



READING AND WRITING IN HIGHER EDUCATION: A PORTUGUESE CASE STUDY

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Abstract

This study aims to present the main aims of a study skills project developed in two main interrelated sections: diagnosis and intervention. In the diagnosis process, the used a questionnaire (*Queststud*) directed to the students allowed the assessment of the comprehension/retention and writing levels of competence. On the other hand, through the use of the *Questprof* specifically directed to their professors, we aimed to assess the students' level of competence based on their experiences during classes. In the intervention process, a "*Study Skills Workshop*" was developed where students have the opportunity of experiencing specific reading comprehension, retention and writing strategies and develop their skills in order to overcome their own difficulties.

Introduction

The development of effective study skills especially in the scope of the reading/comprehension and writing abilities is essential for a competent and effective performance in all stages of life, from early education to future employment. Reading allows the access to information and writing the vehicle to convey ideas, communicate and deliver instruction.

The ability to read and to understand the information demands one high level of competence and is highly associated with the students' attainment and academic performance. The higher education student must be aware of the objectives of the reading, read selectively, make associations between the ideas using the previous knowledge, find out the meaning of the new words, make inferences, underline and distinguish the important ideas from the ideas less important. In a posterior phase or still during the process, the student must reread, take notes and/or paraphrase in an attempt of remembering the objective of the text, interpreting, make the synthesis of information and evaluate its quality. After reading, the reader must review the information that can

later summarize, schematize and raise questions about the texts read and think about the form of using the information of the text in the future (Pressley, 2000; Allgood, Risko & Alvarez, 2000).

Closely associated with reading/comprehension, we have the writing skill that, in the higher education context, involves the use of the specific academic language. According to the tasks, the student must analyze, interpret and evaluate knowledge and be able to develop an argument, to refer to a theory, elaborate a conclusion, to analyze, to be critical, to develop an idea central, to process information, to incorporate facts, to use a correct terminology, to apply models (if applicable), to follow a logical order, to use texts in its original form, to make references, to tell personal experiences, to state opinion and to make personal interpretations of the facts (Hartley & Branthwaite, 1989 cited by Hartley, 2002).

In fact, there has been a considerable body of research about the skills, resources and cognitive processes but not enough attention has been paid to professors' role in these processes. Several studies emphasize the interrelated aspects of the purposes of assignments, feedback comments and students perceptions and expectations associated with their tasks (Prosser, 1994; Storch, 2000, Chanock, 2000), the professors' expectations from their students' tasks (Vardi, 2000) and their attempts to get students to pay attention to feedback, learning from it and acting on it (Bailey and Vardi, 1999).

In the context of Higher Education, professors report a generalized incapacity, lack of interest, indifference and rejection by the students to these skills. The abilities to read and write are no longer skills which professors take for granted when students get into higher education because they perceive the level of difficulties students face in this field namely in approaching and understanding the data from the texts (Levin, 2000). Professors themselves when referring to their students abilities in this field frequently mention that students do not read analytically, can not distinguish between important and unimportant ideas, can not adjust their reading to the different materials they encounter, do not seem to enjoy reading and hence approach texts unenthusiastically. Studies have demonstrated that higher education students have serious problems in approaching reading, cannot read properly for the purposes of their courses and face several difficulties when performing a critical evaluation of their reading content and then when writing. (Rosenshine, 1980; Manzo, 1983 cited by Flippo & Caverly, 2000; Wong, 2000; Bailey & Vardi, 1999; Barker, 2000).

About the writing skills there is also a common incorrect belief that writing is writing and that if you are taught the basics, you are either good at it or you are not; that either you can do it or you cannot. According to Vardi (2000) the key for becoming a successful writer at university is associated with the comprehension of what is required and what is involved in the process of

completing assignments. In writing, a major problem students face is associated with the misunderstanding and interpretation of the markers' comments.

