Recognizing Stalactites and Stalagmites of ELT Vodcasting in Teacher Education Based on Activity Theory and Visual Thinking Strategies

Pantea Hashtroodi, Ph.D. Candidate, Department of English Language, Science and Research Branch, Islamic Azad University, Tehran, Iran
p_8roodi@yahoo.com
Massood Yazdanimoghaddam*, Assistant Professor, Department of English, Faculty of Humanities, Garmsar Branch, Islamic Azad University, Garmsar, Iran
mym1300@gmail.com
Mohammad Khatib, Professor, Department of English Language and Literature, Allameh Tabataba'i University, Tehran, Iran
mkhatib27@yahoo.com

Abstract
Teachers need to know new applications for developing online materials and then they should become aware of different ways to present them to online audience. This study tries to help ELT teachers to overcome challenges and difficulties of vodcasting by recognizing their social and biological motives (Activity Theory), and using Visual Thinking Strategies (VTS). It can alter teachers' negative attitudes towards online materials development via providing useful tools and techniques to become better producers of their knowledge to survive professionally. This QUAL-quan inquiry initiated with 10 University professors of Islamic Azad University-South Tehran Branch. All these participants answered 'Myers-Briggs Type Indicator (MBTI)' questionnaire, 'Personality Test and Job Satisfaction', 'Three-D Test', and 'Spatial Recognition Test'. The researcher conducted semi-structured interviews with those whose data were grounded and initiated from open coding, down to axial coding, and finalized with selective coding. Participants produced vodcasts as pre-test. Then, they received the treatments on an exclusively launched 'MArt' Telegram group in the form of the researcher-designed audios and videos and YouTube samples. As a post-test, each of the participants made another vodcast. Then, two experts who are ELT university lecturers evaluated the two sets of recorded data. Finally, all the interpretations and analyses were presented in different graphs and charts along with researcher's interpretation based on theoretical frameworks. The results show that whether ELT teachers are capable of producing vodcasts or not. Besides, VTS help teachers to become much more visually literate and produce more successful vodcasts. Both treatments of the present study and the derived codes can be used in teacher education, and they can turn into a task-based digital or paper-based coursebooks benefiting M.A. TEFL students.

Keywords: Vodcasting, Activity Theory, Visual Thinking Strategies, VTS

Introduction

Online materials development and its techniques are not easy to grasp and apply practically. They are challengeable, especially when it comes to ELT podcasting and vodcasting (video podcasting) that deal with online learner needs. Not all ELT teachers can prepare, produce, and present online materials. Besides, developing videos need knowledge, experience, visual and digital literacies. Recognizing ELT teachers' personality types, and social and biological motives and helping teachers to become more visually literate can pave the way for them in this regard. Therefore, there are many known and unknown difficulties in the process of vodcasting. The

researchers believe that all probable difficulties are rooted in teacher's personality type and the degree of visual literacy.

Hence, the reason behind choosing geological terminologies for ELT teacher education difficulties is that language teachers accumulate knowledge, intuition, experience and their effort to cope with new technologies to develop pod/vodcasts, so they are expected to present them with top-down or bottom-up processing techniques. The nature of stalactites and stalagmites with the emphasis on accumulation, mutability and the concept of time reminds us of these two types of processing techniques. The focus of this article is on the vicissitudes of ELT vodcasting based on Activity Theory and VTS. To make it more clear, stalagmite is a sort of rock formation that is produced from the amassed materials left behind on the floor from ceiling drippings, and likewise stalactite is a formation variety, which dangles from cave ceilings, hot springs or synthetic structures like bridges and mines. The important factors for their formation are 'time' and 'accumulation' of calcium carbonate.

The present literature shows that language teachers can take up different roles, such as animators, counselors, researchers, artists, materials developers, etc. With the advent of the Internet and technologies, e-learning and online synchronous or asynchronous materials have appeared in the field of ELT, and teachers as materials developers need to learn online materials development too. Since online materials development is a multidisciplinary concept consisting of ELT, e-learning, blended learning, art, marketing, etc., teachers have been facing a challenge in their professional lives that are symbolically referred to as stalactites and stalagmites by the researchers of this study. Educating teachers to develop ELT vodcasts are time and cost-effective, so there should be a way to recognize talented and educated teachers and invest on them.

Not all the ELT teachers can produce online materials either synchronous or asynchronous. The purpose of this study is to recognize those talented and educated teachers by means of four types of tests. The information that is derived from such tests can be inserted in an adapted version of the Activity Theories' triangle. The adapted triangle is unique for teachers, and it determines whether they are capable of producing pod/vodcasts largely or not. Besides, teachers should become visually literate to use interactive tasks in their casts, to be specific vodcasts. This study tries to undertake the role of teachers as online asynchronous materials developers who consider VTS, and Activity theory to produce ELT vodcasts in order to survive in their professional lives. Four types of tests to determine teachers' biological and social motives (Activity Theory) and using VTS can pave the way to produce and present better vodcasts.

The present study tries to tackle the problem of materials transformation of Iranian teachers as online asynchronous materials developers in vodcasting. Besides, it bridges recent studies to future ones and it has a prospective look. We live in the knowledge-based world, and it deals with recent and future concerns of language teachers.

Hence, as materials developers, teachers need to know modern ways of developing materials as well as traditional ones in order to compete with their colleagues and survive professionally. To do so, teachers should know about their biological and social motives; they need to use different strategies to be more visually/digitally literate; and they need to be more creative, and knowledgeable to survive in the field of vodcasting.

The findings of this study contribute to the benefit of teacher education considering online materials development (in the form of vodcasts) play important roles in teachers' professional lives. Therefore, teachers as online materials developers need to be more visually literate to overcome their fear of preparing, producing and presenting their knowledge in the form of vodcasts. Besides, if they recognize their motives and personality types, they can probably decide

to enter into the challenging field of online materials development (to be specific, vodcasting) or they should stick to their offline teaching (traditional classrooms).

Literature Review

Since learning is a highly complex aspect of human activity, many theories have been developed to try to generalize how it arises as McGregor (2007) claims. Technological digital devices bring about a new generation of users, called web users. Watson (1999) believes that if we can help our students live and catch up with the networks available to them, and give them as Gilster (1997) claims, some opportunities to learn and explore this interactive medium's potential, then "we can hope one day that a final media/communication merge will erase the distinction between what it means to entertain and what it means to inform" (Watson, 1999, p. 2).

Usun and Komur (2012) confidently say, "in spite of the relatively late entry of distance education in the learning scene, the teaching of languages at a distance is not new" (p. 1349). They further claim that ELT has its own brand names and is widely used as a teacher-centered term. Basal (2013) points out that in online settings, language teaching has more opportunities in terms of materials developments, and "these materials can be more effective with the use of advances in computer technology, raising the degree of interaction between content and the students" (p. 8).

