TELL and Innovated BB Study Materials Reflecting Learning Style Preferences

Dagmar El-Hmoudova[a] *****, University of Hradec Kralove, Rokitanskeho 62, Hradec Kralove 500 03, Czech Republic

Abstract

Language education especially on tertiary level has always been in need of pedagogically effective teaching materials. Innovated, teacher-made materials can not only respond to current events and local context, but they can also be directed much more effectively toward the interests and needs of particular learners. In this paper we emphasize creative and interactive approaches to English as a second language teaching, and offer a broad range of strategies and techniques with respect to our students' learning style preferences. Based on our research within a group of 104 students of Management and Tourism, we present multiple modalities and innovative materials administered to our students in the University Blackboard LMS. We explore any evidence regarding how innovated study materials can enhance acquisition of language skills and whether students react positively and improve their language proficiency.

Keywords: TELL; learning style preferences; Blackboard; innovated materials;

* ADDRESS FOR CORRESPONDENCE: **Dagmar, El-Hmoudova**, University of Hradec Kralove, Rokitanskeho 62, Hradec Kralove 500 03, Czech Republic.*E-mail address*: dagmar.elhmoudova@uhk.cz/ Tel.: +420 604 709 438

1. Introduction

This paper looks at approaches to learning with technology, in particular, applied English language as a second language learning in academic field and technology. There has been demonstrable move from computer-assisted language learning (CALL) to technology enhanced language learning (TELL) at the Department of Applied Linguistics in the Faculty of Informatics and Management, University of Hradec Kralove. At this stage, the two approaches CALL and TELL co-exist, even though they use different tools. One of the main differences between CALL and TELL is that we see technology not as assisting language learning, but as part of the environment in which language exists and is used. (Linghtbown & Spada, 2013) Obviously, TELL includes a wide range of devices, in particular, phones, game consoles, and tablets. These are "daily life" devices, with large potential. The table below provides overview of different phases of Integrative CALL (Warschauer, 1996) and TELL and their relation to different approaches to learning and learning psychology, see Table 1.

As all our students, who take their professional ESL classes within their fields of study, are in fact " digital natives" who have a natural affinity with technology, it was necessary to reflect this fact in the creation of new learning materials in the university LMS (the adaptation process), which is our case Blackboard.

Table 1. CALL and TELL Relation to Learning Approaches

Approach	Integrative CALL	TELL
Technology	Multimedia/Internet	Mobile devices, tablets, multiplayer games, virtual world
English-teaching paradigm	Content-based ESP/EAP	Communication, interaction
View of language	Socio-cognitive (social interaction)	Structural, cognitive, socio-cognitive, adaptable
Principle use of technology	Authentic discourse	Normalized
Principle objective	Agency	Autonomy within community
View of learning	Social constructivism/situated learning	Connectivism
Role of teaching	Mediational tool	Environment/resource

2. Methods

2.1. Learning style model

We believe that when using information about learning styles to provide adaptivity, a detailed description of learning styles can improve the adaptation process. Information about learning styles is also crucial when identifying relationships between learning styles and the performance of students in an online course (Hayes & Allinson, 1996). In this paper, we focus on Felder-Silverman learning style model (FSLSM) (Felder & Silverman, 1988), a learning style model that is often used in technology-enhanced learning and that is designed for traditional learning.

This model rates the student's learning style in a scale of four dimensions. Each learning style can be defined by answering these four questions:

1. What kind of information does the student tend to receive: *Sensitive* (external agents like places, sounds, physical sensations), or *intuitive* (internal agents like possibilities, ideas, through hunches)?

2. Through which sensorial channel do the students tend to receive information more effectively: *Visual* (images, diagrams, graphics), or *verbal* (spoken words, sounds)?

3. How is the information processed: *Actively* (through physical activities and discussions), or *reflexively* (through introspection)?

4. How does the student make progress: *Sequentially* (with continuous steps), or *globally* (through leaps and an integral approach)?

Table 2. shows the learning styles dimensions (LSD) that resulted from the questions:

Table 2. Felder Learning Styles Dimensions.

