

Exploring the Potential of a Mobile Messaging Application for Self-Initiated Language Learning

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Abstract

With the rapid expansion of deploying mobile instant messaging applications such as Telegram for the purpose of language learning, it is quite apparent that language research in this regard is lagging behind the trend. This study addressed the matter by exploring how language learners utilize a Telegram group for the purpose of language learning. In this regard, the activities of a Telegram language learning group with 74 active members was observed and recorded for a week. To capture the patterns of utilization of the group, a thematic analysis was conducted on the compiled corpus of approximately 45000 words gathered by recording the messages posted by the group's members. The analysis indicated that the themes of utilization of the Telegram language learning group were discussing content-based topics, seeking and sharing resources, recommending conversation opportunities, sharing learning strategies, and giving corrective feedback on each other's language. The findings of this research illustrated the potential of mobile messaging applications for creating opportunities for self-initiated and collaborative language learning.

Keywords: self-initiated language learning, mobile instant messaging, mobile learning, collaborative learning, Telegram

Introduction

With the ease of public access to the Internet, learning is no longer limited to formal, school-based venues, as it can happen at home and work across one's entire lifetime. Having such a variety of opportunities for self-regulated learning, individuals have the possibility to take control of where, when, what, with whom, and via what methods or media to perform their learning on the basis of their personal needs, interests, or curiosity (Dabbagh & Kitsantas, 2012; Falk & Dierking, 2002; McLoughlin & Lee, 2007). This type of learning has become even more accessible and popular with the rapid development of social networks and their application to mobile devices (Hsu, 2013). Portable technology now makes mobile phones an appropriate and potential tool for informal learning experiences (Kolb, 2006; Wagner & Wilson, 2005), particularly when it comes to second language learning (Yamada et al., 2011).

The significance of learning through mobile social networking applications is highlighted with a closer look at the trends of their usage. In Iran, according to Abolhassan Firouzabadi, Secretary of Iran's Supreme Council of Cyberspace, some 50 percent of Iranians spend more than an hour per day on social networks, with only Telegram, a mobile messaging/social networking application, having 40 million active users according to its chief executive, Pavel Durov (2017). These users do not merely limit themselves to using these networks to keep in touch with friends and families, but many of them actively explore new opportunities provided in their smartphones, including mobile learning emerging as the next generation of e-learning (Sharples, 2009). It seems that with the rapid and widespread burst of employing social networks and mobile messaging applications such as Telegram for the purpose of language learning, studies in this regard are lagging behind the trend, and language studies should advance along with the expansion of new language learning potential of smart phones. This study seeks to address this matter by exploring how language learners use a Telegram group for the purpose of language learning.

Computer-supported Collaborative Learning

Computer-supported collaborative learning (CSCL) focuses on the investigation of how people learn together and interact with their peers in groups in a motivational environment shaped by computer technology (Kafai & Peppler, 2011; Stahl, Koschmann, & Suthers, 2006). The media of

communication and collaboration in a CSCL environment include diverse forms, such as chat, e-mail, video conferencing, instant messaging, and discussion forums (Stahl, Koschmann, & Suthers, 2006). From a CSCL viewpoint, learning is socially constructed when individuals engage in negotiation of meaning with other social members. As a result, a CSCL environment should comprise activities and artifacts with support of the latest communication technologies so as to facilitate the process of learners' meaning making (Stahl et al., 2006).

With the prevalence of mobile learning, CSCL has developed its particular mobile version, called MCSCL, which refers to the practice of meaningful interaction by groups of learners in the context of shared activity mediated through mobile devices (Stahl et al., 2006; Zurita & Nussbaum, 2004a, 2004b). In a review of studies on MCSCL, Hsu, Ching, and Grabowski (2014) reported various methods in which mobile devices mediate meaning making in a joint activity. More particularly, wirelessly interconnected mobile devices have the capability to provide learners with various types of group learning tasks and task-oriented interaction (e.g., Boticki et al., 2011; Roschelle et al., 2009). Furthermore, they can facilitate information sharing and instant feedback provision (e.g., Zurita & Nussbaum, 2004b).

While there is a growing body of evidence suggesting that students actively participate in mobile collaborative learning activities, research on self-created, self-paced, and self-regulated mobile collaborative learning is lacking. In the reviewed studies, learning content was commonly delivered to students through the Internet, which falls short of the actual spirit of Web 2.0 that encourages learners to actively create, share, and interact through the Web, especially the mobile Web.