According to Stambler (2013), in order to promote higher order thinking skills in learners, teachers can try to incorporate digital-age literacies and technology into lessons and activities. This will facilitate students' construction of knowledge and meaning. For negotiation of meaning students can imply technology, using media to build their own meaning. They can read different sources of information, and try to individualize the meaning. As Nunan (1998) believes "learners should have a *say* in what they should be learning and *how* they shouldn't learn it" (p. 20). One way to distribute valuable materials via the Internet is podcasts (audios) and vodcasts (videos). Teachers as materials developers can produce their own educational audios or videos, and share them with their online learners; in this case, they are podcasting and/or vodcasting. Podcasting is "the delivery of multimedia files via the Internet to a PC or mobile device" (Talbot, 2007, p. 78).

Manning and Johnson (2011) compare single audio files and podcasts. They believe that based on instructional goals teachers may use audio only once or may choose to present audio content on a more consistent basis. The former is when students simply download a file to their computers using a link the teacher has provided. The latter is when the teacher would want to create a system in which they could post their audio files on the Web, and create what is known as a Really Simple Syndication (RSS) feed. Therefore, students could subscribe to their RSS feed and they would be notified of new files as soon as the teacher creates them. This is called podcasting.

As Gkatzidou and Pearson (2007) point out "podcasting is a fairly new method of Web-based broadcasting that may be used for automatically transferring digital audio or video (vodcasting) to portable media players. Vodcasting uses the enclosures of Real Simple Syndication (RSS) feeds for distribution of video content that can be downloaded to mobile devices" (p. 327). In order to deal with pod/vodcasting, teachers can use different strategies. Among them, Visual Thinking Strategies (VTS) are prominent. Vue (2008, as cited in Kuzminsky, 2008), defines it as "a visual arts program for students or teachers that uses art to teach thinking, communication skills and visual literacy", besides, "growth is stimulated by three things: looking at art of increasing complexity, responding to developmentally-based questions, and participating in group discussions that carefully facilitated by teachers" (p. 3). Teachers can develop problem-solving tasks with the help of VTS.

In order to deliver course content, for years educators have used video in different genres from documentaries to movies. Video is used to encourage education because it can integrate visual effects, dialogues, demonstrations and most recently viewer interaction. There are different tools, applications and programs for computers and cellphones that enable us to view, create and edit movies. Some hosting services like YouTube are very popular in providing variety of visual podcasts. Nowadays creating video is easier than before, since users have more access to personal cameras, webcams, and cellphones. The difficult part after creating video is the editing part, for example to remove all the extra footage, background noises, slips of tongues, and adding desired music. Besides, it needs a lot of time and practice, because we are not perfect to record a video without any 'ums' and 'ahs'. Sometimes we need more than one shoot to reach to the desired quality. However, note that it can be as simple or as complex as a user wishes it to be. (Manning & Johnson, 2011)

One way to use video in education is for the teachers to learn video capturing. Manning and Johnson (2011) define it as "recording moving objects" (p. 119) and it can be in the form of the live audience or it can mean capturing video that shows what is happening on your screen. The last one is called screencasting, and for instance, the teacher can show how to complete specific tasks within a particular application. The researcher believes that video capturing can help teachers as online materials developers in different ways, such as creating screencasts, and podcasts along with their narration of slides. All these can facilitate teaching, and can motivate learners.

Manning and Johnson (2011) point out that "videos can also be created like podcasts: visitors to your site can subscribe to a feed that notifies them when new videos have been added. These are called vodcasts, short for video podcasts" (pp. 120-121). The researcher believes that vodcasts or video podcasts are new ways of delivering online materials to learners, and they should be used in e-learning environments. Therefore, teachers as online materials developers need to become familiar with different steps of creating, producing and presenting them to the learners.

Ellis (2008) points out that activity theory is "a development of Vygotsky's views about learning" (P. 592). Furthermore, he describes that the emphasis of this theory is on "the social nature of learning, how individuals' motives affect the nature of the activity they engage in, and the mediating role of artefacts in learning" (p. 952). Activity theory is defined by Endestrom (1987, as cited in Theodoraki & Plakitsi, 2013) as "a psychological and multidisciplinary theory with a naturalistic emphasis that offers a frame work for describing activity and provides a set of perspectives on practice that interlink individual and social level" (p. 160). Nunez (2009) asserts that "its units of analysis is the activity system" (p. 8). Engestrom, (2001, as cited in Nunez, 2009) claims that activity theories' perspective varies across disciplines, such as work management, institutional education. Kuutti (1996, as cited in Nunez, 2009) argues that this perspective can vary even in human computer interaction. Nunez (2009) concludes, "the activity system is the common lens that guides the analysis across multidisciplinary fields" (p. 8). So, it is a theoretical framework which uses activity as the basic unit for analyzing human practices as developmental processes with individual and social levels simultaneously interlinked. Participants and object do not have a direct relationship; instead they are mediated by many factors such as tools, community, rules, and division of labour. (Theodoraki & Plakitis, 2013)
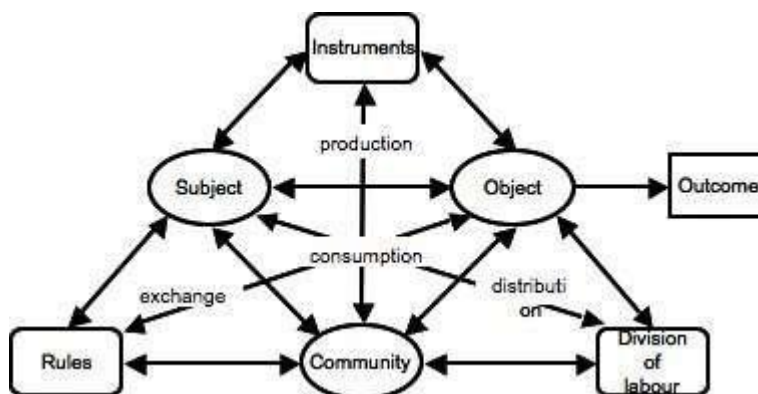
Figure 1. *Activity Theory triangle extracted from Nunez (2009, p. 8).*

According to McGregor (2007), socio-cultural perspective on learning "focuses on the social, cultural and historical influences that shape and nurture learners' understandings, knowledge, expertise *and* skills in varied situations" (p.59). She further has explained that in this perspective the emphasis is on how thinking and learning should arise through engagement in cultural practices.

In Activity Theory which was a development of Vygotskian theory, Leontiev (1981, as cited in Ellis, 2008) has proposed that people possess 'motives'. These motives determine how people respond to a particular task, and they are either biologically determined or socially-constructed. So, "people with different motives will perform the same learning task in different ways" (p.535). In order to understand a learner's motive, we have to delineate the 'activity system'. This system consists of some elements among them three are of importance for this study which are "the subject(s), the object of the activity, and meditational means (i.e. the symbolic or material artefacts). Hence, in Activity Theory, the mediating role of artefacts in learning is emphasized. Nunez (2009) has argued that:

…at the heart of A[ctivity] T[heory] is the concept that encapsulates the collective, object-oriented, and culturally mediated social relations of human activity, termed activity system by Engestrom. The concepts that underpin the activity system are traced back from Hegelian philosophy to Marxian Historical Materialism (Engestrom, 1999). (p. 8)

He has pinpointed that many writes work on Activity theory, yet three of them contributed more to its development, and the building blocks of this theory are founded by them. These scholars were Vygotsky, Leont'ev, and Engestrom.

