

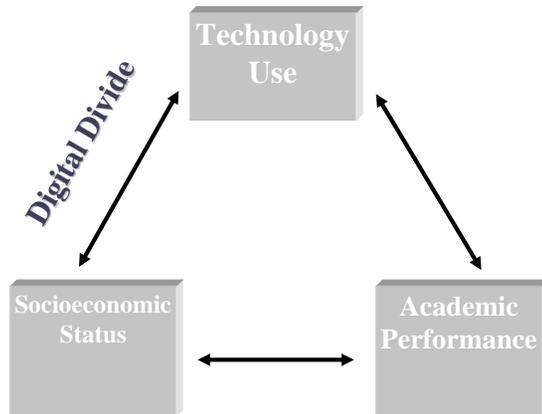
The Digital Divide and Its Impact on Academic Performance

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Conclusion: The digital divide not only affects students' access to institutional resources, but also affects their opportunities to use technology. In addition, minorities or students from low-income families may not be able to enter college with insufficient technology background.

INTRODUCTION & BACKGROUND



What is digital divide?

Following Mason and Dodds (2005), the digital divide is defined as the gap between those students who have access to digital technology at home and those who do not. The factors causing the gap include socioeconomic status, ethnicity, and geographic location.

The purpose of this study is to explore issues of the digital divide and its impact on academic performance. The factors causing the digital divide include socioeconomic status, ethnicity, and geographic location, while socioeconomic status is the focus of this presentation. Socioeconomic disparity affects students' access to technology and their technology competence. This study aims to explore the relationship between the two factors, socioeconomic status as well as technology usage, and the students' school performance.

FINDINGS

1. The use of technology is the trend in the U.S. education system (Baker & O'Neil, 2003; Fletcher, 2003). However, in order to use technology as an accelerator to improve teaching and learning efficiency, technology must be applied appropriately rather than blindly introduced into classrooms (Galuszka, 2007).
2. The digital divide not only affects students' access to institutional resources, but also affects their opportunities to use technology (Dika & Singh, 2002). Superior social capital results in better educational outcomes.
3. It is inconclusive whether technology is going to affect students' academic performance in all subjects, but research found that at least mathematics and science are positively linked to technology usage (Fletcher, 2003; Galuszka, 2007).
4. Although technology is not a panacea that can unconditionally enhance students' learning, with thorough plans and an effective assessment system, students' academic performance can be accurately measured and may produce positive outcomes (Baker, 2005).

CONCLUSIONS AND IMPLICATIONS

The scope of the current study is mostly confined to short-term effects of technology use. However, long-term effects such as the impacts on one's career development are also important.

Computer skills are now a requirement for any college student. Minorities or students from low-income families may not be able to enter college with insufficient technology background. Even students who can get accepted to college may not be able to finish due to a lack of computer skills.

The lack of a college degree will result in more inequality issues in the country. It is important to ensure that students with low socioeconomic status have equal access to utilize technology in their early stage. New instructional methods could help to mediate some of these obstacles for students behind the learning curve.

Psychological aspects are also an important factor affecting the relationship between socioeconomic status, technology use, and students' academic performance.

As the digital divide does affect students' educational outcomes in the long-term (Schulz, 2005), it is crucial to ensure students having equal access to the technology use. The "gap" between children from low income families and others may affect one's education pipeline (Blossfeld & Shavit, 1993) and therefore is a significant element that we should focus on.

REFERENCES

- Baker, E. L. (2005). Technology and effective assessment systems. In J. L. Herman & E. Haertel (Eds.), *Uses and misuses of data for educational accountability and improvement* (Vol. 104, pp. 358-378). Chicago: National Society for the Study of Education.
- Baker, E. L., & O'Neil, H. F. (2003). Technological fluency: needed skills for the future. In H. F. O'Neil & R. S. Perez (Eds.), *Technology applications in education: A learning view* (pp. 245-265). Mahwah, N.J.: L. Erlbaum Publishers.
- Bennett, C. (2001). Genres of Research in Multicultural Education. *Review of Educational Research*, 71(2), 171-217.
- Bensimon, E. M., Hao, L., & Bustillos, L. T. (Forthcoming). Measuring the state of equity in higher education. In P. Gandara, G. Orfield & C. Horn (Eds.), *Leveraging promise and expanding opportunity in higher education*. Albany: SUNY Press.
- Blossfeld, H., & Shavit, Y. (1993). Persisting barriers: changes in educational opportunities in thirteen countries. In Y. Shavit & H. Blossfeld (Eds.), *Persistent Inequality*. Boulder, Colo: Westview Press.
- Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children*, 7(2), 55-71.
- Dika, S. L., & Singh, K. (2002). Applications of social capital in educational literature: a critical synthesis. *Review of Educational Research*, 72(1), 31-60.
- Fletcher, J. D. (2003). Evidence for learning from technology-assisted instruction. In H. F. O'Neil & R. S. Perez (Eds.), *Technology applications in education: A learning view* (pp. 79-99). Mahwah, N.J.: L. Erlbaum Publishers.
- Galuszka, P. (2007). Digging out of the digital divide. *Diverse Issues in Higher Education*, 24(2), 21.
- Ornrod, J. E. (2006). *Educational psychology: Developing learners* (5th ed.). Upper Saddle River, N.J.: Pearson/Merrill Prentice Hall.
- Schulz, W. (2005). *Measuring the socio-economic background of students and its effect on achievement on PISA 2000 and PISA 2003*.
- Stanton-Salazar, R. D. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review*, 67(1), 1-40.
- Wenglinsky, H. (1998). *Does it compute? The relationship between educational technology and student achievement in mathematics*. Educational Testing Service, Princeton, NJ. Policy Information Center.

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