The Concomitance of VLS with Learning Styles in Fostering Reflection among University Students

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ABSTRACT

This study attempts to unveil the Concomitance of vocabulary learning strategies with learning styles in fostering reflection among university students during reading comprehension texts. For this purpose, data is collected employing a primary data source in the form of a structured close-ended questionnaire, which is addressed, respectively, to students from the Departments of English Studies in different universities. The participants of this quantitative study are 84 students recruited using a non-probability convenience sampling. In this study, two data analysis methods are used: descriptive analysis and Pearson correlational analysis. The former summarizes the demographic variables and shows that students employ a duality of styles as they prefer to integrate a multi-modal approach to learning, while the latter analyzes the concomitance of the variables. The findings of the Pearson correlation analysis reveal significant relationships of interest in this study. The most salient findings indicate that there is a significant moderate positive association between the learner's preferences on the one hand, and preparation phase strategies and the teacher's role on the other hand. Additionally, teacher's role is significantly associated with preparation phase strategies, production phase strategies and learner's role. The results of the Pearson correlation indicate that vocabulary learning strategies can also be associated with the classroom environment and management. The study proposes that training in metacognitive, cognition and VL strategies be implemented in language classrooms to increase students' control over learning and to facilitate their knowledge acquisition.

Key words: VLS (vocabulary learning Strategies), LS (Learning Styles), MS (Metacognitive strategies), CS (Cognitive Strategies), RC (Reading Comprehension), PC (Pearson Correlation)

INTRODUCTION

The investigation emphasizes how very recent experimental studies prove that university professors can yield important and functional basis for employing the dichotomy strategy and style to promote strong analytical processes that can shape students' reflection. Previous research has been done in the area of learning strategies and learning styles, but the correlational aspect that links style to strategy specifically in dealing with reading comprehension has been overlooked. Henceforth, the reason for conducting this study is to uncover the correlational aspect that associates style to strategy within the Moroccan higher education. Furthermore, the findings of this study can be useful for EFL instructors, curriculum development, and teacher training units at both Moroccan departments of English studies, as well as other departments. This is what the research questions in this study aim to address. Historically, both the feasibility and the developmental stages used in class can lead not only to higher order thinking skills (HOTS), but also to the paramount significance needed in retrospective and retroactive reflection. This type of reflection is found in research to emerge

accordingly calling therefore to recognize the facility, feasibility and practicality of the task. In addition, the classroom process during which this occurs is noticed to simultaneously transgress habit formation into innovative approaches where the product is indeed important but the whole process is the ideal passage towards reversal in vocab item recognition and meaning detection. The importance of the current investigation lies in highlighting how reflection indeed evolves while teaching reading comprehension especially while catering for the interrelatedness of learning strategies and learning styles.

LITERATURE REVIEW

The Importance of Learning Vocabulary

Vocabulary is often viewed as the foundation of a language, and thus, vocabulary knowledge plays a crucial role in language learning. In this view, Schmitt (2020) claims that vocabulary knowledge, including its form, uses, and meaning, is vital to the acquisition of a foreign language, and that no other linguistic knowledge (e.g., writing, reading, speaking,

listening) can be utilized without the mediation of vocabulary. Scholars such as Read (2000), and Nation (2013) further characterize the correlation between vocabulary knowledge and language use as interrelated: the former facilitates language use in the production of complete written and spoken language, and conversely, the latter prompts vocabulary knowledge. Accordingly, to enhance the learners' language learning goals, it is essential to establish vocabulary knowledge of the language first.

Vocabulary Learning Strategies

Several scholars have defined learning strategies differently. According to one of the earliest scholars in the field, learning strategies are "techniques or devices" employed by the learner to facilitate his knowledge acquisition (Rubin, 1975). Joining this idea, Tarone (1981, as cited in O'Malley & Chamot, 1990) agrees that learners employ learning strategies to further develop their linguistic knowledge of the language. In addition, Oxford (1990) states that learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations" (p. 8). Hence, they assert that learning strategies are the combination of the learner's actions, conscious, and subconscious thoughts to make learning more effective.