Learning Style Dimension	Type	Description
Perception	Sensitive	Rather deal with facts, raw data and experiments, they're patient with details, but don't like complications.
	Intuitive	Rather deal with principles and theories, are easily bored when presented with details and tend to accept complications.
Entry channel	Visual	Easy for them to remember what they see: images, diagrams, time tables, films, etc.
	Verbal	Remember what they've heard, read or said.
Processing	Active	Learn by working in groups and handling stuff.
	Reflective	Learn better when they can think and reflect about the information presented to them. Work better alone or with one more person at most.
Understanding	Sequential	Follow a lineal reasoning process when solving problems and can work with a specific material once they've comprehended it partially or superficially.
	Global	Take big intuitive leaps with the information, may have a difficulty when explaining how they got to a certain result, need an integral vision.

2.2. Learning materials preferences

Knowing the learning styles of students we can select the type of teaching strategies and the most appropriate TELL materials. Fransoni and Assar (2009) recommend some of selected teaching strategies and prepare e-media materials for each learning style:

Sensitive Learning Style: The content must be practical, courses should have an immediate connection with the real world, using concrete methods that are oriented towards facts and procedures that follow previously established techniques. The requested homework must be detailed, not global, including problem solving, laboratory exercises and concept memorization.
Teaching Strategy: Problem solving based learning.
Electronic Media: Forums

Intuitive Learning Style: The content must be innovative, oriented to theory and meanings, with abstractions and mathematical formulae, avoiding repetitive methods. The requested homework must include the discovery of relations and actions. The introduction of new concepts can be used but not as memorizing facts but as abstractions.

Teaching Strategy: Discussion Panel
Electronic Media: Forums, Wikis, E-mail

Visual Learning Style: The content must be a heavy on visual components. The requested homework must include actions to visualize, the information gathering must use visual representations, images must be used in order to make it easier for the students to remember the contents, and the teacher can request diagrams that summarize the homework.
Teaching Strategy: Simulations and games
Electronic Media: Electronic Presentations, Videos (pedagogic), Animations

Verbal Learning Style: The content must have a lot of oral and textual components. The requested homework must include written essays or oral presentations, the information gathering must use textual representations, texts must be used in order to make it easier for the students to remember the contents, and the teacher can request abstracts that summarize the homework.
Teaching Strategy: Brainstorm
Electronic Media: Chats, blog, Forums

Active Learning Style: Students tend to comprehend and assimilate new information when they practice using it (discussion, implementation, group presentations) and rather learn working with others. The content must be applicable. The requested homework must include work in groups.

Teaching Strategy: Role playing
Electronic Media: Electronic Presentations, Digital Magazines, Digital Newspapers

Reflexive Learning Style: Students observe and ponder experiences. Data are collected and analyzed thoroughly about before any conclusion is made. The content must be related with experiences. The requested homework must include personal work.

Teaching Strategy: Cases study
Electronic Media: E-books

Sequential Learning Style: The content must be written orderly, step by step. The requested homework must consist of small orderly steps that are logically associated to the problems being solved. This allows content to be shown in steps (chapters).

Teaching Strategy: Presentation
Electronic Media: Audioconference

Global Learning Style: The content must be written in big leaps, suddenly and almost randomly. Students can solve complex problems quickly and put things together in an innovative way but may have difficulties to explain how they did it. This allows seeing everything as a whole.

Teaching Strategy: Project design method
Electronic Media: Internet research

Unfortunately, most of ESOL course books still do not have much technology attached to them, apart from DVDs and CD-ROMS. TELL materials move opportunities for learning beyond the classroom and give students more choice and autonomy in what, when, how and where they learn. Moreover, they can provide differentiated activities for different kinds of learners. It broadens the spectrum of locations in which learning can take place, involving using mobile devices and computers outside the classroom. See Table 3.

Table 3. Examples of How TELL can Support Language Learning Process

Type of learning activity	Examples of how TELL can support it
Repetition and memorization	Using the repeat button on an embedded video.
	Audio podcast I order to listen again.
	Highlighting a word in a reading text and asking a comprehension question.
	Having another "go" at a task.
Input – making it comprehensible	*Including images to clarify meaning.*
	Providing hyperlinks to online dictionaries, translations etc.
Salience and noticing	Highlighting language items and adding commands.
	Annotating parts of a reading text with notes.
	Using a concordancing program to explore how a word or phrase is used in different context.
Output	*Writing blogs and e-mails.*
	Watching YouTube videos.
	Voting in an online survey.
Interaction	Taking part in virtual classrooms.
	Doing collaborative projects such as wiki, digital storybooks.

The act of incorporating technology changes how we view the role of s a student, teacher and subsequently the course textbook.