Research studies on writing problems refer that academics consider grammar, spelling, punctuation, expression and the ability to explain, structure and interpret facts as being the major difficulties students face in their writing (Lea, 1994; Lea and Street, 1998, Hartley, 1998). Also according to this authors, professors' beliefs about what made a good piece of writing vary greatly and it is due to the interaction of four factors: firstly, the reason for setting the task, secondly the thinking of the discipline, thirdly the professors' beliefs about good writing in relation to learning objectives and finally the need to assess understanding. However, the problems are not only associated with the student but also with the lecturer because, according to Vardi (2000), each lecturer wanted a different combination of sometimes-conflicting requirements who agrees with the conclusions of Lea and Street (1998) that asserted that one of the reasons why students have problems in writing is that their expectations of writing differ from those of their professors.

Bearing all these problems in mind, there has been a constant demand for instruction both for students and professors. These intervention programs must, over all, encourage the students to perceive the academic tasks, know their own personal epistemologies, understand the objectives of their professors, understand the way professors deal and think about the subject and learn to organize this information. Following a student-centered learning approach and not the traditional teacher and subject-centered environments it is provided an interactive instruction, enabling students to address and control their own learning interests and needs (Combs & Whistler, 1997).

1. Aims

The study skills program was developed in the scope of the Personal and Professional Training and Improvement Centre at the Superior Polytechnic Institute Gaya (ISPGAYA) in Portugal. In a general way, and based on the guiding lines of this type of higher education institution, this centre aims to: collaborate for the improvement of the quality and the access to the continuous professional instruction and for the acquisition of lifelong learning abilities; develop the students' skills through open and flexible formation methodologies and pedagogical models; create and develop new abilities that allow the students to adjust to the new society realities in particular to the constant changes in the work world; promote the continuous formation or the recycling of knowledge of former students or integrated professionals already in the work market;

This global concern with specific professional instruction, vocational training and lifelong learning is based on the role of the Polytechnic Institutes in the scope of Higher Education in

Portugal because the student population is characterized by an heterogeneity of profiles and interests and is constituted by a majority of students-workers.

Taking these characteristics into consideration and also the differences in the abilities, academic origins and even of professional perspectives of the students, it was developed a internal research concerning the students' study skills and their academic success in order to implement the acquisition of efficient study habits and methods, to explore and to identify the difficulties and think about their importance for the students' performance and achievement.

2. Methodology

This project has been developed in two main interrelated sections: diagnosis and intervention. In the diagnosis process, the use of the *QuestStud Questionnaire* directed to the students allowed the assessment of the comprehension/retention and writing levels of competence. On the other hand, through the use of the *QuestProf Questionnaire* specifically directed to their professors, we aimed to assess their own students' level of competence based on the professors' experiences during classes.

In the intervention process, a "*Study Skills Workshop*" was developed where students have the opportunity of experiencing specific reading comprehension, retention and writing strategies and develop their skills in order to overcome their difficulties.

DIAGNOSIS: STUDENTS' SKILLS: THE STUDY SKILLS QUESTIONNAIRE

The questionnaire is composed by two sections that intend to analyze the habits, abilities and specific strategies used by the subjects as well as their opinion on the importance of these abilities, their main difficulties and needs of instruction in reading/comprehension and writing.

The students rated their reading and writing habits and their performance in each specific strategy using a 5 point scale (1-never until 5-always), the importance of these skills for their academic success using a 4 point scale from 1 (not important) to 4 (very important) and their level of difficulties by choosing a difficulty frequency level from 1 (rarely) to 4 (always). After the analysis of the questionnaire answers, four competence levels were drawn (1st level of competence: 0%-24%; 2nd level of competence: 25%-49%; 3rd level of competence: 50%-74%; 4th level of competence: 75%-100%).

An internal reliability analysis of the questionnaire was initially performed by calculating the *Cronbach Alpha* coefficients and the results showed that the scale embodies a reasonably high level of internal consistency ($\alpha=0.8522$).

This questionnaire was directed to students from the Superior Polytechnic Institute Gaya (ISPGAYA). The students from the sample attend courses integrated in two main scientific fields: Social and Community intervention and Science and Engineering. It was completed by 319 students what corresponds to 33.4% of the whole student population. The sample was constituted by 48.9% female and 51.1% male students with ages between 18 and 56 years old, with an average mean of 25.8.