Mobile Learning

As mobile phones are more accessible and practical than other communication devices, they are acknowledged as a delivery channel that offers a great potential for sustained learning (Khanna & Singh, 2011). Gillet, Helou, Yu, and Salzmann (2008) refer to interaction in social networks as “a powerful paradigm for learning, without noticing the skills that the knowledge society is looking for and that the traditional education system has been largely unable to develop” (p. 170). Researchers should attempt to better explore this

fresh digital learning tool if they are to shed light on the practice of instructors who need to successfully engage the new generation of students. In this regard, recent research in the field of mobile-assisted language learning (MALL) has encompassed a wide range of instructional topics. Previous studies on mobile phones have investigated fostering structural accuracy (Baleghizadeh & Oladrostam, 2010), enhancing speaking fluency (Kessler, 2010), learning vocabulary (Basoglu & Akdemir, 2010; Thornton & Houser, 2005), learning business English (Yamada et al., 2011), and evaluating students' attitudes and preferences toward MALL (Stockwell, 2007, 2010). Student and teacher perception of the usability (Ozok et al., 2008), effectiveness (Demirbilek, 2010), and acceptance (Hsu, 2013) of MALL have also been among the topics explored by the scholars of the field. However, a line can be normally drawn between the study methods that are: (1) fully independent and self-paced, in which learners fully determine their own pace and schedule, (2) asynchronous but interactive, in which learners participate partially with an instructor and other students until course materials are completed, and (3) synchronous learning, which can be carried out in a conventional classroom setting or via the web given that it is conducted in real-time and the pace of learning is determined by the instructor's presentation (Burgess, 2003). Consequently, it seems that most MALL studies have mainly focused on transferring customary classroom or computer-based methods of instruction (i.e., the third method) onto the mobile platform, such as delivering materials formerly used with paper or computer-based media, or writing trans-platform applications like mobile dictionaries, quizzes, or survey tools. These studies merely consider mobile devices as a new means for content delivery, rather than tools that have the potential for facilitating new and self-initiated learning. Hence, to address the gap in the reviewed literature, the following research question was addressed in this study:

How is a Telegram language group utilized by its members for self-initiated language learning?

Method

Participants

This research was conducted in an open Telegram group created for the purpose of learning English in the year 2016. The Telegram group was already

an active group when the researcher entered it, with around 200 members from different educational backgrounds and age brackets who had voluntarily joined it to develop their English language proficiency. Every day, one specific topic that could be of public interest was posed normally in question form by the group admin and the members could discuss the topic, although it was possible for them to digress from the main topic and discuss other issues of their interest as well. While the group was public with its link on a Facebook page, which made it possible for anyone to join it, almost all members were Iranians coming from different regions of the country. In terms of language proficiency, members represented various levels ranging from beginners, who were mostly receivers of input and could not participate in discussions due to their low language proficiency, to advanced language learners who could comfortably participate in group activities and discussions, hence their voice being heard more in the excerpts presented in this study. Overall, the data collected are from 74 members who actively posted in the group during the study. It is worth noting that in the excerpts chosen to be included in this study, all the offered names are pseudonyms to protect the members' identities.

Procedure

The Telegram group was used as the main source of data in this study. To explore how the members utilized the Telegram group, the researcher (second author), with a prior note to the admin and the members, observed the activities of the group for a week and copied and pasted all the posts into a Microsoft Word document, which composed a corpus of approximately 45000 words from 74 active members for further analysis. During this week, the researcher did not send posts in the group and was solely an observer similar to many other members who would not normally participate in group activities. Moreover, all topics were followed by a note during the study week to inform the members that their contributions would be used in a study unless they state that they do not wish to be a part of it. This note can be seen in the following:

Note: Your posts will probably be used in a research paper about Telegram as a tool for language development. Please inform us if you do not want your posts to be used in our study. Thank you very much for your participation.

