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Vodcast: A Breakthrough in Developing Incidental Vocabulary Learning?

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Abstract

Incidental vocabulary learning is often seen as superior to direct instruction on many occasions. Meanwhile, upon the emergence of the World Wide Web, second language (SL) learners have been introduced to 'podcasts' (recorded audio and video online broadcasts) which could be authentic sources of vocabulary learning. The relatively recent phenomenon of video podcast (vodcast) might be considered as a reliable complementary source of input to the written text or the audio track which are predominantly used to represent the platforms of SL instruction. To examine this assertion, three groups of Iranian EFL learners (n=63) were independently exposed to different modes of input (the reading text, audio track, and vodcast) during a series of classroom sessions under highly controlled circumstances. Immediate and delayed passive

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recall tests of vocabulary were administered to investigate their incidental gains. A multivariate analysis of variance revealed that both dependent variables (immediate and delayed recall) were significantly affected by the input modes. The post-hoc tests indicated no significant difference between the written and the audio groups while the vodcast group significantly outperformed the other two. The rich contextual clues made available by this audiovisual source seem to account for its superiority.

Keywords: Podcast; Vodcast; Input modality; Incidental vocabulary learning

Introduction

The primacy and necessity of developing vocabulary knowledge as the building block of second language acquisition (SLA) is increasingly coming to light by the vast array of research within the field. Exemplifying the Dutch language, Hulstijn, Hollander, and Greidanus (1996) suggested that L2 learners, upon entering the university, have an average L2 receptive vocabulary knowledge of 11,000 words. They proposed that vocabulary in such staggering quantities could not be learned solely through committing word forms and their meanings to memory, i.e. *intentional* learning. Admittedly, many of them must have been 'picked up' during listening and reading activities while the motive was to comprehend the meaning of the language heard or read rather than to learn new words. This picking up, technically known as 'incidental learning', has had widespread applications in vocabulary instruction.

Incidental learning of vocabulary, among other factors, arguably requires adequate and appropriate linguistic input. The two input modes of *written* and *oral* have their fair share of contribution to this cause. Strangely enough, while an overwhelming amount of attention is oriented to the written input and the relationship between reading and vocabulary (e.g., Huckin, Haynes, & Coady, 1993; Nation, 2013; Paribakht & Wesche, 1996; Pellicer-Sanchez & Schmitt, 2010; Wesche & Paribakht, 1999), oral input including listening activities and their impact on incidental vocabulary learning is much less addressed. Another manifestation of oral input which might have far-reaching pedagogical benefits for L2 learners is the audiovisual mode which is rarely and sometimes inappropriately used in many second language (SL) learning circles, and which is highly contingent on the teacher's expertise (Stempleski, 2002). Adequate

access to natural forms of language input is tremendously crucial to EFL learners due to their imaginable constraints compared to the ESL environment where learners have plentiful opportunities to benefit from communicative interactions with native speakers. Therefore, in addition to reading and listening platforms which are the prevailing modes of L2 input in the EFL classroom, a third audiovisual option may be worthy of further investment.

In recent years we have witnessed the emergence of certain audio and visual recordings known as ‘podcasts’, which can be created and downloaded from certain Internet websites. In fact, podcast as a potential pedagogical aid has remained relatively underused worldwide. Probably one reason, among others, is that ELT practitioners may not be able to find appropriate supplementary materials tailored to their learners' levels and needs. Hence, as far as the potential of podcasts is concerned, many SL instructors may not be fully informed. To put it shortly, in this study, the properties and potential advantages of audiovisual input vis-à-vis the written and aural input in tapping L2 learners' passive vocabulary recall were investigated. To this end, video podcasts (hereafter vodcasts) were used to manifest the audiovisual medium for eliciting the learners' incidental gains.

Review of the Related Literature

Incidental and Intentional Learning

There are two predominant views on what learning a second language means. To some, it means months and years of “intentional” study, involving the deliberate committing of piles of words (their meaning, sound, and spelling) and grammar rules to memory. The alternative standpoint holds that much of the toil of intentional learning can be facilitated by the processes of “incidental” learning, involving the picking up of words and structures by getting engaged in a variety of communicative activities including reading and listening. During such exposure, the learners’ attention is focused on the meaning rather than on the form of language (Hulstijn, 2003). According to Hulstijn and Laufer (2001), an incidental learning situation is one in which individuals process new

information without the intention to commit that to memory. It also refers to the learning of vocabulary as a by-product of any activity which is not explicitly geared to lexical learning. Because the learners are unaware of the forthcoming vocabulary test, any learning that might occur during the task is considered to be incidental. Incidental learning of vocabulary has certain advantages over direct instruction, including the following noted in Huckin and Coady (1999, p.182):

- (1) It is contextualized, giving the learner a richer sense of a word use and meaning than can be provided in traditional paired-associate exercises.
- (2) It is pedagogically efficient in that it enables two activities-vocabulary acquisition and reading-to occur at the same time.
- (3) It is more individualized and learner-based because the vocabulary being acquired is dependent on the learner's own selection of the reading materials.

