GALVANIZING STRATEGIC AND INDEPENDENT LEARNING WITH LEARNING TECHNOLOGIES

Marcos A. Sanchez[1],
Marvin W. Lidawan[2i]
[1]PhD, Faculty Member,
Faculty of the Royal Commission,
Jubail's English Language Institute,
Jubail Industrial College Branch,
Kingdom of Saudi Arabia
[2]EdD, Faculty Member,
Royal Commission of Jubail's English Language Institute,
Jubail Technical Institute-branch,
Kingdom of Saudi Arabia

Abstract:

This paper investigates how strategic and independent learning are reinforced by instructional technologies among Common European Frame of References (CEFR) for Languages' B1+ Reading & Writing and B1+ Listening & Speaking classes of the English Language Institute (ELI), Jubail Industrial College Branch. Said study primarily sought different learning strategies' level of use employed by ELI students in reflecting their independent and strategic learning skills and how learning technologies and technology-based component of the ELI curriculum impact the advancement of strategic learning practices. This descriptive-survey employed blended quantitative and qualitative research. Likert Scale was further manipulated for the gathered data's interpretations obtained from survey questionnaire, review of available documents, focus group discussion as well as interviews. Findings revealed that technology could be strongly functional as a short but focused intervention in enhancing and supplementing learning particularly when it is used regularly. It is recommended that educational institutions have to conduct orientation and training on the use of varied and efficient learning strategies to prepare students to handle academic processes. Additionally, classroom teachers should offer direct instruction or learning propositions to modify students' continuing ineffective learning patterns and behavior and to sidestep the blind and damaging use of these skills.

Keywords: strategic and independent learning, language skills, CEFR-languages, teaching and learning strategies, instructive technologies, metacognitive, cognitive, socio-affective

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[i] Correspondence: email marvinwacnaglidawan@gmail.com

1. Introduction

Current studies show that learners in the 21st century have turned self-directed, skills adaptive, technologies-facilitated, and collaborative. It is often concluded that learners can go on their own pace, follow their own sense of management, and easily access engaging tutorials, games, and how-to resources. It is believed by modern educators that learners who enthused on appropriate technology-based resources can scaffold their own learning, strategies, and abilities. With the influences of hypermedia and learning technologies, classroom dynamics, curriculum implementations, and the role of the teacher have changed dramatically with the focus shift from the learning content, to the learner, and now to the learning processes. With time and creativity not easy commodities for teachers, learners can always turn to some quality learning tools and brilliantly generated instructional materials in great dosage and they can easily make up for what they cannot easily get or do from classroom materials and activities to train them to be the strategic students and self-regulated learners being shaped by current educational paradigms.

The students of the English Language Institute in the Jubail Industrial City are 'digital natives', new breed of learners, millennials, and today's generation of learners who are entering the educational system with mindsets shaped to a large extent by the technology driven world. "*These learners grow up with the explosion of web-based tools and resources exposing them to new unprecedented types and more challenging inputs every day – quantitatively and qualitatively. It is claimed that these young people's use of ICTs differentiates them from previous generations of students and from their teachers, and that the differences are so significant that the nature of education itself must fundamentally change to accommodate the skills and interests of these 'digital natives'*" (Prensky, 2001). All these cannot be taken for granted.

Teaching in a Preparatory Year English Program, teachers often wonder if incoming college or university students have efficient learning strategies to do independent learning. In many institutions, courses such as study skills and how-to strategies are part of basic introductory offerings to address this problem. The ELI of the Royal Commission of Jubail is no exemption.

Institutions do take initiatives and many interesting questions float: What dynamics can teachers offer to support students to become successful strategic learners? How can students with their individual learning styles cope with the learning challenges posed by teachers' individual teaching requirements and instructional materials? Which learning technology or learning platform offers a good support and scaffold to independent learning?

The study seeks to contribute in raising awareness and application of strategic and independent learning among Prep Year students and their mentors. Likewise, it intends to explore the impact of the web based pedagogical tools to the learning skills and practices of the participants as well as the implications of these to teaching and advancing strategic learning. This study was conducted to seek answers to the following problems:
1) What level of use of the different learning strategies employed by ELI students reflect on their independent and strategic learning skills?
2) How do the learning technologies and technology-based component of the ELI curriculum impact the advancement of strategic learning practices of the participants?

2. Literature Review

2.1 Some Proponents of Learning Strategies

In the past twenty years, many researches exploring how learning strategies work or used to empower learners (O'Malley et al, 1985; Wenden and Rubin, 1987; O' Malley and Chamot, 1990; Oxford, 1990; McIntyre, 1994; Cohen, 1998; McDonough, 1995; Nunan, 1997; Chamot et al, 1999; Grenfel and Harris, 1999; Madrid, 2000; Macaro, 2001; Lan and Oxford, 2003; Anderson, 1991, 2002; Tseng et al, 2006) have guided academicians and school administrators in implementing reforms in education.

Valcárcel et al. (1996) described strategies as the special actions or behaviours that learners use to help them learn. Ellis (2008) described the process of identifying learner strategies like *"stumbling blindfold around a room to find a hidden object."* He then identified a framework of learning strategies based on two linguistic outputs: the formulaic speech and creative speech. Pattern memorization, pattern imitation, and pattern analysis are the basis of formulaic speech. These are minor strategies compared to those processes and strategies involved in creative speech summarized in Table 1.

Table 1: Processes and strategies involved in creative speech

Process	Strategies
Hypothesis Formation	Simplification
	[1] overgeneralization
	[2] transfer
	Inferencing
	[1] intralingual (via intake analysis)
	[2] extralingual
Hypothesis Testing	Receptive (via intake analysis)
	Productive
	Metalingual
Automatization	Interactional
	Formal Practice
	Functional Practice

2.2 How Good Learners Adapt themselves to Learning Strategies

Grossman (2011) corroborated that good language learners use different strategies to help themselves (Rubin and Thompson, 1982) and that successful learners appear to find strategies that are effective for them as individuals (Chamot & Rubin, 1994; Riding & Rayner, 1998). Cited by Hoang-Thu (2009), good learners are described by Rubin and Thompson (1982) as:

1) Good language learners find their own way to learn and take charge of their own learning.
2) They organize information about the language and their own program of study.
3) They are creative and experiment with the language.
4) They create their own opportunities to practice the language.
5) They learn to live with uncertainty.
6) They use mnemonics by organizing individual items into patterns and linking things together.

7) They make errors work for them and know how to deal with errors (Don't stop talking for fear of errors).

8) They use their linguistic knowledge and rely on what they know such as their first language or other languages they know).

9) They know how to use context to help them understand the message by guessing and taking risks.

10) They need to learn to make intelligent guesses.

11) They learn expressions and idioms as wholes.

12) They learn ways to keep conversations going.

13) They make use of production techniques such as paraphrasing, using synonyms, and asking for help.

14) They use different styles of speech depending on the formality of the context.

Weinstein and Mayer (1983) identified a set of categories of learning strategies that are used by learners to influence their learning process to improve learning outcomes and performance. The types of learning strategies are:

1) Rehearsal Strategies for Basic Learning Tasks;

2) Rehearsal Strategies for Complex Learning Tasks;

3) Elaboration Strategies for Basic Learning Tasks;

4) Elaboration Strategies for Complex Learning Tasks;

5) Organizational Strategies for Basic Learning Tasks;

6) Organizational Strategies for Complex Learning Tasks;

7) Comprehension Monitoring Strategies;

8) Affective Strategies.

2.3 Learning Strategies' Definition and Classes

Oxford (1990) defines learning strategies as 'steps taken by students to enhance their own learning.' These strategies that fell into two categories, the direct strategies and indirect strategies, have been named differently such as thinking skills, learning skills, problem-solving skills, among others, as shown in Table 2.

Table 2: Two Major Classes of Learning Strategies

Direct Strategies	Description	Specific Strategies
Memory Strategies	For remembering and retrieving new information	Creating mental images Applying images and sounds Reviewing well Employing Action
Cognitive Strategies	For understanding and producing the language	Practicing Receiving and sending messages Analyzing and reasoning Creating structure for input and output
Compensation Strategies	For using the language despite knowledge gaps	Guessing intelligently Overcoming limitations in speaking and writing
Indirect Strategies	**Description**	**Specific Strategies**
Metacognitive Strategies	For coordinating the learning process	Centering your learning Arranging and planning your learning

		Evaluating your learning
Affective Strategies	For regulating emotions	Lowering your anxiety Encouraging yourself Taking your emotional temperature
Social Strategies	For learning with others	Asking questions Cooperating with others Emphatizing with others

2.4 Models in Developing Learning Strategies

Valcarel, Coyle, and Verdu's Taxonomy (1996), shown in Table 3, was used by Madrid (2000) in developing his modules on the application of learning strategies in second language learning (SLL) and/or second language acquisition (SLA).