If we assume that music, songs, authentic videos are materials artifacts, then we can rely to the elaboration of Gass and Selinker (2008) about mediation and sociocultural theory. They have claimed that:

Sociocultural theory rests on the assumption that human activity (including cognitive activity) is mediated by what are known as symbolic artifacts (higher-level cultural tools) such as language and literacy and by materials artifacts. These artifacts mediate the relationship between humans and the social and material world around us. (p. 283)

Furthermore, they have claimed that one form of mediation is regulation. Children learn to regulate their activities linguistically as they learn the language. They point out three stages of development to reach self-regulation: 1) object regulation, 2) other regulation, and 3) self-regulation. In SLA, in order to regulate a task one can use private speech. For instance,

McCafferty (1994, as cited in Gass & Selinker, 2008) has a study in which learners used regulatory language such as, 'I see a man…or What do I see?' while describing a picture sequence. What is interesting is that this phenomenon is absent in native speaker descriptions of the same language. Therefore, private speech is a way to regulate complex tasks. Researchers come to understand the processes used by learners by means of self-regulation. Gass and Selinker concluded that "human cognition results from the full context (historical, social, material, cultural) in which experiences take place" (p.285). Authentic videos and music provide this full context as mentioned before.

There are some theoretical studies underlying the present study. In case of technology and knowledge, Oliver, Roberts, Beetham, Ingraham, Dyke, and Levy (2007) claim that, "the impact of postmodernism has been to change the definition of being 'professional' from having knowledge to having competence" (p.23). Oliver, *et al* (2007) believe that this change leads to two things: a) "the standardisation of curricula and syllabi for the purpose of accrediting vocational practices" (p.23), and b) "the rise of a 'constructivism' that lays claim to the cultural reproductive function and challenges the researcher's epistemologies" (p.23). Another crucial point they put is the fact that when knowledge is represented in a digital form, it "can be almost limitlessly disseminated and analyzed, re-inscribed, re-applied and re-appropriated" (p.23). Therefore, based on Oliver, *et al*'s (2007) claim pod/vodcast development by VTS can be supported by postmodernism and constructivism.

Besides, as Kern (2006, cited in Larsen-Freeman & Anderson, 2011) puts language pedagogy and language use have been both changed due to this rapid evolution of communication technology and lead in new forms of discourse, authorship, and importantly "new ways to create and participate in communities" (p. 200). In order to incorporate podcasts and/or vodcasts into class activities teachers should first become familiar with new technology. They can do so with the help of personal tutorials or online guides. Another issue is to find suitable materials, developing lessons to go along with them, and responding to learners in ways that will help and support their language acquisition. (McBride, 2009)

Allen (2006) mentions that in January 2006, iTunes U (University) was introduced to the world by Apple. It was a pilot program started with six universities, such as Duke, Drexel University's School of Education, Stanford University, and the University of Michigan's College of Dentistry. This program provided students, faculty and staff with access to podcasts of lectures and digital media such as animations and clips that could be used in the classroom. McKinney, Dyke and Luber (2009) point out that downloadable educational podcasts are accessible through iTunes University. They continue that electronic classrooms and their concept evolve and modify in many directions.

On the website of the University of Oxford, there is a link in Apple Podcasts (http://www.ox.ac.uk/itunes-u?wssl=1#), and it is asserted that in September 2008, Oxford's Apple Podcasts which was formerly called iTunes U, launched. It presents audio and video podcasts from across the University, and it has been currently (in 2018) reached a worldwide audiemce of 185 countries.

Research Questions
The present study addressed the following two questions:
Q1. What are the effects of Visual Thinking Strategies (VTS) on vodcasting?
Q2. Does Activity Theory help teachers develop online materials?

Method

This study was a mixed methods study, to be specific QUAL+quan in which according to Dornyei (2007), "capital letters denote priority or increased weight", "lowercase letters denote lower priority or weight", and "a plus sign (+) represents a concurrent collection of data" (p. 169). Therefore, it involves the collection of both quantitative and qualitative, with qualitative phase dominating. In addition, based on Grotjahn (1987, cited in Brown, 2004) this research was both experimental-qualitative-interpretive and exploratory-quantitative-statistical. Besides, the approach of the present study was inductive and analytical, so it can be classified under the grounded theory. It was conducted with the following participants, instrumentation and procedure.

Participants

The research was done with 10 university lecturers of Islamic Azad University-South-Tehran branch who are ELT experts teaching TEFL courses to B.A., M.A., and PhD students. To be more specific, 7 males and 3 females cooperated in this study. The following two figures show their frequency in terms of age and academic experience.
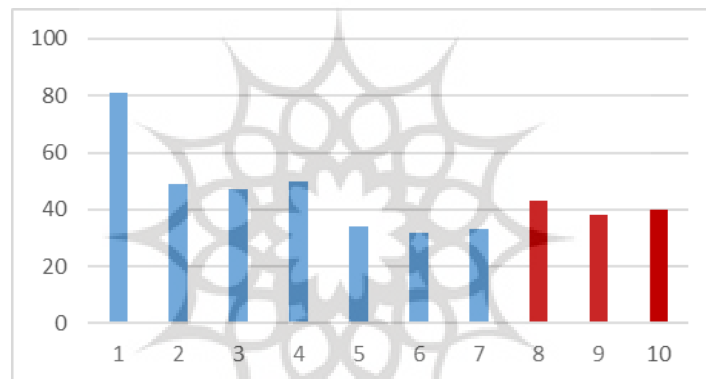
Figure 2. *Frequency of respondents by age (male in blue)*
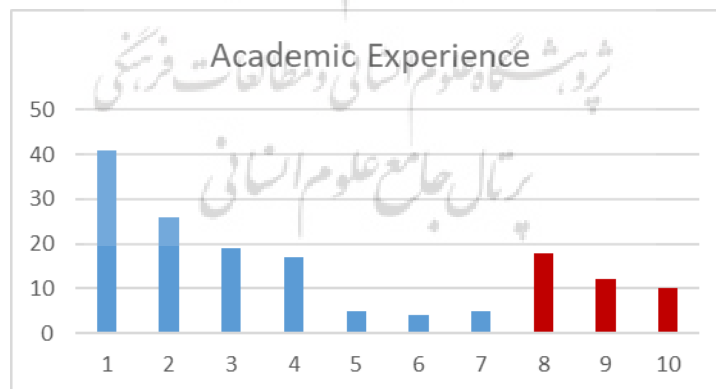

Figure 3. *Frequency of respondents by academic experience (male in blue)*

Instrumentation

In order to make this research feasible and cost-effective, the most available and economic instruments were used. For producing vodcasts, iPhone 7 plus was used. Furthermore, the major issue was finding a proper location to record vodcasts. The researcher chose two

classes at IAU South-Tehran Branch, and to have authentic classroom environment, she did not filter noises outside the location.