Ellis (2008) observed that even if intentional learning has a role to play in adding 'breadth' (i.e. more words) to a learner's vocabulary, it would seem unlikely that it does much for 'depth' (for example in learning how words collocate), which requires multiple encounters with word in various linguistic contexts. Hulstijn and Laufer (2001) highlighted that incidental learning does not mean unattended learning. This means that the two types of learning cannot be distinguished solely in terms of the 'attention' factor. Schmidt (1994) convincingly argued that incidental learning necessarily involves a degree of consciousness when learners 'notice' new items and rules in the input. He outlined that at least some degree of conscious attention is necessary for incidental learning. However, one should know that the learners' attention is focused primarily on communicative meaning, not on form. Therefore, the actual distinction rests on a secondary difference between 'focal' and 'peripheral' attention. Whereas intentional learning requires focal attention to be deliberately placed on the linguistic code (i.e. on form or form-meaning connections), incidental learning requires focal attention to be placed on meaning (i.e. message content) but allows peripheral attention to be drawn to form. In other words, incidental learning is not unconscious or without attention

and can involve both implicit and explicit cognitive learning processes (Hulstijn, 2003; Rieder, 2003; Schwarz, 2013).

Before incidental learning can occur, the learner has to possess a certain amount of language knowledge. Scholars have had different views on how much language a learner should know. For example, Huckin and Coady (1999) argued that 3,000 word families need to be known in order to provide a safe environment for guessing and inferring word meanings. Ellis (2008) maintained that for university-level texts, knowledge of 5,000-10,000 word families may be required. Nation (2001, p.184) proposed that "a sight-recognition of the 2,000 most-frequent word families of English usually enables learners to recognize and use approximately 84% of the words in a wide range of written texts" and consequently permits incidental learning. In sum, these figures remain tentative due to the difficulty of gathering empirical evidence to endorse them.

Empirical Studies on Incidental L2 Vocabulary Learning

In experiments involving incidental vocabulary learning, learners are typically required to perform a task that concerns the processing of some information without being told in advance that they will be tested afterwards on their recall of that information. In contrast, in an intentional learning situation, participants are notified in advance that their recall will be subject to test.

An overwhelming majority of research on incidental vocabulary acquisition has been conducted in the area of reading and this has turned into a norm in SLA research (Dupuy & Krashen, 1993; Hulstijn, 1992, 2003; Paribakht & Wesche, 1997; Peters, 2006; Peters, Hulstijn, Sercu, & Lutjeharms, 2009; Pigada & Schmitt, 2006; Pitts, White, & Krashen, 1989; Read, 2000; Zeeland & Schmitt, 2013). In fact, the reason why written modes of input are prioritized is perfectly understandable. In addition to the ease of measurement associated with the reading text, listening tests and tasks are by far more cumbersome to coordinate and consequently less practical if one is teaching in a third-world country where high-quality electronic resources are often at a premium. It

might hence be the time to reconsider the heavy reliance on the reading passage as a platform for investigating vocabulary development.

Incidental Vocabulary Acquisition from Listening

Although reading is a primary resource for vocabulary growth, it is not always the best. A far less number of studies have measured the incidental acquisition of the lexicon through the medium of listening. Nevertheless, research on this area is lacking in comparison to that of reading. Ellis (1999, p.58), for instance, argues that "most vocabulary is learnt incidentally, much of it from oral input". Yet, given the popularity of the notion of incidental learning among language teachers and experts, it is astonishing that research on incidental vocabulary acquisition on the basis of oral input is relatively scarce. Over the last three decades, a handful of studies that have investigated different aspects of incidental vocabulary learning based on oral input differ considerably in their aims and methods (Schwarz, 2013). Incidental vocabulary uptake has come under scrutiny from diverse sources including stories (Elley 1989; Brown, Waring, & Donkaewbua, 2008), teacher talk (Donzelli 2007; Horst 2010), academic lectures (Vidal 2011), television programs (d'Ydewalle & Van de Poel 1999; Kuppens 2010; Milton 2008), web-delivered lectures (Smidt & Hegelheimer 2004), and songs (Medina, 1990; Milton, 2008). Overall, research suggests that vocabulary acquisition through listening does not appear to be as high-yielding as reading at least where immediate learning is concerned. However, when it comes to retention, listening obviously produces stronger learning outcomes. In terms of laying the grounds for developing form-meaning link, listening is also considered as a beneficial medium.

One difference between the two modalities happens to be the frequency dimension whereby initial learning of form and grammar seems to be greater in listening, while gains from reading pick up speed after more than 10 exposures. Therefore, repetition effect is perceived to be smaller in listening than reading.

Zeeland and Schmitt (2013) explored three vocabulary knowledge dimensions of L2 learners through listening. The dimensions were form recognition, grammar recognition, and meaning recall. They observed that knowledge of a word (i.e. form and grammar recognition) is mastered much earlier than the form-meaning link. It was also found that unlike the form,

grammar and meaning dimensions were susceptible to attrition. They suggested that for listening to be a valuable source of vocabulary learning, obviously more than 15 cases of exposure to the word are required to foreground the aforementioned dimensions.