Table 3: Valcarel, Coyle, and Verdu's Taxonomy (1996)

Processes	Strategies	Techniques
A. Sensitivization (Motivation)		
1. Planning	Planning learning tasks	Setting goals and objectives.
	Organizational planning	Planning the parts, sequence, main ideas, to be used in handling task.
	Self-management	Identifying and controlling one's language performance. Evaluating one's own capacity.
	Self-monitoring	Checking, verifying or correcting one's errors.
	Problem identification	Identifying the central points needing resolution in a task.
2. Affective	Emotional control	Self-talk to lower one's learning anxiety.
	Encouraging oneself	Making positive statements. Taking risks wisely. Rewarding oneself.
	Self-responsibility	Writing language learning diary. Discussing learning feelings with someone else.
	Self-reinforcement	Active participation in learning tasks. Self-evaluation
	Decision taking	Giving priorities to learning needs
3. Social	Questioning for clarification	Asking for explanation, or verification.
	Appeal for assistance	Asking for correction
	Cooperation	Working together with peers to solve a problem, pool information, model a language activity or get feedback on oral or written performance.
	Empathizing with others	Becoming aware of others' thoughts and feelings. Developing cultural understanding.
B. Acquisition (Codification)		
1. Comprehension	Directed attention	Exploring / setting aims of learning task. Getting global information. Activation of previous knowledge.
	Intensive attention	Physical response. Underlining, ticking.

	Selective attention	Taking notes. Matching.
	Guessing	Making associations: using clues, using imagery.
2. Retention	Memorization	Grouping, semantic mapping. Key word method. Placing new words into context. Reviewing. Speaking to self.
	Imitation	Repeating a language model overt practice Silent rehearsal. Using formulas & patterns.
3. Construction	Elaboration	Recombining. Substitution. Note-taking. Paraphrasing.
	Interaction	Display & referential questions. Practising patterns in pairs and groups.
	Analysis	Analysing contrastively L1>< L2. Inducing meaning and rules from context.
	Resourcing	Using dictionaries, grammar indexes, textbooks.
4. Transforming	Translating	Rendering ideas from one language to another.
	Inferencing	Applying rules & meaning deductively.
	Extending	Deducing meaning from existing knowledge. Building texts (oral/written) with help of cues.
	Summarizing	Making reports from received information.
C. Automatization		
1. Transfer	Low level transfer	Apply knowledge to seemingly similar tasks (semicontrolled production).
	High level Transfer	Apply knowledge to different tasks (free production).
2. Language Use For Communication	Overcoming limitations in speaking and writing	Guessing from context. Getting help. Code-switching. Foreignizing words. Using mime or gesture. Coding words. Planning discourse in advance. Restructuring discourse. Using a circumlocution or synonym. Simplifying or avoiding L2 rules.
D. Evaluation		
1. Self-Assessment	Of products	Checking the outcomes of one's language performance
	Of processes	Checking strategy use or ability to perform the task at hand.
	Initial	Diagnosis and detection of abilities and requirements.

	Formative	Interaction evaluation-learning
	Summative	Evaluation of goal achievement.

Effective learners differ from ineffective learners in their use of learning strategies and effective learners increase their use of use of strategies over several sessions (O'Malley, Chamot, and Kupper, 1987).

2.5 Three Main Categories of Learning Strategies
There are three main categories of learning strategies O'Malley, et al. (1985): the metacognitive, the cognitive, and the socio-affective. Metacognitive strategies are the executive functions that involve planning, monitoring, and evaluating. Cognitive Strategies are limited to specific learning task and the direct manipulation of materials. Socio-affective strategies include social mediating and interacting with others through cooperation and question for clarification. These are described in Table 4.

Table 4: The Learning Strategies

A. Metacognitive Strategies	
Using Advance Organizers	Making a general but comprehensive preview of the organizing concept or principle of a learning activity
Selective Management	Understanding the condition that helps one learn and arranging for the presence of these conditions
Functional Planning	Setting goals and plan for the general and specific components necessary to carry out a learning project
Self - Monitoring	Attending to the learning tasks and assessing one's progress based on one's plan and goals
Delayed Production	Consciously deciding to postpone speaking or writing in order to learn initially through listening or reading
Self - Evaluation	Assessing one's outcomes against an internal measure of completeness and accuracy
B. Cognitive Strategies	
Repetition	Imitating a language model and doing overt practice and silent rehearsal
Resourcing	Using target language reference materials
Translation	Using the first language as a base for understanding/producing the second language
Grouping	Reordering, reclassifying, or labelling the material to be learned based on common attributes
Note Taking	Writing down the main idea, important points, outline, or summary of information presented orally or in writing
Deduction	Consciously applying rules to produce or understand the second language
Recombination	Constructing a meaningful sentence or larger language sequence by combining known elements in a new way
Imagery	Relating new information to visual concepts in memory via familiar, easy retrievable visualizations, phrase or location.
Auditory Representation	Retention of the sound or a similar sound for a word, phrase, or longer language sequence
Keyword	Identifying a significant word and generating easily images or sounds that can connect to it
Contextualization	Placing a word or phrase in a meaningful language sequence
Elaboration	Relating new information to other concepts in memory

Transfer	Using previously acquired linguistic/conceptual knowledge to facilitate a new language learning task
Inferencing	Using available information to guess meaning of new items, predict outcomes, or fill in missing information
C. Socio-affective Strategy	
Collaborating with peers	Working with one or more peers to obtain feedback, get information, or for a strategy
Collaborating with experts	Asking a teacher or an expert to obtain feedback, get information, or for a strategy

The major underlying objective of raising awareness on teaching learning strategies is to empower learners to gain and develop a repertoire of techniques to learn effectively. Strategic learners find ways to be more efficient, resourceful, independent, and flexible (Tseng, 2006).

3. Design and Methodology

This descriptive-survey research was designed to analyze the different language learning strategies employed by the ELI students in accomplishing their learning tasks. It is a blend of quantitative and qualitative research as its probe is the sum of data gathered via survey questionnaire, review of available documents, focus group discussion as well as interview.

3.1 Population of the Study
Participating in the study were 96 students in B1+ Reading and Writing and B1+ Listening and Speaking classes during the Academic Year 2016-2017. The B1 Plus students were chosen as they were exposed to different classroom activities, methodologies, and technology learning support. The 96 students participated in a self-assessment survey. Of the 96 students, 30 students participated in the focus group discussions and interview.

3.2 Data Gathering Tools
To gather data for this study, one self-assessment survey and focus group discussions were conducted among the participants. The assessment tool is the Learning Strategies Inventory to assess the level of use of language learning strategies. The focus group discussion was organized to clarify and gather more information about the learners' experience. In their responses, the participants did a little elaboration of their learning strategies and the impact of the web-based learning to their learning skills and learning practices.

3.3 Validity and Reliability of the Research Instrument
The Learning Strategies Inventory Tool was a modified adaptation of the criteria for metacognitive, cognitive, and socio-affective learning strategies (O'Malley and Chamot, 1990) and was presented to members of the research committee of the institute.

3.4 Data Analysis

The mean scores of the participants' assessment in the Language Learning Strategies Inventory were interpreted. The responses during the focus group discussion and interview are presented and analyzed.

The following Likert Scale was used in interpreting the gathered data.

Table 4: The Learning Strategies

Always or almost always used	4.1 – 5.0	Very High
Usually used	3.1 – 4.0	High
Sometimes used	2.1 – 3.0	Average
Generally not used	1.1 - 2.0	Low
Never used/Unknown	0.1 – 1.0	Very Low

4. Findings and Discussion

4.1 The Metacognitive Strategies Employed by the Students

Empowering students to acquire, manage, and foster their own thinking and learning skills inside and outside the classroom drives educators to redesign curriculum and turn to diversified approaches that blend traditional and technology-based instruction. Development and application of these skills or strategies called metacognitive skills (O'Malley and Chamot, 1990; Oxford, 1990) transition learners to become self-regulated or independent. These successful learners have a repertoire of strategies to learn from and can transfer them to new settings (Pressley, Borkowski, & Schneider, 1987).