The researcher developed a semi-structured interview. All the participants answered the questions dealing with concepts of a) VTS, and b) vodcasting.

Besides, Three-D test, Personality test and job satisfaction, MBTI, and Spatial recognition test were given to participants to measure and reveal their intelligence, being solitary/gregarious as well as being assertive/passive, type of personality, and flexibility in thinking, respectively.

Moreover, a Likert scale questionnaire was developed to be given to two raters to evaluate participants' vodcasts.

Next, the results of Three-D test, Personality test and job satisfaction, and Spatial recognition test which were selected from Barrett (2009) are illustrated. Note that, Spatial recognition test had the lowest reliability of .319, yet as the nature of the qualitative study, the researcher didn't omit the data and reported the results. To check the validity of these four types of tests, the researchers asked a panel of ELT experts to check them.
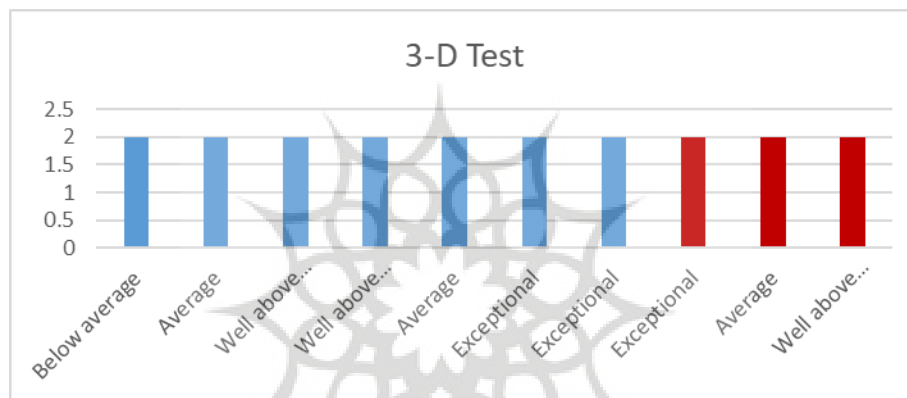
Figure 4. *3-D Test (male in blue)*
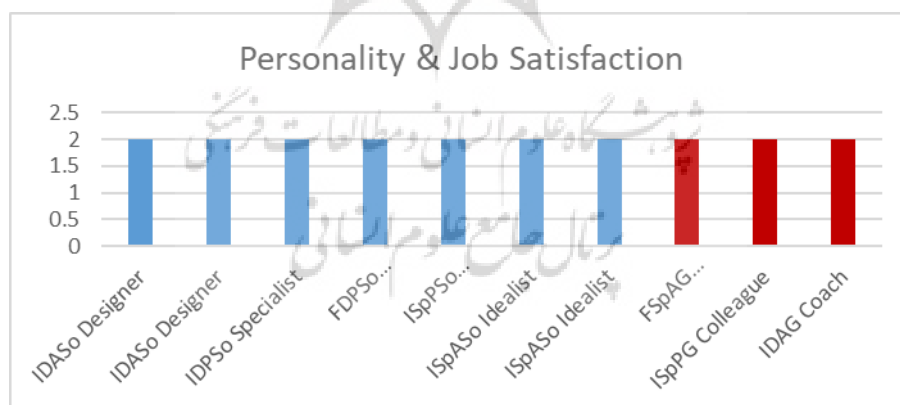
Figure 5. *Personality & Job Satisfaction (male in blue)*
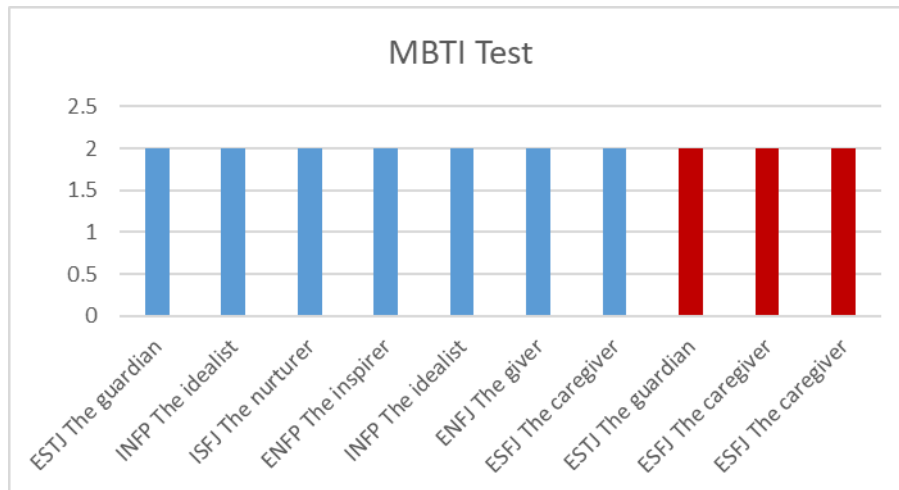
Figure 6. *MBTI (male in blue)*
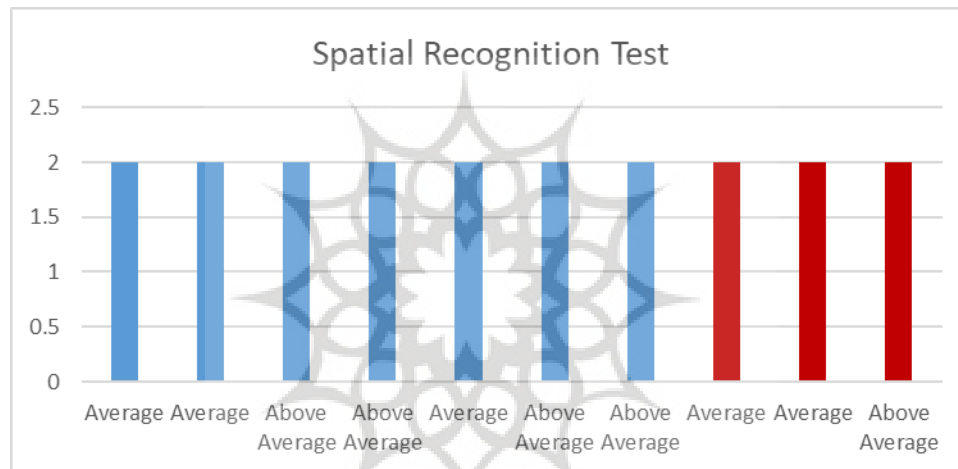
Figure 7. *Spatial Recognition Test (male in blue)*

Spatial Recognition Test

The Cronbach's alpha reliability for the spatial recognition test was .319. Therefore, the reliability index for the test with 70 items was .32.

