



Research Article

The Impact of a Simple Channel Factor on Vocabulary Learning of Iranian EFL Learners Across Genders

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Abstract: The concept of channel factors was introduced by Kurt Lewin to the field of psychology as seemingly unimportant circumstantial changes that could affect the trajectory of an endeavor. The primary goal of the present study was the examination of the impact of using a timeslot on Iranian English as a Foreign Language (EFL) learners' performance on vocabulary, and the respective comparison based on gender. A total number of 180 male and female upper-intermediate EFL learners participated in this study. They were divided into six classes: two classes were not provided with the channel factor, two of them received it from the outset, and the other two were exposed to it in the middle of the semester. The participants, all of whom took three tests (pretest, mid-test, post-test), were categorized into six types based on their gender and the existence and timing of the channel factors. The results of data analysis through Analysis of Variance (ANOVA) revealed that the channel factor positively impacted the performance of participants regardless of gender. However, its impact was stronger on males in the short run but more enduring among females.

Keywords: Kurt Lewin, channel factors, EFL learners, vocabulary, gender

1. Introduction

The German psychologist, Kurt Lewin (1890-1947), who is well-known for concocting the psychological concept of field (also known as life-space) was one of the pioneers of social psychology. Lewin (1943) believed that every human being lives within a field the totality of which must be considered to understand and predict human behavior. His main proposal was that an individual conceptualizes and understands one's world through continuous environmental interaction with one's memories, desires, and goals (Lewin, 1951). Lewin's views were impacted by the active conceptualization of the mind prevailing in German philosophy through Kant's ideas, and particular principles of the Gestalt movement. Reducing any psychological description to group averages and summaries, Lewin (1959) believed, downplays and even at times neglects the role of the individual and his/her environmental interactions.

Field theory, force field analysis, action research, and group dynamics were the major offspring of Lewin's lifelong studies all of which resemble his background in physics (Crosby, 2020; Stivers & Wheelan, 2012). Based on field theory, which was a view of personal dynamics and social activities, personality as a psychological construct should be conceptualized in the context of a dynamic field of individual-environmental interactions (Lewin, 1943). Force field analysis was in the form of a framework for studying all factors or forces, whether driving or hindering, that impact a

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social situation (Lewin, 1951). Action research, according to Lewin (1946), involves planning, action, and fact-finding in a spiral fashion, and focuses on investigating an issue in the solution process. Finally, group dynamics, which was an attempt to create an empirically verifiable theory, addresses the social processes through which people interact and behave within a group (Lewin & Lewin, 1948).

An intriguing idea introduced by Lewin (1952) into the field of psychology was the concept of channel factors. Simply put, channel factors refer to “situational circumstances that appear unimportant on the surface but can have significant consequences for behavior - facilitating it, blocking it, or guiding it in a particular direction” (Gilovich et al., 2016, p. 12). His goal was to elucidate the significant impact of seemingly insignificant circumstances on human behavior. The impact of channel factors often lies in guiding behaviors in a particular direction simply by making their path more noticeable and easier to follow. The resemblance of Lewin’s conceptualization of channel factors is noticeable in the emerging pervasive trend emphasizing the importance of cultivating beneficial habits en route to success (e.g., Clear, 2018; Duhigg, 2012).

Following its emergence in psychology, several studies found support for the impact of channel factors on a range of human behaviors in real-life situations (Cohen & Kitayama, 2020; Mayton, 2009; Riggio & Johnson, 2022). Leventhal et al. (1965) reported that simply providing a map of the Yale campus in which the health center is circled, along with a cursory review of students’ weekly schedules to find a convenient time to get tetanus inoculations, increased their likelihood of getting the shot by 25 percent. According to Gilovich et al. (2016), the proximity of health centers is another simple channel factor that accounts for the use of public health services more than other seemingly important factors such as attitudes about health, personality tests, demographic variables, and socioeconomic status.

