

HANDEDNESS AND INTERACTIVE COMMUNICATION: A SURVEY OF COLLEGE STUDENTS IN PUNJAB

Dr. (Mrs.) Kuljeet Kaur Brar

Assistant Professor in Education, University School of Open Learning, Panjab University, Chandigarh

ABSTRACT

The intention of this paper has been to start a process in the teacher's mind about evaluating quantitatively the degree of handedness of a student and interactive communication. Pedagogy and technology goes hand in hand. Teaching needs new network communication skills, supervision skills etc. might be much more challenging to interact with their students. Technology, especially in communication, has undergone an anthropomorphosis; it has become something alive, something almost supernatural. Based on the research abstracts and websites investigator prepared a conceptual framework incorporating interactive communication and handedness as key determinants of study. *Communication, for our purposes, will specially focus on the Internet usage. Within this environment, exists form of speech that serve to help us understand interactive communication patterns.* The World Wide Web, like previous technological innovations in the sphere of mass media, is a vessel for communication and, in turn, a vessel of cultural embodiment. The objectives of this study is to verify in an Indian context to investigate relationships between interactive communication and handedness of college students in Punjab. Social networking platform usage intention for improving the interactive communication and understanding the effect of social networking communication among left handed and right handed male and female students from rural and urban region. Empirical data from 300 participants randomly selected from different colleges of Punjab were collected using questionnaires on interactive communication and handedness including the additional variables of age, gender and location. Male and female subjects aged from 18 to 30 years old have taken the test. The obtained performance data from these tasks have been computed and analyzed using the t-test and correlation. The proposed degree of handedness and the result of interactive communication did not contradict to each other. The calculated results indicate differences between interactive communication and handedness based on age, gender and location. Additional analyses examined the impact of between interactive communication and handedness on young people's addictive tendencies toward SNWs. These students use the Internet for many hours per week; most utilize it for interpersonal relations than peers who participate in professional communities discussions. From these results, it is expected that the proposed method can be useful for detailed and quantitative evaluation of handedness and

interactive communication in relation to different pedagogy situations. Results from this study can be used as guidance for education providers to enhance and develop blog and networking platform functions.

Introduction

In present era college students are becoming more technologically savvy and are looking to the Internet and their cell phones for entertainment, and to social networks to meet new people who share the same interests as them. It was only a matter of time before communication made its way to the Internet, especially through modes like MySpace and Facebook, Orkut, Twitter, flickr, Bebo, Netlog and so on. The students are seen motivated, independent, self-discipline, self-acting etc. Generally their studying skills are seen to be mature.

Handedness

Handedness is a feature of humans defined by their unequal distribution of fine motor skill between the left and right hands. An individual who is more dexterous with the right hand is called right-handed, and one who is more skilled with the left is said to be left-handed. Minorities of people are equally skilled with both hands, and are termed ambidextrous. There are four main types of handedness:

- Right-handedness is most common. Right-handed people are more dexterous with their right hand when performing a task. A variety of studies suggest that 70-90% of world population is right-handed rather than left-handed or any other form of handedness.
- Left-handedness is less common than right-handedness. Left-handed people are more dexterous with their left hand when performing a task. A variety of studies suggest that 8–15% of world population is left-handed.
- Mixed-handedness, also known as cross-dominance, is being able to do different tasks better with different hands. For example, mixed-handed persons might write better with their left hand but throw a ball more efficiently with their right hand.
- Ambidexterity is exceptionally rare, although it can be learned. A true ambidextrous person is able to do any task equally well with either hand. Those who learn it still tend to sway towards their originally dominant hand.

Interactive Communication

There's no question that the Internet has become the most significant technological development of the 20th century. Its effects may surpass that of the radio, television and perhaps, even the printing press. Compared to the rise of other electronic media, the Internet has expanded at an awesome rate, reaching millions of users and thousands of organizations around the world. The

World Wide Web, like previous technological innovations in the sphere of mass media, is a vessel for communication and, in turn, a vessel of cultural embodiment. It is difficult to imagine that such an important technological transformation will have anything other than a profound impact as a means of cultural transmission.