This test had the lowest reliability of .319. Item 55 was the only item attempted correctly by all respondents; i.e. (Mean = 1, SD = 0). Seventeen items (bolded) had item-total correlations equal to or higher than .30 which is considered as a moderate effect size. The results also showed that 28 items (underlined) had negative item-total correlations. Items 18 and 61 had the highest effects on the increase/decrease of the reliability index of .319. If item 18 is deleted, reliability reduces to .202, and if item 61 is omitted, it will increase to .399.

Finally, Table 1 displays the mean (39.40), SD (4.83) and variance (23.37) for the total scores on the spatial recognition test.

Table 1. *Descriptive Statistics; Spatial Recognition Test*

Mean	Variance	Std. Deviation	N of Items
39.40	23.378	4.835	70

Three Dimensional Test

The Cronbach's alpha reliability for the three dimensional test was .916. So, the reliability index for the test with 30 items was .92.

Table 2 displays the mean (16.60), SD (7.58) and variance (57.60) for the total scores on the three dimensional test.

Table 2. *Descriptive Statistics; Three Dimensional Test*

Mean	Variance	Std. Deviation	N of Items
16.60	57.600	7.589	30

MBTI Personality Type Test

Cronbach's alpha reliability for the MBTI personality type test was .981. So, the reliability index for the test with 70 items was .98.

Table 3 displays the mean (97.90), SD (28.51) and variance (813.21) for the total scores on the MBTI personality type test.

Table 3. *Descriptive Statistics; MBTI Personality Type Test*

Mean	Variance	Std. Deviation	N of Items
97.90	813.211	28.517	70

Personality Test and Job Satisfaction

The Cronbach's alpha reliability for the personality test and job satisfaction was .783. The reliability index for the test with 40 items was .78.

Table 4 displays the mean (255.50), SD (34.85) and variance (1214.94) for the total scores on the personality test and job satisfaction.

Table 4. *Descriptive Statistics; Personality Test and Job Satisfaction*

Mean	Variance	Std. Deviation	N of Items
255.50	1214.944	34.856	40

Procedure

The participants were interviewed with the semi-structured questions at the beginning of the study by the researcher. Their voices were recorded with their permission. They were asked to create a vodcast which was recorded by the researcher. Next, they were added to the Telegram group called MArt (a Telegram group created by the researcher; Marketing+Art=MArt). Later in the group on Telegram, they were given treatments, and later they created a new set of vodcasts, which were recorded. This research enjoyed 11 YouTube vodcasts (topics of vodcasts are: a lecture by Philip Yenewine about Visual Thinking Strategies; Philip Yenewine: VTS; VTS; Introduction to podcasting; What is podcast?; Choosing a microphone; Editing podcasts with audacity; Publishing your podcasts; Choosing what to record; Best practices for success; Materials development in English teaching).

Besides, two podcasts developed by the researchers (on visual techniques of vodcasting, and technical features of vodcasting) were presented on Telegram in MArt as treatments.

Next, the researcher asked two directors who were experts in movie editing and montage to answer a Yes/No questionnaire about yardsticks that are important in vodcast evaluation to reach a Likert scale questionnaire.

The final stage was to ask two ELT professors to evaluate vodcasts of the participants based on the Likert scale questionnaire developed by the researchers.

Design and Data Analysis Procedure

This study employed mixed methods. In addition, as mentioned before, this study enjoyed the semi-structured interview that was later transcribed by the researcher; and then two PhD holder-raters who are experts in ELT education did the process of codification and coding. The independent-coder method was implemented, and systematic comparison of these two independent coding showed that there was 95% agreement between them.

In order to check the validity of four types of aforementioned tests a panel of experts were used, and the reliability of each was checked.

Results

The following information is extracted from Hashtroodi and Yazdani Moghaddam's table (2018, p. 4294) on the information derived from participants' interview:
a)80% of the participants believed in teachers as online materials;
b)80% of the participants have never used Visual Thinking Strategies in their teaching
c)And, 60% of them were digitally literate

Statistical Analysis of Quantitative Data

The first research question of this study investigated the effects of VTS on vodcasting. The 'scientific' part of the questionnaire measures the probable effect of VTS on vodcasting. In order to compare the two ratings of the pre-vodcasts with post-vodcasts of the participants, Wilcoxon's Signed Rank test was run. The results indicated that the participants had a significantly higher median on the posttest of scientific features (Med = 2.99) than pretest (Med = 2.77) (Z = -2.49, p < .05) (Table 5).

Table 5. *Wilcoxon's Signed Rank Tests; First and Second Ratings of Scientific Features Factor*

		N	Mean Rank	Sum of Ranks	Z	P
Pod2SciFeatures – Pod1SciFeatures Med2 = 2.99 - Med1 = 2.77	Negative Ranks	2[j]	1.50	3.00	-2.497	.013
	Positive Ranks	8[k]	6.50	52.00		
	Ties	0[l]				
	Total	10				

j. Pod2SciFeatures < Pod1SciFeatures

k. Pod2SciFeatures > Pod1SciFeatures

l. Pod2SciFeatures = Pod1SciFeatures

Analysis of Qualitative Data

The participants' answers about the concept of VTS and its relation with vodcasting are presented in the following section.

Data Derived from the Interviews

P2 asserted that in order to implement VTS in vodcasting, one should use imagination and selection at the same time. He criticized the common attitude towards vodcasting, and mentioned that in the society "we don't have exhibition; we have inhibition which is the fear of being

understood by others. So, we look for being instantly praised by people". He continued that visual literacy that is the fundamental ingredient of VTS "is marginal, and it doesn't reach the stage of actualization". He emphasized on the change of one's perspective towards everything. He posed a question: "In order to discover the effect of VTS on vodcasts, one should use the reverse engineering by asking: 'What would happen if I have no visual thinking?'. The probable answer could be the decrease in the teaching attraction, and lack of dimension in teaching. In addition, the teaching could be linear. The teacher probably can't establish connection to his/her learners, because s/he doesn't take care of different learning styles".

In addition, P2 pinpointed that the most dynamic entity in the class is the effervescent mind of the teacher that can be transferred to the learners. Moreover, the vodcasts as online materials are alive (he exemplified it as phoenix), therefore they let their audiences to adapt and change them based on their needs, and visualization is like mercury, which is fluid. As the initial words of 'materials' shows, it is generative (mater=mother=productive and generative). Hence, he believed that VTS can lead to positive chaos in the vodcasts, and it can be resulted in the dynamic living, instead of effortful dying. He concluded, "we should add whatsoever is related to imagination and visualization to our teaching, such as literature, art, music, poems, theatre, and novels. Moreover, we should ask students to have tokens of them in their studies. Teacher is like an architecture who thinks, imagines, draws on papers, and transfers the sketches to the ground to build up".

