

Digital Self-Efficacy and Language Learning Enhancement in an Online Setting

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ABSTRACT

The importance of personal factors such as personality traits, learning strategies, self-esteem, and self-efficacy in the complicated task of language learning has been established for years. However, the introduction of computers, networks and their wide communication affordances, seem to impact many aspects of learning and teaching and particularly language learning and teaching. The storage place, manner, and magnitude of learning materials for example, have shifted from the human mind to portable digital storage places that consequently require different types of aggregation, retrieval, and usage of information. Noting the rapid communication of today through networking, ICT competency plays important roles with all its related applications and software that turn the talented user into an enhanced player in the wired world. It was the underlying premise of this research study to identify how freshman Iranian language students view their technology competencies and command to impact their socialization and web-assisted language learning process in the connected world of today.

It was found that most of the Kazerun Islamic Azad university students of English (34 freshman) show positive attitudes toward the adoption of online learning materials and web-based socialization applications such as facebook's group tool and online forums as their preferred tool for discussion and interaction in the language learning course. At the end of semester the higher digital self-efficacy students scored higher in their conversation test compared to the lower digital self-efficacy students. Users with high computer self-efficacy not only benefit from their capability to use computer in their language learning activities, they would also benefit from group self-efficacy in their web-based language learning tasks and interactions.

KEY WORDS: digital self-efficacy, social networking, online language learning, Net-generation

1. INTRODUCTION

From the second half of the 20th century, when educators and researchers' attention shifted from teaching process and syllabi toward more learner-centred programs, learners were looked upon amid their personal, cognitive, and affective differences and more emphasis was placed on human qualities and considerations in order to promote the success of learning procedure. Individual differences, since then, have played an enormous role in the interpretation of human learning in general and language learning in particular.

Amongst many factors impacting language learning procedure, educators like Piaget [1] and Vygotsky [2] point to the psychological and social determinants of human functioning with Piaget emphasizing more on psychological aspects and Vygotsky more on social criteria.

These inclinations were mirrored in the syllabi and modules developed based on the two perspectives. The two perspectives could be traced in the study of strategies that language learners employ for effective language learning. In the model developed by O'Malley and Chamot [3] the inclination can be witnessed through their emphasis on cognitive and metacognitive strategies. A more learner-based classification of the strategies is developed by Oxford [4] that places more emphasis on the social and affective side of learning task. The current emerging inclination toward socialization can be traced back through the social constructivism school of thought that put emphasis on the importance of socialization and individual construction of knowledge and sharing of the cognition (knowledge) with the peers thereby making learning more effective and more social rather than a cognition-based individualistic struggle as the cognitivists suggest.

Bandura asserts that scientific advances are to a great extent dependent on and accelerated by development of important determinants of human functioning. According to Bandura, "self-efficacy is a person's belief in his or her ability to succeed in a particular situation" [5]. It determines the way people think, behave, and feel [6]. As Bandura [7] and other researchers have demonstrated, self-efficacy can have an impact on everything from psychological states to behaviour to motivation. Self-efficacy beliefs have also received increasing attention in education. Much

research shows that self-efficacy influences academic motivation, learning, and achievement [8, 9]. Given the centrality of efficacy beliefs in people's lives, sound understanding and judgment of this factor is crucial to comprehension and prediction of human behaviour that is highly contextualized and conditionally manifested. Self-efficacy is dependent on domains of functioning and task demands that identify patterns of strengths and limitations in perceived capability [7].

A growing body of research attests to the impact of perceived collective efficacy on group functioning [10, 11]. Some of these studies have assessed the motivational and behavioural effects of perceived collective efficacy using experimental manipulations to in still differential levels of perceived collective efficacy. Bandura [7] and others have found that an individual's self-efficacy plays a major role in the ways goals, tasks, and challenges are approached. People with a strong sense of self-efficacy: (a) view challenging problems as tasks to be mastered; (b) develop deeper interest in the activities in which they participate; (c) form a stronger sense of commitment to their interests and activities; (d) recover quickly from setbacks and disappointments. People with a weak sense of self-efficacy on the contrary: (a) avoid challenging tasks; (b) believe that difficult tasks and situations are beyond their capabilities; (c) focus on personal failings and negative outcomes; and (d) quickly lose confidence in personal abilities [6].

Tomte and Hatlevik [12] have studied the relationship between self-efficacy, Information and Communication Technology (ICT) user profiles, and gender. No wonder computer employment, various software, and applications' use has facilitated online interaction, self and peer's monitoring, evaluation, and resourcing. It is widely accepted that advances in information technology and new developments in learning science provide opportunities to create well-designed, learner-centred, interactive, affordable, efficient, flexible e-learning environments [13].