In another study, Schwarz (2013) investigated incidental vocabulary learning in the EFL context via listening to and engaging with out-of-school English pop songs. The results of the survey showed that all participating students spent a substantial amount of their free time listening to English pop music. The results of the quasi-experiment investigation implied that learners incidentally acquired new words while engaging with pop songs. According to Schwarz (2013), incidental vocabulary acquisition in out-of-school contexts can indeed occur, and music and songs can be the effective tools for supporting vocabulary learning. In fact, not only does music facilitate comprehension, it also promotes long-term retention in the memory.

Input Modality

It is now widely acknowledged that attention plays a prominent role in the intake of literally every aspect of SLA. Schmidt (1994, 2001) postulated that learners must consciously notice and be aware of input in order for learning to take place. While there is little dispute over the role of attention in SLA, not much is known about what mode of input would induce the learner's attentional resources more deeply in terms of any one aspect of SLA. In a seminal study, VanPatten (1990) brought to light the difficulty of simultaneously paying attention to meaning and form in 'aural' input for L2 learners of Spanish. He proposed that form and meaning may compete for attentional resources during online input processing and since the communicative goal of learners is to understand the propositional content of messages rather than to try to understand how that message is encoded, they will tend to process input for meaning before they do so for form.

Wong (2001) suggested that the tension between attention to meaning and attention to form found by Van Patten (1990) in the aural mode may also exist

in the written mode. He further maintained that the issue of modality and attention as a variable has not been adequately examined in SLA studies. According to Wong (2001), this issue deserves extensive investigation given that there is evidence from psychological and L1 research, as well as from SLA studies, to suggest that attentional constraints during input processing may not be the same for aural and written modes. Sticht and James (1984) stressed the role of age as a key factor in determining which modality may be more beneficial for receiving input. They found that children who have not fully developed literacy skills tend to perform better on listening rather than reading tasks. However, adults-tend to perform better on written rather than aural tasks. Rost (1990) observed that readers have greater control over reading tasks because they have the option of highlighting or ignoring certain features of the input and-rereading the text if necessary. In the aural mode, this is not possible because listeners are required to concurrently perceive and decode input.

In the domain of cognitive psychology, the empirical evidence suggests that the modality of input presentation has an effect on general human information processing (Penney, 1989; Rollins & Hendricks, 1980). Penney (1989) found that the modality of presentation can influence how subjects organize information. He observed that his subjects preferred to recall information on the basis of the modality of presentation before taking any other criterion into account. Murphy (1997) noted that research presenting tasks in only one modality may not be obtaining a complete picture of what processes or knowledge learners have available for performing grammaticality judgment tasks. He recommended the research designs that employ tasks presented in different modalities in order to boost the validity of results. In light of what has been discussed thus far, introducing a third type of modality as an option to instruct or trigger incidental word learning might be in order.

Audiovisual Mode of Input

As far as the provision of comprehensible input is concerned, podcast episodes as a mode of audio and audiovisual input can speak volumes in the context of foreign language classroom if used properly. 'A podcast is an audio or video file that is broadcast via the Internet, with sound or sound and video files that are "pushed" to subscribers, often at regular intervals' (Levy, 2012, p. 280). Nowadays many 'broadcast media' websites, among others, post their recorded

newscasts for online users. Overall, podcasts encompass a whole range of topics from news stories to lectures and talk shows. Interestingly, these episodes could be used and shared for pedagogical purposes. The tendency to do so is gradually picking up steam as their potential benefits for L2 learners are only beginning to unfold.

Although the uses of audio podcasts in L2 pedagogy have been subject to some research studies (Cross, 2014; Ducate & Lomicka, 2009; Guikema, 2009; Hegelheimer & O'Bryan, 2009; Lomicka & Lord, 2011; Rosell-Aguilar, 2007, 2013; Young, 2007), the attention given to vodcasts has been few and far between. Brown and Green (2006) provided a brief introduction of how to use vodcasting in order to enhance instruction. They assumed that vodcasts may give the students an opportunity to receive supplemental multimodal presentation, which is generally beneficial, particularly in the apprehension of complex concepts. They further discussed the basics of vodcast design for classroom use. In many other studies, vodcast has received only a quick mention without being profoundly investigated (e.g., Robinson & Ritzko, 2009; McCombs & Liu, 2007). In this study, the vodcast was empirically compared to the audio podcast and the reading passage under controlled and analogous conditions so that the superior mode of input in terms of inculcating incidental vocabulary could be unveiled. Therefore, the following research questions were addressed in this study:

1. Does exposure to audiovisual input (vodcasts) affect learners' *immediate* incidental vocabulary gains differently from the written and aural modes of input?
2. Does exposure to audiovisual input (vodcasts) affect learners' *delayed* incidental recall of vocabulary differently from the written and aural modes of input?