Data analysis

Analysis of the data was conducted in several phases guided by a thematic analysis procedure introduced by Braun and Clarke (2006). The first phase began during the observation of group activities for a week and consisted of a qualitative categorization of the participants' dialogues. The researcher would first read all posts every day and then group individual exchanges into particular categories, creating new categories when the existing ones were insufficient. At the end of the week, many categories had emerged. This part of the analysis provided a substantial amount of information that contributed to answering the study question about how the group was used by its participants. Next, when data collection was done, the researcher started condensing the initial categories into more comprehensive themes. Before revising the original data set, principles of inclusion were drawn up for each of the themes to facilitate an organized analysis of the data. This revision enabled a much easier analysis of the large amount of generated data. Nevertheless, the initial categories that did not contain sufficient samples and could not be merged into the main themes were discarded from the report. Finally, to ensure the dependability of the analysis, the generated themes and the data were checked against one another by both researchers independently. It is worth mentioning that inclusion of a theme was not reliant on quantifiable measures; that is, capturing something important and related to the research question was the central focus, not the number of repetitions of a specific message or idea. Themes emerged based on making sense of all meaningful series of messages in data, such as a succession of posts that could be as short as two messages or as long as dozens of messages regarding one central idea, rather than developed based on a fixed unit of analysis.

Results

The findings in this report have been organized by the guiding research question of the study. The research question is answered through five generated themes exemplified by the actual dialogues of the participants in the Telegram group. The following themes categorize the characteristics of the Telegram group activities.

Discussing Content-based Topics

A chief activity in the Telegram group was discussing topics that were posed by the group admin based on his own choices or through suggestions of the members. The topics were mostly related to controversial and debatable issues, many of which were directly related to the lives or the concerns of many members. As a result, the participating members would typically get engrossed in discussions as they could talk based on their lived experiences, beliefs, and values. Sample topics that were raised during the week were the *threats of the extremist groups like ISIS* and *obligatory military service*. Discussion of such content-based topics openly among members was the first and most noticeable activity in the group. As the members hold different perspectives and positions on issues, the discussions seemed heated, although at points they could even become contentious debates on issues. Nevertheless, it was observable that the Telegram group could serve as a tool for self-initiated and engaging discussion in another language to improve language skills while exchanging ideas. The following excerpt represents an example of a piece of dialogue in the group:

Mehdi, [25.11.16 13:09]:

ISIS and other Islamic terrorists commit more human rights offences against Muslim people than any other person. They are genociding people in their own religion.

SuliMooj, [25.11.16 13:10]:

Absolutly! ISIS kill innocent Muslim everyday!

SuliMooj, [25.11.16 13:10]:

terrorist is not religion!!!

Soheil, [25.11.16 13:12]:

Yes. Terrorists don't have any religion, members of terrorist groups are not even human. I am a Muslim and I am ready to fight with terrorism even if I lose my life.

As can be seen in this example of group discussion, the group has had the capability to provide a platform in which learners could engage in a horizontal relationship and express ideas and beliefs in the target language.

Content-based dialogues were the pre-dominant activity in the Telegram group (comprising around about 75 percent of all messages) during the week of observation. Members did not necessarily stick to the topic of the day in their

discussions, and speaking about topics unrelated to the one specified was also frequently observed in group activities and categorized under the theme of *discussing content-based topics*. The following excerpt shows a part of a short chat between two members about a topic different from the topic of the day:

Ali, [24.11.16 12:48]

I'm playing total war game now its great

Mustafa N, [24.11.16 12:50]

[In reply to Ali]

Hmmm I played Total war rome2,,, it is fantastic

Ali, [24.11.16 12:50]

[In reply to Mustafa N]

I played totla war games since i was 14 start by rome one but my pc is too old for new ones

Seeking and Sharing Resources

One of the opportunities that the group members could benefit from was to ask for language resources from other members. Among the posts that were not directly related to discussions of specific topics, 39 excerpts with different but similar codes were categorized under the theme of “seeking and sharing resources”. Group participants discussed the methods that could be utilized to search for useful and available printed materials or Web-based English learning resources and lessons while studying English by themselves. Specific examples of resources, such as pictures of language lessons, names of books, and Web-based resources appeared in 39 excerpts during the observation week, which comprised about 11 percent of the total messages. Some group participants were active and accessible in terms of sharing their knowledge of the learning materials that they were familiar with by directing other members to particular English learning resources, or by sharing files, mini lessons, and posts that they had written themselves or copied from other Telegram groups or channels. The following is an example of a language lesson shared by a member:

Sara, [27.11.16 17:12]:

-Remember: When enjoy is followed by a verb, that verb cannot be in the infinitive with 'to'.