The fields of study dealing with language teaching and learning have frequently incorporated psychological discoveries into their theoretical frameworks and research methodologies (Mitchell et al., 2013; Van Patten & Williams, 2014). Nevertheless, to date, no specific study within this domain has explored the concept of channel factors and their potential impact on language learning, despite the positive findings observed in psychology. As an attempt to address this issue, the primary objective of this study was to investigate the impact of a simple channel factor across genders on vocabulary learning among Iranian upper-intermediate EFL learners. In line with prior investigations into channel factors within the realm of psychology, the implemented channel factor in this study constituted a basic suggestion that the learners could have easily reached by themselves. Simply put, the channel factor recommended a designated timeslot for studying new English vocabulary, aiming to assess its subsequent effect on learner performance.

2. English learning and channel factors

Traditionally, language learning has been conceptualized as mastering four primary skills: listening, speaking, reading, and writing (Burns & Siegel, 2018). Its main concepts could be roughly categorized under six broad headings: teach, learn, language, class, material, and context (Fathabadi, 2023). Over the years, various supposedly key elements of language learning have risen to prominence, only to later diminish in significance due to emerging approaches and research findings, leading to transitions from one teaching method to another (e.g., Larsen-Freeman & Anderson, 2013; Richards & Rodgers, 2014). The intrigue surrounding these critical components of language learning has generated a vast body of literature, making a comprehensive account of all major findings impractical (e.g., Ellis, 2015; Tomlinson & Masuhara, 2021; Van Patten et al., 2020). Despite the extensive body of knowledge within the field, using ‘channel factors’ and ‘language teaching and/or learning’ as keywords on primary academic search engines yields no specific results at the time of composing this article.

Claiming that the impact of channel factors on the language learning of second or foreign language learners, despite what the literature suggests, has never been investigated is rather unwise. There is a slight chance that the absence of channel factors in the literature might be due to a lack of need or familiarity with the concept. After all, it is a psychological concept that might not have entered language-related fields of study. Another problem is that neither Lewin nor subsequent authors concerned with the concept have provided a blueprint for deciding whether a change qualifies as a channel factor or not. In other words, depending on how slight a situational change must be to qualify as a channel factor, various experimental studies targeting language learning and teaching might have explored the impact of the concept without bearing the name. The bottom line is that many experimental studies within the field have explored

the impact of minor changes on language learning and teaching with mostly positive and, at times, controversial results (e.g., Doughty & Long, 2011; Mauranen & Ranta, 2009; Storch & Suzuki, 2020).

One of the components of language learning that has sparked numerous studies is vocabulary acquisition and how it might be impacted by various factors and strategies, resulting in a plethora of publications on the subject (e.g., Agustn Llach, 2019; Coady & Huckin, 1997; Elizabeth, 2006; Graves et al., 2013; Ma, 2009; Schmitt, 2000). Studies of this nature have often investigated the impact of diverse changes and modifications on English vocabulary learning among EFL learners in various contexts, yielding positive results: integrated vocabulary instruction (File & Adams, 2010), the use of Quizlet (Todorova, 2023; Uchihara, 2023), game-based learning (Tang, 2023), distributed retrieval practice (Nakata et al., 2021; Terai et al., 2021), studying in smaller sets (Nakata & Webb, 2015), digital activities (Laufer & Vaisman, 2023), digital games (Zou et al., 2021), virtual reality apps (Tai et al., 2022), visual novels (Lai & Chen, 2023), glossing (Yanagisawa et al., 2020), multimodal glossing (Durongbhandhu & Suwanasilp, 2021), etc. Considering these points, the authors of this article are not in a position to determine whether any of the numerous experimental studies conducted within the field qualify as investigating the impact of channel factors or not.

3. Method

3.1 Participants

The sample of this study comprised 180 Iranian upper-intermediate EFL learners, all of whom consented to participate in the current study. The participants' ages ranged from 18 to 24 years old, with a mean age of 22.5. Gender distribution was even, with half of the participants identifying as male and the other half as female. The participants were classified as upper-intermediate level through The Oxford Placement Test by the institution they were attending before the commencement of the study. These individuals were actively enrolled in vocabulary learning courses in Mashhad, the second most populated city in Iran.