Knowing how to construct a sense of efficacy in newly formed contexts of learning, assisted by competency in the digital media use, and how it works provides further guidelines for structuring experiences. These experiences in turn enable people to realize desired personal and social changes that enhance their self-efficacy in the digital and online environment. In a web-based learning environment, learners are required to research the subject matter and construct their preliminary repertoire of knowledge. The newly learned concept would be discussed with their peers later on when the learners take part in the virtual discussion rooms and forums. Their input data might be varied as different learners might have consulted different digital sources and hyperlinks. This variety in the reference system of the input data might lead to the acquisition of more sophisticated knowledge and information obtained by peers that is shared by social networking to a larger group of interested people, obtaining cognition sharing enhancement through web-based media that results in more learning. This study intended to identify if the competency in computer and network use can enhance the language learning that is to a great extent led by technology and is mostly computer and web assisted.

2. COMPUTER & DIGITAL SELF-EFFICACY

Computer self-efficacy examines users' beliefs regarding their ability to perform specific tasks using a software package [14]. Compeau and Higgins [15] defined computer self-efficacy as "a judgment of one's capability to use a computer"[15]. It has a major impact on individual's expectations of the outcomes of using computers, their emotional reactions to computers (affect and anxiety), as well as their actual computer use. Computer self-efficacy provides an important psychological construct that is specially related to computer usage and is a belief in one's capability to use computer [15] and participants with little confidence in their ability to use computers might perform more poorly on computer-based tasks.

In the context of the pedagogic framework of this study, analysis of digital self-efficacy serves as a necessary dimension for assessment of its impact on socialization and interaction necessary in the process of language learning assisted by digital and web-based applications and software in the digital world of today. No research to the authors' knowledge has focused on the impact of digital self-efficacy taking into consideration the learners' greater computer literacy and socialization skills in the web-based environment on their overall learning. Now the question is what is the role the computer literacy and skill in the use of online socialization affordances play in the formation of language learners' perceived self-efficacy and consequently in their possible successful language learning in the digital age.

3. MATERIALS AND METHODS

One of the two groups of "Conversation I" English students of 34 from an Iranian university were randomly selected for the study. They were divided into two groups based on their overall language proficiency obtained from the outcomes of their university entrance exams. They were assigned as "High=8 students" and "Medium=26 students" groups. The "Medium" group was considered as the study group for the research to ensure the same level of language proficiency at the outset of the study. They answered an online digital self-efficacy questionnaire to

point to their capacities and skills needed to use the interface in order to socialize online in the social networking sites such as facebook. Based on the results of the online digital self-efficacy questionnaire, they were divided as group “A” with higher reported computer literacy and group “B” with lower reported computer use skills. Study groups students, i.e. groups “A & B” had to take part in online discussions as part of their assignments weekly which were checked and monitored by the teacher. They had to converse about a pre assigned topic for every week. The questionnaire data comprised the first set of data collection procedure.

In order to establish triangulation, data from the questionnaire was procured by the qualitative data obtained from a semi-structured interview.

The Questionnaire

The online self-efficacy survey was administered to all the 26 students of medium language proficiency who reported to have “high” and “lower” computer skill. It focused on the capacities and skills needed to use the interface in order to socialize online in the social networking sites (facebook intentionally). The main focus of the survey was on the following three themes respectively: (a) system interface, (b) feeling exchange, and(c) information communication. Digital self-efficacy survey included questions about how confident the students were about their own ability to perform internet tasks successfully. Table 1 below shows results and some part of the content of the questionnaire survey.

The Interview

Data on the suitability of computer and software for language learning enhancement was procured through a qualitative instrument (semi-structured interview) that inquired about learners’ viewpoints all through the study. The same students answering the survey took part in a structured interview separately. The items in the interview focused more on the feeling and attitude of the learners as they proceeded through the language learning course. Students were asked to report their attitude toward the experience of language learning and how confident they feel in the online language learning environment as the result of their familiarity with and mastery of computer use skills based on a five point Likert scale. Some verbatim excerpts from the students are reported in the subsequent part.

4. RESULTS

Table 1, shows the outcome of quantitative instruments of the study (questionnaire) that focused on the participants’ familiarity with different software and applications (facebook here) and the way they think this software facilitated their language learning. In the following part Excerpts from the students are reported verbatim. Pseudonyms are also used in the research report to ensure students that their identities are not revealed.

Table1. The Results of Descriptive Statistics (N=26)

Item	Mean	SD
A. System Interface		
1. I am familiar with all functions provided by facebook.	4.38	0.49
2. I am actively using facebook.	4.38	0.49
3. I am encouraged to make use of functions in facebook.	3.44	0.69
4. Functions provided by facebook fulfill the needs of my interaction with my classmates.	4.19	0.40
B. Feeling Exchange		
1. I can engage in online discussions with students in facebook.	4.38	0.99
2. I feel that using facebook facilitates my interaction with my classmates and mentors.	4.50	0.50
3. I will interact with my mentors in facebook.	4.21	0.87
4. I will interact with my classmates in facebook.	4.56	0.55
C. Information Communication		
1. Updated information often pops up in facebook.	4.29	0.46
2. I often browse the contents in facebook.	4.50	0.50
3. I can find the information I want in facebook.	4.39	0.49
4. Classmates often post new information in facebook.	4.40	0.49