Figure 1: Level of use of the different
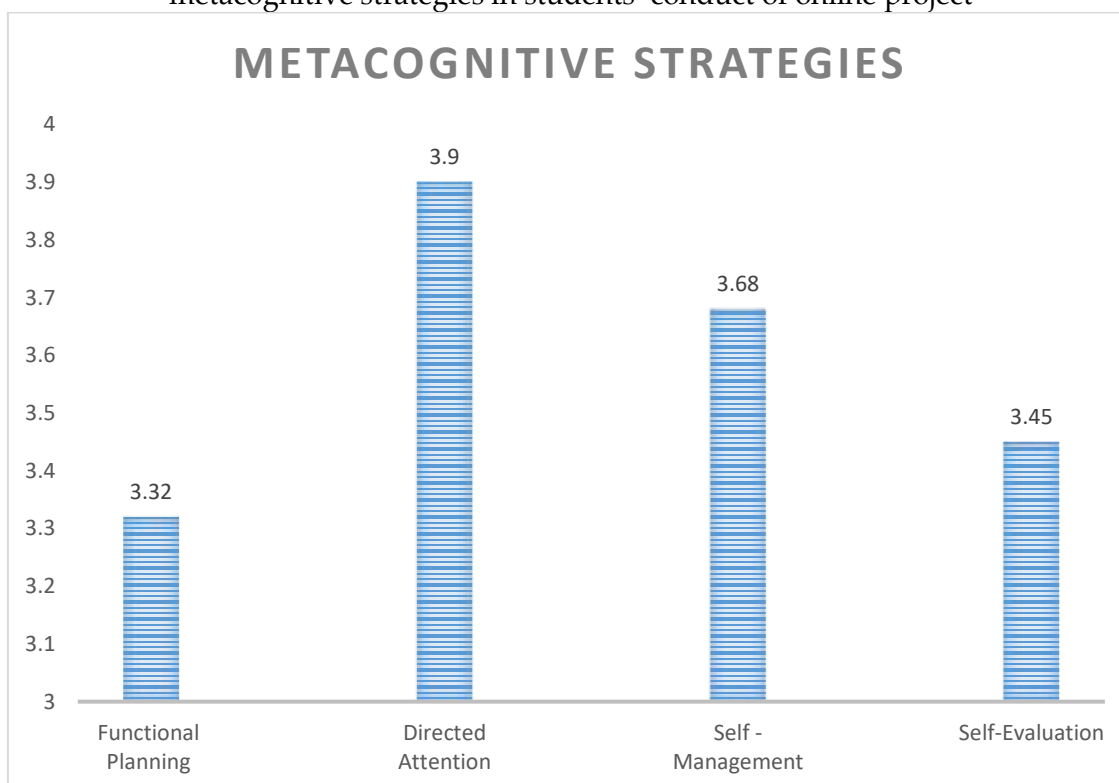metacognitive strategies in students' conduct of online project

Figure 1 represents the level of use of the different metacognitive strategies in the students' conduct of the online project. The students posted an average of 3.5, a **high level of use** of the different language metacognitive learning strategies.

Directed Attention, with an average of 3.9 which represents high level of use, proves to be the metacognitive strategy most frequently used by the participants. Similarly, the other metacognitive strategies gained **high level of use**: *Self-Management* (3.68), *Self-Evaluation and Monitoring* (3.45), and *Functional Planning* (3.32).

The high rating of *Directed Attention* is an acknowledgement of the significant role of deciding in advance to focus on the learning task and to ignore distractors to their learning process. In the focus group discussion, the participants confirmed the previous statement and gave the following as reasons for *directed attention*:

"We can prepare to handle the new material easier."

"Directed attention gives me confidence."

"We can eliminate different kinds of destructors."

"We focus on the target knowledge or skills involved."

"Directed attention makes it easy to learn the materials."

"We connect ideas more easily."

"We can produce an academic output at a lesser time and produce better results."

This level of awareness and use of this strategy implies a high concern for an important step of the learning process and becoming a self-regulated learner using technologies. Students who develop and maintain strong focusing skills stay engaged, direct their energies away from any form of disturbances and they accomplish the task.

The metacognitive *Self-Management* (3.68, High) is likewise considered with high frequency use in accomplishing their learning tasks. In the focus group discussion, the participants reiterated these experiences:

"I must be a good manager of my learning process."

"Self-Management gives me responsibility to monitor my progress."

"We can control the conditions that ensure accomplishment of the target task.

"We need a study schedule, a good place, books, dictionaries, internet if available, a desk, checklists, rubrics, templates and other resources."

The participants have established that significant learning is accomplished by determining and using what motivates one to learn, what boosts someone to learn, and what helps one to achieve. Self-Management steers them to discover and use to their advantage their learning styles to facilitate and enhance different learning strategies. Their affirmation implies they proved that productive learning requires organizing a study schedule, finding a good study place, gathering the right materials, identifying learning goals and objectives, deciding which methodologies, strategies, or techniques to complete a learning task and employ them for greater success.

The high level of use of *Self-Monitoring and Self-Evaluation* (3.45, High) recognizes the value of learners assessing their own progress, output, and performance based on their plans and against a given standard of completeness and accuracy. In the focus group discussion, the participants expressed the importance of self-evaluation.

"We should know how to do self-assessment using rubrics or other sets of standards."

"We must think of the quality of our work."

"I decide to improve my work after I evaluate."

"We must realize our learning weaknesses."

"We appreciate the importance of evaluation."

"Other people can help us improve our work."

They understand that to be effective learners, they have to be conscious of the quality of their work and they have to learn to detect strengths and weaknesses of their output. This strategy leads them to aim for revision and results that truly reflect their desired learning. Lastly, they support the idea that they have to discover how to assess if one learning strategy works well and keep doing the same; likewise, they know that they have to shift to another if the strategy is unsuccessful.

Likewise, the results reveal that *functional planning* (3.32, High) is highly used by the participants. In the focus group discussion, the learners cited the following as reasons for them to value functional planning as a learning strategy.

"With functional planning, we know the goals of the activity and the ways to get there."

"We should know exactly what to do, how to do it, and why I do it."

"I stay focused on my target."

"It's very practical to make a plan because it ensures success."

"It makes me prepared to learn and do an activity."

The participants attested that efficient learners must have a strategy to understand concepts and principles of the task before working on it. It is clear to the students that they have to see clearly at the beginning of the task the goals of the activity, the focus of the activity, the materials, the required skills, the procedures, and the expected outcomes. They recognize that *Functional planning* leads students to have a concrete and solid strategic plan to meet all the expectations related to the learning task and benefit the most from each step of the way. Finally, a clear road map allows them to foresee possible difficulties and prepare themselves to work their way out though these moments that could trap them from achieving their learning goals.

This level of awareness and use of the metacognitive skills allow learners to see their goals as learners, plan their actions, see issues of their own academic progress, determine ways to solve them, find their way forward through the different academic requirements, and evaluate their own accomplishment. Awareness and a level of confidence in the use of these strategies and skills still play a big role in the 21st century learning processes as others maintain that teaching and learning have transitioned in leaps and bounds with the emergence of sophisticated learning applications.

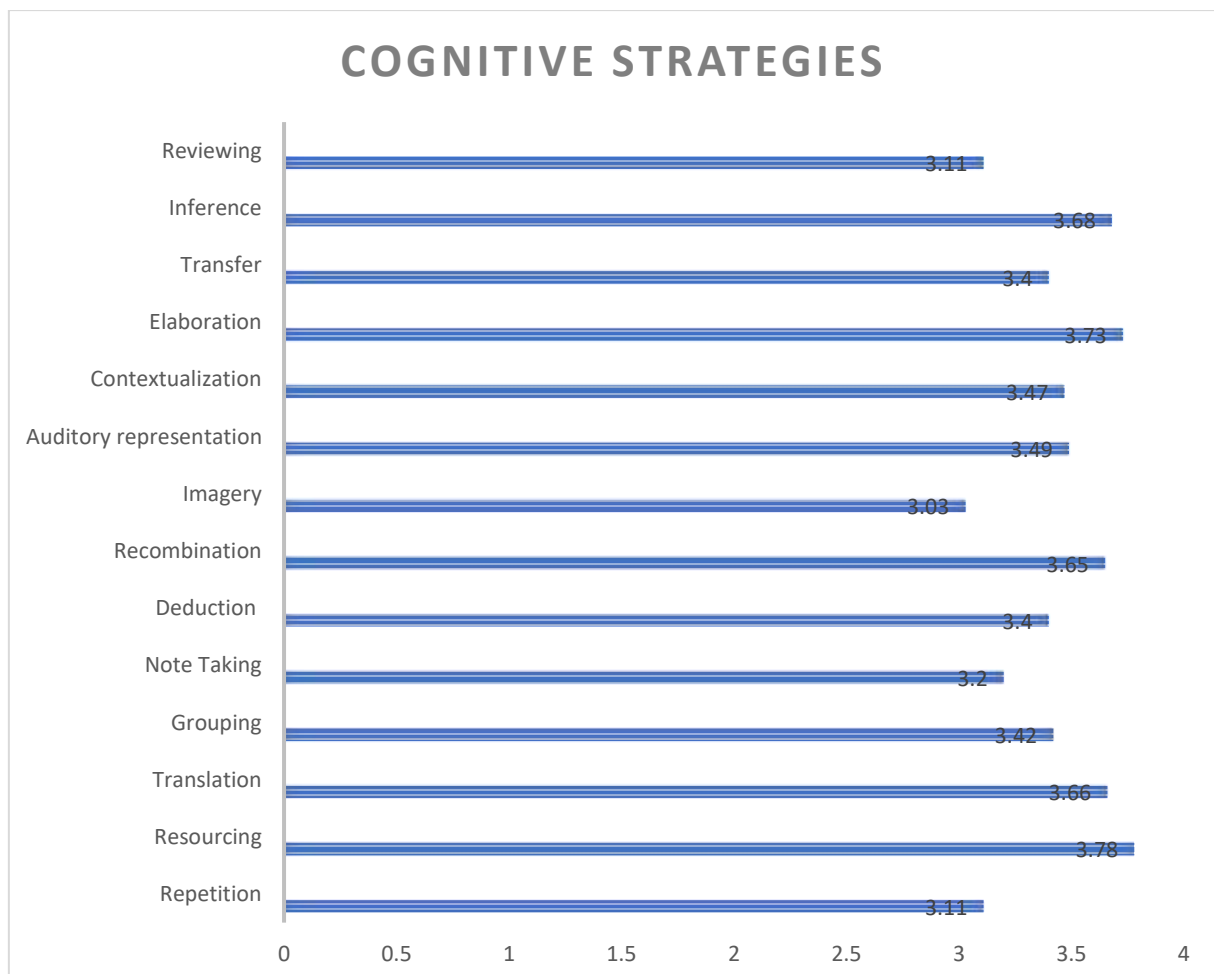## 4.2 The Cognitive Strategies Employed by the Students