Method

Rationale

The aim of this study was to find out how the less common ‘audiovisual’ mode of input compared to alternative modes of input, namely ‘aural’ (listening comprehension) and the widespread ‘textual’ or written (reading comprehension) contributes to incidental vocabulary recall. At first sight, the comparison of these three modes of language input might sound pointless since each mode could be argued as being crucial or complementary to others in their own rights. Secondly, establishing equitable and comparable circumstances under which such an experiment can be conducted may also sound far-fetched or somewhat elusive.

However, as will be explained in the lines to come, comparing the three modes has been done for a definite rather than an indiscriminate purpose, which is augmenting the EFL learners’ opportunities for vocabulary development and is not arguably meant to deny or underestimate the potential benefits of any one source of input. Moreover, if one medium manages to yield better results, then, a strong case can be made in favor of that language mode that will take precedence over the other options as being more conducive to incidental vocabulary inculcation. This could have immense pedagogical implications for L2 teachers and learners alike.

Participants

Sixty-three male and female Iranian undergraduate students aged roughly between 19 and 22—and majoring in English language at Allameh Tabataba’i University were qualified to participate in this study following proficiency and vocabulary placement tests. At this university, students above the intermediate level of proficiency are essentially the majority. Yet, a paper-based TOEFL test was administered for more accurate placement, and in order to encompass an adequate subject pool, all those scoring within one standard deviation above and below the mean in three intact classes were initially nominated for the study. Further lexical knowledge adequacy was measured via a Vocabulary Levels Test (see Nation, 2001). The 5000-word level was administered whereby in a 30-item test, all those scoring above 24 gained the qualification to officially become a participant of this experiment (one point was allocated to each item). This way, adequate homogeneous learners in three groups of

audiovisual (group A, n=19), written (group B, n=22), and aural (group C, n=22) who were lexically proficient enough to tackle the demanding research task were selected.

Instruments

The three groups were exposed to various modes of input during a number of classroom sessions. Each class was exposed to four independent sessions making 12 altogether. To identify the target words, certain vocabulary items that the researchers presumed to be unfamiliar to learners were extracted from the respective vodcasts, audio podcasts, and the reading texts. Then, the items were administered through a pilot test to 25 students of the same language proficiency who did not belong to the experiment. They were requested to put a checkmark beside the words whose meanings were known to them and provide a translation or definition for them. Items with no checkmark came out to be the prime candidates for the experiment. These target words were adopted from the content of the podcasts and the texts were brought to our experimental groups later. Eventually, the three groups qualified for the tests attended distinct treatment sessions over a span of about one month. As this study intended to measure the learners' passive recall of words, four five-item tests were prepared for each condition (an aggregate of 20 items for each group). As noted in Laufer (2005), in a passive recall test, the test-takers must supply the meaning for a given form (see appendix 1 for a sample test in each condition). In fact, "if the learning was through reading or listening, then passive measures are more suitable" (Nation & Chung, 2009, p. 556).

Procedure

A concerted effort was made on the part of the researchers throughout the experiment to bring about roughly the same conditions where this comparison across the modes would be done in a viable environment. To this end, all homogeneous learners in the three groups were exposed to political news texts. Secondly, all the texts used during the experiment had been compiled or produced by native speakers of American English for non-didactic purposes. Ultimately, all texts and extracts were characterized by encompassing an

adequate number of difficult and low-frequency lexical items unfamiliar to learners. For coming up with equivalent texts in terms of difficulty level, a larger sample of materials including 24 audio, video, and reading texts were initially given to five Allameh Tabataba'i instructors. They were requested to choose 12 texts (out of the 24) which sounded more convergent in terms of readability. The texts which were chosen by at least two thirds of the judges were included in the main study. Use of expert judgment is a fairly recent development in the second language testing field (e.g., Alderson & Lukmani, 1989). Therefore, providing equal treatment in terms of text and task complexity was a high priority.

Through borrowing class time from a number of instructors, the teacher (also one of the authors of this study) managed to implement the research agenda. The audiovisual, audio, and written input groups were provided with the following instructional procedures for four consecutive weeks:

Group A (Vodcast)

Each session, the teacher started the class with a short warm-up by introducing the topics and the news stories in the vodcast and asking whether the learners knew anything about the characters or the political developments in question. He then played a vodcast adopted from an American news channel (*CBS Evening News* with Katie Couric) with the aid of a classroom video projector and a pair of speakers both hooked up to his laptop computer (see appendix 2 for a sample transcript). The vodcasts allocated for instruction were characterized by encompassing L2 lexical forms that were low in salience and difficult to master as recommended by Pica (2007). In fact, the episodes that contained a considerable number of challenging words within a maximum duration of 10 minutes had been chosen and carefully viewed by the instructor before being screened in the classroom. Five lexical items were designated to be elicited each time and appeared on the posttest at the end of each treatment session (a total of 20 words in a span of 4 sessions). Students were asked to carefully watch the extract for the comprehension questions while no announcement was made on the upcoming vocabulary test. All measures were aimed at maintaining the incidental nature of the experiment. The vodcast was played twice before comprehension questions (prepared and printed on the

