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Unveiling the Undercurrent in the Mainstream: Investigating Chinese College EFL Learners' Demotivation in WebQuests Contexts

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Abstract: Amid the mainstream of acclamation, the 'dark side' of integrating Information Communication Technologies (ICT) into English as a Foreign Language (EFL) classroom has been rarely explored. Therefore, this study investigated Chinese college English learners' demotivation in a WebQuests-based language classroom. By studying 217 Chinese college EFL learners in a 50-item questionnaire survey, together with literature review of both WebQuests and demotivational theory, this essay proved the existence and identified the triggers of demotivation in WebQuests-based EFL contexts. The triggers revealed were Internal Demotivating Factors, Teachers' Role, Ill-defined Setting and Peer Pressure. Meanwhile, some correlative learner differences, including gender, major and learning experience, had been tested, revealing significant discrepancies and similarities between the different individual variables. In the comparative study of gender difference, the demotivators shared by both genders were The Teacher, Information and References, Course Design and Learner-self, whereas Peers' Influence for male participants and Inadequate Facilities for females respectively. Accompanying the study, suggestions are provided for college EFL practitioners to reflect on their pedagogy and minimize learners' demotivation in WebQuests-based EFL contexts.

Key words: WebQuests, college EFL learners, demotivation

INTRODUCTION

A concerted effort has been made in the past two decades to integrate Information and Communication Technology (ICT) into English as a Foreign Language (EFL) contexts, premised on its potentiality to facilitate L2 teaching and learning. A high volume of theoretical reviews of ICT in language classroom verify that ICT-based instructions prevail over traditional pedagogy (Dodge, 1995). However, with the increasing application of ICT in language classroom, an undercurrent has occurred in the mainstream of compliments, doubting its practical effectiveness. Correlative experiments reveal that ICT is not used to its full potential (Dodge, 1995; Foshay and Bergeron, 2000). According to latest developments in cognitive domain, individual differences in belief, attitudes, learning experiences and skills deeply impact the practical operation of ICT (Dodge, 1995; Foshay and Bergeron, 2000). In response to this divergence, WebQuests is one of the valuable trials, compounded with bidirectional relationship between computer-based learning and individual differences (Maddux and Cummings, 2007). Consequently, WebQuests is selected in this study to identify the factors that are detrimental to learner's motivation in ICT-based EFL contexts.

LITERATURE REVIEW

Concept of WebQuests: Initiated by Dodge (1995), the concept of WebQuests aims to equip learners with an instructional tool for inquiry-oriented learning in ICT environment, based on learners' needs analysis. A well-designed WebQuests typically involves six components: (a) A detailed introduction of background information, (b) A series of learner-centered and well-organized tasks, (c) Sufficient information resources, (d) Description of process clearly presenting the topics and objectives, (e) Guidance providing step-by-step instructions in and out of classroom, (f) Conclusion focusing on encouraging learners to evaluate and reflect on self knowledge acquisition. The six components form a structured, design-based approach in which learners interact with resources via the Internet, analyze and synthesize the information, fulfill the tasks by interpersonal and collaborative skills and engage in higher-level knowledge acquisition. The schematic diagram of WebQuests is shown in Fig. 1.

WebQuests in EFL classroom: The effect of incorporating WebQuests into classroom practices has been validated throughout diverse disciplines, including science, teacher training and special primary education

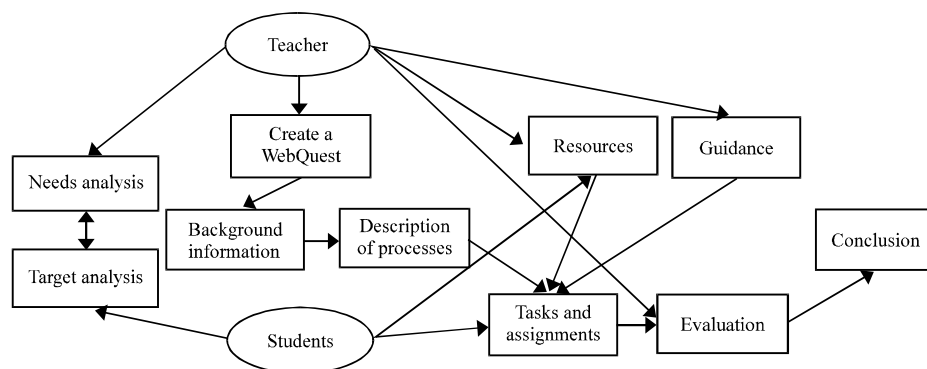


Fig. 1: Schematic diagram of WebQuests

(Ikpeze and Boyd, 2007; Allan and Street, 2007; Kleemans *et al.*, 2011). These studies prove the practicality of WebQuests as a systematized, inquiry-based interdisciplinary learning unit and herald the feasibility and prevalence of adopting WebQuests into second language education domain.