Five main themes were created through constant analysis and comparisons of the meaningful interview transcripts of the participants:

1. *Class leader role*: The class leaders are enthusiastic information communicators. The information they post always provokes intensive responses and transmits important messages. Moreover, they can make use of functions in facebook, such as “online survey” or “event creation”, to “enhance internal cohesion in the class” (Interview data 1).
2. *Knowledge sharing or distributing cognition*: Students post the information related to the task in hand and assignments, Jash maintained: “I learn from my friends’ comments and information they share” (Interview data 2). Such “online behaviours can strengthen students’ learning through information exchange among students” (Interview data3) in the virtual (web) context.
3. *System interface*: Students feel that the functions embedded in facebook are satisfactory. The most used functions for students are "message reply" and "like". Students also use "online survey", "class even creation", and "class log" functions (Interview data 4,5,6).
4. *Role of mentors*: Some students feel that mentors do not actively engage in students' virtual discussions. “Perhaps mentors are not familiar with functions embedded in facebook” (Interview data 7). Mentors only post information or reply to class-related activities. Most students perceive that mentors do not encourage students to use those functions.
5. *Importance of social networking*: Facebook serves a hub which connects students' intrinsic feelings. Most students feel that the value of the site is to “build the sense of belonging for them” (Interview data 8). Compared to other available online websites for online discussions, students reported that facebook-group tool is the best choice. "Easy to use and access" and "popularity among college students" (Interview data 9, 10) are strong points for facebook group tool. They also post interesting materials such as videos and interesting comments to enhance a sense of belonging and also for entertainment purposes.

5. DISCUSSION

As proposed by Bandura [16], perceived self-efficacy is concerned with people's beliefs in their capabilities to exercise control over their own functioning and over events that affect their lives. Beliefs in personal efficacy affect life choices, level of motivation, quality of functioning, resilience to adversity and vulnerability to stress and depression. Succeeding periods of life present new types of competency demands requiring further development of personal efficacy for successful functioning. The purpose of the study is to investigate the impact of digital self-efficacy in the computer-assisted and online language learning using online networking sites (such as facebook). At the end of semester the students who reported higher digital self-efficacy in the computer use and networking scored comparatively higher in their conversation test than their colleagues who reported less self-assurance in the digital environments. Users with high computer self-efficacy not only benefit from their capability to use computers in their language learning activities, they would also benefit from group self-efficacy in their web-based language learning tasks and interactions.

Respondents to the study found peers very credible to the extent that the notion of ‘authority figures’ seem to have undergone a distinct change. Learning is considered as a joint activity that is possible through practice, participation, and the sharing information with their peers and other online interlocutors rather than dependence on the teachers. Students repeatedly reported the joy of learning from group online discussions which in turn contain practice, participation, knowledge sharing, and the fun of communicating with their peers. This in turn impacts the Net-generations’ language learning and encourages them to engages in a kind of cooperative and communal learning rather than competition in their internet-assisted language learning.

6. CONCLUSION

Attainments of a group are not only the product of shared knowledge and skills of different members, but also the result of the interactive, coordinative, collaborative, and synergistic dynamics of their interactions. Group or collective efficacy therefore, is not simply the sum of the efficacy beliefs of individual members. Rather, it is an emergent group-level property. A group operates through the behaviour of its members. It is people functioning collaboratively on a shared concept or idea, not a disintegrated group mind that is doing the cognizing, aspiring, motivating, and regulating. There is no emergent entity that operates independently of the beliefs and actions of the individuals who make up a social system [7].

Aggregated group efficacies are well demonstrated as examples of perceived efficacy in the online interactional tasks of web-based language learning process. They use online shared learning spaces for communications and make their posts in personal blogs and social networking sites. Here sharing cognitive knowledge and understanding is not only done with their peers; it is also carried out with a larger community

all over the world, with people who have identical interests, needs, and tendencies. Through connectivity and use of network facilities, the computer screen has become a medium for the new millennium generation learner to study, research, share knowledge, learn, entertain, purchase, and socialize and find himself worthy of all these activities because he/she is not behind his/her colleagues in the manipulation of technology-based affordances. This can have significant impacts on teaching and learning process of today's Net-generation language learners.

Digital self-efficacy also gives more communication chances to students who seem to be shy and introvert by giving them self-confidence and more chances of communicating and expressing themselves. Nearly 45 percent of the excerpts from the students of this small scale study show this self-confidence "I don't feel awkward about my mistakes when I am online" (Interview data 11). Taking part in the online interactive communication makes them feel more positive about their personality and also language learning abilities since they do not need to take turns to speak or worry about interruptions. Students with higher digital self-efficacy find themselves compatible with all the requirements of learning in the digital era and in all online environments. This gives them more tendency and chance to interact with online co-operators and collaborators that eventually leads to more cognition sharing and team learning.

Academic curriculum writers and faculty can therefore build on the Net-generations' desire for connectivity to encourage joint and group activities to promote their language learning and competency.

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