paper by the teacher) were given out to students. They were then requested to work out the questions before being randomly addressed to provide answers. Shortly after this red herring, learners were presented with the five-item vocabulary test. The learners were asked to provide the words with either an L1 or L2 equivalent, or a definition so as to clarify the meaning. The test was intended to elicit the learners' passive recall of some of the lexical items embedded in the extract that they had watched a little earlier. A week later, the second treatment session began in the same manner using a different vodcast episode. However, at the outset of the period, the same vocabulary test belonging to the previous session was distributed as a delayed recall (retention) quiz. The same procedure was followed for four weeks for group A. With respect to scoring, in all three groups, each correct answer received one point, a wrong or no answer received zero, and a misspelled or semi-accurate response received half a point.

Group B (Audio Podcast)

Learners in this group were exposed to VOA news 'audio' podcasts (political themes) presented through a stereo for four sessions. They underwent similar treatment sessions with the aforementioned vocabulary tests, and their immediate and delayed recall were evaluated. As in the previous group, the teacher initiated the activity with an introductory warm-up to the news stories. The teacher played the audio track two times, while the learners' focal attention was directed to the comprehension of the extract content and the questions that aimed to maintain the incidental nature of the experiment (see appendix 3 for a sample audio podcast text).

Group C (Reading)

In this group, learners were presented with reading texts adopted from articles in 'Foreign Affairs' magazine, an American magazine and website on international relations and U.S. foreign policy published since 1922 by the Council on Foreign Relations (see appendix 4 for a sample text). Similar to groups A and B, following a short introduction, a number of comprehension check questions that had been raised by the teacher based on the passage

content were handed out. Students were given enough time to peruse the text two times before discussing the teacher-made comprehension questions. Upon addressing some students with these content questions, the low-key passive recall test was administered. This group also underwent four weeks of incidental exposure to vocabulary items through written input accompanied by immediate and delayed recall tests.

Results

Primarily, the sum of the learners' scores on the four immediate vocabulary tests in each group were averaged (divided in four) to come up with a single representative score. This process was also separately done for the delayed vocabulary tests. Due to applying several independent (written, audio, and video input modes) and dependent variables (incidental vocabulary 'recall' and 'retention'), a multivariate analysis of variance (MANOVA) was conducted to find out which variables would significantly bring about more efficiency gains.

Table 1
Descriptive Statistics for Immediate and Delayed Word Recall

	Source	Mean	Std. Deviation	N
Immediate vocabulary recall	Video input	1.67	0.90	19
	Audio Input	1.08	0.78	22
	Written Input	0.99	0.67	22
	Total	1.23	0.82	63
Delayed vocabulary recall	Video Input	1.54	0.83	19
	Audio Input	0.92	0.58	22
	Written Input	0.93	0.51	22
	Total	1.11	0.70	63

Table 2
Levene's Test of Equality of Error Variances

Dependent variable	F	df1	df2	Sig.
Incidental vocabulary recall (immediate)	2.898	2	60	0.071
Incidental vocabulary retention (delayed)	1.854	2	60	0.165

Table 1 represents the descriptive statistics for incidental immediate and delayed vocabulary recall. In terms of immediate recall, the video (vodcast) group achieved the highest mean of all (1.67 out of 5), trailed by the audio group (M=1.08) and the written group (M=0.99). An almost similar pattern was observed for the delayed recall scores whereby the vodcast group stood at the top (M=1.54), followed by the written group (M=0.93) competing closely with the audio group (0.92). Levene's test of equality of variances (Table 2) which tests the null hypothesis that the error variance of the dependent variable is equal across the groups indicated that MANOVA assumptions have been met ($p > 0.05$) and the groups' mean scores can safely be compared.

Table 3
Multivariate Test

Effect	Value	F	Hypothesis Df	Error df	Sig.	Partial Eta Squared	
Source	Pillai's Trace	0.18	2.89	4	120	0.03	0.088
	Wilks' Lambda	0.83	2.97	4	118	0.02	0.091

The values presented in table 3 indicate whether a significant difference exists between the three sources of input. Wilks' Lambda might be considered as the most important index indicating that the input modes have affected at

least one of the dependent variables of incidental recall (immediate) or retention (delayed). The Partial Eta Squared here shows what percentage of our dependent variables is accounted for by the independent variables in general (9.1%) which, using Cohen's *d* (1988), represents a large effect size.

