SITUATIONAL ANXIETY IN L2 INSTRUCTION: A CASE STUDY ON LEARNER VIRTUAL BEHAVIOUR

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Besides motivation and attitude, anxiety proves to strongly affect L2 learning. Synchronous text-based environments offer an opportunity to investigate situational anxiety in a learning environment which differs from the traditional classroom. In catering differently to factors such as personality trait, acceptance, orientation, communication, performance and evaluation, virtual learning spaces may alter users' behaviour and situational anxiety.This paper reports on a small-scale case study carried out with EFL tertiary learners at the Language Centre, University of Calabria, Italy and in-service teachers training at the local chapter of TESOL-Italy. Under different circumstances and for different purposes, both groups were sharing the common ground of approaching virtual learning environments as novices. Findings reflect on comparative L2 situational anxiety in relation to virtual behaviour.

Key words: L2 situational anxiety, virtual learning environments, virtual behaviour, second language teaching/learning.

1. Introduction

Language anxiety has been defined as "the feeling of tension and apprehension specifically associated with second language contexts" (MacIntyre & Gardner, 1994, p. 284). In the L2 classroom, the feeling of tension anxiety related to classroom dynamics may appear as acceptance

anxiety, orientation anxiety and/or performance anxiety (Heron, 1989). The learner's situational anxiety level may, therefore, be related to personality traits or to specific L2 tasks. As "a construct of anxiety which is not general but instead is specific to the language acquisition context" (Gardner, 1985, p. 34), L2 anxiety has been assessed on the basis of three factors, namely, communication apprehension, test anxiety, and fear of negative evaluation (Horwitz et al.,1986). In particular, overt performance anxiety has been probed through the Foreign Language Classroom Anxiety Scale (FLCAS) devised by Horwitz et al. (1986).

Beyond the traditional L2 classroom, synchronous text-based spaces in virtual learning environments (VLEs) offer an opportunity to investigate situational anxiety from a different perspective. Due to their specific features, virtual learning spaces cater differently to factors such as personality trait, acceptance, orientation, communication, performance and evaluation.

This paper investigates whether situational anxiety can be overridden in VLEs. The hypothesis is that VLEs reduce or remove this form of anxiety to the extent that such learning spaces may alter users' personality traits and virtual behaviour when engaged in learning processes.

Based on a small-scale case study, the research was carried out in two distinct stages, respectively with EFL tertiary learners (Group 1) at the Language Centre, University of Calabria, Italy and with EFL in-service teachers (Group 2), training at the local chapter of TESOL-Italy. Under different circumstances and for different purposes, both groups of participants were sharing the common ground of approaching VLEs for the first time. Group 1 was engaged in EFL learning in a MOO environment. Educational MOOs are text-based environments which allow learners not only to interact synchronously and move around virtually, but they also enable users to carry out actions, create interactive objects and exploit the language learning potential of such multi-user domains (Shield, 2003). On the other hand, Group 2 was involved in designing and producing digital EFL materials on an e-platform. The research instruments employed were: a) the Myers-Briggs Type Indicator (MBTI) (1962) to assess participants'

personality types prior to the virtual experience; b) a direct online observation grid; c) a VLE satisfaction questionnaire. The MBTI, based on Carl Jung's theory of individual behaviour, has been applied to the educational setting to foresee and create specific instructional procedures and environments which best respond to each personality type (Lawrence, 1984; Jensen, 1987; Barrett, 1991; Dewar & Whittington, 2000). Beauvois & Eledge (1996) claim that both introvert and extrovert learners are facilitated by synchronous computer-mediated communication (CMC). The research parameters, set to compare outcomes from the two groups, are based on: acceptance, orientation and performance anxiety and on communication apprehension and fear of negative evaluation. Findings attempt to show how VLE behaviour affects L2 situational anxiety.