3. Methods and data collection

The research took place in 2014/2015 academic year at the Department of Applied Linguistics, Faculty of Informatics and Management, University of Hradec Kralove, in a focus group of 104 (72 female and 32 male) first and third year students of Tourism Management.

To identify the students learning style (LS) preferences, Felder´s ILS – Index of Learning style was implemented into the e-course of Professional English language course. The Index of Learning Styles (ILS), developed by Felder and Soloman, is a 44-item questionnaire for identifying the learning styles according to FSLSM. As mentioned earlier, each learner has a personal preference for each dimension. These preferences are expressed with values between +11 to -11 per dimension, with steps +/-2. This range comes from the 11 questions that are posed for each dimension. When answering a question, for instance, with an active preference, +1 is added to the value of the active/reflexive dimension whereas an answer for a reflexive preference decreases the value by 1. Therefore, each question is answered either with a value of +1 (answer a) or -1 (answer b). Answer a corresponds to the preference for the first pole of each dimension (active, sensing, visual, or sequential), answer b to the second pole of each dimension (reflexive, intuitive, verbal, or global).

The data obtained from our research detecting LS preferences in a focus group of 104 bachelor students are provided in Figures 1-8.
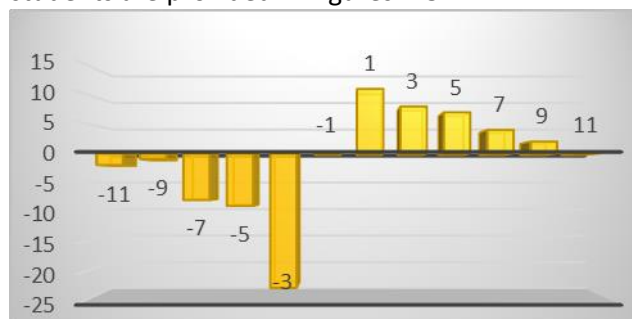

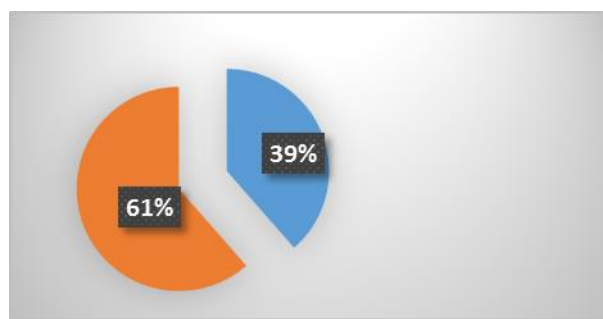**Figure 1. Active/reflexive preference in focus group focus**

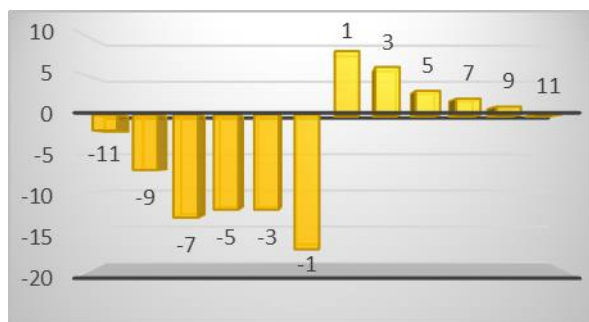**Figure 2. Active/reflexive preference in %. preference in group**

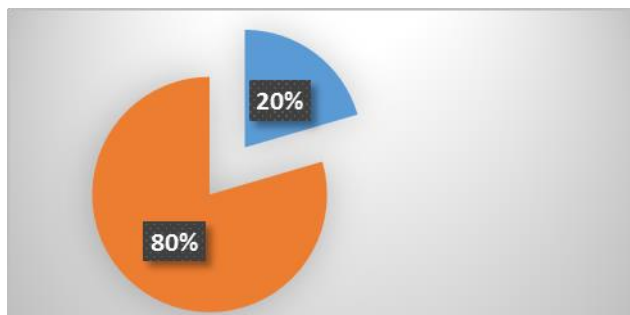**Figure 3. Sensing/intuitive preference in focus group**
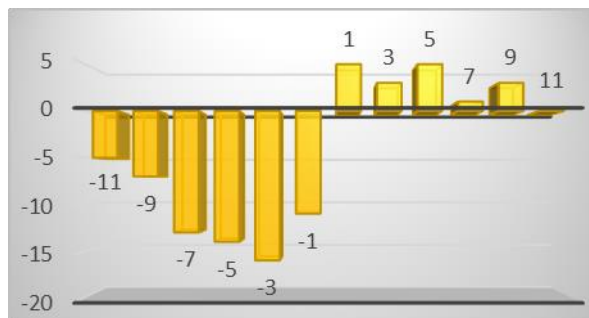