Figure 2: Cognitive strategies employed by the students

The cognitive strategies are the learners' ways of receiving, practicing, processing, and structuring data or employing these skills to learn a new language, concept, or to perform an academic task. Table 3 shows that the cognitive strategies with an average of 3.44 have high level of use among the participants. Specifically, the cognitive strategies and their average level of use in the Likert scale are as follows: Resourcing (3.78, high level), Elaboration (3.73, high level), Inference (3.68, high level), Translation, (3.66, high level), Recombination (3.65, high level), Auditory representation (3.49, high level), Contextualization (3.47, high level), Grouping (3.42, high level), Deduction (3.4, high level), Transfer (3.4, high level), Note Taking (3.2, high level), Repetition (3.11, high level), Reviewing (3.11, high level), and Imagery (3.03, high level). Figure 2 hereby elucidates.

Resourcing (3.78, high level), as the graph shows, has the highest level of use among the participants. The focus group resulted in the following responses regarding the utilization of resourcing as a strategy and the use of learning tools.

"Resourcing equips us with all kinds of data such as facts, procedures, stories, statistics and all other kinds of information."

"Resourcing is useful in building vocabulary, reading, writing, and speaking."

"We discover unlimited links to other sources of information."

"Resourcing sharpens the ability to retain valuable information."

"Resourcing makes us prepared to do learning activities."

"Resourcing gives confidence."

"It is possible to learn from any kind of material."

"Exercising academic skills does not have to be done only inside the classroom, in the library, or on our own study table."

Resourcing as a strategy drives one to access all sorts of resources such as printed or online books, dictionaries, or documents, as well as hypermedia and multi-media materials to help one accomplish a task. The students confirm that their acquisition of knowledge is determined largely by the quantity and quality of resources they access. Further, the students realize that the best ideas that they learn are the products of scanning and skimming through rich resources and that from anything goes can come many good things. Resourcing shows a sense of responsibility and positive learning attitude boosted by the feeling of being equipped with the needed data and knowledge. Some students claim that when they allowed their thoughts to different directions by accessing different materials, they ventilated new ideas and expanded their ideas. Likewise, through resourcing they can gather some bright ideas they come across, and they must learn to retain the best ones that fit their needs. As they venture from one

resource to another, they discover different types of materials and learn to make choices in terms of relevance and readability.

Elaboration (3.73, high level of use) remains a popular learning skill among the participants. In the focus group discussion, the students forwarded the following.

"We form new learning by connecting new and old concepts."

"We make meaning of the new material by relating it to what we know."

"The more associations we build, the more elaboration or meaning we create."

"It is not very easy to establish relationship between the unknown to what you know."

"The strategy is important in vocabulary building and reading."

"Models are quick to access."

These responses confirm the students' practice that elaboration enables them to look into the details or aspects of a new data and expand or extend this knowledge by building connections to one's existing knowledge repertoire, experiences, familiar events, or everyday life. Further, establishing connections or relationships between the new information or new words and their existing knowledge or what they already know make accommodation of the new learning easier and more significant. , they can expand their ideas about a new word or phrase by looking at their existing concepts in a new way.

Inference (3.68, high) is making out meaning of new texts by synthesizing information, guessing, predicting, or filling in missing information. This strategy requires discernment, analysis, and creativity to transform parts of information into a coherent and unified thought. In the focus group, these are what inferencing as a strategy and learning technologies made them realize.

"It is a very difficult skill to figure out ideas if they are not straight forward."

"It is a complex skill to make conclusions out of suggested or implied ideas."

"We need to find meaning from texts."

"It is finding what a material says but it does not say."

"We put our opinions and the ideas from the texts together."

"It is a skill needed for reading and listening."

"It requires practice to develop this skill."

"Technologies offer simple to complex processes."

The participants declare that they can expand their knowledge by reading signals, clues, patterns, link ideas and formulas as well as synthesize available information to acquire the core of more complex materials. This strategy in making intellectual guesses, guided choices, predicting outcomes or filling –in gaps lead to independent and progressive thinking.

Translation (3.66) if used strategically assists students to acquire receptive and productive skills in language classes. Despite some issues dividing teachers about translation as a language learning strategy, many teachers and learners still say that learners learn the way they learn best and that translation has its own place and contributions to language learning. The participants mentioned the following as reasons for translation and use of tech tools:

"If there's nothing else that I can do, I ask my classmates for translation."

"If a material is new, we need to translate to elaborate for better understanding."

"Translation supports our understanding."

"Translation is a key to other skills."

"It is time saving."

Learners resorting to translation is not surprising specially for beginning learners who try to find a quick way to understand a new language or concept. Converting a target language expression into a native language at various levels or using one language as the basis for understanding or producing another can be a helpful strategy when used with care (Oxford, 1990). Beginners must be warned however not to do word for word translation or constant switching as this may lead to wrong interpretation and can considerably slow down learning when the learner relies on this strategy all the time.

Translation can lead to comparison of different aspects of the two languages, the learners' first language and the new language. Likewise linking items of the new language to someone's first language is in itself a kind of association. Nowadays, learners and teachers claim that diverse learning styles and mixed strategies work well because learners and teachers can have access to skills that they find appropriate to their personal learning style and skills.

Recombination (3.65, High) engages learners in combining known elements in new ways to produce longer and new structures, new compositions, or new knowledge. In the focus group discussion, the participants highlighted the following points about recombination as learning strategy and using applications.

"It is exciting to generate new sentences and new compositions."

"We can combine old and new materials in many ways."

"Using new procedures to create our own writing requirements challenges our skills."

"Recombination is like making new design."

"Recombination is transforming the old to new ideas."

"It is good for vocabulary building, grammar, writing and speaking."

The participants possibly realized that with the variety of resources they are exposed to, they find new meaningful ways so that they can put to work old principles and concepts, or use words and phrases in new structures or combinations. This skill is structure-generating strategy. Combining mastered knowledge with new formulas or designs represent their ability to adapt to new designs and abilities making learning more effective as they can easily see the significance of one thing in a current structure or new environment. This skill challenges them also to translate and convert used old resources, formulas, and patterns to new language or system with currency and relevance.

Contextualization (3.47, High) is the use of language in authentic environment. The context of a new language can be a slogan, a street sign, an email, a conversation, or just a statement or sentence. The learners raised the following regarding contextualization and technology-assisted skill:

"Contextualization teaches how to use the language in different documents or for different purposes."

"It is language learning at higher level."

"It is a natural way."

"Contextualization is for vocabulary building, grammar, reading, writing, and speaking."

"Multimedia and hypermedia are exciting."

The participants' high vote for this strategy shows that they agree that a new word or phrase can be understood by making inferences as to how it is integrated with the other words in a sentence or other words in a paragraph or how it is used in an advert or in other contexts. Likewise, they believe that knowing different contexts such as advertisements, advisory, product labels, warning signs, and others help them make guesses and conclusions about a new language or new expressions.

Grouping (3.42, High) or sorting, classifying, and labelling based on common attributes to learn a material easily is another highly useful strategy for the participants. With grouping as a skill, learners appreciate content, forms, and attributes, discover and create categories, and arrange details in classification, hierarchy or sequence. The learners raised the following regarding grouping and classification.

"Grouping help us sort words and ideas."

"We identify nouns, verbs, adjectives, and other words to help us understand meaning."

"We classify words to help us to organize them in sentences."

"Classifying can avoid mistakes."

The learners most likely recognize that classification is fundamental to analysis and creativity. Grouping or sorting is better grasped by understanding similarities and differences. Understanding similarities can lead to making connections between data and developing sense of discrimination and evaluation as opposed to generalizing. This ability makes learners conscious of unique traits as well as common characteristics that are observable as well as felt. As a result, they learn to assess information and realities based on their own merits as they are presented.

Deduction (3.4, High) involves the application of rules to learn a concept. The focus group discussion established the following why deductive learning and learning tools help language learners.