This growing awareness has resulted in various taxonomies. O'Malley and Chamot (1990) taxonomy' categorize vocabulary learning strategies into metacognitive, cognitive, and social strategies. Alternatively, Oxford (1990) categorizes learning strategies into direct and indirect strategies. On the one hand, direct strategies directly involve the language through the use of mental processing LLSs such as memory, cognitive, and compensation strategies to mentally store, comprehend and recuperate the target language. On the other hand, indirect strategies indirectly support language acquisition through the use of metacognitive, affective, and social learning strategies which help to gain a control over the learners' motivational and emotional states. In contrast, Schmitt (2020) groups all VLS into two categories: discovery, and consolidation. The former refers to the strategies employed to uncover the meaning of new vocabulary, and they include determination and social strategies, while the latter refers to the strategies employed to reinforce the vocabulary stored in our lexicon, and they include social, memory, cognitive, and metacognitive strategies.

In line with the objectives and scope of this research, the present study focuses on two primary aspects: metacognitive and cognitive learning strategies. Each aspect is illustrated before conceptualizing their concomitance with learning styles in fostering reflection.

Cognitive Strategies

O'Malley and Chamot (1990) define cognition as how knowledge is processed cognitively. In this respect, cognition involves actions such as encoding, storing, retrieving, and using knowledge for specific contexts. These operations are linked to different categories of human cognition. Therefore,

they are defined in several theoretical frameworks (Oxford, 1990; O'Malley & Chamot, 1990). In this study, we follow Oxford's (1990) taxonomy which classifies these operations into four categories "Practicing, Receiving and Sending Messages, Analyzing and Reasoning, and Creating Structure for Input and Output" (p. 43) (as illustrated in Figure 1). Noting that the strategies' first letters form the acronym "PRAC", Oxford emphasizes the claim that "Cognitive strategies are PRACtical for language learning." (p. 43).

In an investigation of how cognitive strategy training influences the reading and writing skills of EFL learners, Olson and Land (2007) holds that learners receiving cognitive strategies instruction enhanced their proficiency on holistically scored assessments in comparison with the other peers without strategy training. Likewise, Yussof et al. (2012) reports that employing various cognitive strategies (e.g., questioning, synthesizing, etc.) increases the learners' reading comprehension skills more effectively in comparison with the conventional method. Similarly, Suyitno (2017) agrees that learners use several cognitive strategies in reading comprehension texts. However, he holds that cognitive strategies possess both positive and negative effects depending on the accuracy of the strategy employed in accordance with the text being studied. Thus, the incorporation of an appropriate cognitive strategy is crucial in vocabulary learning.

In another study, Tabrizi et al. (2021) attempt to examine, in a sample of 90 students, the effectiveness of reading comprehension and vocabulary via cognitive strategies rather than traditional strategies. The authors conclude that employing cognitive strategies results in the growth of L2 reading comprehension and vocabulary knowledge. Furthermore, based on the differences in the impacts of cognitive strategies, they claim that summarizing, re-reading, and taking notes are more beneficial in teaching and learning English reading comprehension and vocabulary.

Metacognitive Strategies

Regulation of cognition, on the other hand, encompasses a set of metacognitive strategies which relate to how learners self-direct their learning processes, including tasks managements, through 'planning, monitoring, controlling, and evaluating' language learning (Whitebread et al., 2007). Metacognitive planning guide learners set clear and achievable task goals through the integration of the metacognition aspects of the learners' knowledge (Flavell, 1979). Monitoring involves the learners' reflection of progress, and whether or not the selected strategies serve their purpose. Metacognitive controlling entails the learners' response as a result of reflecting monitoring. This includes strategies shift and goals adjustment. Monitoring and control, in this view, are inevitably associated strategies (Cunningham et al., 2016). Finally, metacognitive evaluation is the learners' reflection on their success in accomplishing their tasks and employing effective strategies (Whitebread et al., 2007).