Figure 4. Sensing/intuitive preference in %
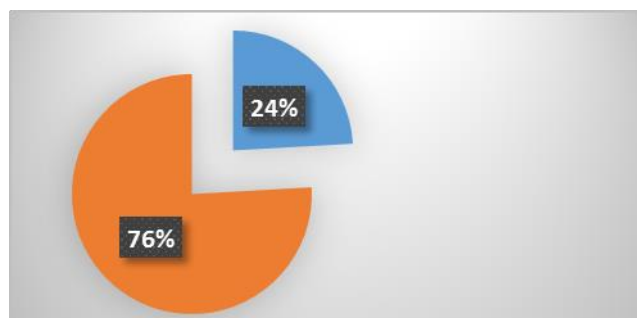
Figure 5. Visual/verbal preference in focus group

Figure 6. Visual/verbal preference in %.
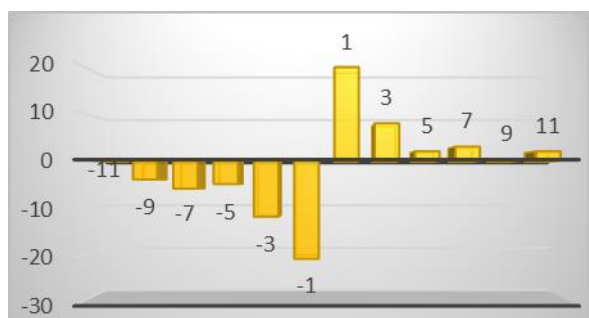

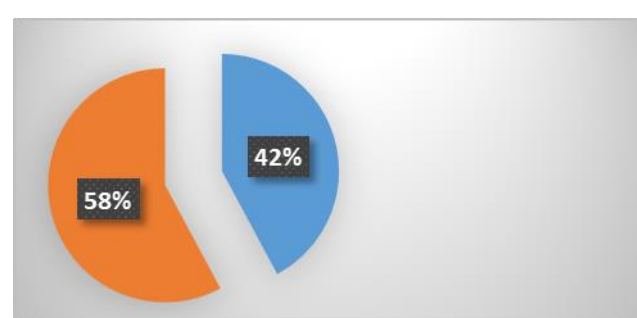**Figure 7. Sequential/global preference in focus group**

Figure 8. Sequential/global preference in %.

Findings from the study indicate that the participants do vary in their preference for particular learning styles. First, we analyzed the distribution of preferences for each dimension. As a result, 61% of the students in our study were found to have an active preference, 80% a sensing preference, 76% a visual preference, and 58% a global preference. Figures 1; 3; 5; and 7 show a more detailed description, classifying the preferences of learners in strong/moderated (values from 5 to 11 in the ILS) and balanced (values from +3 to -3 in the ILS). Looking at the overview of similar studies given by Felder and Spurlin (2005), our results are mainly in agreement with the results of these studies. We can conclude that according to the distribution of the preferences, it can be seen that the results of our study are in agreement with the results of studies already performed worldwide.

3.2. Study materials in Blackboard

To assemble a number of criteria for assessing how particular uses of TELL can help language learners obtain responses to research questions, an on-line questionnaire consisting of 16 questions aiming to detect the students´ needs and attitude to current Professional English courses at FIM was administered to the focus group of students in winter semester 2015.The questionnaire consisted of four parts – A - background information (personal details, field of study, job experience), B – experience with English materials in study and work, C – evaluation of current Professional English courses, D – suggestions for innovations. The results prove that that 65% of students use English materials in their study or work, as opposed to 6% who never use them, which points to the importance of incorporating authentic language materials (ALM) in teaching strategies and learning environment at this level of foreign language instruction. Enquiry into specific types of learning materials used by the students indicates that over 60% of students use electronic teaching materials (Blackboard LMS) and professional websites (e.g. IBM BigData EduCloud) in English. On the other

hand, 35% state that they use printed manuals or books. Surprisingly, only 11% of students are accustomed to working with professional journals in the English language. Data detecting the students´ evaluation of current content of Professional English classes at FIM revealed that 37% students would definitely welcome further differentiation in the course content based on specific field of study, 49% would partially welcome that, and only 14% think it is not necessary. This gives us a firm basis for further innovation in this direction. It was decided that the only efficient way how to achieve this within the given curriculum is to transform current face-to-face teaching into a blended course (using Blackboard LMS), where the e-learning part would include three different e-courses for the respective field of study, while the in-class teaching would focus on more general language competences and professional skills. This is also supported by the fact that, although 51% students still prefer face-to-face teaching, almost equal percentage (49%) view e-learning or blended learning as a suitable option.