3.2 Procedure

The participants were randomly allocated into six classes, each consisting of 15 male and 15 female learners. All classes were instructed by the same teacher, who presented 15 new English vocabularies embedded in authentic texts to the learners during each session. The classes were held twice a week for three months, totaling 21 sessions. Within this timeframe, three sessions were specifically designated for assessment purposes: an initial pretest administered during the first session, a mid-test conducted during the ninth session, and a final post-test administered in the last session. All three tests comprised 100 multiple-choice vocabulary items sourced from The Oxford Vocabulary Level Test, targeting vocabulary content covered in the instructional sessions. An example of the type of test items presented to the participants is as follows (Table 1).

Table 1. An example of the utilized vocabulary test

Match descriptions 1-6 with adjectives a-f			
1	Emilys appearance is very important to her.	a	considerate
2	Joe always seems to make very good decisions.	b	bad-mannered
3	Andy thinks about other peoples feelings.	c	easy-going
4	James is friendly and relaxed, and good company.	d	vain
5	Christina doesnt care what other people think about her.	e	thick-skinned
6	Anna is really rude - she never says 236 'please'.	f	shrewd

The six mentioned classes were randomly assigned to three groups for the study's experimental design: two classes served as the non-exposed channel factor (NCF) group, two classes were exposed to the channel factor from the outset (OCF), and the remaining classes received the channel factor intervention midway through the semester following the mid-test (MCF). The adopted channel factor in this study involved a simple process of reviewing the participants' weekly schedules, identifying two free and uninterrupted hours within it, explicitly designating this timeframe as optimal for learning, and encouraging them to mark this dedicated learning period on their calendars. Subsequently, the participants were classified into six types based on their gender and the existence and timing of the channel factor: male NCF, female NCF, male OCF, female OCF, male MCF, and female MCF. The data analysis of the study included three ANOVAs comparing the performance of the six types of learners on the pretest, mid-test, and post-test using IBM SPSS Statistics 27.

4. Results

4.1 The pretest

Initially, a one-way ANOVA was conducted to explore any likely differences among the six constructed types of participants. Simply stated, the primary objective of this particular test was to find out whether there existed any differences among participants at the outset and make the required modifications. The descriptive statistics provided in Table 2 indicate that the mean scores of all six participant types were closely clustered together in the pretest phase.

Table 2. Descriptive statistics for the pretest

Type	N	Mean	Std. deviation	Std. error	Minimum	Maximum
Male NCF	30	20.3333	2.77095	0.50590	16.00	25.00
Female NCF	30	21.2000	3.32597	0.60724	15.00	26.00
Male MCF	30	21.6667	2.91646	0.53247	17.00	26.00
Female MCF	30	20.0000	2.65226	0.48423	16.00	24.00
Male OCF	30	21.4000	3.29681	0.60191	16.00	27.00
Female OCF	30	21.2000	2.95250	0.53905	16.00	26.00
Total	180	20.9667	3.01375	0.22463	15.00	27.00

Table 3. ANOVA for the pretest

	Sum of squares	df	Mean square	F	Sig.
Between groups	63.667	5	12.733	1.418	0.220
Within groups	1,562.133	174	8.978	-	-
Total	1,625.800	179	-	-	-

The results of ANOVA and Post Hoc Test, presented in Table 3 and Table 4, indicated that there existed no significant difference between the six types regarding their performance on the pretest ($F(5,174) = 1.418, p = 0.220$). Moreover, the calculated effect size ($\eta^2 = 0.0391$) reveals a negligible degree of shared variation, further supporting the

absence of notable distinctions. In other words, all participants exhibited similar levels of performance at the outset of the study, suggesting the same proficiency level across types.

Table 4. Post hoc test for the pretest

Type	N	Subset for alpha = 0.05
		1
Female MCF	30	20.0000
Male NCF	30	20.3333
Female NCF	30	21.2000
Female OCF	30	21.2000
Male OCF	30	21.4000
Male MCF	30	21.6667
Sig.	-	0.265

4.2 The mid-test

The second ANOVA aimed to explore any likely differences among the six types of participants at the midpoint of the study, during which only two classes (including male OCF and female OCF types) had been exposed to the channel factor. The descriptive statistics in Table 5 show that males who were exposed to channel factors at the beginning of the semester outperformed all the other groups (M = 58.13) followed by females in a comparable situation (M = 50.86), while the other four groups achieved closely aligned average scores.