Since the idea of the World Wide Web was born, the basic premise of the Internet has not changed: providing information to a mass and, typically, targeted audience. What has changed, though, is the information itself. No longer is text on web pages static and lifeless. Today we have the ability to incorporate live video and audio throughout the World Wide Web. Technology, especially in communication, has “undergone an anthropomorphosis: it has become something alive, something almost supernatural. In many contemporary formulations it wants, it develops, it has autonomy” (Krug, 2005)

Internet communication embodies both written and spoken characteristics necessary to developing a comprehensive analysis of the Web 2.0. The exchange of information, at the heart of communication, as a common social practice among humans, where each undergoes a specific communicative function. The Internet, following a Web 2.0 train of thought, has evolved from a base receptacle of stored information to an interactive platform among readers and writers. Currently, Web 2.0 websites, like the purebred Facebook.com or functional sites like der Standard.at and Spiegel.de, place utmost emphasis upon the user, especially the young user. Without him/her, there would be no World Wide Web, and simultaneously, no Web 2.0. The user, however, must realize that within the current Web 2.0 framework rests the overlooked reality that communication, the societal construct of the Internet and advertising constitute a process, a process that is currently incomplete of cultural embodiment

Review of Related Literature

Approximately 10-13% of the population is left-handed. People who can use both hands equally well are ambidextrous. True ambidexterity is rare. Generally, males are three times more likely to be left-handed than females. Statistically, one twin of a pair has a 20% chance to be left-handed. Gay people may be up to 39% as likely to be left-handed as straight people (Habib, 2000).

Miller (1971) cites that the study of handedness, the study of human-computer interaction sometimes finds itself trying to answer questions of individual differences. Certain differences in cognitive abilities have been shown to have an impact on user performance at the interface, and there is hope that research into cognitive style and personality may eventually result in robust predictive theories on performance (Dillon and Watson, 1996).

Natsopoulos, Kiosseoglou, and Xeromeritou (1992) then examined spatial ability and its relationship to handedness. They found that the left-handed individuals in their study had enhanced spatial, mathematical, and general intellectual abilities. Likewise, Benbow (1986) found that left-handers and mixed-handers were over-represented among highly gifted adolescents who excelled in either mathematical or verbal reasoning ability. Coren (1995) completed a large and impressive study looking at handedness and divergent thinking. He argued from his results that it might be enhanced divergent thinking rather than enhanced spatial ability that accounts for elevated numbers of left-handers among those talented in art, mathematics, or chess. Further research into this question might be done with the aid of computers, considering the ability of computer designers to create games or other applications in which divergent thinking abilities are tapped.

Lewis and Harris (1990), in prefacing their own study of spatial ability and handedness, relate that researchers have termed Levy's position the "cognitive crowding" hypothesis. Lewis and Harris conclude that left-handers scored lower than right-handers on sub-tests dealing with right-hemisphere tasks and higher than them on ones for left-hemisphere tasks.

International literature has identified a stable correlation between problems in the sphere of adolescents' personal relationships and potential Internet dependence. These adolescents use the Internet for many hours per week; most utilize dysfunctional coping strategies and show worse interpersonal relations than peers who do not show signs of PIU. (Luca, Dania & Paola, 2009) Bloggers' social integration, reliable alliance and friendship satisfaction all significantly increased compared to non-bloggers, suggesting that blogging has beneficial effects on well-being, specifically in terms of perceived social support (James & Susan, 2008).

It is revealed that high-level SNW use is influenced by attitudinal, normative, and self-identity factors, findings that can be used to inform strategies that aim to modify young people's high levels of use or addictive tendencies for SNWs. (Emma & Katherine (2009). The use of the friend networking site stimulated the number of relationships formed on the site, the frequency with which adolescents received feedback on their profiles, and the tone (i.e., positive vs. negative) of this feedback. Positive feedback on the profiles enhanced adolescents' social self-esteem and well-being, whereas negative feedback decreased their self-esteem and well-being (Valkenburg, Peter, & Schouten 2006).

This research addressed two fundamental questions regarding self-concept, self-esteem, gender, race, and information technology use. Findings indicated that technology use predicted dimensions of self-concept and self-esteem, with video game playing having a negative influence and Internet use having a positive influence on self-concept dimensions. Gender differences were

observed on several self-concept dimensions, but contrary to expectations, girls did not score higher than boys in social self-concept (Linda et.al.2009).

Objectives

- The objective of this paper is to explore relationships between interactive handedness: a survey of college students in Punjab.
- To expound the relationship between and handedness and interactive communication of college students from different professional courses in Punjab.
- To investigate the difference in relation to handedness and interactive communication of college students in the sample.