"Almost everything is governed by rules."

"Rules ensure appropriate responses."

"We know exactly what to do and how to do it by following rules to avoid mistakes."

"Rules are important in grammar and writing."

"It saves time."

"Hypermedia are quick and engaging."

The participants claimed that rules guide learners in deciding what words or structures to use. With rules they determined correct number, tense, organization or structure to apply to a writing task. Many of the participants are very comfortable in following rules, applying the rules in doing tasks and using the same rules to evaluate one's output.

Repetition (3.11, High) which is also called rote learning or overlearning, is the most basic learning technique. It is profitable as doing something more than once such as reading or listening to a material several times for different purposes can lead to mastery and it enhances fluency. Repetition is likewise done when following models, formulas, or patterns. It can be a formal practice that brings about a recognition and mastery of the principles and a pattern of a certain task. Also, repetition allows a routine of application of the imitated rules and patterns to their own performances, to revision and creative skills as they produce an output. It can control writing and vocabulary use.

The participants expressed the following about their experiences of repetition as a learning strategy.

"Repetition leads to mastery."

"It is the easiest strategy to follow."

"Models or patterns help us understand the principles or task especially for writing compositions."

"It is beneficial for grammar, vocabulary, listening, speaking, and writing."

"We discover our mistakes and make them right by doing the exercises repeatedly."

"It is a good way to review skills."

"It increases confidence and speed in doing a task."

"We need practice, practice, and practice."

The active participants claimed that with this control, they master a certain way to organize their ideas, a writing style, and to use words and phrases in a simplified way and meaningfully. It can be a formal exercise done in the classroom than can extend to a personal learning strategy. Most importantly, the learners experienced that a model can scaffold from simplified writing leading to revisions and eventually to original compositions.

Imagery (3.03, High) as a learning strategy assists learners to produce images or symbols to help them remember or understand concepts or analyze structures and their meaning. For the participants, imagery can accomplish the following:

"Imagery enhances retention of information."

"It personalizes learning."

"We link new ideas to familiar ideas or to the experiences we remember."

"It works well for both receptive and productive skills."

"It accelerates learning."

"Imagery leads to generation of more ideas."

"It requires training to do meaningful imagery."

The participants acknowledged that it is easier to go through every step of the writing task if they can imagine or even directly make drawings to support their data. With images, they can easily retrieve information from memory or they can generate more concepts. For them, visualization is a lot better than dealing with abstract ideas. Images create the sense of realism and authenticity hence they can come up with composition with better practicality and realism.

Note-taking (3.2, High) is making a quick record of keywords, formulas, procedures, patterns, and other important details that are derived from a learning material. The focus group discussion on note-taking has led the participants to the following conclusions about this strategy.

"NT strengthens retention and reinforces learning."

"NT supports recall and review of learned concepts."

"I do my own bookmarking like underlining, highlighting, words, or symbols."

"You can focus on the main ideas."

"You can take note of the parts you don't understand."

"NT is effective most especially for listening and reading."

"You discover patterns and procedures how ideas are presented in the reading materials."

Learners use their own codes, lists, short summaries, and concept maps that help them retain data. If properly guided, students can be prompted to be active and highly engaged through note-taking. Writing key words or key points is a very useful skill that can lead to more systematic highlighting, listing, standard outlining, summarizing, and even more creative mind maps. Taking notes entails comprehension and analysis of texts to highlight main ideas and supporting ideas. Systematizing one's notes, lists, outlines, and maps involve higher thinking skills such as synthesizing ideas, sorting ideas, application of rules, designing and creating. Note taking help learners remember the substance of materials and hold them from dangling and diverging ideas and to observe internal consistency in their written or spoken outputs.

Reviewing (3.11, High), either quick, planned, or intensive, is a helpful strategy in solidifying an acquired knowledge or skill. The focus group discussion yielded the following benefits of reviewing to language learners.

"When you review, you can remember and focus on items you have not attended to."

"Reviewing is very important especially in grammar and writing."

"We remember more if we review and we understand more if we remember what we learn."

"Reviewing makes the material easier."

"Reviewing helps you monitor your learning."

"It gives confidence if you feel you have a mastery of the material."

"Tech tools make review materials accessible, easy, and encouraging."

The learners acknowledge that the more frequent they review their notes and practice a learned theory or skill the better that they retain the information and longer as well as they have a deeper understanding. Reviewing can keep learners regularly engaged to the activities. It leads to mastery especially for difficult materials. Learners who develop the habit to review go through the lessons over and over until they become very familiar and the concepts or procedures become automatic. While some information can get lost especially for learners who are not used to dealing with a great deal of information, over learning or regular review commits the information to long term memory.

4.3 Social and Affective Strategies of the Students

Another side of learning is the set of affective strategies which include lowering anxiety, encouraging oneself, and taking emotional temperature (Oxford, 1990). Social and affective strategies (O' Malley and Chamot, 1990) are a learner's interaction with another person to assist learning and using affective control to help a learning task. The participants posted a 3.34, High level of use of these strategies. Figure 3 explicates.
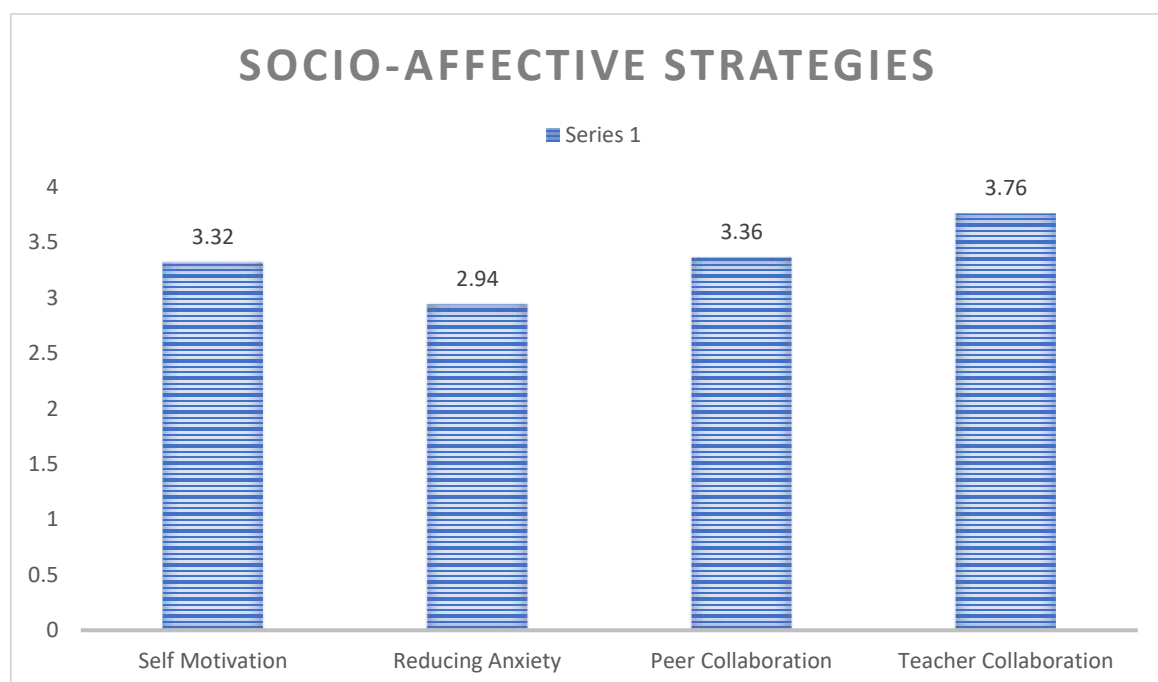

Figure 3: Social and Affective Strategies of the Students

Collaboration with teacher and other adults (3.76, High) allows learners to see their teachers and other adults as coaches, supporters, and advisors rather than evaluators or judge on the watch. Students learn by asking questions, for clarification or verification. The students felt they could ask for their teacher's reaction, feedback, or further instructions. The students felt that seeing their teacher as a collaborator not as a rigid critic enhanced their learning process.

Peer Teamwork (3.36, High) involves the ability to work with their peers in pairs, triad, small groups or teams to accomplish a learning task. Many learners acknowledge that group activities can be fun and academically rewarding. They admitted that working with a group has taught them how to listen to their peers, to share their own thoughts, to express their collaboration or disagreement, and gain others' support. They appreciated that they learn a lot more by sharing and interacting with their peers in the class. Some admitted that they used some of their classmates' works as pattern and eventually find some of their own strategy. This interdependence allowed them to experiment or try ways to improve their work without the traditional fear of getting caught with one's mistakes.

Self-Motivation (3.32, High) refers to encouraging oneself to pursue, persevere, and perform. The students who are likely to succeed have positive reasons in doing things and keep on finding ways to produce the expected learning outcome. The self-motivated learners are more likely to enjoy the tasks, take risks to explore and learn from their mistakes. Likewise, self-motivation also involves appreciating or giving value to one's efforts and good performance, as well as rewarding oneself and celebrating one's accomplishments.