Following this idea, metacognitive strategies involve not only abstract strategies, but also conscious higher-order thinking skills such as the ability to analyze tasks, produce
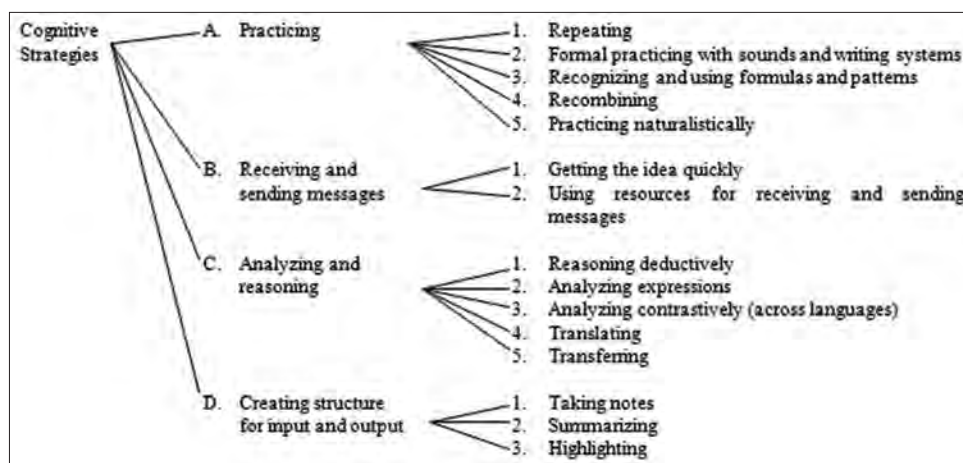
Figure 1. Oxford's cognitive strategy classification. Reprinted from "Language Learning Strategies: What Every Teacher Should Know', by Oxford, R, L 1990, p. 44. Copyright 1990 by New York: Newbury House Publication.

rational solutions, identify errors, and make assumptions to enhance the learning progress (Trujillo et al., 2015).

Several studies have tried to examine the role of metacognition in foreign language teaching and learning (Anderson, 2002; O'Malley & Chamot, 1990). Anderson (2002), for instance, points out that metacognition skills make learners more prepared to make conscious decisions in comparison with learners with no or little metacognition skills. He further adheres that employing metacognitive skills is what differentiates between strong and weak foreign language learners. Correspondingly, O'Malley and Chamot (1990) claim that learners lacking metacognition skills "are essentially learners without direction" (p. 8).

Furthermore, Öztürk and Aydoğmuş (2021) argue, in their study, that metacognitive reading strategies assist students in discovering the major concepts, explicit and implicit information, allusions, and the meaning of unfamiliar words in texts. They also assist students in actively participating in their own learning, organizing and managing it, and reviewing new information. Therefore, they claim that employing such strategies is pleasant and important for meaningful learning.

Learning Styles

Oxford (2003) defines the concept of *learning styles* as the preferred learning approach employed by the learner when participating in a learning task. Theoretically, a learning style offers a subjective pattern that directs the learner's learning processes, influences academic performance (Ilcin et al., 2018), enhances self-efficacy beliefs (Arbabisarjou et al., 2016), and plays an important role in predicting motivation (Ghaedi & Jam, 2014). Therefore, learners may act differently in the way they respond to the learning task or environment depending on their style preferences.

In this light, different scholars have proliferated the concept, with each focusing on scrutinizing a different aspect. Myers et al. (1998), for instance, focus on the learner's personality as they classify learners into sixteen types based on four different features: *energy, information, decisions, and lifestyle*. Alternatively, Kolb (2015) emphasizes the learner's internal cognitive processes as he points out a four-stage

cycle of learning containing four different and separate types of learning styles: (i) diverging learners are learners who prefer to feel and watch rather than do. Kolb claims that diverging learners do best in tasks that require brainstorming; (ii) Assimilating learners are learners who prefer to watch to understand a specific phenomenon, then set a well-organized logical interpretation; (iii) Converging learners are learning who prefer hands-on tasks and relies on their knowledge to solve tasks; and finally, (iv) Accommodating learners are learners who also prefer 'hands-on' tasks, but instead of their experience, they rely on intuition.