As a matter of fact, pioneering studies have been conducted worldwide to experiment the integration of WebQuests into L2 classroom. Chuo (2007) surveyed Taiwanese EFL students' perception of utilizing WebQuests in writing class, concluding that WebQuests has 'irreplaceable' superiority in making subjects' learning experience meaningful, valuable and motivating. Sox and Rubinstein-Avila (2009) proved the operability of WebQuests in secondary school EFL curriculum. The findings revealed that WebQuests offers learners opportunities to integrate technology, content knowledge development, together with linguistic accommodation. Exploring the effectiveness of ICT in enhancing EFL students' writing and reading performance, Kocoglu (2010) investigated the versatility of WebQuests among 34 Turkish first-year university students and proved that it increases two kinds of crucial elements in language learning, namely, reading comprehension and vocabulary acquisition.

However, in spite of the numerous studies, an overriding proportion of existing body of research on WebQuests focuses on its design and development merely from the perspectives of teachers and educators. Little is known on learners' attitudes towards WebQuests as an instructional and learning tool, just as Maddux and Cummings (2007) asserted: "The lack of concern with the learner is the major weakness of the WebQuests approach". Therefore, to shed more light on the feasibility of WebQuests in L2 classroom, it is requisite and inevitable to take learners' individual features into account.

Demotivation in WebQuests contexts: It is theoretically and empirically verified that learners' perception on WebQuests is impacted by both exterior factors involving learning environments and interior factors relating to learners' individual differences, in the process of language learning. Hence, demotivation, one of the pivotal individual features to indicate learners' inner procedures of knowledge acquisition and cognition, is chosen in this study as the breakthrough to examine learners' insight into WebQuests by focusing on the detrimental factors or on the 'dark side' of motives to language learning in ICT-based environment.

As a novel inter-disciplinary concept conjunct psychology and linguistics, the connotation of demotivation is under divergence. Dornyei's (2001) definition of "specific external forces that reduce or diminish the motivational basis of a behavioral intention or an ongoing action" used to prevail. However, with the advances in cognitive domain, the aforementioned definition is challenged by psycholinguists based on a large scale of empirical findings. Dornyei's definition is claimed to have confined the study of demotivation to external factors (learning materials, syllabus, teachers, etc.) and have excluded the other semi-sphere of demotivation, namely internal forces due to individual differences (Falout *et al.*, 2009; Li, 2011; Zhou and Wang, 2012). Consequently, subsequent studies optimize the definition as "specific external or/and internal forces that reduce or diminish the motivational basis of a behavioral intention or an ongoing action" (Li, 2013a). The triggers (external and/or internal) of demotivation, is entitled demotivators as in Fig. 2.

Demotivational research was initially introduced into SLA arena by European and North American researchers. In Chambers' (1993) survey of 193 year-nine pupils and 7 teachers in UK, pupils blamed on teachers as the major inducements of demotivation, whereas teachers

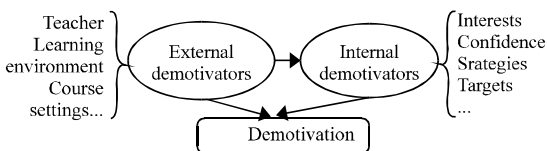


Fig. 2: Constitution of external/internal demotivators

designated their counterparts' inherent factors (family background, past language learning experiences) as the main triggers. Inspired by Chambers' research, more empirical studies are conducted, among which Asian researchers' studies are worth reviewing. Investigating 656 Japanese high school EFL learners, Sakai and Kikuchi (2009) concluded five demotivators, namely Teachers' Competence and Teaching Styles, Learning Contents and Materials, Inadequate School Facilities, Lack of Intrinsic Motivation and Test Scores. By decoding the questionnaire obtained from 6301 Korean pupils and 17 teachers, Kim (2011) unveiled three demotivators, (1) Teachers' immediacy, such as incongruence with students' needs, teachers' impatience and disinterest in teaching/their students, (2) Excessive social expectation of English proficiency, (3) The widening English proficiency gap among peers.