Table 4
Test of Between-Subjects Effects

	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Source	Incidental vocabulary recall	5.44	2	2.72	4.42	0.016	0.128
	Incidental vocabulary retention	4.99	2	2.50	5.98	0.004	0.166

Table 5
Multiple Comparisons

Dependent Variable	(I) Source	(J) Source	Mean Difference (I-J)	Std. Error	Sig.
Incidental vocabulary recall	Video Input	Audio Input	0.59	0.25	0.05
		Written Input	0.68	0.25	0.02
	Audio Input	Video Input	-0.59	0.25	0.05
		Written Input	0.092	0.24	0.92
	Written Input	Video Input	-0.68	0.25	0.02
		Audio Input	-0.092	0.24	0.92

Incidental vocabulary retention	Video Input	Audio Input	0.62	0.20	0.01
		Written Input	0.61	0.20	0.01
	Audio Input	Video Input	-0.62	0.20	0.01
		Written Input	-0.01	0.19	0.99
	Written Input	Video Input	-0.61	0.20	0.01
		Audio Input	0.01	0.19	0.99

*The mean difference is significant at the 0.05 level

The figures resulting from multivariate analysis of variance (Tables 4 and 5) demonstrated that at a 95% confidence interval, both incidental vocabulary recall (immediate) and retention (delayed) were significantly affected by the input modes, $F(2,60)=4.42$, $p < 0.05$, and $F(2,60)=5.98$, $p < 0.05$, respectively. It follows that the mean scores are shown to be significantly different in at least two sources. The partial eta squared shows that incidental vocabulary recall and retention account for 12.8% and 16.6% of the input sources, respectively.

Table 6
Subsets (based on Tukey) for Immediate Vocabulary Recall

Source	N	Subset	
		1	2
Written Input	22	0.93	
Audio Input	22	1.08	
Video Input	19		1.67
Sig.		.792	1.00

Results coming out of multiple comparisons for incidental vocabulary recall (Tukey tests) indicate that while there is no crucial difference between the written and the audio groups, the video (vodcast) group is seen to be significantly different from both written and audio modes (table 6). This implies that incidental vocabulary recall has been most efficiently affected by vodcasts.

Table 7
Subsets (based on Tukey) for Delayed Vocabulary Recall

Source	N	Subset	
		1	2
Audio Input	22	0.92	
Written Input	22	0.93	
Video Input	19		1.54
Sig.		.953	1.00

Similar subsets for incidental vocabulary retention (delayed recall) report much the same results in favor of the audiovisual mode of input. The audio and written modes were shown to have no significant difference, whereas the vodcast turns out to outnumber the other sources by a significant margin (Table 7). Figure 1 presents an overall glance at the mean scores obtained by the three conditions.

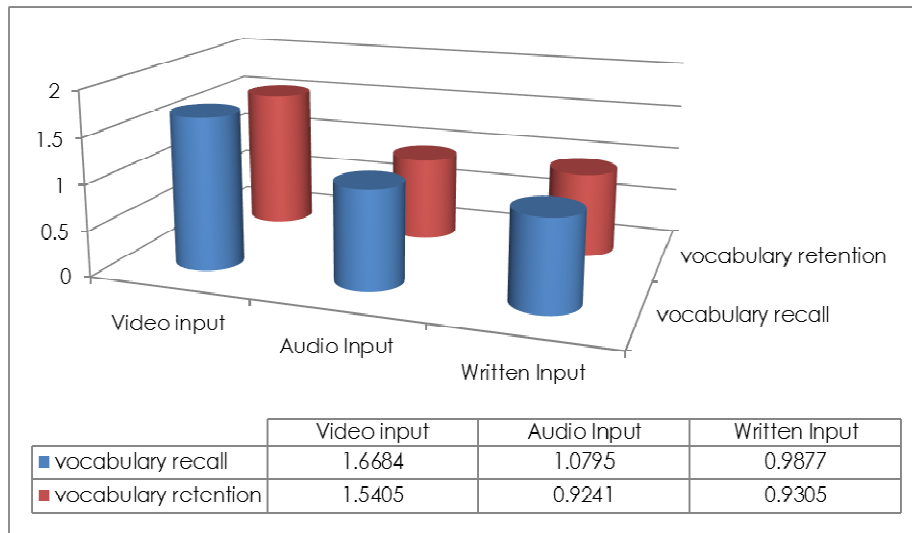


Figure 1
Incidental Vocabulary Recall (immediate) and Retention (delayed) across Three Modes of Input (Audiovisual, Audio, and Written Text)

Discussion

The findings for both immediate and delayed passive recall of the lexical items are consistently impressive. The audiovisual mode of exposure has brought about higher incidental gains than those of aural and written. In other words, input processing was most positively affected when the mode of exposure was audiovisual. This happens when desperate attempt was made on the part of the researchers to create approximately similar circumstances across the three conditions.