2. Overview of Situational Anxiety in L2 Instruction

Research on L2 learner-centred methodology has attributed great importance to learners' needs in the affective domain as much as those in the knowledge domain. In addition to motivation and attitude, the strong influence of anxiety on L2 learning has been investigated (Horwitz, 1986; Horwitz, Horwitz & Cope, 1986; Horwitz & Young, 1991; Macintyre & Gardner, 1991; Horwitz, 2001). Within the literature, the SLA framework developed by Gardner's (1985) socio-educational model is a common reference point to gain insight into L2 situational anxiety. Gardner's model identifies four main stages, namely, social milieu, individual differences, SLA contexts and outcomes which determine the SLA process. According to Gardner, individual differences, i.e., intelligence, language aptitude, motivation and situational anxiety are affected by cultural beliefs in society and, in turn, such personal learner features condition the formal and informal SL contexts which determine linguistic and non-linguistic outcomes. The model, therefore, suggests that L2 situational anxiety exerts a direct influence on both the formal and informal SL learning contexts and, consequently, on the linguistic outcomes. While Gardner's (1985) linguistic and non-linguistic outcome stage covers overt performance anxiety which has been probed through the FLCAS (Horwitz et al., 1986), it is also equally

important to identify the forms of anxiety which may occur in the other three stages with reference to VLEs. When first introduced to synchronous text-based environments, individuals are usually unfamiliar with the virtual social milieu and its norms. Their individual differences and personality traits are no longer conditioned by real-world conventions. In this input phase, learners receive new stimuli and accustom themselves with the multi-user community. It can be envisaged that this initial strive creates some level of acceptance anxiety. In the processing phase, when learners are operating in the virtual SLA context to carry out required activities, they may experience orientation anxiety, communication apprehension and fear of negative evaluation. In the output phase when learners' products are presented to the whole virtual community, performance anxiety may occur.

The main aim of this paper is to focus on a case study in which L2 situational anxiety in VLEs is examined in the three phases. However, the different forms of L2 situational anxiety are first overviewed in the traditional classroom.

3. L2 Situational Anxiety in the Traditional Classroom

Heron (1989, p.33) defines three aspects of *existential anxiety* related to classroom dynamics, i.e., everything that happens in and between the participants (Hadfeld, 1992) which call for Heron's (1989) three questions:

a) Will I be accepted and liked? (acceptance anxiety)

Teachers may not realize it, but they are often judgmental toward their students in the classroom. Fellow students are also judgmental when they express their approval or disapproval, show impatience, or mock one another (Turula, 2002, pp. 29-30).

b) Will I understand what is going on? (orientation anxiety)

In the traditional classroom, the absence of overtly stated objectives often creates a sense of loss in the learners and impedes their understanding of how specific activities and tasks support their learning needs.

c) Will I be able to learn what I have come to learn? (performance anxiety) This form of anxiety in the classroom can stem from the negative feelings of uneasiness, self-doubt, frustration and tension in not being able to cope adequately with the accomplishment of tasks and activities and/or the production of materials.

Two other questions can be appropriately added to Heron's ones (1989):

d) Will I be willing to communicate freely? (communication apprehension) Willingness to Communicate in L2 is the main goal of language instruction (MacIntyre, et al., 1998). Willingness to Communicate is impeded by actual or anticipated communicative events associated by learners with states of anxiety which generate communication apprehension (McCroskey, 1977).

e) Will I be negatively judged if I fail expected achievements? (fear of negative evaluation)

The failure to manage classroom activities gives some learners a feeling of frustration and insecurity with a subsequent loss of control over the L2. This condition arouses fear of being judged negatively by both the teacher and peers and may impede the learner in classroom dynamics.

4. The Case Study

The small-scale case study attempts to investigate L2 *situational anxiety* in two VLEs, namely, an educational MOO and an e-platform or Learning Content Management System (LCMS). The research hypothesises that in the different instructional phases, the relative anxiety components, i.e., acceptance and orientation (input), communication apprehension and fear of negative evaluation (processing) and performance (output) are catered for differently by VLEs to the extent that learners alter their learning behaviour.