On the contrary, the visual, auditory, and kinesthetic learning styles (henceforth VAK) focus on the learner's direct learning through different modalities. VAK, in this respect, indicates that learners must make use of their senses. According to Gholami (2013, as cited in Hardiana & Suyata, 2018) visual learners are learners who prefer to employ a learning style which is associated with audio-visual contents such as graphs, diagrams, and texts to enhance their learning progress. Auditory learners are learners who effectively interpret information by listening. Kinesthetic learners are those who prefer to carry out learning activities to enhance their learning progress rather than simply observing or listening to a lecture (Hardiana & Suyata, 2018).

Reading Comprehension Development

A rising amount of literature has recently discussed the importance of reading comprehension. One framework posits that reading comprehension is essentially a passive 'bottom-up process', whereby the reader extracts meaning through the decoding of texts without taking into consideration neither the environment nor the reader's knowledge (Carrell, 1998). This indicates that the reader, in this model, is not required to develop their schemata, but must focus solely on their processing skills, such as their knowledge of the lowest levels (e.g., letters, syllables, etc.) and the highest levels (e.g., sentences, etc.). Hence, vocabulary and syntax are the central focus of bottom-up models to generate meaning.

On the other hand, Goodman (1988, as cited in González & María, 2017) postulates that reading comprehension is a

'psycholinguistic process' that "*starts with a linguistic surface representation encoded by a writer and ends with meaning constructed by the reader*" (p. 162). In this view, this model is based on a constructivist approach rather than passively deciphering texts. Goodman, in this respect, adheres that proficient readers construct an authentic agreement that is comparable to the author's original meaning and notes that proficient readers employ learning strategies to reduce vacillation, direct their learning path, and draw deeply on prior linguistic competence.

Additionally, Brown (2001) elucidates that the top-down and bottom-up models cannot alone explain the reading process in terms of schema theory. He shows the need to utilize a set of related concepts, such as metacognitive skills, prior knowledge, emotion, and culture –that is schemata, to make sense of the texts.

The Importance of Automaticity in Vocabulary

Automaticity is a process believed by a number of researchers to play a major role in L2 learning particularly when dealing with learning vocabulary. According to Mclaughlin as reported by Gass (1997, p. 148) "*automaticity has to do with a learner's response which has been built up through the consistent mapping of the same pattern of activation over many trials*". This means that routines that are practiced and repeated by learners in class do help them to gain automaticity.

Bygate (2009) defines routines as 'conventional ways of presenting information'. He talks about *frequently recurring types of information structures* which help learners recall words easily and these can be either *information routines* like narration, description, and instruction or *interactional routines* like interview situations, conversations at parties, radio or television interviews. This also leads to a relatable controversial issue of how these 'frequently recurring types of information structures' can facilitate reading comprehension.

In this regard, Williams (2008, pp. 671-691) shows how focus on form can be combined with communication activities. She presents what she calls a FonF (focus on form) Taxonomy (p. 677) which she explains as:

> *Focus is taken to mean any brief turning or dividing of learner attention during an act of communication, such as reading, conversing, listening, and so forth toward some feature of language. The essential characteristic is that although there is a brief or simultaneous focus on code features: pronunciation, inflectional morphology, word form, word definition, and the like, the overriding focus is on the processing of meaning as part of an act of communication…the diversion to form is in service of communication of meaning.*

Williams (2008) thus explains how, even though form is assumed to be a structural feature, it can equally involve the drawing of learners' attention to a second language pragmatic convention. In this regard, she cites Cook's (2001) description of the morphological contextualization cues that are essential to pragmatically appropriate discourse in Japan and that, because they are not salient, should be brought to the learners' attention because they are not readily apparent to students. She also makes reference to Long (1996), who provides an illustration of how FonF might be used to highlight problematic terms, in which case the form would be lexical. And this is what Williams (2008) qualifies as:

> *FonF might include the use of a typographic enhancement or glossing of words…heighten learner attention to a word's meaning, not just its structural features. This flagging of lexical items and in particular, their meaning rather than a grammatical form, is a broader view of FonF; in that instead of processing form along with meaning, the learner is processing word meaning in the context of comprehending spoken or written text.this falls within the general perspective of simultaneous or dual processing, which is at the heart of FonF. (p. 673)*

In literature, the fundamental idea behind FonF is that textual enhancement and flooding may make it easier for learners to achieve tasks by providing them with enriched input or instruction. In this view, William cites Ellis (1998, 2001) who uses the term 'structured input' who holds that activities are most effective when they prompt learners to attend to form in order to process meaning.

RESEARCH QUESTIONS

1. What are Vocabulary Learning Strategies VLS and what is their importance in teaching reading comprehension?
2. How does reflection evolve in vocab cognitive and metacognitive strategies while teaching vocabulary to different learning styles?
3. Does the duality style and strategy lead to more item recognition and reflection?

RESEARCH METHODOLOGY

This section outlines the methodological procedures and techniques used to conduct the study. The research design, the instruments, the participants, and the units of analysis are all described in this section along with the explanation for each component's use. Additionally, techniques for acquiring validity and credibility are addressed.

Research Design

This study employs a quantitative research design to answer the research questions using numerical data. That is the inverse of qualitative research, which involves the use of non-numerical data. According to Kultar (2007), a quantitative research can clarify a theory, link issues to current practice, gauge current action or practice, and associate what others in similar situations are doing. As a result, it registers the statistical frequency of occurrences regarding the population, captures events, and provides a factual and accurate representation of the population being studied. In particular, this quantitative research employs a mixed descriptive-correlational design. The former is used to accurately and systematically describe the participants' distribution and to "help us understand and summarise the data" (Adams et al.,

2007, p. 171), whereas the latter investigates the association between the constructs.

Instrument

This quantitative research employs a primary data collection tool. A close-ended Needs Analysis questionnaire, in this respect, was assigned to students on Google Forms, the aim of which is to shed light on students' needs and analyze them in response to the research questions at hand. We used this data collection instrument because it is more convenient than some other data collection methods such as interviews, as it saves time and financial resources while also providing greater anonymity (Kumar, 2011).

In this light, the Needs Analysis questionnaire consists of two sections. The first section is about the students' backgrounds and is composed of four questions designed to accumulate primary demographic data about the participants. The second section comprises seven categories; each designed to gauge a different facet and includes a set of Likert Scales ranging from 1 to 5, with values: 1 = Always/Totally Agree; 2 = Usually;…; 5 = Never/Totally Disagree.

Participants

This quantitative study involves 84 students enrolled in three public universities in Morocco, recruited using a non-probability convenience sampling. According to Hesse-Biber and Leavy (2005, 2011), as cited in Leavy (2017), non-probability convenience sampling involves "identifying research subjects based on their accessibility to the researcher" (p. 110). Following this idea, Adams et al. (2007) argue that non-probability sampling is the optimal method when the researcher lacks two variables. On the one hand, the sampling frame, as they claim that "in a situation when a sampling frame is absent, one can easily go for non-probability sampling methods to serve the objectives of the study" (p. 89). Non-probability sampling, on the other hand, is favored over probability sampling because it is cheaper and easier to conduct.

Accordingly, Table 1 is a descriptive summary of the distribution of the participants. The majority of the participants 57.1% (n=48) are females, while 42.9% (n=36) are males. Among the participants, 29.8% (n=25) are aged between 18 and 19 years old. Approximately 66.7% (n=56) of the participants are students at the Ibn Tofail University in Kenitra, and 58.3% (n=49) are students beyond Semester 1 and Semester 2.

Data Analysis Procedures

In order to meet the study objectives, data was collected with Google Forms and exported to IBM SPSS Statistics version 26. The analysis was carried out in stages. Following the data exportation, missing data were identified using the pairwise deletion method, which according to Newman (2014), enables the researcher to include the cases with missing values while analyzing only the variables with non-missing values.