A question that might be raised is why the reading group failed to outperform the audiovisual, though the written input is the most widespread platform of L2 instruction which is heavily valued not least in vocabulary

teaching. After all, as Gass and Selinker (2008) pointed out, in the vast bulk of the world's orthographies, the written input by virtue of having spaces between words enables readers to easily isolate individual words. One proposed explanation for this rather surprising result could be that presenting a written passage to read all at once may have been too demanding on the attentional resources of some subjects. This justification has been also suggested in Izumi's (2002) experiment. However, the shortcomings associated with the reading text has been addressed by Hulstijn, et al. (1996) who summarized the reasons why readers often fail to spontaneously learn the meanings of previously unknown words encountered in texts. They maintained that sometimes learners simply fail to notice the presence of unfamiliar words or believe that they know a word when, in fact, they do not. Even if learners do notice the presence of unfamiliar words, they may decide to ignore them. Another possibility is that the contextual information may be so abstract that readers fail to connect the form of the unknown word to the meaning in the context. In other words, they may only pay attention to the meaning and overlook the unfamiliar word form. It is argued that on many occasions, the meanings of unknown words are barely inferable from the context and as a result, readers frequently make erroneous inferences, and hence pick up words inaccurately.

The listening group (audio podcast) performed poorly in comparison with the vodcasts. However, it yielded similar results with that of the reading group. This is reminiscent of Zeeland & Schmitt's (2013) study, where learners' low scores on form-meaning correspondence lent little credibility to this mode of input in terms of incidental learning gains compared to the written input. Yet, almost similar results were obtained by the listening and the reading groups. This is by and large contrary to the prevailing view in the literature where it has often been reported that the written mode establishes a more convenient context for learning than does the listening (e.g., Wong, 2001). It is argued by Danks (1980), for instance, that readers have complete control over the amount and rate at which they process visual input because written input is constantly available for reprocessing. Listeners, in contrast, are hardly equipped with this control because speech is continuous and auditory signals fade rapidly. Anderson (1980) justified the superiority of the written mode by suggesting that it is neatly segmented into units (that is, words, sentences, and paragraphs),

while in the aural mode, listeners must rely on prosodic and intonational cues; a task that would heavily tax processing resources.

The point here is that similar conditions for the lack of control and speech continuity may also apply to the audiovisual mode. Yet, it might be the case that the form-meaning correspondence is highly likely to be consolidated through the available contextual cues and the sense of authenticity relayed through the motion pictures. This finding affirms Stempleski's (2002) claim that while the key element in a written passage or an audio track is usually the words, a video (in this case vodcast) sequence contains not only words, but also visual elements (often sound effects and music) that provide essential evidence on behavior, character, and context, which are not usually visible in the script. As Harmer (2007) put it, audiovisual aid can provide learners with 'language in use' where a lot of paralinguistic behavior is up for grabs for learning. Learners can see for themselves how intonation matches facial expression and what gestures accompany certain phrases (e.g., shrugged shoulders when someone says *I don't know*). There is also a whole host of cross-cultural clues whereby rules of social behavior and communication are more tangible and easier to grasp than what is described in a book or heard on an audio track. Obviously, the contextual cues available in a well-chosen video clip can engage learners' attentional resources more profoundly than an equivalent reading text or audio track. Hence, it can be argued that, with respect to quality, the audiovisual context is likely to establish stronger mnemonic bonds than any other variety of input. Interestingly, the effects of the vodcast on the learners' incidental word gains lasted longer than the other two modes during the delayed recall as well. This is indicative of the positive impact of this medium on the learners' short-term and perhaps long-term memory.

Conclusion

This study was partly a follow-up to Wong's (2001) observation that modality is a variable that influences how learners process input. Since incidental vocabulary development is often examined primarily through reading texts and secondly through listening tracks in formal EFL contexts such as universities,

one might be interested to know whether an audiovisual medium in the form of vodcasts can come as a third option to aid this cause. The findings reported here corroborate this claim.

An enormous advantage of vodcasts for vocabulary instruction is the possibility of creating multiple attention-grabbing exposures to lexical items in a meaningful and perhaps motivating context where the learner can identify with the characters or events in the target language. This referential bond seems to be less strong in the audio or the written modes. Audiovisual mode, in Stempleski's (2002) terms, is an extremely dense medium which incorporates a wide variety of visual elements and a great range of audio experiences in addition to spoken language. This neglected and often misused instructional aid can potentially serve foreign language learners as well as ELT practitioners by motivating their interest, providing realistic listening practice, stimulating language use, and heightening their awareness of particular language points or other aspects of communication.

Even though obstacles abound worldwide for utilizing vodcasts as an instructional aid in the EFL classroom, the Iranian context is not an exception. Many Iranian universities are yet to be supplied with modern audiovisual resources. The irony here is that even a handful of universities which are more privileged in terms of technological equipment barely have access to appropriate vodcasts or other audiovisual materials. Thus, many Iranian EFL learners receive inadequate or misguided exposure to audiovisual technology in the classroom. The opportunity to introduce the advances in the World Wide Web including access to vodcasts into the foreign language classroom can and should usher in a dramatic turnaround among Iranian ELT practitioners. It is our contention that English 'listening and speaking' courses at universities and institutions alike should invest more broadly in vodcasts as an authentic and efficient mode of input for fulfilling pedagogical objectives.