With regard to Chinese EFL learners, Zhou and Wang's (2012) survey of 766 participants extracted three external demotivators and two internal ones. The external demotivators are Teachers' Competence and Teaching Styles, Curriculum and Materials and Inadequate Facilities, whereas the internals are Lack of Intrinsic Interest and Learning Strategies Deficiency. In Zhou's (2012) subsequent study, 41 Chinese college EFL learners and 36 Japanese counterparts were compared to reveal the impact intensity of four demotivators, namely Teachers, Learning Contexts, Language and Culture Background and Learners. The findings of these studies give insight into Chinese college EFL learners' demotivational phenomena caused by both exterior and interior demotivators. Similar to Western EFL learners, the strongest demotivator of Asian participants is the teacher, comprising teachers' attitudes toward students, teachers' personalities, teaching methods and teachers' language proficiency.

Among these empirical studies, Li's (2013b) is worth reviewing due to its theoretical roots in the nature of WebQuests. To identify demotivators that hinder learners' L2 acquisition within WebQuests context, Li conducted a comparative study on 115 Chinese second-year college EFL learners in both traditional teacher-dominated classroom and WebQuests-based context. Six factors were presupposed as demotivators,

including the Content of Resources, the Function of Facilities, the Relationship with Peers, the Design of the Course and Assignments, the Role of Instructor and Learner-self. The result revealed learners in WebQuests context were more inclined to ascribe their demotivation to disadvantages of the first three factors, highlighting the features of WebQuests-based EFL learning that rely largely on information communications technology. The findings of this study advance insights into second language acquisition under WebQuests contexts on both theoretical and practical scales. However, limitations exist in this study: (1) The pre-established classifications of demotivators might exclude potential demotivators, (2) Learners' individual differences which are proven to be significant variables of demotivation were not fully investigated due to the small scale of subjects, influencing the validity of this comparative study, (3) Without guiding hypotheses, the findings are more focused on superficial phenomenon rather than deepening its theoretical depth.

Consequently, further research is needed to investigate the inner correlation between WebQuests contexts and learners' demotivation so as to explore the nature of WebQuests, to deepen the understanding of L2 learning and most importantly, to facilitate L2 learners' language acquisition in WebQuests contexts.

MATERIALS AND METHODS

Research questions: The main objective of the study is to optimize ICT-related factors to reduce or diminish EFL learners' demotivation in WebQuests context at theoretical and practical levels. Therefore, the research questions might be decoded into the following segments:

- What are the factors that significantly trigger Chinese college EFL learners' demotivation in WebQuests context?
- What individual variables impact on learners' demotivation in a sheltered Internet environment with the example of WebQuests?

Hypotheses: In terms of learners' individual characteristics, variables like gender, major, learning experiences, significantly impact on learners' demotivation in WebQuests-based EFL learning context. To be more specific and unequivocal, four hypotheses are hence proposed:

- **Hypothesis 1:** With reference to previous studies (Dodge, 1995; Allan and Street, 2007), it was hypothesized that certain factors exert detrimental influence on Chinese college EFL learners'

Table 1: Participant's information

Variable	Amount	Percentage (%)
Gender		
Male	131	60.4
Female	86	39.6
Learning experience		
New	204	94.0
Experienced	13	6.0
Major		
Engineering	83	38.2
Liberal arts	101	46.5
Science	33	15.2

demotivation in WebQuests context besides the merits described in preceding studies

- **Hypothesis 2:** It had been previously found that male students demotivated to a higher degree when browsing further on the Internet while females were more demotivated when teachers' authority was weakened in WebQuests context (Segers and Verhoeven, 2009) and it was thus hypothesized in this study
- **Hypothesis 3:** For learners with different majors, it was supposed that liberal arts majors manifested discrepant demotivational state from engineering or science majors in WebQuests-based EFL learning context
- **Hypothesis 4:** It was assumed that the longer participants learned in WebQuests environment, the more demotivated they were towards EFL learning

Participants: Participants in this study were 217 EFL learners from one university in a medium-sized Chinese city. The mean age of the participants at the outset of the study was 19.8. The participants' information is as shown in Table 1. A total of 131 boys and 86 girls were randomly selected, representing 12 different majors in three general categories: Engineering, Liberal Arts and Science. Among all participants, 28.1% were reported to have more than one year of WebQuests-based learning experience, while the others had no or little previous learning experience. All participants had some prior academic experience in learning English.