Do not say 'enjoy to do something', say enjoy doing something.

X My parents enjoy to walk in the mountains.

- My parents enjoy walking in the mountains.

Don't say 'enjoy', say enjoy yourself/himself/themselves:

X I have made new friends and am enjoying in London.

- I have made new friends and am enjoying myself in London.

The next excerpt also illustrates a part of a discussion regarding the existing English textbooks available on Iran's market:

Mehdi, [28.11.16 21:23]:

Among the books I only prefer English Results because it is the newest one and has the best material.

Ati20, [28.11.16 21:24]:

Yeah?

Ati20, [28.11.16 21:24]:

Someone here tell topnotch is better than all

Mehdi, [28.11.16 21:26]:

yes, Topnotch is a good one too. It is American but Results is British so you can choose what you prefer

Mehdi, [28.11.16 21:26]:

But both of them work well these days. but I personally like Results more.

Azad, [28.11.16 21:26]:

[In reply to Ati20]

You can like American English file and interchange too. I learn English with interchange series myself.

Recommending Conversation Opportunities

A further theme that was worth being generated from the corpus was suggestion of English speaking opportunities. This theme included 15 excerpts (5 percent of the total messages) of the discussed ideas and suggestions for how to create or discover situations or chances to practice speaking English language. Telegram group participants provided suggestions such as finding conversation tutors or partners, discovering circumstances for speaking the target language with tourists, or interacting with people overseas who speak the target language through communication technologies.

In the following excerpt, a more experienced and proficient member gives suggestions to a member who wants to make his partner start speaking in English to him:

Aziz, [27.11.16 08:33]:

[In reply to Abbas]

Make her answer your simple questions or greetings in English. That she can do because it is a controlled situation when she's only required to speak like that for a short period of time about something that she certainly knows even as an elementary language speaker. After that then you can ask her to speak more and she'll get more comfortable speaking English with you. The key is to first make her answer your easiest questions in English and then continuing the conversation and not letting her to stop.

Another example of suggesting opportunities for language practice was a comment on finding foreign partners for English practice:

Shahram, [23.11.16 22:53]:

One thing that we can do is finding site that are made for finding other people to speak on Skype.

Shahram, [23.11.16 22:55]:

Telegram is very good but most English people use skype more so if we find friend in it we can practice our English with them with video or audio. It is great

Sharing Learning Strategies

Sharing language learning strategies was a popular theme observed during the week in the Telegram group. In many instances, the group members shared their recommendations of the strategies that they thought could be helpful for language learning. 11 excerpts, which comprised nearly four percent of the whole messages, could be incorporated in this theme. In all these excerpts, the group participants provided suggestions and advice for other members about language learning. A variety of learning approaches suggested by the participants included watching American television series and movies, watching Web-based videos, listening to music and podcast, studying textbooks alone or in language classes, participating in language exchange activities or programs, reading short stories or novels, and using computer and mobile software for language learning. For instance, in the following excerpt, a member shares his learning approaches of studying English by himself:

Mohammad, [27.11.16 21:40]:

While studying English, I made an effort to get more practice actually with reading authentic texts, and I think I got absolutely successful. Still, in use of English, my learning was motivated so more by the desire of use of it in interactions than with readings.

Mohammad, [27.11.16 21:40]:

Reading authentic texts and having good partners helped me so much. both of them.

Another example chosen from the discussions is the following in which a member shares his strategy of repetition and watching series while learning English:

Mehdi, [27.11.16 23:13]:

It's all about repetition in everything. Repeatedly listening, reading, talking. I always say that after three times experiencing a new word, I can own it. Some will stick sooner to your mind, but usually an item has to be experienced somehow three times minimum to really stick. Watching American movies is an excellent method to learn English because you see the context, you see how people really speak to each other in different situations, their greetings, the way they interact, the way they say goodbye, etc.

Giving Corrective Feedback

The last major theme that emerged from the data and had numerous examples during the observation week was students' correcting each other's mistakes and errors (4 percent of all messages). Among the active members, many of the more proficient members were inclined to give feedback on the grammatical and lexical accuracy of their friends' language. The excerpts of this kind were typically shorter in length since they normally only comprised a message containing an error and another message containing explicit corrective feedback, sometimes followed by a message from the first member acknowledging his or her mistake. Nevertheless, a few instances of metacognitive feedback, elicitation, and longer transactions regarding the accuracy of a message were observed in the dataset as well. The excerpt that follows is a typical type of feedback given in the group:

Abdollah, [22.11.16 22:33]:

I hate when capital punishment did in streets and children go see it.