The codes derived from P2's interview are as follows:
a)Metavisuality: to believe in anthology and epistemology at the same time; to believe that visualization is not only visual, but also meta-visual
b)Epistemologicality: to consider the truth (nature and ground of knowledge), and to experience it oneself; Gestalt; Phoenix; as in Yoga (mindful and mindless)
c)Heterocentricality: to believe in distracted attraction
d)Centrifugality: to believe in formless forms; formlessness; disintegration

P3 believed that VTS is a kind of masculine thinking, and he exemplified Einstein who could visualize everything. He considered himself a visual thinker, and he pointed out that he has always used dramatization in his teaching to check reading comprehension and take care of kinesthetic learners' styles, for example, he wants students to draw the plot or plan of the building based on the reading excerpts.

The codes derived from P3's interview are as follows:
a)Masculinity: VTS is gender-biased
b)Imaginativity: VTS is related to imagination
c)Dramaticality: VTS can be implemented in teaching by dramatization
d)Executability: VTS can be implemented in the class
e)Performativity: the teachers asks the learners to do the actions present in the reading class
f)Kinestheticality: Different learning styles can be taken into consideration by dramatizing and using VTS, and it can take care of different learning styles of learners

P4 asserted that VTS is great, and he thought that it could be related to critical thinking. He put that "imagination is the substructure of visual thinking. Once I took part in a conference, and their moto was this sentence: 'Actively energizing my imagination'". He believed that if the concept of the lessons let him, he could be a visual thinker. He said, "my students told me that while I teach, the image of it comes into their mind". In addition, he pinpointed some linguistic

elaboration on visualization. He claimed that visualization results in semiotics and it leads to imaginative picture. The visualization is necessary to connect to the purport.

The codes derived from P4's interview are as follows:
a)Imaginativity: If the teacher has visual thinking, and uses VTS, learners can imagine the lesson
b)Objectification: to visualize teaching by means of mental pictures; to see both paradigmatic and syntagmatic axes in teaching and vodcasting

P5 implemented VTS in his teaching session, both in the classroom and online. He believed that VTS is using visualization in learning. He believed that VTS is useful for vodcasting. He pointed out that field trips to museums, galleries and concerts can improve visual literacy.

The code derived from P5's interview is as follows:
a)Imaginativity: to use imagination in podcasting by means of VTS

P6 believed that VTS has its own reconstruction. Therefore, the teacher can reconstruct the lesson for the online learner with the help of VTS.

The code derived from P6's interview is as follows:
b)Reconstructivity: to reconceptualize and reconstruct the lesson in vodcasting for the viewer by means of VTS

P7 claimed that visual literacy could be defined as "disambiguation by way of logic". He pointed out that in teaching is it useful to use conceptualization.

The code derived from P7's interview is as follows:
c)Conceptuality: Visual literacy can be beneficial in online teaching to conceptualize lessons

P8 pointed out that VTS is useful in videos.

P9 asserted that using VTS could change the concepts on the mind of the learners into pictures. Moreover, she had used writing vodcasts (only visual, no auditory) in her Ph.D. dissertation.

P10 is a visual thinker based on her claims, and she visualizes in her teaching. She thought that VTS was to help words, even abstract ones, stay longer in the memory (Phlegmatic).

Discussion and Conclusion

Research Question One

Investigating the answer to the first question, the 'scientific features' part of the pre and post-vodcasting questionnaire were examined and compared, and the results of the second vodcasting (after receiving VTS treatments) were significantly higher than the first ones. In addition, the results of the interviews, which were analyzed and coded lead into some codes, such as metavisuality, epistemologicality, heterocentricality, centrifugality, masculinity, imaginativity, dramaticality, executability, performativity, kinestheticality, objectification, reconstructivity, and conceptuality.

The codes derived from the interview questions regarding VTS and its relation to vodcasting reveal that VTS is helpful to boost imagination, reconstruction and taking care of learners' styles, such as visual and kinesthetic style of learning. Therefore, the revelation this study made was that through implementing VTS in vodcasting, match what Oxford (2003) points

out about language learning styles and strategies. She asserts that language learning styles and strategies are "among main factors that help determine how-and how well-our students learn a second or foreign language" (p.1).

Moreover, Reid (1987, cited in Oxford, 2003) points out that ELT students are different in their sensory preferences, and brings examples of certain cultures that differentially favoring the three different modalities for learning. He adds that Asian students are often highly visual, Korean students are the most visual, Hispanic students are frequently auditory, Japanese students are very nonauditory, and ESL students from a variety of cultures are tactile and kinesthetic in their sensory preferences.

The codes 'reconstructivity', 'conceptuality', and 'dramaticality' are in line with what Landorf (2006) claims. According to him, "VTS curriculum and teaching method uses art to help students think critically, listen attentively, communicate and collaborate" (p.28). The results of this study show that attentive listening and communication (subcategories of five parts of the questionnaire) have been enhanced in pod/vodcasting.

In this study, VTS probably helped teachers to become more visually literate, especially those participants who mentioned in their interviews that they had no visualization in the teaching by developing visual tasks. This supports the Herring's (1980, cited in Moore & Dwyer, 1994) definition of visual literacy, which is "the relationship of visual skills to instructional tasks" (p.103).

Statistical Analysis of Quantitative Data

The second research question investigated whether the Activity Theory helps teachers develop online materials. The 'teachers' features or characteristics' parts of the questionnaire for vodcasts measure the probable effect of activity theory on online materials development.

For vodcasting the results of 'teachers' features or characteristics' part indicated that the participants had a significantly higher median on the posttest of teachers' characteristics (Med = 2.91) than pretest (Med = 2.72) (Z = -2.51, p < .05).

Moreover, in order to analyze the participants' characteristics in general, four types of tests were given to them. The reliability of them were computed and presented as follows.

Analysis of Qualitative Data

The following table presents the detailed information of the participants and the personal data derived from interviews and the results of the four tests they took at the beginning of the study.

