en

[6] Antoninis, M., & Montoya, S. (2018, March 19). A Global Framework to Measure Digital Literacy. http://uis.unesco.org/en/blog/global-framework-measure-digital-literacy