Reducing anxiety (2.92, Average) has the lowest frequency of use among the participants. It is no surprise that many learners if not the majority do not really directly deal with their feelings and emotions related to their language learning or their performances. Language learners should also see the significant contribution of this other affective strategy. Learners can handle their emotions by paying attention to their body signals and expressing, writing or discussing their feelings about language learning (Oxford, 1990).

With regards to learning strategy usage, the results indicate that the participants see the importance of learning strategy use in their acquisition of a new language. The results, with all the strategy usage rated almost equally rated from 2.92 to 3.9 in a 5-point Likert scale, also reveal that the participants employ a variety of learning strategies and do not concentrate in just a few. With all the strategies rated high also suggests the conscious adoption of learning strategies in the participants' learning processes. These responses of the participants "showed interest, variety, and inventiveness which identified areas for both self-improvement as well as intimations pertaining to how they wished to be taught and at the very least, are useful to both learner and teacher with regard to the validity of increasing strategy awareness" Boyce (2010).

These findings raise a lot of questions for teachers such as the following: Do students learn how to learn strategies? Do teachers provide ways to students to evaluate their learning strategies? Do teachers assume that learners have the right skills and fix up strategies to be successful in their courses? Are lessons designed and delivered to facilitate independent study skills and self-regulation?

4.4 Supporting Learning Strategies and Self-Regulation with Learning Technologies in ELI

The English Language Institute at the Jubail Industrial College implements a curriculum adapting to current teaching and learning systems afforded by the variety of sophisticated ways available. The institute has more than enough learning technologies to support independent learning strategies. Learning technologies extend throughout all aspects of the teaching, learning and co-curricular practices. The major technology-based components of the ELI English curriculum are the use of the Blackboard, the Smartboard, the E-Learning Laboratories, and the Cambridge Learning Management System. All these are supported by other technology learning tools provided and encouraged by the teachers.

First, all instructional materials are accompanied with CDs providing students with complete instruction, self-assessment, and additional references. The CDs that come handy can create learning opportunities for students encouraging a variety of learning strategies exercising learner autonomy while they are outside the classroom.

Second, the Smart Board in all the classrooms enrich the students' learning experience with the internet accessibility and do interactive activities on a huge board. With the Smart Board, learners benefit from huge databases of content with multiple options or multimedia to work on and to be directed to further studies. This ensures students getting more exposed to good models, scaffolds, as well as a lot of opportunities for practice. Likewise, the internet access in the classroom leads to higher awareness of their own learning skills and ways to correct and optimize individual learning strategies.

Third, teachers and students use Blackboard and the Cambridge Learning Management System for course orientation such as course descriptions, pacing schedule, quiz and exam advance information. For course development and instruction, students can access teachers' lectures and other reference materials at their convenience. These platforms make these supporting instructional materials in advance and for review, to create and process homework, practice for mastery, get teachers' feedback, and to build knowledge and skills further. The Blackboard and the Learning Management System are very strong to foster more avenues of student-teacher communication, facilitation of different skills and variety of learning strategies, and making appropriate materials accessible and available to learners anytime anywhere and to the students' pace. The Blackboard and the Learning Management System support more contact hours with individual students that is not possible in the classroom due to time constraint or due to students lack of skills to negotiate with their teachers or classmates.

Likewise, the E-Learning component of the ELI curriculum requires students to spend at least one-hour a week in the language laboratory to complete language tasks, quizzes, and other activities intended for semi- independent mastery learning and assessment. The E-learning feature provides a continuous assessment with quick feedback assuring students of regular check of their learning progress in all aspects of their activities – vocabulary, grammar, listening, reading, speaking, and writing. The regular assessment activities reinforce learning by encouraging students to assess their own skills, identify strengths and weaknesses, and to find directions for future learning.

To top it all, teachers introduce other creative and innovative instructional activities such as language games and other interactives such as KAHOOT, QUIZLET, WIKIPAGES, and other learning paths that contribute to strategic learning and learner autonomy. All these components

are aimed at providing and enriching outcomes based and skills-based instruction, facilitating motivation, enhancing academic performance, as well as developing independent and self-regulated learning. Students go through these variety of task strategies and cycles in all the levels, A1, A2, B1, and B1 Plus.

4.5 Self-regulated Learning Experiences in Relation to students' Exposure to Learning Technologies

The focus group discussions of the participants revealed the following analysis of their self-regulated learning experiences in relation to their exposure to learning technologies. Table 5 illustrates below.

Table 5: Self-regulated learning experiences
related to students' exposure to learning technologies

Learning Technology	Instructional Use	Self-Regulated Learning Strategies and Learning Processes Encouraged
Interactive CDs.	Instruction Assessment References	Reviewing Applying rules Directed attention Repeating Elaboration Referencing Assessing one's learning
The Smart Board.	Listening Reading and analyzing Writing Interactive Learning Games Models Practicing and reproducing the language Multi-media	Recreating Creating images Making associations Building texts Keywords Activation of previous knowledge Taking notes Restructuring discourses Assessing one's learning
The Blackboard.	Mini-lectures Advance assignments Assessments References Exchange of information	Planning Setting goals and objectives Self-management Self-monitoring Self-encouragement Advance organizing
The Cambridge Learning Management System.	Assessments Instructions Listening Reading Writing	Recombining Paraphrasing Contextualizing Inferencing Translating Analyzing Summarizing Assessing one's learning
The E-Learning	Review Assessments	Collaboration Cooperation Applying rules Problem identification

		Memorization
		Patterns and formulas
		Coding
		Assessing one's learning

With the variety of applications and learning tools available, the students are getting more creatively responsible for their own learning and are working towards more academic independence. With these educational technologies, learners do plan, organize, implement, evaluate their own learning processes, collaborate and communicate with their peers and experts while doing their learning tasks.

With these learning technologies, learners are left on their own to manipulate online search tools, search engines, and indices, online libraries, calendars, as well as post and respond to emails, chat, and forum. Some highly interactive tasks which are simulations of real-life activities such as locating relevant information, discussing an issue, learning how to do, student projects, real time conferencing, student authored pages, and research tasks integrate the hierarchy of thinking skills. The online collaboration and communication with their peers or with distant interlocutors involve finding relevant data, communication, application of rules, construction, creative production, evaluation, and other relevant thinking activities.

When properly guided, learners eventually develop strategies to find resources relevant to their needs. With an exposure to a good a number of resources and tools, learners soon develop skills to choose as well as evaluate these technologies reflecting their usefulness to their learning. Consciously and unconsciously, learners are changing the way they think and the way they do things. Students by themselves discover, explore, and master more dimensions to the way they learn and think.

The students agreed that the digital tools have good impact on their receptive skills and productive skills. The digital tools have exposed them to a variety of documents, graphs, charts, and other articles that served as models to their academic tasks. With models, patterns, or templates available, generating and organization of ideas were simplified. The models served as scaffold to students' skills to progress and produce more satisfactory academic outcomes.

With the variety of reading and listening resources in different formats and in authentic contexts, the students found that the receptive skills can be enjoyable, dynamic, and engaging when they are presented in varied ways. Further, according to the students, the digital tools have supported their productive skills by engaging the students in the use of available models, templates, formats, visuals, and interactive activities that exercised their writing and speaking skills. In the same manner, they felt that after utilizing the digital tools to enhance their outputs, they realized more courage and confidence in doing their writing and speaking.

4.6 Common Technology Applications and Materials that Help Students' Independent Learning

In the discussion, students have identified common technology applications and materials that help them do their independent learning as shown in Table 6.

Table 6: Common technology applications and
materials that help students' independent learning

Strategies		Commonly Used Digital Tools
Metacognitive	Advance Organizer Directed Attention Selective Attention Self - Management Functional Planning Self - Monitoring Delayed Production Self - Evaluation	Bookmarking Infographics Google Docs Mind Maps Notes Online YouTube
Cognitive	Repetition Resourcing Translation Grouping Note Taking Deduction Recombination Imagery Auditory representation Keyword Contextualization Elaboration Transfer Inferencing	Infographics Google Images ESL Online Laboratories YouTube Student Interactives Online Tutors Listening Labs
Socio-Affective	Self-Motivation Reducing Anxiety Learning with Peers Learning with Experts	Web 2.0 Emails Chats ESL Online Forum ESL Blogs ESL Learning Communities Online

The students recognized the ability of digital tools to work with different learning strategies and learning styles as they offer a variety of materials in different formats and media. Some programs facilitate processes that engage students to learn by discovery, to work on their own, with a group, or to exercise the best strategy that suits the learning opportunity.