1. Reading and writing habits

The first section of the questionnaire asked the students to refer to their own reading and writing habits. The results collected in this section indicated that the students seem to read for the academic tasks: 48.3% very often, 37.6% sometimes, 8.2% always and 4.7% rarely and 0% rarely, and write for reasons connected with academic tasks: 37.6% sometimes, 32.6% very often, 16.9% rarely, 9.7% always and 3.1% never.

The results collected also indicated that students seem to read as a hobby: 45.1% sometimes, 23.5% very often, 18.2% rarely, 9.7% always and 3.4% always and write as a hobby: 34.8% sometimes, 32.3% rarely, 16.6% very often, 13.5% never and 2.8% always.

If we take the mean values assumed for reading for the academic tasks: (mean= 3.57) and reading as a hobby (mean= 3.18) and the mean values assumed for writing for academic tasks: (mean = 3.28) and writing as a hobby (mean= 2.63) and through the use of the t test, we can observe that there is a significant difference between the two sets of variables.

Having as an objective the comparison of the means of reading and writing for reasons associated with the academic tasks and associated with leisure, we calculated the value of t, that indicated them that the two averages differ significantly in both the situations. This way, we can say that the subjects seem to read more frequently than to write for the academic tasks and to write less frequently as activity of leisure than to read.

2. Strategies usage

From a specific set of reading/comprehension and writing strategies presented in the questionnaire, the students had to refer to the frequency they use/perform each one. The results concerning the central tendency values (mean, median and mode) for these items can be analyzed in Table 1.

Items			Mean	Median	Mode	
R E A D I N G	3	I can concentrate during reading.	3.85	4	4	
	6	I can use context to find out the meaning of unknown words.	3.75	4	4	
	7	I use the dictionary/encyclopedia.	3.81	4	5	
	8	I assimilate the new vocabulary.	3.78	4	4	
	9	I reread a passage when I do not understand its content.	4.12	4	4	
	10	I can find the keywords of a text.	3.50	3	3	
	11	I can find the main ideas of a text.	3.99	4	4	
	12	I can separate the important information of a text.	3.80	4	4	
	13	I solve doubts, exchange opinions with my teachers.	2.83	3	3	
	14	I memorize through reading.	3.36	3	3	
	15	I refer/quote from the texts I read.	2.56	3	2	
	W R I T I N G	4	I outline the ideas I want to refer to;	3.26	3	3
		5	I use a grammar books to solve doubts during writing.	2.80	3	3
		6	I use the specialized vocabulary	3.67	4	4
		7	I review the texts I write before considering them ready.	3.60	4	4
8		I ask other people to review my writing.	3.15	3	3	
10		I summarize/synthesize information.	3.15	3	3	
11	I take notes during classes.	4.06	4	5		

Table 1. Reading and writing strategies levels of usage.

From the strategies presented to the students in the reading/comprehension section, the items that revealed a higher level of usage by the students are associated with rereading (item 4: mean= 4.1), followed by the ability to find the main ideas of a text (item 11: mean =3.99) and the capacity of remaining concentrated during reading (item 1: mean=3.85). The strategies associated with the use of referencing/quoting (item 15: mean= 2.56), solving doubts and exchanging opinions with the teachers (item 13: mean=2.83) and memorizing through reading (item 14: mean=3.36) revealed the lower levels of usage.

In the writing section, the items that revealed a higher level of usage by the students are associated with the habit of taking notes during classes (item 11: mean=4.06), using the specialized vocabulary (item 6: mean=3.67) and performing a review (item 7: mean=3.60).

The strategies associated with the use of grammar (item 5: mean= 2.80), asking other people to review their writing. (item 8: mean=3.15) and summarizing/synthesizing information (item 14: mean=3.36) revealed the lower levels of usage.