Table 5. Descriptive statistics for mid-test

	N	Mean	Std. deviation	Std. error	Minimum	Maximum
Male NCF	30	35.0667	2.24274	0.40947	31.00	38.00
Female NCF	30	36.7333	1.94641	0.35536	34.00	40.00
Male MCF	30	35.7333	2.08332	0.38036	33.00	39.00
Female MCF	30	35.6667	1.68836	0.30825	32.00	38.00
Male OCF	30	58.1333	2.96803	0.54189	53.00	65.00
Female OCF	30	50.8667	3.71143	0.67761	45.00	60.00
Total	180	42.0333	9.43718	0.70341	31.00	65.00

Once again, ANOVA was implemented to explore the significance and meaningfulness of the observed differences, with the results detailed in Table 6. As illustrated, the observed difference among different types of participants was statistically significant ($F(5,174) = 460.889, p = 0.000$). The calculated effect size ($\eta^2 = 0.929$) also indicates the existence of a very strong impact. Furthermore, the results of the Post Hoc Test, presented in Table 7, reveal the points

of difference: the Male OCF type outperformed all the other groups, while the Female OCF outperformed the other four groups by a significant margin. The remaining four types, all of which were not exposed to any channel factors by the mid-test, did not differ in their performances. Simply put, the implemented channel factor had a significant impact on participant performance in the study, with a more pronounced influence observed among males compared to females.

Table 6. ANOVA for the mid-test

	Sum of squares	df	Mean square	F	Sig.
Between groups	14,822.600	5	2,964.520	460.889	0.000
Within groups	1,119.200	174	6.432	-	-
Total	15,941.800	179	-	-	-

Table 7. Post hoc test for the mid-test

Type	N	Subset for alpha = 0.05		
		1	2	3
Male NCF	30	35.0667	-	-
Female MCF	30	35.6667	-	-
Male MCF	30	35.7333	-	-
Female NCF	30	36.7333	-	-
Female OCF	30	-	50.8667	-
Male OCF	30	-	-	58.1333
Sig.	-	0.117	1.000	1.000

Table 8. Descriptive statistics for post-test

	N	Mean	Std. deviation	Std. error	Minimum	Maximum
Male NCF	30	60.0000	2.82843	0.51640	56.00	64.00
Female NCF	30	57.2667	2.21178	0.40381	54.00	62.00
Male MCF	30	81.6667	5.50444	1.00497	67.00	90.00
Female MCF	30	73.3333	5.22153	0.95332	59.00	80.00
Male OCF	30	71.0000	5.97697	1.09124	63.00	83.00
Female OCF	30	79.8667	2.43159	0.44395	75.00	85.00
Total	180	70.5222	10.14777	0.75637	54.00	90.00

4.3 The post-test

Finally, the last part of the data analysis targeted the performance of the participants in the post-test, which took place after four groups had been exposed to the channel factor of the study. The descriptive statistics in Table 8 indicate that Male MCF (M = 81.66) outperformed the other types, followed by Female OCF (M = 79.86), Female MCF (M = 73.33), Male OCF (M = 71), Male NCF (M = 60), and Female NCF (M = 57.26).

The result of ANOVA presented in Table 9 reveals that the observed difference between the six groups was statistically significant ($F(5,174) = 162.53, p = 0.000$). Once again, the calculated effect size for the test ($\eta^2 = 0.823$) points to a very strong effect of the channel factor on performance in the post-test. Moreover, the results of the Post Hoc Test in Table 10 lead to several points. Firstly, the participants who were not exposed to any channel factors had the worst performance regardless of their gender. Secondly, being exposed to the channel factor of this study resulted in better performance regardless of the gender of the participants. Finally, although the adopted channel factor of the study impacted the vocabulary learning of all participants, gender was a differentiating factor. In the post-test, Male MCF and Female OCF obtained the highest scores and outperformed Female MCF and Male OCF. It seems that exposing males to the channel factor boosted their vocabulary learning in the short term more than females (Male OCF outperformed Female OCF in the mid-test, and Male MCF outperformed Female MCF in the post-test). However, the impact of the channel factor was more durable among females as Female OCF outperformed Male OCF in the post-test while the exact opposite was observed in the mid-test.