Following the data preparation, descriptive analysis was used to analyze the distribution of the participants as well as

Table 1. Distribution of the participants

Variables	*f*	**%**
Gender		
Male	36	42.9
Female	48	57.1
Age		
18/19 years old	25	29.8
20/21 years old	21	25
22/23 years old	12	14.3
24 years and older	26	31
University		
Ibn Tofail University	56	66.7
Mohammed V University	9	10.7
Cadi Ayyad University	19	22.6
Level of Education		
Semester 1	2	2.4
Semester 2	33	39.3
Beyond S1 and S2	49	58.3

the students' responses to the kind of activities that helps them the most. Additionally; correlational statistics was employed to investigate the association between the constructs: (A) Learner's preferences; (B) preparation phase strategies; (C) production phase strategies; (D) learner's role; (E) Teacher's role; (F) classroom environment and management; (G) vocabulary learning strategies. The Likert scale scores, in this respect, were treated as 'interval data', and therefore, a parametric test such as the Pearson correlation coefficient was employed to scrutinize the association between the constructs.

RESULTS

Validity and Reliability

Validity and reliability are two key concepts in assessing quantitative research. The extent to which a measure actually taps what we think it taps is referred to as its validity. Reliability is defined as the consistency of results. Accordingly, this study opts for using face validity because it is the simplest and the least sophisticated method in verifying whether the questionnaire appears to measure what it claims to measure (Leavy, 2017). Furthermore, we assessed reliability using internal consistency, which, as the name implies, assesses how well the questionnaire measures what is intended to be measured.

In this matter, internal consistency is measured using Cronbach' coefficient alpha. Cronbach's alpha, in this light, is a consistency coefficient that measures how closely related a set of Likert scales is as a construct. The analysis calculates the relevant data for each construct, with values of .6 or higher considered adequate levels of reliability. Results show that the questionnaire generally yields an acceptable internal consistency. Noting that the lowest Cronbach"s alpha is the "learning preferences" construct with an alpha value of (α =.600), and the highest alpha is the learner's role construct consisting of 17 items (α =.916) (Table 2).

Learning Preferences Results

In detecting how their reflection evolves and in answer to RQ2 (research question 2), Figure 2 reports results related to students' perceptions of the kind of activities that helps them the most to learn vocabulary. This part includes eight Likert scales (ranging from "totally agree" (value = 1) to "totally disagree" (value = 5)).

Students' perceptions of the kind of activities that helps them the most to learn vocabulary in class reveal some highly significant values related to learning styles. Figure 2 show that the majority of participants agree that they learn better when the booklet is illustrated with visual material (68.8%), the themes employed in the booklet are interesting (57.8%), the teacher uses other printed material instead of the booklet (43.8%), the booklet includes listen and repeat short stories (43.8%), and the content of the booklet is varied (32.8%). These results imply that students employ duality of styles as they prefer to integrate a multimodal approach to learning where booklets are presented in various formats to enhance their understanding of the contents.

Pearson Correlation Results

Table 3 describes the correlation analysis of the constructs under study. It measures the strength of the association between the following constructs: (i) learner's preferences, (ii) preparation phase strategies, (iii) production phase

Table 2. Reliability of the Likert scales

Categories	N of Items	Cronbach's Alpha
Learning preferences	8	0.600
Preparation phase strategies	7	0.792
Production phase strategies	12	0.686
Learner's role	17	0.916
Teacher's role	16	0.842
Classroom environment	12	0.822
Learning strategies	9	0.759

strategies, (iv) learner's role, (v) teacher's role, (vi) classroom environment and management, and (vii) vocabulary learning strategies.

In answer to RQ3 (research question 3), the results of the Pearson correlation analysis in Table 3 reveal significant relationships of interest in this study. The most salient findings indicate that there is a significant moderate positive association between the learner's preferences on the one hand, and preparation phase strategies (r =.428, p <.01) and the teacher's role on the other hand (r =.471, p <.01). Additionally, teacher's role is significantly associated with preparation phase strategies (r =.504, p <.01), production phase strategies (r =.499, p <.01) and learner's role (r =.438, p <.01). In addition, the results of the Pearson correlation indicate that vocabulary learning strategies are moderately associated with the classroom environment and management (r =.537, p <.01).