We must bear in mind that quantifying incidental vocabulary uptake among learners is far from straightforward and does not readily lend itself to psychometric measurement. It is obvious that L2 learners require ample incremental exposure to a given word in order to make sense of it and consequently internalize it, almost similar to what one normally experiences in

L1. It would perhaps entail a longitudinal study to accurately measure the evolving incidental gains of the learners over time. Nevertheless, this process was measured within a shorter time span in this experiment which may not be an accurate estimation of incidental learning in the true sense of the term. As for the materials, using identical texts for the three modes of input would have been a better choice. Yet, due to the nature of vodcasts where several people (e.g., anchors, interviewees, reporters, etc.) appear on the screen, providing equivalent circumstances for the audio and written texts seemed to be far from practical.

While this study might have provided some insights into the efficacy of vodcasts, future research could focus on designing a variety of tasks that could help use vodcasts at the service of L2 pedagogy across different proficiency levels. As acknowledged by the experts in the field (e.g., Levy, 2012), currently in L2 learning, designing the structure and content of a podcast suite and integrating it effectively in the curriculum is under consideration. Perhaps along with the advancement of technology, podcasts and especially vodcasts could be a worthwhile candidate for complementing or in some cases superseding written textual materials which are currently at the heart of the teachers and researchers' options.

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Appendix A

I: A sample written (reading) test

Provide the following words (used in the text) with a synonym, a translation or a definition so that the meaning will be clarified.

1. **persuasion** (noun)
.....
2. **tribulations** (noun)
.....
3. **dilettante** (noun)
.....
4. **vanguard** (noun)
.....
5. **thug** (noun)
.....

II: A sample audio podcast (listening) test

Provide the following words (used in the audio track) with a synonym, a translation or a definition so that the meaning will be clarified.

1. **bulk** (noun)

-
2. **upscale** (adjective)
-
3. **entourage** (noun)
-
4. **sweeping** (adjective)
-
5. **oust** (verb)
-

III: A sample audiovisual (vodcast) test

Provide the following words (used in the vodcast) with a synonym, a translation or a definition so that the meaning will be clarified.

1. **apprehend** (verb)
-
2. **elusive** (adjective)
-
3. **onslaught** (noun)
-
4. **stalemate** (noun)
-
5. **truce** (noun)
-

Appendix B

A sample vodcast transcript

*In just six days, Barack Obama will be sworn-in as President of the United States. Today, Osama bin Laden marked the occasion with a new threat. But in an exclusive interview with **CBS News anchor Katie Couric**, the president-elect sent a message of his own for bin Laden and his terror network. What follows is a partial transcript of the interview.*

President-elect Barack Obama: We took our eye off the ball when we invaded Iraq. And now it's done. My job is to withdraw in a responsible way from Iraq and stabilize the situation there. But our real focus has to be on Afghanistan, the border regions between Afghanistan and Pakistan. And we have to put as much pressure on them as possible. I've already, you know, spoken to my national security team about how we're going to do that. And I'm confident that we can keep them on the run, and ensure that they cannot train terrorists to attack our homeland. That's my number one priority as President of the United States.

Couric: How important do you think it is, Mr. President-elect, to apprehend Osama bin Laden?

Mr. Obama: I think that we have to so weaken his infrastructure that, whether he is technically alive or not, he is so pinned down that he cannot function. My preference obviously would be to capture or kill him. But if we have so tightened the noose that he's in a cave somewhere and can't even communicate with his operatives, then we will meet our goal of protecting America.

For more please visit: <http://www.cbsnews.com/news/obama-capture-or-kill-bin-laden/>

.....

Appendix C

A sample audio podcast text (from VOA news)

Tensions Remain Outside Egypt's Presidential Palace

Edward Yeranian
December 06, 2012 4:18 AM

CAIRO—Under a heavy military presence, the bulk of demonstrators cleared out from an area near Egypt's presidential palace Thursday afternoon, reducing,

for the time being, protests against President Mohamed Morsi and a proposed constitution.

Members of the elite Republican and Presidential Guard units placed barbed wire across the main road near the palace to separate the few hundred supporters and opponents of the president still camped out in the area. A handful of tanks and armored personnel carriers took up positions outside the palace. ...

Please find the full text in: <http://www.voanews.com/content/egypt-army-deploys-tanks-at-presidential-palace/1559459.html>

.....

Appendix D

A sample reading text (from 'Foreign Affairs' magazine)

Morsi's Mistake

The Error Behind the Uproar in Egypt

By Steven A. Cook
December 2, 2012

Once again, Egyptians are out in the streets. Yet these demonstrations are quite different from those in January and February 2011, when people of every faith, class, and political persuasion joined together to bring down a dictator. Indeed, Egypt's triumph of national unity has turned into a bitter impasse over narrow interests. Demonstrators surround the Supreme Constitutional Court not to protect the sacred institution but to shut it down, judges declare an open-ended strike, and groups of angry protesters rally against one another, each challenging the other's right to a place in the national dialogue. In the abstract, heated debate is a good thing for countries undergoing political transitions. In Egypt, however, the result has been instability. ...

Please find the full text in:

<http://www.foreignaffairs.com/articles/138472/steven-a-cook/morsis-mistake>