These revelations from the ELI students are supported by several studies. David H. Jonassen, Chad Carr, and Hsiu Peng Yueh (1998), backed up by the studies of Carver, Lehrer, Connel, and Erickson (1992) and Jonasses, Peck, & Wilson (1998), argue that "*technologies can be used as mindtools to engage learners in critical, higher order thinking skills about content*". Warschauer and Liaw (2011) presented an in-depth analysis for the US National Institute for Literacy on the role of emerging technologies in adult language education highlighting the studies of O'Bryan and Hegelheimer (2007), Ramírez and Thomsen (2008), Peterson (2010), Lu (2009), Warschauer (2006), Bloch (2007), Fellner and Apple (2006), Black (2008), (IBM, 2008), Brunner & Menon (2007, pp. 7–8) Walker, Schloss, Fletcher, Vogel, & Walker (2005), Silva (2008) Mark Warschauer & Irvine Meei-Ling Liaw, Halvorsen (2009), and Fryer & Carpenter (2006). Kitsantas and Dabbagh (2010) and Kitsantas (2013) went further in analyzing variety of learning technologies that support different phases of self-regulation.

Several computer applications work to engage learners in critical thinking and knowledge construction and interpretation (Jonassen, D. H., Carr, C. & Yueh, H. P., 1998) as revealed in Table 7.

Table 7: Computer applications to engage learners
in critical thinking and knowledge construction and interpretation

Learning Technologies	Instructional Use	Learning Processes
Semantic Tools SemNet, Learning Tool, Inspiration, Mind Mapper Semantic networking programs are computer-based, visualizing tools for developing representations of semantic networks in memory.	• help learners to analyze and organize what they know or what they are learning. • include databases and semantic networking. Constructing content databases requires learners to develop a data structure, locate relevant information, insert it in an appropriate fields and records, and search and sort the database to answer content queries.	• Learners can interrelate the ideas that they are studying in multidimensional networks of concepts, to label the relationships between those concepts, and to describe the nature of the relationships between all of the ideas in the network.
Hypermedia tools	• allow learners to design multimedia presentations. Designing multimedia presentations is a complex process that engages many skills in learners.	• Carver, Lehrer, Connel, and Erickson (1992) identified project management skills, research skills, organization skills, representation skills, presentation skills, and reflections skills.
Information Interpretation Tools	• help learners to access and process information.	• Search engines such as the World Wide Web help learners scan information and make sense of what they find.
Conversation Tools	• include live conversations, such as Chats, MOOs, and MUDs and videoconferencing, and synchronous discussions, including electronic mails • Listservs, bulletin boards, and computer conferences are used in interpersonal exchanges among students, collecting information, and solving problems in groups of students (Jonasses, Peck, & Wilson, 1998.)	• Examples of information collections include information exchanges, database creation, electronic publishing, electronic field trips, and pooled data analysis. Problem solving projects include information searches, parallel problem solving. Electronic process writing, serial creations, simulations, and social action projects.

Mindtools require learners to think harder about the subject matter while generating thoughts that would be impossible without the tool. While they are thinking harder, learners are also thinking more meaningfully as they construct their own realities by designing their own knowledge bases. Using mind tools represents a constructivist use of technology. In a constructivist environment, learners must participate and interact with their surrounding in order to create their own views of the subject. Further, computer systems can serve as powerful catalysts for facilitating skills such as planning, decision making, and self-regulation of learning when they are used to promote reflection, discussion, and problem solving.

In a study on the role of emerging technologies in adult language education, Warschauer and Liaw (2011) presented an in-depth analysis for the US National Institute for Literacy on the role of emerging technologies in adult language education. Table 8 below shows a summary of the key points from the analysis that are most applicable to self-access and autonomous language learning.

Table 8: Summary of the key points most applicable
to self-access and autonomous language learning

Learning Activity	Learning Technology/ Application	Learning Autonomy	Researches
Listening and Speaking	Podcasts	Listening to material and creating repository of classroom discussions or lectures for use outside of class to extend and amplify autonomous learning	O'Bryan and Hegelheimer (2007)
		Students in the program made substantial gains in both English and computer skills, resulting in many cases in increased career opportunities	Ramírez and Thomsen (2008)
		Learners learn with authentic listening materials	Peterson (2010)
		Learners record their own speech in multiple genres (reports, simulated broadcasts, oral presentations, etc.) to share with classmates or others	Lu (2009)
		Learners review their recorded speeches to reflect on their language-learning progress	Warschauer (2006)
		Students pay especially close attention to detailed aspects of their speech when recording such podcasts.	
Collaborative Writing	Blogging	Students read and respond to each other's posts and later use them in their academic papers.	Bloch (2007)
		Students increased the amount of words they wrote nearly fourfold, and also dramatically increased their use of academic vocabulary.	Fellner and Apple (2006)
	Simple English Wikipedia	Learners do autonomous reading and writing as well as assistance to learn how to contribute to a wiki.	
		Learners can use wikis to find and correct mechanical errors in previously written texts or supplement the tools with other resources.	
	FanFiction.net a site for people to post fictional writing on topics related to books, cartoons, games, comics, movies and television shows.	English-language learners develop a strong sense of audience, understand the social nature of writing, explore their identity as writers and master multiple modes of representation to achieve their rhetorical intent	Black (2008)

Reading and Language Structure	Reading Companion	Learners read with speech recognition technology.	IBM, (2008)
		Learners develop their language skills at a school or community organization	Brunner & Menon (2007, pp. 7–8)
		Students liked the self-paced nature of the program and the opportunity to master different levels of vocabulary in contexts relevant to their needs	
	Live Ink	Highly promising for improving learners' reading comprehension, retention, and proficiency	Walker, Schloss, Fletcher, Vogel, & Walker (2005)
	Concordancing	Learners work on collocation, the way words co-occur in a predictable pattern Learners notice and record the most useful terms in a text.	
Online Interaction	Second Life	English learners can work with other learners and native English speakers, role-play situations such as ordering at a restaurant, and participate in scavenger hunts and guided tours	Silva (2008)
	Second Life (e.g. Active Worlds)	First, as in Web-based searches, users can seek and use information on a variety of topics. Second, as in multimodal production, users can create and post content. Third, as in computer-mediated communication, users can interact with others.	Mark Warschauer & Irvine Meei-Ling Liaw
	Multi-player Games	Learners carry out tasks in the game and are exposed to both visual and auditory reinforcement in the process, so they are assisted in developing vocabulary, but not necessarily grammar.	
	Livemocha Lang-8 Mixi and Praxis Language	They connect language learners and mentors in English and other languages. Learners have access to self-study material and opportunities to practice and communicate with others through peer-to-peer or peer-to-mentor synchronous or asynchronous interaction.	
	MySpace	Learners create and respond to blogs on a variety of topics; they record and upload of student-generated audio files; and cross-cohort interactions between students from two classes using chat, e-mail and responses to blogs—all of which were to be accomplished in English.	Halvorsen (2009)
	Chatbots	Learners independently practice language structures and can also view or print the transcripts of chat sessions for further reflection and analysis	Fryer & Carpenter (2006)

A variety of learning technologies that support different phases of self-regulation is the focus of the study of Kitsantas and Dabbagh (2010) and Kitsantas (2013). These learning technologies, instructional uses, and self-regulatory processes are summarized in Table 9 that follows.

Table 9: Summary of learning technologies, instructional uses, and self-regulatory processes

Learning Phase	Learning Technologies	Instructional Uses	Self-Regulatory Processes
Forethought phase	Blogs/Journals	Publishing questions online for others to answer Providing and receiving feedback from peers Combining notes with the course content to create study guide	Self-monitoring Self-reflection Self-efficacy
	Podcasts	Audio/video lectures Recording study group sessions	Modelling Self-efficacy
Performance phase	Social Networks (e.g., MySpace, Facebook)	Networking among students within and across institutions Connecting with other experts in the field File sharing and transfer	Self-monitoring Task strategies
	Virtual Worlds	Virtual modelling Role playing/simulations Online meeting/training Providing instructor/peer feedback	Self-efficacy Peer modelling Task strategies Self-monitoring
	Bookmarks	Collaborative learning Bookmark sharing Resource sharing	Task strategies
	Collect or compile features	Collaborative and peer learning	Task strategies
	Administrative tools (e.g., calendar)	Keeping records of activities Recording due dates Recording daily and long-term tasks	Time management Goal setting Self-monitoring
	Online marking tools	Record keeping Providing instructor/peer feedback	Self-monitoring Self-evaluation
Self-reflection phase	Online Gradebook (LMS tools)	Record keeping Providing instructor/peer feedback Collaborative learning	Self-evaluation Self-satisfaction Attributions
	Wikis	Knowledge sharing Debating Bulletins	Self-evaluation Peer modelling Seeking help

5. Findings

Finally, the research findings on the impact of technology to learning (Higgins, S., Xiao, Z., and Katsipataki, M., 2012) which revealed the following results make good recommendations for the findings of this study.

- Technology can be as powerful as a short but focused intervention to improve learning, particularly when there is regular and frequent use (about three times a week) over the

course of about a term (5 - 10 weeks). Sustained use over a longer period is usually less effective at improving this kind of boost to attainment.