Monami, [22.11.16 22:36]:

[In reply to Abdollah]:

You should say capital punishment is done

Monami, [22.11.16 22:36]:

it is passive

Abdollah, [22.11.16 22:37]:

[In reply to Monami]

yes, tnx

The next example shows a longer excerpt regarding a common mistake among the group members:

Afshin, [27.11.16 05:20]:

we are discussing about our think about terrorists today

Aziz, [27.11.16 05:28]:

[In reply to Afshin]

We discuss sth not about sth

Aziz, [27.11.16 05:28]:

everybody makes this mistake

Afshin, [27.11.16 05:28:]

ok. I didn't know

DarkStar, [27.11.16 05:30]:

[In reply to Aziz]

Yes, I'm agree is another mistake by many of members.

Afshin, [27.11.16 05:30]:

Why is it mistake?

DarkStar, [27.11.16 05:3:1]

[In reply to Afshin]

You should say I agree. agree is a verb

Figure 1 depicts the proportions of the group activities categorized in the generated themes. The percentages are determined on a word count basis, that is, comparing the word count of the group posts in each thematic category with the word count of all posts.

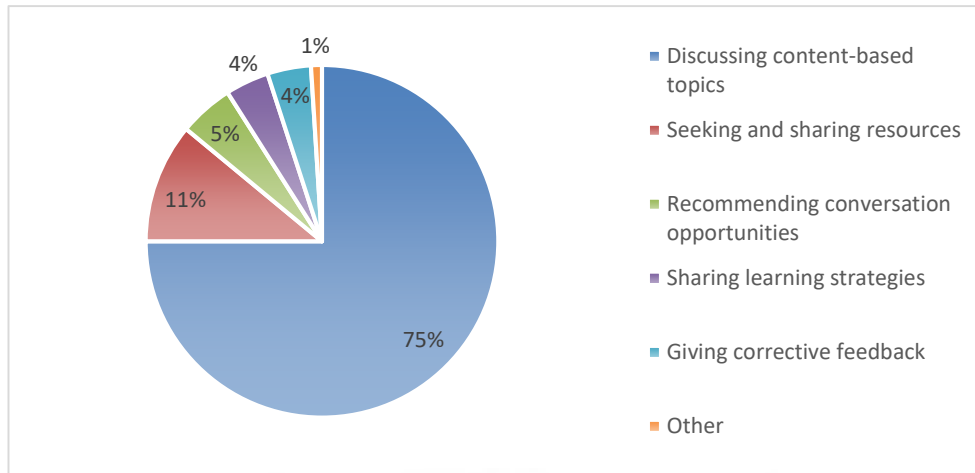


Figure 1. Proportions and thematic categories of members' activities in the Telegram language group

Discussion

This study reported on the activities conducted in a Telegram language learning group and, by so doing, intended to explore the potential of a mobile messaging application for self-directed language learning. The thematic analysis of the group activities revealed that the members used the group mostly to engage in dialogue and express their ideas in English regarding various content-based topics. Nevertheless, the members also utilized the group to consciously talk about language and language learning; in other words, the results illustrated that the group members also asked for and shared language learning resources, suggested opportunities for practicing English conversation, informed each other about the strategies that they perceived to be effective in language learning, and provided one another with corrective grammatical and lexical feedback.

Consequently, The observed Telegram group at this online language learning social network enabled peers' participation in the various topics by providing an atmosphere for them to contribute their individual knowledge and experience to the collective knowledge base of the group and advanced the accumulation of collective learning by moving the current knowledge repository forward during the process of participating in the group (Chuy et al., 2011; Nami & Marandi, 2014; Scardamalia & Bereiter, 2006; Sternberg, 2003). In fact, similar to Barron (2006), the member's interests in self-directed learning seemed to be triggered and supported within this informal online learning environment. The results of this study are in accord with Boticki et al.