4.1. Participants

Twenty-five participants took part in the research in two separate groups and stages. The first group was composed of eleven tertiary students, majoring in Economics at the University of Calabria, Italy and with an average B1 CEF English proficiency level (Council of Europe, 2001). All volunteered to take part in MOO sessions run at the University Language Centre. The second group, composed of fourteen in-service EFL practitioners, was training in e-learning at the local chapter of TESOL-Italy, Cosenza. The group was specifically engaged in constructing digital Learning Objects in a LCMS. While subjects belonging to both groups had varying degrees of experience with internet-based technologies, they all shared the common ground of being absolute novices in VLEs. The selection of the two groups was purposed to carry out a comparative analysis of learner virtual behaviour in relation to L2 situational anxiety.

4.2. Methodology

The study is based on quantitative and qualitative research carried out in three phases. In the first phase, a personality type survey was carried out to identify participants' personality type referring to the MBTI. Individuals' personality traits were defined and related to L2 acceptance anxiety. In the second phase, a direct online observation survey was carried out to identify qualitative factors which denote levels of orientation anxiety, communication apprehension and fear of negative evaluation. In this phase, all participants were actively engaged in the two respective VLEs: MOO and LCMS. The tertiary learners were using the educational MOO known as SchMOOze University, a virtual English-speaking campus, available at http://schmooze.hunter.cuny.edu/test.html. The group was supported by an instructor who had previously been trained to deal with MOO technology. MOO sessions were held over a six-week period for a total of eighteen hours. Additional unlimited self-access sessions for autonomous MOOing at the language centre were also scheduled. The EFL teachers used Kairos, a restricted LCMS, accessible at: http//: itismonaco.garamond.it upon enrolment in the e-learning training course. The course was run over a five-

week period by an e-learning tutor and included a self-paced learning core for a total of forty hours. For both groups, the direct online observation survey was carried out during interaction in the respective virtual chatrooms. In the third phase, a VLE satisfaction questionnaire was administered to collect participants' feedback on L2 situational anxiety in the VLE. Finally, all collected data were analysed and compared.

5. Research Instruments and Procedures

5.1. The Myers-Briggs Type Indicator (MBTI)

The MBTI was administered in the L2 input phase prior to the virtual experience. All twenty-five respondents were administered the MBTI test to assess their four-letter personality type based on the four scales of Extroversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), Judging-Perceiving (J-P). Participants combined the results of the single scales to express their personality preferences according to one of the 16 four-letter MBTI acronyms. Individual preferences were analysed to identify MBTI-type dynamics and highlight predominant personality features (*dominant function)*. Results were examined on the basis of the research parameter of acceptance anxiety.

5.2. The Direct Online Observation Grid

A grid was devised to observe relevant features of participants' virtual behaviour as indications of different aspects of L2 situational anxiety in relation to VLE dynamics. The grid was based on three indicators: 1. lurking; 2. netiquette behaviour; 3. interaction. Lurking is defined as eavesdropping on a virtual discussion while refusing to communicate or contribute to it. Three types of lurkers have been described by Dence (1996): a) people who simply use others' contributions without contributing themselves (freeloaders); b) users who need time to adapt to the environment and its norms (sponges); c) people who are encountering problems (access, skills, confidence) in participation (unskilled). In the present research, lurking is an observation indicator restricted to possible cases of *sponges*

and/or *unskilled* users since all participants volunteered to engage actively in the educational VLEs. Thus, occurrence of such *silent* behaviour (no online exchange after ten minutes) is considered as an indirect indicator of: a) *acceptance* anxiety deriving from the sense of unease of adjusting to the VLE (sponge); b) *orientation* anxiety due to technological difficulties encountered (unskilled).

Netiquette behaviour was introduced as an indicator of participants' fear of evaluation subsequent to failure to adhere to the principles of politeness, respect of people's privacy, forgiveness of other people's mistakes within the VLE.

The third indicator – interaction – was used to trace factors which could show levels of communication apprehension and performance anxiety. Such factors included the appropriate use of virtual language (CMC abbreviations, writing style/speed of synchronous text-based threads), use of self-help support (e-resources, L1 use), influence of VLE atmosphere (recorded text-based expressions of collaboration or enjoyment).

The grid was used with Group 1 during three MOO sessions and with Group 2 during three Kairos plenary chats to collect data on learner virtual behaviour. The three events observed refer to the initial, intermediate and final phases of the virtual experience in an attempt to trace a pattern of L2 situational anxiety.