Hypotheses

To fulfill the above objectives, the following hypotheses were formulated

- 1 There would be significant difference in students of different professional courses (Engineering, Management and Computer Applications) in relation to their interactive communication
- 2 There would be significant difference in interactive communication and handedness (Right, Left and ambidextrous both handed) of students from above professional courses.
- 3 There would be positive relationship between left handedness and interactive communication.

Method

Based on the research abstracts and websites investigator propose a conceptual framework incorporating as key determinants of interactive communication and handedness. Empirical data from 300 participants randomly selected from difference colleges of Punjab were collected using a questionnaire on interactive communication and handedness.

Design

It is a multi-group design study, where all the three groups were compared on handedness and interactive communication.

Tools

- Interactive communication questionnaire was prepared by investigator. It has 20 items which are related to usage of social networking websites by students for communicating with peers, siblings family members relatives and teachers. They use SNWs for chatting, sending

massages, getting information and interacting with friends. The higher the score, the higher is the use of SNWs as mean of interactive communication.

- Handedness was considered on the basis of participant’s information on hand used for different activities .Left hander, right handed and ambidextrous students were asked to mention their handedness along with the demographic data.

Procedure

After establishing a proper rapport with the subjects, both the questionnaires were given to the subjects. The answered questionnaires were collected and scored as per manual. The scores were statistically analyzed in the light of mean, t-test and correlation co-efficient, to test the proposed hypotheses.

Results and Discussion

Table No.1: Mean, Standard Deviation and t-value of different professional courses (Engineering, Management and Computer Applications) in relation to their interactive communication

| Group | N | Mean | SD | t-test |
|-----------|-----|-------|------|------------------|
| Group I | 100 | 9.91 | 3.49 | 0.104 0.540** |
| Group II | 100 | 10.48 | 3.34 | |
| Group III | 100 | 10.18 | 3.37 | |

** p<0.01 , * p<0.05

Group I – Engineering (B.Tech.)

Group II – Management (BBA)

Group III – Computer Applications (BCA)

Table No. 1 clearly indicates that the college students of Group II, i.e. BBA students from Management discipline had highest score on interactive communication (mean=10.48), followed by mean of 10.18 in case of G-II i.e. Computer Applications (BCA) students. G-III Engineering (B. Tech.) course students had lowest scores (Mean= 9.91) on interactive communication. In case of comparison of G-I and G-II the t-value is not significant. It means that there are no significant difference in of G-I and G-II students in relation to interactive communication. t-value for G-II and G-III is 0.540 which is highly significant at 0.01 level of significance. Hence it is obvious that G-II i.e. Management (BBA) students are more interactive in communication than other groups .The proposed hypothesis was supported. This was a picture of interactive communication score. These students were scored separately on the three

dimensions of interactive communication (VIC), i.e. least interactive, moderate interactive and most interactive also. Management students were found most interactive in interactive communication as compared to two other disciplines. Students from Computer Applications discipline were found moderate interactive on interactive communication. Their subjective report revealed that their nature of course demands high sensitivity towards communication and minute observation on social networking websites (SNWs). In addition, they also stated that what type of course they are studying is demanding more and interaction with their peers and society.

Table No. 2: Mean, Standard Deviation and t-value of difference in interactive communication and handedness (Right, Left and ambidextrous) of students of different professional courses in Punjab.

| Group | N | Mean | SD | t |
|--------------|----|-------|------|--------------------|
| Right | 74 | 9.90 | 3.36 | 0.234** 0.456** |
| Left | 57 | 10.35 | 3.69 | |
| Ambidextrous | 24 | 10.45 | 3.78 | |

** p<0.01, * p<0.05

Table No. 2 vividly shows that Ambidextrous students (mean=10.45) were high on the dimension interactive communication than Right(mean=9.90) and left (mean=10.35) handed students. t-value of Right, left and Ambidextrous is 0.234 and 0.456 which are significant at 0.01 level. It means that ambidextrous people have more positive orientation towards social life; they are most addictive of social networking websites for communicative purpose. But such is not in the case of Left handed college students of Punjab. On the other hand, the Right handed students from colleges of Punjab do fall low in using internet or web 2.0 for communication purpose. Therefore the obtained results prove that there are significant differences interactive communication and handedness of students from different courses, supporting the hypothesis No.2.