DISCUSSION

Basing on above theoretical background and findings and in relation to RQ 1 (research question 1), there is an increasing need to integrate vocabulary learning strategies (VLS) to facilitate vocabulary learning. Language learning strategies promote self-direction for learners since a learning strategy is a series of actions a learner takes to facilitate the completion of a learning task. Therefore, a successful university student knows not only what to study but also how to study (Gavora et al., 2019). As a result, several taxonomies and classification systems have been developed, including O'Malley's (1985), Oxford (1990), Stern (1992), Stoffer (1995), Schmitt (1997), and Nation (2013). Although most of the taxonomies cited above "reflect more or less the same categories", it is Oxford's classification scheme (SILL)* that is mostly adopted by researchers. It has been checked for reliability and validated in multiple ways (Oxford & Burry-Stock, 1995). Besides, the SILL is valid in the sense that the six categories of the SILL measure the same construct, strategies.

In general, research on production skills endorses explicit strategy instruction over providing a separate learning
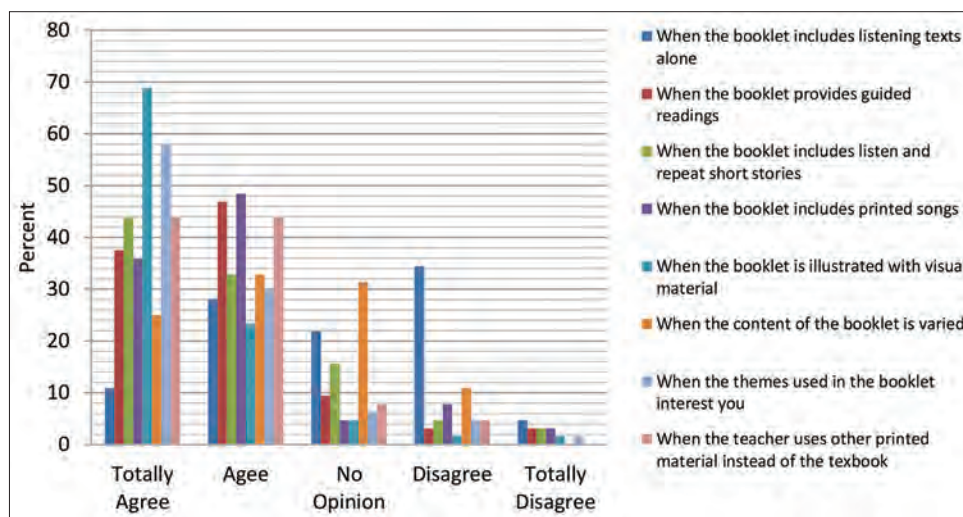

Figure 2. Students' responses on the kind of activities that helps them the most

Table 3. *Pearson's Correlation Analysis*

		A	B	C	D	E	F	G
A	Pearson Correlation	*1*						
	Sig (2-tailed)							
B	Pearson Correlation	*0.428***	*1*					
	Sig (2-tailed)	*0.000*						
C	Pearson Correlation	*0.244*	*0.512***	*1*				
	Sig (2-tailed)	*0.025*	*0.000*					
D	Pearson Correlation	*0.317***	*0.476***	*0.279*	*1*			
	Sig (2-tailed)	*0.003*	*0.000*	*0.010*				
E	Pearson Correlation	*0.471***	*0.504***	*0.499***	*0.438***	*1*		
	Sig (2-tailed)	*0.000*	*0.000*	*0.000*	*0.000*			
F	Pearson Correlation	*0.340***	*0.433***	*0.451***	*0.246*	*0.584***	*1*	
	Sig (2-tailed)	*0.002*	*0.000*	*0.000*	*0.024*	*0.000*		
G	Pearson Correlation	*0.199*	*0.356***	*0.356***	*0.017*	*0.340***	*0.537***	*1*
	Sig (2-tailed)	*0.069*	*0.001*	*0.001*	*0.879*	*0.002*	*0.000*	

**. Correlation is significant at the 0.01 level (2-tailed).
(A) Learner's preferences; (B) preparation phase strategies; (C) production phase strategies; (D) learner's role; (E) Teacher's role; (F) classroom environment and management; (G) vocabulary learning strategies.

strategies course (Bygate, 1991, Chamot & EI-Dniary, 1999; Cohen, 1998; Nunan, 1997; Oxford & Leaver, 1996).