- Remedial and tutorial use of technology can be particularly practical for lower attaining pupils, those with special educational needs or those from disadvantaged backgrounds in providing intensive support to enable them to catch up with their peers.
- In researched interventions, technology is best used as a supplement to normal teaching rather than as a replacement for it.
- In literacy the impact tends to be greater in writing interventions compared with reading or spelling.
- At least a full day's training or on-going professional inquiry-based approaches to support the introduction of new technology appear the most successful. The implication is that such support should go beyond the teaching of skills in technology and focus on the successful pedagogical use of technology to support teaching and learning aims.

6. Conclusions and Recommendations

Based on the findings, the following conclusions are made:
1) High level of independent learning strategies can be acquired through self- training and teacher assistance.
2) The successful use of independent strategic learning among learners requires sustained students' motivation, training in the use of these strategies, attitude towards current teaching and learning dynamics, the instructional materials, and teachers' support.
3) Successful users of varied learning strategies become successful independent and self-regulated learners.
4) Learning technologies encourage, influence, and support strategic learning and self-regulation.
   The following recommendations are sought based from the findings.
1) Institutions have to conduct orientation and training on the use of varied and efficient learning strategies to prepare students to handle academic processes.
2) Classroom teachers should offer direct instruction or learning suggestions to change students' persisting ineffective learning patterns and behavior and to avoid the blind and damaging use of these skills.
3) Learners have to adopt an organic individualized learning approach to improve their academic performance.
4) Institutions, teachers, and students must maximize the use of available advanced online learning systems.

About the Authors

Marcos A. Sanchez, PhD, is a member of the Faculty of the Royal Commission of Jubail's English Language Institute, Jubail Industrial College-branch, in the Kingdom of Saudi Arabia. He has been a member of the institute's Research Team, Quality Assurance Unit, and the Accreditation Team. His teaching career includes university teaching at the Jubail University College (KSA), Misurata University and Benghazi University (Libya), and University of Baguio and Saint Louis

University (Philippines). He served as Department Head for English and Director for Student Affairs at the University of Baguio and as Regional Accreditor for the Commission on Higher Education in the Philippines. He has a Doctorate in Philosophy in Language Education and Master of Arts in Literature from Saint Louis University. Also, he has completed various professional development courses in English teaching from the Cambridge University Press and the British Council.

Marvin W. Lidawan, EdD, is a faculty member of the Royal Commission of Jubail's English Language Institute, Jubail Technical Institute-branch, in the Kingdom of Saudi Arabia. He is a CEFR for Languages- B1 & B1+ course coordinator of the institutes' branch since 2018. His teaching career includes Lyceum Northwestern University, Remnant International College, Baguio School of Technology -College (the Philippines), Colleges of Technology (Sultanate of Oman), Cheonan Buk Middle School (South Korea) & Ministry of Education (the Philippines). He served as a Program Head for English & Mass Communication and English Language Center Coordinator at Remnant International College and Colleges of Technology in the Philippines and in the Sultanate of Oman, respectively. He holds a Doctorate in Education specializing in Educational Management (Pangasinan State University) with a Master of Arts in Language Education (Baguio Central University). He has completed various professional development courses in English teaching from the Cambridge University Press and the British Council (Oman & KSA).

References

Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. Modern Language Journal, 75, 460-472.

Anderson, N. J. (2002). The role of metacognition in second language teaching and learning. ERIC Digest, EDO. Washington, DC: ERIC Clearinghouse on Languages and Linguistics.

Black, R. W. (2008). *Adolescents and online fan fiction.* New York: Peter Lang.

Bloch, J. (2007). Abdullah's blogging: A generation 1.5 student enters the blogosphere. *Language Learning & Technology*, *11*(2), 128–141.

Borkowski, J., Carr, M., & Presley, M. (1982): Spontaneous Strategy Use: Perspectives from Metacognitive Theory. Intelligence, 11, 16-75. Cited by

Boyce, Allan (2010). The Effectiveness of Increasing Language Learning Strategy Awareness for Students Studying English As A Second Language. Auckland University of Technology.

Brunner, C., & Menon, R. (2007). *Report to the IBM Corporation: Evaluating Reading Companion*. New York: Education Development Center, Center for Children and Technology.

Cohen, A. D. (1998). Strategies in learning and using a second language. London, England: Longman.

Ellis, R. (2008). Understanding Second Language Acquisition. Oxford University Press.

Fellner, T., & Apple, M. (2006). Developing writing fluency and lexical complexity with blogs. *The JALT CALL Journal*, *2*(1), 15-26.

Fryer, L., & Carpenter, R. (2006). Emerging Technologies: Bots as Language Learning Tools Language Learning and Technology, 10(3), 8-14.

Grenfell, M. (1999). Modern Languages and Learning Strategies: In theory and practice. London, England: Routledge Falmer.

Grossman, Deborah (2011): A Study of Cognitive Styles and Strategy Use by Successful and Unsuccessful Adult Learners in Switzerland (A dissertation submitted to the School of Humanities of the University of Birmingham).

Halvorsen, A. (2009). Social networking sites and critical language learning. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 237–258). Hershey, PA: IGI Global.

Hegelheimer, V., & O'Bryan, A. (2009). Mobile technologies, podcasting, and language education. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 331–349). Hershey, PA: IGI Global.

Higgins, S., Xiao, Z., and Katsipataki, M. (2012). The Impact of Digital Technology on Learning: A Summary for the Education Endowment Foundation. UK: Durham University.

IBM (2008). Welcome to Reading Companion! Retrieved November 25, 2008, from http://www.readingcompanion.org/aboutUs.html

Jonassen, D. H., Carr, C. & Yueh, H. P. (1998). Computers as Mindtools for engaging learners in critical thinking. *TechTrends*, *43*, 2, 24–32.

Lu, J. A. (2009). Podcasting as a next generation teaching resource. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 350–365). Hershey, PA: IGI Global.

Macaro, E. (2001). Learning strategies in foreign and second language classrooms. Longman, England: Continuum.

Madrid, D. (2000). 'Learning Strategies', Teaching English as a Foreign Language, Barcelona: The Australian Institute.

McDonough, S. (1995). Strategy and skill in learning a foreign language. London: Arnold.

Nunan, D. (1999). Second Language Teaching and Learning. London, England: Heinle and Heinle.

O'Malley, J. M., Chamot, Anna U., and Kupper, Lisa (1987). Technical Report 742 01 U- The Role of Learning Strategies in Second Language Acquisition: Strategy Use by Students of English. U. S. Army Research Institute for the Behavioral and Social Sciences.

O'Malley, J. M., and A. U. Chamot (1990). 'Learning Strategies in Second Language Acquisition', Applied Linguistics 110/4:418-437.

O'Malley, J. M., A. U. Chamot, G. Sterner-Manzanares, L. Kupper, and R. P. Russo (1985). Learning Strategies Used by Beginning and Intermediate ESL Students, Language Learning, 35, 1, 21-46.

Oxford, R. (1990). Language Learning Strategies. Newbury House. New York.

Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon: MCB University Press, Vol. 9 No. 5, October 2001.

Peterson, E. (2010). Internet-based resources for developing listening. *Studies in Self-Access Learning, 1*(2), 139-154.

Ramírez, T., & Thomsen, M. (2008). Immigrants in the workforce: The transition from worker to professional. *In Transit, 3*, 52–62.

Rubin, J., & Thompson, I. (1994). How to be a more successful language learner. (2nd ed). Boston, MA: Heinle and Heinle.

Silva, K. (2008). Second Life. *TESL-EJ*, *12*(1). Retrieved July 15, 2009, from http://tesl-ej.org/ej45/m1.pdf.

Tran-Hoang-Thu (2009): *Learning Strategies Used by Successful Language Learners*, Alliant International University.

Valcarcel, M., Coyle, Y., and Verdu, M. (1996). Learning Foreign Languages: Learner Strategies. Cited in Madrid, D., "Language Learning Strategies" (2000).

Walker, S., Schloss, P., Fletcher, C. R., Vogel, C. A., & Walker, R. C. (2005). Visual-syntactic text formatting: A new method to enhance online reading. *Reading Online*, *8*(6). Retrieved from http://www.readingonline.org/.

Warschauer, M. (2006). *Laptops and literacy: Learning in the wireless classroom.* New York: Teachers College Press.

Warschauer, M., & Liaw, M. (2011). Emerging technologies for autonomous language learning. *Studies in Self-Access Learning Journal, 2*(3), 107-118.

Weinstein, C., & Meyer, R. (1983). The Teaching of Learning Strategies. Innovation Abstracts, 5(32), 3-4. Retrieved from Eric#:ED237180 on May 15, 2010.

Wenden, A., & Rubin, J.(1987). Learner Strategies in Language Teaching. London, England: Prentice Hall International (UK) Limited.

Wenden, A., and J. Rubin (eds)(1987). Language Strategies in Language Learning. Englewood Cliffs, N.J. Prentice Hall.