Table 6. *Detailed Information of the Participants*

P	Education /Degree	Academic experience	Institute experience	Area of interests	3-D test	Personality test and job satisfaction	MBTI	Spatial recognition test

1	PhD in applied linguistics	41 years	6 years	Contrastive Analysis, teaching methodology	Below average	IDASo Designer	ESTJ The guardian	average
2	PhD in applied linguistics	26 years	28 years	Productive skills, vocabulary, practical language teaching, reading, generic courses	average	IDASo Designer	INFP The idealist	average
3	PhD in applied linguistics	19 years	10 years	Reading-based courses, text-based courses, reading	Well above average	IDPSo Specialist	ISFJ The nurturer	Above average
4	PhD in applied linguistics	17 years	6 years	Linguistics, translation	Well above average	FDPSo Researcher	ENFP The inspirer	Above average
5	PhD in applied linguistics	5 years	12 years	General English courses, freshmen courses at B.A	Average	ISpPSo Wanderer	INFP The idealist	Average

6	PhD candidate of applied linguistics	4 years	9 years	SLA, theories	exceptional	ISpASo idealist	ENFJ The giver	Above average
7	PhD in applied linguistics	5 years	4 years	General English courses, reading, materials development, ESP	exceptional	ISpASo idealist	ESFJ The caregiver	Above average
8	PhD in applied linguistics	18 years	0 year	Reading, writing, speaking, listening, research, testing, SLA, first language acquisition	exceptional	FSpAG Opportunist	ESTJ The guardian	Average
9	PhD in applied linguistics	12 years	3 years	Methodology, practical language teaching, reading	Average	ISpPG Colleague	ESFJ The caregiver	Average

| 10	PhD candidate of applied linguistics	10 years	4 years	Conversation, CALT, vocabulary, idioms, reading	Well above average	IDAG coach	ESFJ The caregiver	Above average

The 'teacher/presenter features/characteristics' part of vodcasting questionnaires measures the probable effect of activity theory on vodcasting. In order to compare the two ratings of the pre-vodcasts with post-vodcasts of the participants, Wilcoxon's Signed Rank test was run.

The results of the vodcasting questionnaire indicated that the participants had a significantly higher median on the posttest of teachers' features or characteristics (Med = 2.91) than pretest (Med = 2.72) (Z = -2.51, p < .05).

Research Question Two

According to Ellis (2008), Activity Theory was developed by Kharkovites, a Russian group of psychologists. Among them, Leontiev was well known. Lantolf (2000, cited in Ellis, 2008, p.535) points out that this theory "is a unified account of Vygotsky's original proposals on the nature and development of human behavior". Leontiev (1981, cited in Ellis, 2008) described that "people possess 'motives' that determine how they respond to a particular task", and Ellis (2008) adds that motives can fall in two groups of a) biologically determined (like the need to satisfy thirst, or hunger), and b) socially-constructed (the need to learn second language or continue education). Ellis concludes that "people with different motives will perform the same learning task in different ways" (p.535). This study, took into consideration Ellis' claim, and considered participants' motives in developing online materials in the form of pod/vodcasts.

Ellis (2008) asserts that in order to understand one's motives, activity system should be considered. Activity system is introduced by Engestrom (1993, cited in Ellis, 2008) and it consists of a) subjects, b) the object of the activity, and mediational means (material artefacts), c) the understood rules that govern that community, and d) the division of labor within the community setting. The results of the four types of the tests taken by the participants at the beginning of the study can be illustrated in the following triangle, inspired by Nunez's (2009) activity theory triangle. The researcher developed the following figure based on this research. Besides, all the participants could have this exclusive triangle for themselves. All the parts are the same, except 'subject' rectangle. For example, participant 1 is IDASo-Designer (based on the results of 'Personality Test and Job Satisfaction', and ESTJ-The Guardian (based on the results of the 'MBTI' test).
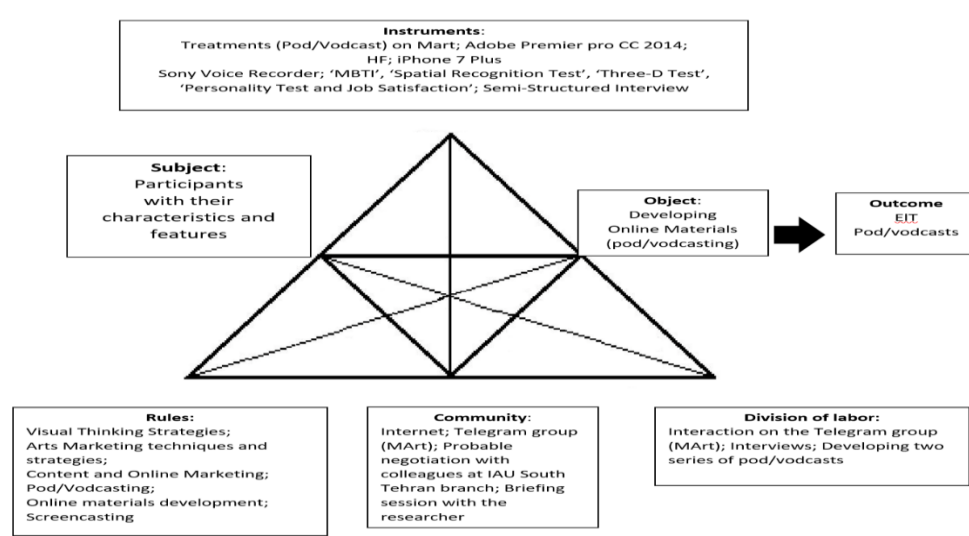
Figure 8. *Activity System of the online materials developers (vodcasts) based on AALL (Inspired by Nunez's (2009) Activity Theory Triangle)*

Web 2.0 can be classified into five categories according to Constantinides and Fountain (2008) as a) blogs, b) social networks, c) (content) communities, d) forums/bulleting boards, and e) content aggregators. They believe that blogs (web logs) are online journals that are often combine with podcasts, that is digital audio or video that can be streamed or downloaded to portable devices. They claim that the Web 2.0 is considered a new step in the evaluation process of the Internet as marketing environment. Besides, many studies show that young consumers have already chosen the online social media as an integral part of their life. Therefore, online materials development in general and vodcasting in specific can help learners to implement technology in order to learn the second language.

Vodcasting considering VTS and Activity theory can result in the production and presentation of series of effective educational online materials developed by ELT teachers. Therefore, such vodcasting can be beneficial for two types of models in technology environments. Bring Your Device (BYOL) encourages students their own devices pre-approved by their institution, while Bring Your Own Technology (BYOT) lifts up any limitations on a gamut of web-enabled gadgets students can exploit in their educational endeavors. (Dudeney, Hockly and Pegrum, 2013)

In this case, teachers as materials developers can introduce their developed vodcasts in the classroom, show them to their learners, and create a blended-learning atmosphere based on their personal characteristics (biological and social motives), and VTS.

Not all teachers can produce vodcasts. It would be time and cost-effective, if educational systems recognize talented and educated ELT teachers, and provide much more opportunities for them to deal with ELT vodcasting. Besides, mainly ELT teachers face some difficulties in developing online materials, especially vodcasts. Activity Theory along with personality type tests can help EFL teachers to develop online materials by recognizing their unique motives, and characteristics to recognize and overcome their mental barriers and fears they face before, while and after developing vodcasts.