5.3. The VLE Satisfaction Questionnaire

A satisfaction questionnaire was designed to measure participants' satisfaction of the virtual experience. The questionnaire, consisting of fifteen items, was devised on a five-point Likert Scale (strongly agree - strongly disagree) with the aim of probing participants' sense of L2 anxiety in the VLE, immediately after the experience.

6. Findings and Implications

MBTI data were collected for all respondents and nine different personality profiles were identified. Table 1 below shows the four-letter MBTI personality types for Groups 1 and 2.

Table 1: Data on participants' MBTI personality and dominant types

Group 1 *(11 respondents)*		**Group 2** *(14 respondents)*	
MBTI	n° respondents	MBTI	n° respondents
INTJ	1	**IN**TJ	1
ISTJ	1	**IN**FJ	1
ISFJ	1	**IS**TP	1
INFP	1		
ENTJ	1	**EN**TJ	5
ESTJ	2	**ES**TJ	5
ENFJ	4	**EN**FJ	1

The two letters in bold highlight the MBTI *dominant* type worked out for each profile following Myers-Briggs' indications. The six profiles whose first letter is an I, have a dominant *introverted* type. The last letter (J or P) is used as a guide to figure out the priority of one of the two middle letters (S-N or F-T) to which this type is applied. When I is combined with the last letter J, the dominant is given by the second letter (S or N). Consequently, 3 individuals have Introverted Intuition (**IN**TJ,**IN**FJ) and 2 Introverted Sensing (**IS**TJ, **IS**FJ). On the other hand, when the Introverted dominant is combined with the last letter P, the dominant is the third letter (F

or T). In the present case, 1 person has Introverted Feeling (**INFP**) and 1 Introverted Thinking (**ISTP**).

The dominant type was also figured out for the 18 individuals who showed a general preference for extroversion (E) as in Table 1. In this case, if the last letter is a J, then the dominant will be the third letter, and if it is a P, then it will be the second letter. Overall, 13 respondents show Extraverted Thinking (**ENTJ**: 6; **ESTJ**: 7) while 5 have Extraverted Feeling (**ENFJ**). The six dominant personality types were then considered in further detail to understand how they would relate to the VLEs. The general attitude of the 7 introverted types is to focus on the inner world of thoughts, whereas the focus of the 18 extroverts is on the outer world. However, each personality type differs in relation to the dominant mental function (S, N, F, T). Subsequently, the 3 introverted intuition types consider the consistency of thoughts with their inner framework and are often misunderstood. It can, thus, be envisaged that these types may experience a sense of acceptance and communication anxiety when engaged in VLEs. The 2 introverted sensing types recall previous experiences and compare them with the present situation. The VLE may arouse levels of acceptance and orientation anxiety in these individuals who are novices to such environments. The one introverted feeling type evaluates things according to her preferences and values and views things in terms of likes and dislikes. Acceptance anxiety may be present in this type when engaged in the VLE. The one introverted thinking type may experience difficulties in conveying her internal logical thoughts to others. This may create levels of both acceptance and communication anxiety. On the other hand, the thirteen extraverted thinking types tend to organise and structure the outer world following logical principles. In an unfamiliar setting such as a VLE, these individuals may also experience levels of L2 situational anxiety. The five extraverted feeling types focus on the likes and dislikes of others and organise the outer world on interpersonal relationships. These individuals may not experience L2 situational anxiety in the VLE.

Results from the online observation survey are illustrated in Table 2 below. Data refer to the groups' behaviour observed during three virtual

learning sessions (initial, intermediate, final). Figures refer to the number of individuals whose text-based behaviour was relevant to the L2 virtual behaviour indicators.

Data recorded on the basis of the first indicator show that lurkers' *silent* behaviour was more persistent in Group 2. Figures, in fact, show that beyond the initial session, all members in Group 1 engaged actively in the MOO. No behavioural delay of over ten minutes was observed in sessions II and III which indirectly denoted acceptance and/or orientation anxiety. In contrast, all individuals in Group 2 behaved silently either as *sponges* or as *unskilled* users at some time during the first session. The high number of *sponges* (sessions I and II) indicates that these individuals experienced some level of acceptance anxiety until they completely adjusted to the VLE (session III). A similar trend was recorded for a lower number of unskilled lurkers who encountered orientation difficulties on the LCMS. Their text-based requests for help connoted feelings of orientation anxiety.