Methods: The experiment methods comprised two phases. In the first phase, blended qualitative approaches were adopted, including written feedbacks on open-end questions, in-person interviews and learners' log. Data of participants' demographic information and their perception of EFL learning in WebQuests contexts were collected as well. Certain individual variables, including gender, major, learning experiences and linguistic proficiency, were sorted out.

Based on the analysis of antecedent research and information obtained from the first phase, the

WebQuests-based Demotivation Questionnaire (WBDQ) was designed and conducted in the second phase. The questionnaire comprised 50 items measured in 5-point Likert scales (1 for strongly disagree; 5 for strongly agree), reporting agreement with diverse demotivational grades. Three pre-tests were conducted before formal test.

Six tasks from Dodge's Matrix of WebQuests (Dodge, 1995) were integrated into the EFL classroom intentionally. The six WebQuests tasks showed no significant difference in terms of grade levels, topic or level of difficulty.

Data collection: To guarantee the reliability and validity of the study, both quantitative and qualitative data were collected and evaluated. Qualitative data were gathered through the content analysis of students' essays and logs to extract possible triggers of demotivation while quantitative data were accumulated via questionnaires. In response to the hypotheses, mixed-methods of statistical analysis were designed with Statistical Program for Social Sciences (SPSS) 18.0.

RESULTS AND DISCUSSION

The aim of this study was to further explore Chinese college EFL learners' demotivators in WebQuests context and reveal the demotivating factors of learner-self in L2 acquisition. The discussion is laid out in accordance with the aforementioned four hypotheses.

Hypothesis 1-overview of detrimental factors: Table 2 illustrates the descriptive statistics of the items surveyed in the WBDQ, presenting an overview of learners' cognition of demotivation in WebQuests context from different perspectives. Among the 50 items in total, Item 14 (misunderstanding of peer's ideas) ranked the highest of all, at 4.207 and was regarded as the most demotivating element. Due to the emphasis on learners' interpersonal consciousness and cooperative ability, it was not surprising that subjects reacted strongly to communicative deficiency. This phenomenon echoes Li's (2013b) finding that learners are inclined to demotivate on encountering difficulties in implementing the community activities in language classroom.

Besides Item 14, it is worth noticing that the means of other 14 items exceeded 3.000. These items adequately displayed their grave impact on participants' learning demotivation. The items are Item 8 (embarrassment in expressing ideas), Item 4 (incapability in developing interpersonal skills), Item 20 (helplessness in peer work), Item 5 (teacher's insufficient participation), Item 2 (teacher's ambiguous explanation), Item 24 (inappropriate

Table 2: Descriptive statistics of college participants' questionnaire responses on each item (N = 217)

Order	Item	Mean	Order	Item	Mean	Order	Item	Mean	Order	Item	Mean
1	14	4.207	14	45	3.097	26	49	2.701	39	22	2.383
2	8	3.912	15	38	3.069	28	47	2.696	40	16	2.263
3	4	3.908	16	1	2.839	29	31	2.682	41	12	2.037
4	20	3.899	17	3	2.802	30	23	2.673	42	11	1.982
5	5	3.484	17	7	2.802	31	6	2.668	43	18	1.972
6	2	3.479	19	21	2.783	32	44	2.664	44	33	1.968
7	24	3.364	20	37	2.779	33	46	2.650	45	19	1.922
8	41	3.350	21	28	2.774	34	42	2.585	46	26	1.880
9	36	3.341	22	15	2.760	35	40	2.562	47	17	1.807
10	10	3.267	23	30	2.742	36	32	2.539	48	43	1.793
11	48	3.263	23	34	2.742	37	27	2.465	49	9	1.696
12	50	3.129	25	25	2.737	38	13	2.429	50	35	1.525
13	29	3.101	26	39	2.701						

level of the course), Item 41 (teacher's insufficient instructional support), Item 36 (incapability in fulfilling assignments), Item 10 (goal-lost in learning), Item 48 (teacher's negative attitude), Item 50 (less confidence in fulfilling assignments), Item 29 (imbalance between information and instruction), Item 45 (unspecific and unclear information) and Item 38 (teacher's unidirectional explanations).