Table 9. ANOVA for the post-test

	Sum of squares	df	Mean square	F	Sig.
Between groups	15,182.244	5	3,036.449	162.533	0.000
Within groups	3,250.667	174	18.682	-	-
Total	18,432.911	179	-	-	-

Table 10. Post hoc test for the post-test

Type	N	Subset for alpha = 0.05		
		1	2	3
Female NCF	30	57.2667	-	-
Male NCF	30	60.0000	-	-
Male OCF	30	-	71.0000	-
Female MCF	30	-	73.3333	-
Female OCF	30	-	-	79.8667
Male MCF	30	-	-	81.6667
Sig.	-	0.145	0.297	0.591

5. Discussion and conclusion

The primary objective of this study was to investigate the impact of a simple channel factor on the performance of

EFL learners, who were at the same competency level before the study, across genders and the timing of channel factor intervention. The first evaluation conducted at the midpoint of the study revealed that the channel factor positively impacted participants' performances regardless of gender. However, male participants outperformed their female counterparts in this test. The final evaluation further supported the positive impact of the channel factor on the outcome. Furthermore, the findings indicated that, although the implemented channel factor benefited both males and females, gender was a differentiating factor regarding the outcomes. The channel factor intervention exhibited a more immediate and robust impact on vocabulary learning of Iranian male upper-intermediate EFL learners in the short term while demonstrating greater sustainability and advantages for females over an extended period. The deciding impact of gender on numerous human-related concepts is a well-subscribed finding within humanities and social sciences (e.g., Coon et al., 2020; Hewstone et al., 2020; Moezzi-pour & Fathabadi, 2024). The existing body of knowledge suggests that gender influences motivated behaviors (Fathabadi, 2023), self-construal (e.g., Tanaka, 2023), happiness (e.g., Stavrova et al., 2012), attributional style (e.g., Hanrahan & Cerin, 2009), conformity (e.g., Aronson & Aronson, 2011), etc. In line with the reports of the mentioned studies, the findings of this study suggest that gender also impacts the effectiveness of channel factors in vocabulary learning.

In summary, the findings of the current study suggest that incorporating a seemingly simple and insignificant channel factor can significantly enhance vocabulary learning among English learners, as assessed by standardized multiple-choice tests. Similar to the seminal study conducted by Leventhal et al. (1965), the channel factor in this study involved transforming a vague intention into a manageable plan. From the observations made, it appears that at times, all learners require is a minor situational change to direct them and subsequently keep them on the right path. This finding aligns with previous studies that have reported positive effects of certain straightforward modifications, which were not explicitly termed as channel factors nor evidently qualified as such, on the vocabulary learning of EFL learners (e.g., Lai & Chen, 2023; Nakata et al., 2021; Terai et al., 2021; Todorova, 2023; Uchihara, 2023; Yanagisawa et al., 2020).

The significant implication drawn from the findings of this study emphasizes the crucial importance of placing greater emphasis on the concept of channel factors within language teaching and learning practices. Introducing English learners to channel factors is evidently not a daunting task but rather a feasible endeavor that can be easily incorporated by language instructors within a single session. In essence, employing a simple channel factor may prove to be a more practical option compared to other effective factors that are time-intensive and often more costly. Furthermore, even if they fail to produce the desired outcomes (in contrast to the findings of this study), their implementation remains valuable as they require minimal resources, time, and effort on the part of language instructors.

Despite the findings of this study, it is imperative to approach them with caution and avoid drawing unwarranted generalizations. While the current study highlighted the positive influence of the adopted channel factor on the vocabulary learning of Iranian upper-intermediate EFL learners, the effectiveness of similar channel factors may vary across different contexts, proficiency levels, and various aspects of language learning such as grammatical structures, reading comprehension, and writing performance. Additionally, factors including learner background, teaching methods, assessment measures, and learning environment could all influence the outcomes of such interventions.

Hence, further investigations are necessary to explore how this psychological concept may impact language learning outcomes across diverse contexts, proficiency levels, and aspects of the target language. By delving into and understanding these dynamics, valuable insights can be gained for instructors, educators, curriculum developers, and policymakers aiming to enhance language learning outcomes.

Conflict of interest

There exists no conflict of interest.

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