Table 2: Data on participants' virtual behaviour

L2 Virtual Behaviour Indicators	MOO Sessions			LCMS Sessions		
	I	II	III	I	II	III
Lurking:						
- Sponges	2	=	=	11	9	=
- Unskilled	1	=	=	3	1	1
Netiquette:						
- politeness	4	8	10	4	14	14
- respect of privacy	3	10	10	4	14	14
- forgiveness of other people's mistakes	11	9	10	14	10	8

Interaction :						
- appropriate use of virtual language	8	10	11	2	13	13
(CMC abbreviations, writing style/speed of synchronous text-based threads)						
- use of self-help support:						
L1 use	=	=	=	7	3	1
e-resources	3	3	=	=	=	=
- positive influence of VLE atmosphere:						
text-based expressions of collaboration	5	2	=	9	11	13
text-based expressions of enjoyment	10	11	11	=	8	9

Results show that the young adults in Group 1 adapted almost immediately to the VLE since they are generally more familiar with new technologies. On the other hand, the adults in Group 2 showed greater reticence towards the new environment, revealing levels of acceptance and orientation anxiety through their virtual behaviour.

Data recorded on the basis of the netiquette indicator show a steady rise of L2 interaction politeness and respect for privacy in both groups. As participants' behaviour increasingly adhered to netiquette norms, their level of orientation anxiety dropped. Group 1 appeared to be more stably tolerant towards other people's mistakes, whereas there was a noticeable drop in tolerance among members of Group 2. This can be explained by the competitive attitude denoted in text-based remarks during the final session when the training e-groups presented their L2 learning objects to the virtual community. On the other hand, some members of the e-groups expressed their fear of being negatively judged while presenting their products.

The misuse of virtual language mainly observed in Group 2 during the initial session created a high level of communication apprehension. This sense of anxiety was manifested by 50% of the group who resorted to the use of L1. When invited by the e-tutor to switch to L2, these individuals claimed that their intention was to reduce the sense of frustration deriving from virtual language misunderstandings. However, as they slowly adapted to appropriate virtual language norms, they increasingly interacted in L2, thus, showing a fall in communication apprehension. On the other hand, Group 1 was probably more familiar with CMC and, therefore, made very little use of self-help support, apart from referencing the e-dictionary available in MOO (e-resources). Figures for both groups show a high number of individuals positively influenced by the VLE atmosphere. Data were recorded on the basis of text-based expressions of collaboration and/or enjoyment. Group 1 relied less on collaboration apart from the initial session when they were required to master MOO functions to operate adequately in the environment. The informal atmosphere of MOO and its so-called *players* stimulated a sense of enjoyment in a relevant number of participants. On the other hand, Group 2 was positively affected by the VLE atmosphere due to the spirit of collaboration present among members of the single e-groups. A significant number of participants also expressed their sense of enjoyment while producing and presenting their learning objects. In both cases, no significant levels of performance anxiety were observed.

Finally, the VLE satisfaction data were analysed on the basis of the 15-item questionnaire administered to all individuals. The questionnaire, designed to probe participants' sense of L2 anxiety in the VLEs, was articulated as follows: items 1-3 (acceptance anxiety level); items 4-6 (orientation anxiety level); items 7-9 (fear of negative evaluation); items 10-12 (communication apprehension); items 13-15 (performance anxiety level). Figures, reported in Table 3, highlight individual responses to the questionnaire items for both groups.