With regard to the principles of integrating ICT into language classroom, the 15 items listed above could be categorized into four types to highlight the demerits of WebQuests that influenced subjects' language learning demotivation.

Internal demotivating factors: Four items listed above (8, 10, 36 and 50) correlated with learners' internal drives to reduce or diminish their motivation of language learning in WebQuests context. To be more specific, the four items unveiled diverse aspects of internal factors. For instance, Item 8 and 10 illustrated subjects' cognitive and affective insufficiency, Item 36 revealed participants' learning strategy deficiency and Item 50 related to lack of confidence in WebQuests context. The high mean value of the four items (3.412) proved the significance of internal factors among Chinese college EFL learners' demotivation. Yet this phenomenon is alarming, as it might elicit attribution bias, incurring learners' down-spiral affective state of self-blame (Zhou, 2012). Therefore, some attribution training is suggested to dissociate subjects' blame of demotivation from internal factors, but certain external triggers instead.

Teacher's role: The high mean value of the six teacher-correlative items (2, 5, 29, 38, 41 and 48) in this study was 3.291, directly manifested teachers' detrimental influence on subjects. Similar to Sakai and Kikuchi's (2009) findings in traditional EFL classroom, teachers' incompetence (Item 2) and inappropriate teaching styles (Item 5 and 38) demotivated learners as

expected. Besides, teachers' demotivational influence in WebQuests context was revealed as well in this study. Teachers' insufficient support (Item 41), negative attitudes towards online learning (Item 48) and ill-defined instructions (Item 29) exerted strong impact on learners' demotivation. In response to the teacher-related demotivating factors, sufficient correlated teacher-training is recommended to overcome substantial obstacles to the seamless integration of ICT into language classroom.

Ill-defined setting: Item 24 and 45, reaching the mean value of 3.364 and 3.097 respectively, reported significant impact triggered by the organizational features of WebQuests. Falout *et al.* (2009) prove that inappropriate level of courses and unclear information may further exacerbate motivational problems in traditional classrooms. This statement applies to WebQuests context as well. Inappropriate level of WebQuests setting leads learners to experience incompetency and hurt their self-confidence, while over-loading information may interrupt learners' critical thinking and knowledge application. Therefore, prudent needs analysis is demanded before setting WebQuests tasks.

Peer pressure: It is undeniable that WebQuests facilitates learners' social interaction skills (Dodge, 2001), yet Item 4, 14 and 20 unveiled the accompanying dark side in cooperative learning, namely the negative pressure imposed by classmates. The mean value of the comprising items was 4.005, ranking the highest of all. Similar findings are reported as well among Japanese learners (Falout *et al.*, 2009). It is culturally explicable that East-Asian learners imbued in Confucianism tend to be more introversive and are more inclined to be embarrassed and reluctant to practice target language in front of peers. Therefore, cultural-specific countermeasures in the designing and organizing of WebQuests tasks are to be route-mapped to lessen language learners' sense of frustration and thus encourage social interaction.

Table 3: Item loadings in the factor analysis of male participants' demotivation

No.	Item	F1	F2	F3	F4	F5
Factor 1: The Teacher						
41	Insufficient instructional support	0.618				
38	Teacher's unidirectional explanation	0.472				
34	Insufficient technological support	0.459				
31	Teachers' insufficient preparation	0.453				
2	Teacher's ambiguous explanation	0.428				
21	Teacher's excessive participation	0.426				
48	Teacher's negative attitude	0.411				
5	Teacher's insufficient participation	0.407				
Factor 2: Information and References						
23	Excessive information		0.614			
44	Ill-defined information		0.556			
25	Reference lack in connection to prior knowledge		0.539			
27	Uninteresting information		0.451			
32	Inappropriate information		0.448			
29	Imbalance between information and instruction		0.424			
7	Less access to wanted information		0.406			
Factor 3: Peers' Influence						
14	Misunderstanding of peers' ideas			0.578		
40	Inferiority to group-members			0.566		
20	Insufficient support from peers			0.504		
Factor 4: Course Design						
18	Fewer assignments for self-learning				0.605	
17	Inadequate level of the course				0.567	
24	Inappropriate speed of the course				0.465	
Factor 5: Learner-self						
50	Less confidence in fulfilling the assignments					0.625
15	Anxiety in explaining ideas					0.428
26	Interests-lost in learning					0.412