Students were also asked for specific suggestions concerning the content of the intended e-courses. It became evident that they perceive professional vocabulary acquisition (88%), grammar practice (66%), and professional communication skills (64%) as their highest priorities in an on-line professional English course.

4. Results and Implications

Based on the research data, we can state, that most of our students have learning style preferences in the process of learning. In our focus group 80% are sensors and 76% visual students, which means that senses, especially visual ones, are very important and teachers should take this fact into account when creating the language e-courses.

As Blackboard LMS is one of the most useful of visual aids, teacher can use a wide range of in class or online visual resources for students' development in the learning process. Things that we see have an enormous importance in affecting and giving us information. The emphasis has to be made on giving the students "a reason" for listening, reading, writing or speaking. Visual elements are, in this way, a very good "reason" in order to motivate students to interact with the foreign language because they can clearly see the language in use by means of meaningful elements which attract their attention and, at the same time, motivate them to use the language in different ways. Moreover, the activities in which there are several skills practiced, or in which several things can be done, are more suitable for using them in the classroom.

As for study materials preferences (see Fig.9.), students prefer mostly power-points (65%) prepared by their teachers and uploaded in BB e-courses, followed by manual animations (53%) and demonstrating video sequences (48%); printed materials (35%) still play their role in the education environment and lots of students are used to working with them. That is why the possibility to print out the materials uploaded in BB courses is essential part of every course instruction.

Figure 9. Study Materials Preferences.
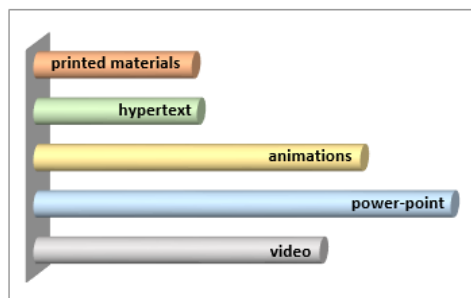
5. Conclusion

Predicting the technology trends is difficult as new trends are often subject to fashion, nevertheless, it is obvious that especially mobile technology – mobile apps and tablet computing; games-based learning and internet should be implemented in larger scale into our e-courses. There is no longer a clear distinction between "cyberspace" and real space (Facer, 2011) and digital technologies bring the real world into the classroom and vice versa. These facts are very important for teachers when creating or updating the language e-courses, especially on the tertiary level.

In the course of the process of new professional English language e-courses creation, the teachers at the Department of Applied Linguistics, Faculty of Informatics and Management, University of Hradec Kralove have implemented TELL learning materials and procedures into the design of their e-courses uploaded in university BB LMS. The research will continue following the question whether and if so how the process of learning is improved by newly implemented technical tools and instructions.

Acknowledgements

References

Facer, K. (2011). *Learning Future: Education, technology and Social Change*. Abington: Routledge.

Felder, R. & Silverman, L. (1988). Learning and teaching styles in engineering education. *Engineering Education, 78* (7), 674-681.

Felder, R. M., & Spurlin, J. (2005). Applications, reliability and validity ofthe Index of Learning Styles. *International Journal on Engineering Education, 21*(1), 103–112.

Franzoni, A. L., & Assar, S. (2009). Student Learning Styles Adaptation Method Based on Teaching Strategies and Electronic Media. *Educational Technology & Society, 12* (4), 15–29.

Hayes, J. & Allinson, C. W. (1996). The implications of learning styles for training and development: A discussion of the matching hypothesis. *British Journal of Management, 7*, 63–73.

Linghtbown, P. M. & Spada, N. (2013). *How languages are learned* (4th edn.) Oxford: Oxford University Press

Warschauer, M. (1996). Comparing face-to-face and Electronic discussion in the second language classroom, *CALICO journal 13*(2), 7-26.