Comparative findings show that acceptance anxiety levels (items 1-2) are higher in Group 2 where a major number of individuals do not *always* feel sure of themselves in the VLE. These data appear to be consistent with

findings on lurking in Table 2. However, both groups claim that virtual identity eases their feeling of acceptance anxiety (item 3). The text-based environment, in fact, renders the *physical* person and their body language *invisible*. This fact is substantiated by the decrease in lurking (see Table 2) with the exception of one individual in Group 2. This implies that among the 7 individuals who have an *introverted* personality (see Table 1), only one person in Group 2 reveals acceptance anxiety throughout her virtual behaviour. Cross-checking of the four introverted *dominant* types (Introverted Intuition, Introverted Sensing, Introverted Feeling, Introverted Thinking) was carried out to pinpoint the participant's dominant personality type. Findings indicate that the two introverted types (INTJ and INFJ) in Group 2 have the same dominant Introverted Intuition as the INTJ type in Group 1 which does not show noticeable acceptance anxiety levels. The remaining individual is, therefore, the Introverted Thinking (**IST**P) type who experiences difficulties in conveying her inner logical thoughts to others and, probably, feels unaccepted.

Table 3: Data on participants' feedback to VLE Satisfaction

VLE Questionnaire Items	Group 1 (MOO)					Group 2 (LCMS)				
Rating: 5:strongly agree **4**: agree **3**: neither agree nor disagree **2**:disagree **1**:strongly disagree	5	4	3	2	1	5	4	3	2	1
1. I don't always feel sure in the VLE		1		3	7	9	5			
2. I always feel like interacting immediately		8		2	1					14
3. Virtual identity makes me feel at ease	9	2				13			1	
4. I keep silent when I don't understand what I have to do		2		9		3	11			

5. I feel confused about VLE social norms		2		9		3	11				
6. I feel tense if l have technical difficulties in the VLE	2				9	3					11
7. I never worry about behaving wrongly	8	3					4		9	1	
8. I am afraid of being negatively judged by others when I get things wrong				3	8	1	9		4		
9. I feel tolerant of other people's mistakes	10			1		8			6		
10. I'm nervous when it's my turn to *speak* in VLE					11		1				13
11. I panic when I don't know how to use proper virtual language	3			8		7			7		
12. Text-based interaction makes me communicate more freely	11						13		1		
13. Virtual group collaboration helps me feel more self-confident	2		9			13			1		
14. I worry about the consequence of failing to accomplish tasks		4		7			3			10	1
15. I feel very self-conscious about virtual L2 *speaking* in front of others				1	10	1				4	9

Data on orientation anxiety levels (items 4-6) are also higher for Group 2. Figures show that all three introverts experienced orientation anxiety related to L2 objectives, VLE norms and technology. On the other hand, only two of the four *introverted* types in Group 1 claimed to

experience orientation anxiety. Fear of negative evaluation (items 7-9) is stronger in Group 2. The informality of MOO, the absence of evaluation and the role of the instructor (co-player) all eventually facilitated spontaneous youth behaviour and removed the fear of being negatively judged even in the introverts. In contrast, fear in the adults in Group 2 can be explained by the more formal training setting, by the need to meet the e-tutor's requests and set goals. Feedback on communication apprehension (items 10-12) shows that overall text-based interaction facilitated exchanges for both groups. No relevant sign of communication apprehension arose from participants' turn-taking, apart from the case of the Introverted Thinker in Group 2. The misuse of virtual language, however, created some level of apprehension which is consistent with self-help support data in Table 2. Performance anxiety (items 13-15) was mostly overridden in Group 2 through group collaboration. On the other hand, fewer expressions of collaboration were recorded for Group 1. This can be explained by the fact that MOO *players* were not evaluated but simply required to use English in a communicative context. Lastly, respondents claimed that virtual self-consciousness did not affect their performance.

7. Conclusions

The present small-scale case study has investigated virtual learner behaviour in relation to L2 situational anxiety in VLEs. Comparative findings between two distinct groups of learners show how forms of L2 situational anxiety are manifested differently through virtual behaviour in two different VLEs. Generally, results indicate that the VLEs tend to reduce this form of anxiety in the majority of dominant introvert personality types although in different ways. The specificity of different VLEs and their pedagogical purpose besides learners' age and technological skills strongly influence virtual behaviour.

A follow-up to the present research will focus more closely on L2 virtual behaviour in comparison to classroom behaviour with a control group to gain deeper insights into the issue. Such awareness-raising research ought

to provide further understanding of how to cope with variables which affect learners' L2 situational anxiety in formal learning contexts.

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