Table 4: Item loadings in the factor analysis of female participants' demotivation

No.	Item	F1	F2	F3	F4	F5
Factor 1: Inadequate Facilities						
28	Impact on EFL learning method	0.579				
47	Relate new information with study	0.433				
35	Infrequent utility of digital facilities	0.430				
49	Mismatch between requirements and facilities	0.411				
22	Limitation and resistance on searching information	0.410				
46	Inconvenience of facilities	0.400				
Factor 2: The Teacher						
2	Teacher's ambiguous explanation		0.595			
34	Insufficient technological support		0.500			
31	Teachers' insufficient preparation		0.488			
41	Insufficient instructional support		0.406			
Factor 3: Information and References						
45	Unspecific and unclear information			0.501		
23	Excessive information			0.490		
1	Inappropriate level of resources			0.486		
27	Uninteresting information			0.402		
Factor 4: Course Design						
42	Excessive activities				0.489	
18	Fewer assignments for self-learning				0.423	
30	Ill-organized activities				0.421	
Factor 5: Learner-self						
26	Interests-lost in learning					0.501
15	Anxiety in explaining ideas					0.426
16	Frustration due to many failures					0.423

Hypothesis 2-gender: The study was carried out to explore the correlation between Chinese college EFL

learners' individual variables and their demotivation in WebQuests context. The Bartlett's Test of Sphericity was significant, revealing the data collected was adaptive for factor analysis. Consequently, principle component factor analysis was conducted (the cutoff point for loadings on each factor was set at 0.40) to examine the gender differences in Chinese college EFL learners' demotivation. Table 3 and 4 illustrate the loading on each item within factors (demotivators) extracted for male and female participants respectively.

As to male participants, five factors were drawn out. Factor 1 included 8 items (2, 5, 21, 31, 34, 38, 41, 48), correlating with teachers' teaching capacity, style and attitudes towards L2 instruction in WebQuests. Therefore, this factor was entitled The Teacher. Factor 2 contained seven items (7, 23, 25, 27, 29, 32, 44), reflecting how male participants were demotivated by inappropriate information and references in WebQuests tasks. This factor was named as Information and References. Factor 3 covered three items (14, 20, 40) and was labeled as Peers' Influence, indicating the demotivating influence exerted by peers in interaction. Factor 4 consisted of three items: Item 17 and 24 revealed subjects' aversion of ill-designed course whereas Item 18 targeted at the inappropriate amount of assignments for high-order thinking and learning autonomy. Hence, this factor was defined as Course Design. Factor 5, made up of three items (15, 26, 50), signified male subjects' internal forces to reduce or diminish motivation in WebQuests-based EFL learning and was hence nominated Learner-self.

Meanwhile, the results of female participants are illustrated in Table 4. Factor 1 comprised six items (22, 28, 35, 46, 47, 49), adhering to teaching facilities and school equipment. Therefore, this factor was entitled Inadequate Facilities. Factor 2 included four items (2, 31, 34, 41), concerning teacher-related elements and was hence addressed as The Teacher. Factor 3, containing Item 1, 23, 27 and 45, proved inappropriate information and references, both in quantitative and qualitative forms, impaired participants' motivation. This factor was entitled as Information and References. Factor 4 was named as Course Design as the constituent Item 18, 30 and 42 embodied the frustration elicited by ill-organized course and accompanying tasks. Factor 5 highlighted learners' internal triggers of demotivation and was entitled as Learner-self.

Among the male and female participants' categorization of demotivators, four out of five were shared by both sides, namely The Teacher, Information and References, Course Design and Learner-self. Peers' Influence was unique to male subjects, while Inadequate Facilities to female counterparts. Besides the similarities

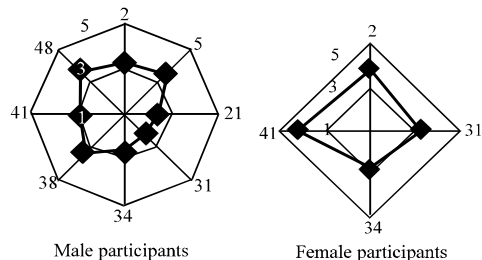


Fig. 3: Radar charts of the means on teacher-related items of male and female participants

of categories between male and female Chinese college EFL learners, discrepancies still existed to be reviewed, involving the complexity of teacher-related factors, the detrimental influences of peers within male learners, as well as the emphasis of facilities by female counterparts.