(2011) and Roschelle et al. (2009) by illustrating that mobile learning has the capacity to offer learners different types of group learning tasks and numerous opportunities for interaction. This study also showed how a Telegram group could facilitate sharing of information and corrective feedback provision, supporting the results of Zurita and Nussbaum (2004b). More generally, these results are in line with the previous research on the use of technology in language learning, which considers it to be a feasible way of promoting meaning construction and various types of peer interaction (Peterson, 2009; Swain & Lapkin, 1998; Van Lier, 1996; Watanabe, 2008).

The results of this study indicated that the chief activity in the Telegram group was English discussions about various topics. As language professionals, we cherish the role of exploratory and participatory dialogue for its pedagogical benefits (Haneda & Wells, 2008; Heyden, 2003; O’Keefe, 1995) and, even beyond a mere tool for language learning, for what dialogue deeply represents as a democratic practice (Dewey, 2009; Hoffman, 2000; McCoy & Scully, 2002). The dialogues started by the questions posed as the topic of the day and the type of answers exemplified under the theme of *discussing content-based topics*, where “one person’s language, whether statement or question, encourages or presses another to consider the basis for their thinking” (Crookes, 2013, p.64), is an example of what the proponents of critical and participatory pedagogies encourage in any educational settings (e.g., Freire, 1972; Crookes, 2013); something that seems to have been feasible in Telegram groups.

Moreover, it was observed that the Telegram group, as an online language learning social network, provided an open atmosphere, or an affinity space (Gee, 2004) for all its participants to explicitly talk about their language learning needs and attempt to address them through the group. A general activity by members was to discuss their strategies of accessing language learning supplements and materials. This was done by asking for and giving guidance for finding useful learning information and resources for self-initiated learning in terms of studying English on their own or expediting their language learning process. Furthermore, the group members discussed the strategies of language learning and ways of creating conversation opportunities in their EFL setting. They actively shared their approaches to language learning, and built on other members’ ideas to contribute to the process of shaping ideas and knowledge building about their learning strategies, and provided recommendations to other members with regard to creating situations or chances to practice speaking English and improve their fluency. The participants also supported each other by giving corrective feedback to one another and discussing the common structural and lexical errors and mistakes prevalent among the group members. All in all, these types of activities were

examples of peer scaffolding observed in the group, where learners assisted each other in reaching higher levels of knowledge and competence in the absence of a teacher (Donato, 1994). Just as Swaffar, Romano, and Arens (1998) mention, conversation through technology offers students an opportunity to work at their own pace, reflect on their ideas, and rehearse their language capabilities.

The results of this study suggest that mobile messaging applications like Telegram can provide various opportunities for self-initiated language learning. Clearly, the results discussed are limited to a one-week period of observing one Telegram group. With the growing interest in mobile messaging applications in language research, future research will definitely offer additional insight into how this phenomenon already works and how it can be best utilized. Longitudinal studies on the effects of self-initiated language learning through mobile messaging applications on learners' proficiency development, exploring learners' perceptions of these groups, and investigating the language learning potential of the other features of these applications such as channels or private chats are among the vast language research possibilities that remain open for investigation in future work.

In conclusion, research on the use of mobile and the Internet in language learning has broadly investigated their vast potential for collaborative language learning. The application of a mobile messaging application as a tool for self-initiated language learning, however, is a truly new research focus. As Sullivan (1993) suggests, the accessible transcripts of real-time conversations are beneficial for research and reference, similar to what has been done in this research.

In the present study, by examining a corpus of approximately 45000 words from 74 participants, different codes were initially generated to categorize a week of a Telegram language learning group's activities, and eventually the codes were summarized into five main themes including *discussing content-based topics*, *seeking and sharing resources*, *recommending conversation opportunities*, *sharing learning strategies*, and *giving corrective feedback* on each other's language. The observed diversity in students' use of a Telegram group was considerable in that it designated the potential of a mobile messaging application for promoting self-initiated and student-centered learning in a situation where formal language instruction, especially in Iran, is yet largely teacher-centered (Abednia & Izadnia, 2013). As Kessler and Bikowski (2010) suggest, the flexibility inherent in social networking software like Telegram promotes autonomy among learners and empowers them to adopt the learning context in order to satisfy their needs. In addition, the

absence of any specific teacher as an expert voice and the flexibility of the space stimulated learners to take up the responsibility of supporting and advising each other through scaffolding (Donato, 1994).