The hypothesis No. 3 states that there would be positive relationship between left handedness and interactive communication. The obtained correlation value is 0.62 which is significant at .01 levels. Left handed students characterize more communicative traits as compared right handed and both handed students. Researches prove that the ability to speak comes mostly from left regions of the brain, so the assumption was this would correspond with increased motor control on the opposite, or right side. In motor control, activity on one side corresponds to the opposite side of the brain.

Conclusions

Therefore the present findings clearly indicate that interactive communication is not moderated by type of course students are learning but handedness is positively related. Though the above subjects are pursuing higher professional courses and having high interactive communication level. There is a great need to improve their interactive communication level of right handed students. This attempt would definitely serve to handle or resolve the problems of left, right and ambidextrous handed students in using social interactive media for improving their communication skills.

References

- Benbow, C.P. (1986). Physiological correlates of extreme intellectual precocity. *Neuropsychologia* , 24, 719-725.
- Carey, James W.(1989) Communication as Culture:Essays on Media and Society. Winchester: Un- win Hyman, Chen, Wenhong, Jeffrey Boase and Barry Wellman. "The Global Villagers: Comparing Internet Users and Uses Around the World."
- Coren, S. (1995). Differences in divergent thinking as a function of handedness and sex. *American Journal of Psychology* , 108, 311-325.
- Coren, S. and Porac, C. (1982). Lateral preference and cognitive skills: An indirect test. *Perceptual and Motor Skills* , 54, 787-792.
- Dillon, A. and Watson, C. (1996). *Individual differences and the analysis of users in HCI* [Online]. Available: <http://www-slis.lib.indiana.edu/PrePrints/adillon-inddiff.html> [1996, December 8].
- Emma L. Pelling, Katherine M. White. *Cyber Psychology & Behavior*. December 2009, 12(6): 755-759. doi:10.1089/cpb.2009.0109.
- Habib, Marlene (2000). http://www.canoe.ca/Health0007/06_hands.html
- Hardyck C, Petrinovich LF (1977). "Left-handedness". *Psychol Bull* 84(3): 385-404. doi:10.1037/0033-2909.84.3.385. PMID 859955.

- Holder, M. K. (1997). "Why are more people right-handed?". Sciam.com. Scientific American Inc. <http://www.scientificamerican.com/article.cfm?id=why-are-more-people-right>. Retrieved 2008-04-14.
- James R. Baker, Susan M. Moore.(2008)Cyber Psychology & Behavior. December 2008, 11(6): 747-749. doi:10.1089/cpb.2008.0053.
- Krug, Gary. (2005) Communication, Technology and Cultural Change. London: SAGE Publications, Ltd.,
- Lewis, R.S. and Harris, L.J. (1990). Handedness, sex, and spatial ability. In S. Coren (Ed.), *Left-handedness: Behavioral implications and anomalies* (pp. 319-341). New York: Elsevier Science Publishers B.V. (North-Holland).
- Linda A. Jackson, Yong Zhao, Edward A. Witt, Hiram E. Fitzgerald, Alexander von Eye, Rena Harold.(2008) CyberPsychology & Behavior. August 2009, 12(4): 437-440. doi:10.1089/cpb.2008.0286.
- Luca Milani, Dania Osualdella, Paola Di Blasio. (2009) CyberPsychology & Behavior. December 2009, 12(6): 681-684. doi:10.1089/cpb.2009.0071.
- Miller, E. (1971). Handedness and the pattern of human ability. *British Journal of Psychology* , 62, 111-112
- Natsopoulos, D. and Xeromeritou, A. (1989). Verbal abilities of left-handed and right-handed children. *Journal of Psychology* , 123, 121-132.
- Patti M. Valkenburg, Jochen Peter, Alexander P. Schouten. CyberPsychology & Behavior. October 2006, 9(5): 584-590. doi:10.1089/cpb.2006.9.584.
- Slevin, James. 2000 The Internet and Society. Mal- den, MA: Blackwell,
- Valkenburg, P. M., Sumter, S. R. and Peter, J. ,(2001) Gender differences in online and offline self-disclosure in pre-adolescence and adolescence. *British Journal of Developmental Psychology*, no. doi: 10.1348/2044-835X.002001
- Wellman, Barry and Caroline Haythornthwaite, The Internet and Everyday Life. Eds. Malden, MA: Blackwell, 2002. 74 -113.