An illustration of what an explicit learning strategy instruction is starts with the teachers who will decide which strategies (e.g. semantic mapping, vocabulary notebook, keyword method, etc.) to give attention to and how much time learners will need to get trained on the strategy during a reading comprehension course. To learn about strategies, students must first identify which ones they will need and which ones they are currently employing. In small groups, students should be asked to create a list of strategies for learning English words. They report their lists to the class. The students and teacher can then, collaboratively, construct a list of strategies the learners employ during text comprehension and manipulation.

After this brainstorming session, and linked to RQ2 (research question 2), the teacher can decide what strategies learners lack and need most to process knowledge cognitively. The teacher should model the strategy for the learners, who will be asked to apply it in pairs while assisting one another, and then to report on the application of the steps. The teacher monitors and provides feedback on learners' control of the strategies. Learners report on the difficulty and success in using the strategy outside classroom, and they seek teachers' assistance and advice on how to use it (Nation, 2013). In general, recent models of vocabulary learning strategy instruction primarily focus on increasing learners' awareness about their own thinking and strategic processes and encouraging them to adopt strategies that will improve their language learning and proficiency. This is why RQ3 (research question three) has emphasized the correlational aspect of style with strategy.

In addition, in a country like Morocco with a multilingual education, there should be more concentration on increasing meta-linguistic awareness among learners through raising their recognition of similarities and differences between the languages they already know and those that are being introduced to them. This invites teachers to develop awareness of cross-linguistic influence especially concerning French since empirical evidence has shown that interference of French has indeed an impact on learners' performance. In addition, positive attitudes towards the use of translation exercises should also be developed to answer learners' needs in this area and help them identify similarities and discrepancies among the languages they know and those they are learning.

CONCLUSIONS

The results of this study demonstrate that in order to attain more effective performance, today's learners must take an active role in their learning and be provided with strategies or techniques and devices to facilitate their knowledge acquisition. From a psycholinguistic view, to process knowledge cognitively to students, cognition involves actions such as encoding, storing, retrieving, and using knowledge for specific contexts. While metacognitive planning guide learners set clear and achievable task goals, a learning style offers a subjective pattern that directs the learner's learning processes.

Based on the findings of this study, a number of implications may be offered:

As a pedagogical implication, it is proposed that cognitive and metacognitive strategies be taught to learners. The instructor, in this respect, needs to explain when and how to employ the various strategies, as well as the advantages of adopting each one of them when, for instance, reading comprehension. Noting that, instructors are encouraged to only initially assist the learners as they learn and adapt to using the strategies, then gradually diminish that support as learners learn to apply them independently. Moreover, it is suggested that instructors use diverse strategies consistent with the unique characteristics of the learners' learning style during classroom activities.

This study's most noticeable drawback is one shared by many questionnaire-based studies as it employs a convenience sampling method. When compared to the other methods, this non-probability sampling method, which does not entail a random selection of participants, is the simplest. However, it should be kept in mind that the study results cannot be generalized to the whole population. Therefore, it is suggested that future research projects should opt for other research instruments to gain more insight into the topic under scrutiny.

Lastly, our study focused on learning strategies and styles only. Thus, there is a need for an experimental study which focuses on the effects of classroom environment and management on VLS and learning styles. Also, misrepresentation of the population is another major limitation in conducting this study as it could preclude the generalization of the findings. To provide an adequate geographical representation, future studies should include students enrolled in the English studies departments of several Moroccan institutions.

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