With a dramatic increase in the use and popularity of social networking software such as Telegram in language learning, researchers should follow the trend and attempt to offer more comprehensive insight into the way this phenomenon can best serve the needs of both teachers and students (Kessler, 2009).

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References

- Abednia, A., & Izadinia, M. (2013). Critical pedagogy in ELT classroom: exploring contributions of critical literacy to learners' critical consciousness. *Language Awareness*, 22(4), 338-352.
- Baleghizadeh, S., & Oladrostam, E. (2010). The effect of mobile assisted language learning (MALL) on grammatical accuracy of EFL students. *MEXTESOL Journal*, 34(2), 1-10.
- Barron, B. (2006). Interest and self-sustained learning as catalysts of development: A learning ecology perspective. *Human Development*, 49(4), 193-224. doi:10.1159/000094368
- Basoglu, E. B., & Akdemir, Ö. (2010). A comparison of undergraduate students' English vocabulary learning: Using mobile phones and flash cards. *TOJET: The Turkish Online Journal of Educational Technology*, 9(3).
- Kessler, G., & Bikowski, D. (2010). Developing collaborative autonomous learning abilities in computer mediated language learning: Attention to meaning among students in wiki space. *Computer Assisted Language Learning*, 23(1), 41-58.
- Boticki, I., Looi, C. K., & Wong, L. H. (2011). Supporting Mobile Collaborative Activities through Scaffolded Flexible Grouping. *Educational Technology & Society*, 14(3), 190-202.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Burgess, L.A. (2003). WebCT as an e-learning tool: A study of technology students' perceptions. *Journal of Technology Education*, 15(1), 6-15.
- Chuy, M., Zhang, J., Resendes, M., Scardamalia, M., & Bereiter, C. (2011). Does contributing to a knowledge building dialogue lead to individual

- advancement of knowledge. In *Connecting computer-supported collaborative learning to policy and practice: CSCL2011 conference proceedings*.1, pp. 57-63.
- Crookes, G. V. (2013). *Critical ELT in action: Foundations, promises, praxis*. Routledge.
- Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and higher education*, 15(1), 3-8.
- Demirbilek, M. (2010). Investigating attitudes of adult educators towards educational mobile media and games in eight European countries. *Journal of Information Technology Education*, 9(1), 235-247.
- Dewey, J. (2009). *Democracy and education: An introduction to the philosophy of education*. New York: WLC Books. (Orig. pub. 1916.)
- Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 33–56). Norwood, NJ: Ablex.
- Falk, J. H., & Dierking, L. D. (2002). *Lessons without limit: How free-choice learning is transforming education*. Walnut Creek, CA: AltaMira Press.
- Freire, P. (1972). *Pedagogy of the oppressed*. Harmondsworth. UK: Penguin.
- Gee, J. P. (2004). Affinity spaces. *Situated language and learning: A critique of traditional schooling* (pp. 77-83). Routledge.
- Ghajar, A. (2017), *A Messaging App That Can Change Iran*, Retrieved from <https://iranwire.com/en/features/4607/>.
- Gillet, D., El Helou, S., Yu, C. M., & Salzmann, C. (2008). Turning web 2.0 social software into versatile collaborative learning solutions. In *Advances in Computer-Human Interaction, 2008 First International Conference on* (pp. 170-176). IEEE.
- Haneda, M., & Wells, G. (2008). Learning an additional language through dialogic inquiry. *Language and education*, 22(2), 114-136.
- Heyden, R. (2003). Literature circles as a differentiated instructional strategy for including ESL students in mainstream classrooms. *Canadian Modern Language Review*, 59 (3), 463–75.
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge: Cambridge University Press.
- Hsu, Y. C., Ching, Y. H., & Grabowski, B. L. (2014). Web 2.0 applications and practices for learning through collaboration. In *Handbook of research on educational communications and technology* (pp. 747-758). Springer New York.

