

Computer-based Instruction

Kelly Williams

University of West Georgia

### **Statement of the Problem**

The purpose of this study was to examine the relationship between the use of the internet by college students and their overall grade point average. The problem is that the university has considered whether or not it should incorporate more opportunities for computer-based instruction.

### **Review of Literature**

The 21<sup>st</sup> Century has brought about an influx of technology in all aspects of life. Over the past fifty years, research has shown that programmed instruction often leads to more efficient acquisition than traditional forms of instruction. Researchers, Ingvarsson & Hanley (2006), allude to the fact that computer-based instruction has been used to teach a range of skills to normally developing adults in recent years. A study conducted by Buch & Bartley (2002) examined the relationship between learning style and preference for training delivery mode. The researchers expected that learning style would influence learners' preference for receiving training through classroom-based, and computer-based delivery modes. "Results found support for the expected relationship between the two, with convergers showing a stronger preference for computer-based delivery and assimilators showing a stronger preference for print-based delivery" (Buch & Bartley, p.5). Harrington and Walker (2002) indicate that computer-based training offers several advantages over traditional instructor-led training. In summary, the research reveals that many adults prefer computer-based training or a combination of both computer-based training and instructor-led training as opposed to other methods of delivery.

### **Research Question**

What relationship, if any, exists between the use of the internet by college students and the grade point average of college students?

### Statement of Hypothesis

There is a significant relationship between the use of the internet by college students and the grade point average of college students.

### Statement of the Null Hypothesis

There is no significant relationship between the use of the internet by college students and the grade point average of college students.

### Results

A Pearson correlation coefficient was calculated to examine the relationship between the use of the internet for research and homework by college seniors and their average undergraduate grade point average (GPA). A weak, negative relationship was found ( $r(39,395) = -0.26, p < 0.01$ ), indicating a significant linear relationship between the two variables. Students who maintain a B average or higher in undergraduate school also tend to spend a larger amount of time using the internet for research and homework.

Correlations<sup>a</sup>

		Computer: Use the internet for research or homework	collgparecodedinto5groups
Computer: Use the internet for research or homework	Pearson Correlation	1	-.026**
	Sig. (2-tailed)		.000
collgparecodedinto5groups	Pearson Correlation	-.026**	1
	Sig. (2-tailed)	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=39397

### **Data Analysis**

The Pearson Correlation Coefficient test was selected for the purpose of prediction and association between two variables. The independent variable was the use of the internet for research and homework and the dependent variable was undergraduate GPA. Since both variables were measured on an interval scale and both variables were normally distributed, using the Pearson Correlation Coefficient test was an ideal test to answer the research question. By conducting this test, I was able to immediately distinguish if there was a statistical significant relationship between the two variables.

Descriptive statistics were used to assist with screening data for errors and selecting variables for this analysis. A frequency table was created to calculate the mean, median, mode, skewness and kurtosis between the two variables. The variable undergraduate GPA was recoded into five groups. There are a few indicators to help determine if the variable was recoded accurately. First, in analyzing the total number of frequencies between the two reports I could see that they were equivalent (N=39,397). Also, the frequency and percent of the missing cases were matched between the two reports. In addition, the following histograms: Table 1(Computer: use the internet for research and homework), and Table 2 (College GPA recoded into 5 groups), both display a normal distribution of the data.

### **Discussion**

The findings indicate that there is a relationship between the use of the internet by college students and the grade point average of college students. This information supports the idea of increasing computer-based learning opportunities for college students. Higher grade point averages were reported by students who used the computer three or more times a week.

## References

- Buch, K., & Bartley, S. (2002). Learning style and training delivery mode preference. *Journal of Workplace Learning, 14*(1), 5-11.
- Harrington, S. S., & Walker, B. L. (2002). A comparison of computer-based and instructor-led training for long term care staff. *Journal of Continuing Education in Nursing, 33*(1), 39-48.
- Ingvarsson, E. T., & Hanley, G. P. (2006). An evaluation of computer-based programmed instruction for promoting teachers' greetings of parents by name. *Journal of Applied Behavior Analysis, 39*(2), 203-215.