In retrospect of previous demotivation studies, most learners report teachers as one of the most significant demotivators. Both male and female subjects of this study were of no exception. However, the constituent elements of this demotivator to both genders were not the same. In comparison with female learners who concerned more on teachers' instructional role in classroom, male counterparts demanded more on teachers. Hence, teachers' deficiency in overall qualifications in WebQuests, involving teaching competence, attitudes, motivation and even personality, is more likely to demotivate male learners than females. The complexity of teacher-related items presented in Fig. 3 exemplifies this discrepancy.

It is alarming to find the negative consequences of peer work stood out among male participants in this study. Actually, the majority of learners with individual differences are likely to be prone to fall victims of peer pressure. However, male students tended to express contempt or jealousy more directly and aggressively toward peers of the same gender according to data analysis. Therefore, male learners are more likely to be outcast by peers and thus deprived of the opportunities to practice English, consequently silenced and demotivated. The high mean value of Item 14 (4.160) revealed learners' anxiety in understanding peers' views and Item 20 (3.817) of subjects' sense of helplessness in peer work. This finding echoes Li's (2013b) former assertion that male learners' demotivation in interaction and cooperation outstands further than that of females' in WebQuests classroom. Therefore, reconsiderations are needed to meticulously design and organize cooperative WebQuests tasks, so as to construct social interaction for learners' L2 acquisition within WebQuests contexts.

The demotivator of Inadequate Facilities was unique to female participants in this study. The inducement of this salience lies in the features of WebQuests which demands highly of both technological facilities (Item 35, 46, 49) and learners' competence in manipulating the facilities (Item 22, 28, 47). With the increasing integration of ICT into WebQuests-based EFL classroom, new term of technology literacy emerges (Segers and Verhoeven, 2009), representing a wide range of crucial abilities targeting at learning in Internet-based context, including: (1) Ability to find and assort the appropriate information among the vast amount of resources available online, (2) Ability to integrate newly required information into the acquisition of new knowledge, (3) Ability to apply computer-based techniques into the problem-solving situations, (4) Ability to reconsider and evaluate knowledge application and learning process in the Internet-based environment. Female participants' demotivation in Inadequate Facilities revealed their increasing anxiety of technology literacy. Rather than becoming technophile, females learners are afraid of being technophobia within WebQuests, as learners are just not learning to deal with technology, but are using the technology to enhance their high-order thinking and scaffold learning within WebQuests, as well as other ICT-based EFL contexts.

Hypothesis 3-major: Paired-samples T test was conducted to evaluate the statistical significance of discrepancies among participants from discriminating major backgrounds. Results proved learners majored in Engineering, Liberal Arts and Science manifested discrepant major-specific demotivational performance in WebQuests-based L2 learning ($p = 0.00$). This finding accords with Segers and Verhoeven's (2009) assertion that in the perceptions of WebQuests, major is shown to correlate with learners' demotivation.

Figure 4 demonstrates all the 19 items with mean values exceeding 3.000 in any of the three majors. As discussed before, the mean values of Item 2, 4, 5, 8, 10, 14, 20 and 36 went beyond 3.000 in all the three majors and did not have the statistical significance to show the distinction among different majors. The rest 11 items were studied hereby.

Engineering majors were demotivated the least in WebQuests as merely Item 25 (3.036) surpassed the mean value of 3.000. This item correlated with learners' demotivation of accomplishing WebQuests activities with their prior knowledge. Since, engineering majors had sufficient experience in dealing with computer-based tasks, the main attribution of this