- Hsu, L. (2013). English as a foreign language learners' perception of mobile assisted language learning: a cross-national study. *Computer Assisted Language Learning*, 26(3), 197-213.
- Kafai, Y. B., & Peppler, K. A. (2011). Youth, technology, and DIY developing participatory competencies in creative media production. *Review of Research in Education*, 35(1), 89-119.
- Kessler, G. (2009). Student initiated attention to form in wiki based collaborative writing. *Language, Learning & Technology*, 13, 79-95. Retrieved from <http://lt.msu.edu/vol13num1/>.
- Kessler, G., & Bikowski, D. (2010). Developing collaborative autonomous learning abilities in computer mediated language learning: Attention to meaning among students in wiki space. *Computer Assisted Language Learning*, 23, 41-58.
- Khanna, A., & Singh, A. (2011). Efficacy of 'stop TB cricket': A mobile phone game for edutainment. In *International Educational Technology Conference*.
- McCoy, M. L., & Scully, P. L. (2002). Deliberative dialogue to expand civic engagement: What kind of talk does democracy need? *National Civic Review*, 91(2), 117-135.
- McLoughlin, C., & Lee, M. J. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *ICT: Providing choices for learners and learning. Proceedings ascilite Singapore 2007*. (pp. 664-67).
- Nami, F., & Marandi, S. S. (2014). Wikis as discussion forums: exploring students' contribution and their attention to form. *Computer Assisted Language Learning*, 27(6), 483-508.
- O'Keefe, V. P. (1995). *Speaking to think, thinking to speak: The importance of talk in the learning process*. Boynton/Cook.
- O'Connor, H., & Madge, C. (2003). "Focus groups in cyberspace": using the Internet for qualitative research. *Qualitative Market Research: An International Journal*, 6(2), 133-143.
- Ozok, A. A., Benson, D., Chakraborty, J., & Norcio, A. F. (2008). A comparative study between tablet and laptop PCs: User satisfaction and preferences. *Intl. Journal of human-computer interaction*, 24(3), 329-352.
- Peterson, M. (2009). The use of computerized games and simulations in computer-assisted language learning: A meta-analysis of research. *Simulation & Gaming*, 41(1), 72-93
- Roschelle, J., Rafanan, K., Bhanot, R., Estrella, G., Penuel, B., Nussbaum, M., & Claro, S. (2009). Scaffolding group explanation and feedback with handheld technology: impact on students' mathematics learning.

- Educational Technology Research & Development*, 58(4), 399–419.
<http://dx.doi.org/10.1007/s11423-009-9142-9>.
- Scardamalia, M., & Bereiter, C. (2006). Knowledge building: Theory, pedagogy, and technology. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 97-118). New York: Cambridge University Press.
- Sharples, M. (2009). Methods for evaluating mobile learning. In G. Vavoula, N. Pachler, & A. Kukulska-Hulme (Eds.), *Researching mobile learning: Frameworks, tools and research designs* (pp. 17–39). Oxford, UK: Peter Lang Publishing Group.
- Stahl, G., Koschmann, T., & Suthers, D. D. (2006). Computer-supported collaborative learning. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 409-425). New York: Cambridge University Press.
- Sternberg, R. J. (2003). The development of creativity as a decision-making process. In R. K. Sawyer et al. (Ed.), *Creativity and development* (pp. 91-138). New York: Oxford University Press.
- Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, 20(4), 365-383.
- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, 14(2), 95-110.
- Sullivan, N. (1993). Teaching writing on a computer network. *TESOL Journal*, 3(1), 34_35.
- Swain, M., & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *The modern language journal*, 82(3), 320-337.
- Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of computer assisted learning*, 21(3), 217-228.
- Van Lier, L. (2004) *The ecology and semiotics of language learning*. Boston: Kluwer Academic Publishers.
- Wagner, E.D., & Wilson, P. (2005). Disconnected. *T+D*, 59, 40–43.
- Watanabe, Y. (2008). Peer-peer interaction between L2 learners of different proficiency levels: Their interactions and reflections. *The Canadian Modern Language Review*, 64(4), 605_663.
- Yamada, M., Kitamura, S., Shimada, N., Utashiro, T., Shigeta, K., Yamaguchi, E., Nakahara, J. (2011). Development and evaluation of

- English listening study materials for business people who use mobile devices: A case study. *CALICO Journal*, 29(1), 44–66.
- Zurita, G., & Nussbaum, M. (2004a). A constructivist mobile learning environment supported by a wireless handheld network. *Journal of Computer Assisted Learning*, 20, 235–243.
- Zurita, G., & Nussbaum, M. (2004b). Computer supported collaborative learning using wirelessly interconnected handheld computers. *Computers & Education*, 42(3), 289–314.

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