Moreover, VTS is beneficial, because EFL teachers can produce more abstract and interactive tasks for their online audience, since their strategies help teachers become visually literate. Furthermore, in the interviews, participants could relate online materials development to some SLA theories, such as socio-cultural theory, cognitivism, Desuggestopedia, constructivism,

teachability/learnability and humanism. The participants provided some characteristics for practical and useful online materials. The Figure 9 illustrates the factors.
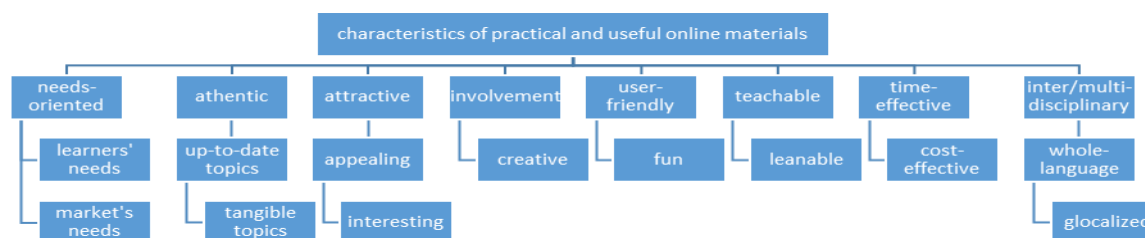
Figure 9. *Participants' perspectives towards practical and useful online materials (Adapted from Hashtroodi and Yazdanimoghaddam, 2018, p.4296)*

Moreover, both interested learners and teachers can conduct research on ELT podcasting and screencasting. In addition, they can apply other SLA theories rather than Activity theory, and analyze other effective elements of teachers in developing podcasts. Besides, teachers as online materials developers can conduct research in the following area: 'augmented realities and language teaching through vodcasting'. Furthermore, this study was conducted with a limited number of Iranian university professors, interested researchers can change the number of participants, their nationalities, and investigate more characteristics and motives.

References

Allen, B. (2006). Podcasting in education: An intellectual biography. Retrieved in November 2018 from http://education.transbat.com/courses/eme6405/IntelBioFinalPaper.pdf

Barrett, J. (2009). *Aptitude, personality and motivation tests: Analyse your talents and personality, and plan your careers.* London: Kogan Page.

Basal, A. (2013). ELT teachers as online materials developers. *The Online Journal of Distance Education E-learning, 1*(2), 8-12.

Brown, J. D. (2004). Research methods for applied linguistics: Scope, characteristics, and standards. In A. Davies & C. Elder (Eds.), *The handbook of applied linguistics* (pp. 476-500). Oxford: Blackwell Publishing.

Dornyei, Z. (2007). *Research methods in applied linguistics.* Oxford: OUP.

Dudeney, G., Hockly, N., & Pegrum, M. (2013). *Digital literacies: Research and resources in language teaching.* Edinburgh: Pearson Education Limited.

Constantinides, E., & Fountain, S. J. (2008). Web 2.0: Conceptual foundations and marketing.*Journal of Direct, Data and Digital Marketing Practice, 9*(3), 231-244. Retrieved January 2019 from https://link.springer.com/article/10.1057/palgrave.dddmp.4350098

Ellis, R. (2008). *The study of second language acquisition* (2nd ed.). Oxford: OUP.

Gass, S. M., & Selinker, L. (2008). *Second language acquisition: An introductory course* (3rd ed.). New York: Taylor & Francis.

Gilster, P. (1997). *An excerpt from digital literacy.* USA: John Wiley & sons, Inc.

Gkatzidou, S., & Pearson, E. (2007). Vodcasting: A case study in adaptability to meet learners' needs and preferences. Retrieved in October 2018 from http://citeseerx.ist.psu.edu /viewdoc /download?doi:10.1.1.110.1553&rep=rep1&type=pdf

Hashtroodi, P., & Yazdani Moghaddam, M. (2018). Investigating application of visual thinking strategies in developing audio and visual online materials by non-native EFL teachers: Investigating art assisted language learning (AALL) and arts marketing. Paper presented at 12th International Technology, Education and Development Conference. *INTED Conference,* (pp. 4289-4297). Valencia.

Kuzminsky, T. V. (2008). Interactive whiteboard technology within the kindergarten visual arts classroom. Unpublished theses. Georgia State University. Retrieved January 2015, from http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1020&context=art_design_theses

Landorf, H. (2006). Perspective on teaching: What's going on in this picture? Visual thinking strategies and adult learning. *New Horizons in Adult Education and Human Resource Development 20*(4). 28-32. Retrieved January 2019 from https: //files. eric.ed. gov/fulltext /EJ983809.pdf

Larsen-Freeman, D., & Anderson, M. (2011). *Techniques & principles in language teaching* (3rd ed.). Oxford: OUP.

Manning, S., & Johnson, K. E. (2011). *The technology tool belt for teaching.* San Francisco: John Wiley & Sons, Inc.

McGregor, D. (2007). *Developing thinking developing learning: A guide to thinking skills in education.* New York: Open University Press.

McKinney, D., Dyke, J. L., & Luber, E. S. (2009). ITunes University and classroom: Can podcasts replace professors? *Computers & Education, 52* (pp. 617-623). doi:10. 1016 /j .compedu .2008.11.004

Moore, D. M., & Dwyer, F. M. (Eds.) (1994). *Visual literacy: A spectrum of visual learning.* New Jersey: Educational Technology Publications, Inc.

Nunan, D. (1998). *Syllabus design.* Oxford: OUP.

Nunez, I. (2009). Critical review: Activity theory and utilization of the activity system according to the mathematics educational community [Special issue]. *Educate,* 750.

Oliver, M., Roberts, G. Beetham, H., Ingraham, B., Dyke, M., Levy, P. (2007). Knowledge, Society and perspectives on learning technology. In G. Conole & M. Oliver (Eds), *Contemporary perspectives in e-learning research: Themes, Methods and impact on practice,* (pp. 21-37). New York: Routledge.

Oxford, R. L. (2003). Language learning styles and strategies: An overview. Retrieved January 2019from http://www.videa.ca/wp-content/uploads/2015/08/LANGUAGE-LEARNING-STYLES-AND-STRATEGIES1.pdf

Stambler, L. G. (2013). *Digital literacy: Literacies for the digital age to teach in the K-12 classroom.* Yale University. Statistics Canada. (2005). *International adult literacy and skills survey.* Retrieved from http://www.statcan.ca/Daily/English/051109/d051109a.htm

Talbot, C. (2007). *Studying at a distance: A guide for students* (2nd ed.). New York: McGraw-Hill Education (Open University Press)

Theodoraki, X., & Plakitsi, K. (2013). University science teaching programs: What's new in lab activities from a CHAT context? The case of magnetism. In K. Plakitsi (Ed.), *Activity theory informed and informal science education* (pp. 159-196). Rotterdam: Sense Publishers.

Usun, S., &Komur, S. (2012). The marketing Strategies and applications of English language teaching (ELT) programs via distance education. In (not given), *Emarketing: Concepts, methodologies, tools and applications (2012)* (pp. 1332-1353).

Watson, T. (1999). *Introduction to excerpt.* NC: Meridian. Retrieved from http://www.nscsu.edu/Meridian/jul/downloads/digital.pdf