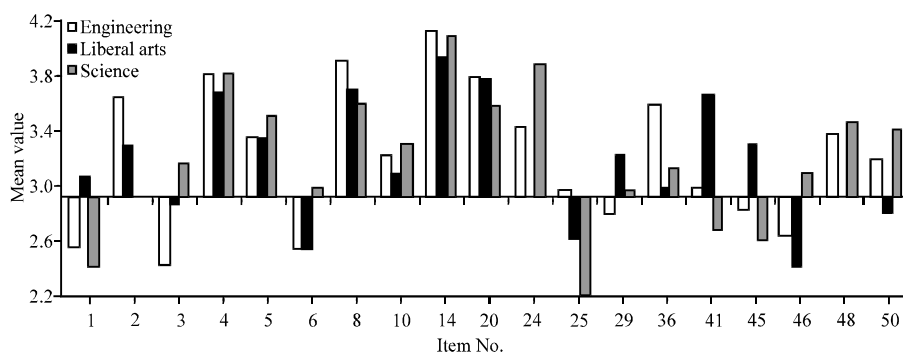


Fig. 4: Selected items with mean value over 3.00 N (Engineering) = 83, N (Liberal Arts) = 101, N (Sciences) = 33

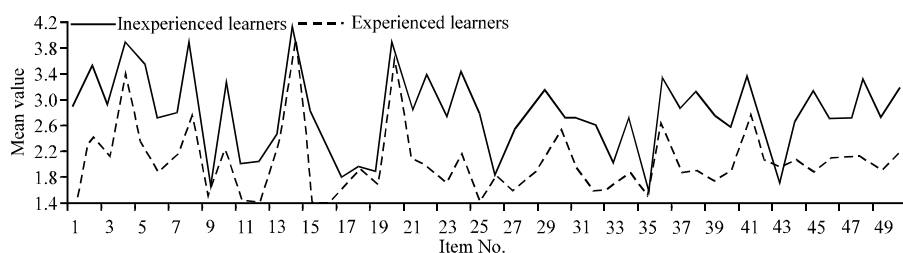


Fig. 5: Descriptive statistics of items between experienced and inexperienced participants (N = 204, N = 13)

demotivating element lied in subjects' insufficient L2 proficiency or learning experience.

Meanwhile, liberal arts participants demotivated significantly on items related with teachers' instructions, like Item 29 (3.327) and Item 41(3.802), revealing subjects' over-dependence upon teachers' instruction rather than learner autonomy within WebQuests. Consequently, the absence or ineffectiveness of tutors' facilitation might lead to liberal arts learners' deficiency in managing information obtained in WebQuests, as Item 1 (3.149) and Item 48 (3.406) proved.

With regard to science majors, demotivative elements covered a wide range of fields, including the ill-designed assignments of WebQuests (Item 3, 24, 29), the inadequate facilities (Item 6, 46), coupled with teachers' negative moods towards online learning (Item 48). This salience might result from the features of science learners who emphasize on rational learning style and logical way of thinking (Li, 2013b).

Hypothesis 4-learning experience in WebQuests: It was presupposed that experienced learners in WebQuests might pay more attention to negative factors of WebQuests as aforementioned. In this study, the correlation between Chinese college EFL learners' demotivation and learning experience in WebQuests had been confirmed. However, the result was contrary to the hypothesis. New learners (less than one year's

experience) in this survey were found to be more demotivated in WebQuests-based L2 learning. As one participant with more than two years' experience in WebQuests reported, he would not be easily demotivated in WebQuests due to the sufficient experience accumulated. In line with qualitative feedback, the quantitative data revealed noticeable discrepancy between the two subgroups as well. The average mean value on all 50 items of new learners was 2.801, significantly surpassed that of experienced counterparts (2.060). In addition, new learners scored higher on the mean value of most items than the others (Fig. 5). Therefore, it can be concluded that Chinese college EFL learners with little or no learning experience in WebQuests are more inclined to be negatively affected by detrimental elements of English language learning within WebQuests contexts.

In response to the experience-related phenomena, sufficient correlated WebQuests-training is suggested, recommending teachers to introduce WebQuests-based practices so as to familiarize EFL learners with this type of Internet-based L2 learning.

CONCLUSION

There is an agreement that integrating WebQuests into classroom is responsible for organizing learning process and encouraging learners' autonomy in

classroom, which are regarded as key factors in developing deep approaches to L2 learning. However, some problematic aspects of WebQuests have a real influence on learners' demotivation to long-term learning in ICT-based environment. Therefore, the field is still open to advances but especially so in terms of the application of new technology-driven approaches to foreign language teaching and learning, a field in which many foreign language teachers feel unfamiliar.

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