3. Competence levels in reading/comprehension and writing

Bearing in mind the research purposes and aiming to evaluate the subjects' competence in reading/comprehension and writing, we ran a frequency analysis and averaged the item responses to create a variable score for each one of the subjects of the sample. According to each subject's score in each section, a percentage was calculated and students were divided in four groups according to their competence (Table 2).

Level of competence	Reading/Comprehension	Writing
1st level	0%	0%
2nd level	1.9%	6%
3rd level	85.9%	84.3%
4th level	12.2%	9.7%

Table 2: Level of competence of the students in both skills.

From the data collected we can observe that the great majority of the students seem to have an intermediate/high level of competence in reading (98.1% in the two positive scale points) and Writing (94% in the two positive scale points) although slightly higher in reading comprehension.

The comparison of the values of the mean (3.10 in reading and 3.04 in writing), and by performing some t-test procedures, allowed us to confirm the idea that students seem to be more competent in reading/comprehension than in writing

4. Level of difficulties

In the next question subjects had to refer to their own level of difficulties in both skills. (Table 3).

Level of difficulties	Reading/Comprehension	Writing
Rarely	46.1%	36.7%
Sometimes	49.2%	58.3%
Very often	2.8%	4.4%
Always	1.9%	0.6%

Table 3: Level of difficulties in both skills.

The results show us that in reading/comprehension 58.3% of the students have difficulties sometimes and 49.2% in writing, 36.7% rarely in reading/comprehension and 46.1% in writing and that about 5 % has difficulties very often/always in reading/comprehension and 4.7% in writing.

The comparison of the values of the mean (3.32 in reading and 3.40 in writing), and by performing some t-test procedures, allowed us to confirm the idea that students seem to have more difficulties in writing than in reading/comprehension.

5. Demand for instruction

The results collected from the questionnaire indicate that the great majority of the subjects would be interested in participating in specific support programs about reading, comprehension (63.9%) and writing (59.6%) to help them to overcome their difficulties (Table 4).

	Reading/comprehension	Writing
Interest in instruction	63.9	59.6
	36.1	40.4

Table 4. Level of need for instruction in both fields.

6. Level of importance for academic success.

Data on the importance of these skills for the academic success of higher education students indicate that the subjects consider that both skills are important (37.0% for reading/comprehension and 36.1% for writing) or even very important for their academic success (61.8% in reading/comprehension and 57.7% in writing). (Table 5)

Level of importance	Reading/Comprehension	Writing
Not important	0.3%	2.5%
Of little importance	0.9%	3.8%
Important	37%	36.1%
Very important	61.8%	57.7%

Table 5: Level of importance for academic success.

The comparison of the values of the mean (3.60 in reading and 3.49 in writing), and by performing some t-test procedures, allowed us to confirm the idea that students seem to consider reading more important than writing for their academic success.

DIAGNOSIS: PROFESSORS ASSESSMENT OF THE STUDENTS' SKILLS

The diagnosis the level of ability of the students in the specific context of this study was based on a questionnaire directed to the professors of ISPGAYA aiming to get specific information on the level of ability of the students in reading/comprehension and writing.

In the specific field of reading/comprehension, the professors were questioned about the level of ability their students in what concerns: the capacity of selection of information, activation of basic knowledge, concentration and attention, understanding of the specific vocabulary, understanding of concepts, development of adjusted strategies, assimilation of the contents and understanding of texts in English.

In the specific field of writing the professors were questioned about the level of ability of the students in what concerns: the clearness and organization of ideas, the coherence and cohesion of speech, the capacity of information synthesis, the relevance and effectiveness in the presentation of ideas, the use of the specialized vocabulary, the specific knowledge of the rules of elaboration of reports and texts, the ability to build references and quotations and the capacity of writing in English. The professors were also questioned about the value attributed to writing correctness in papers, reports or exams in the general assessment of the students and if they developed any specific strategies to increase the abilities of the students in these fields and to help them to overcome their difficulties. The collected sample corresponds to 40.2% of the population (37 professors) and is constituted by 52% female and 48% of male elements.

1. Reading/comprehension and writing skills

Through the use of a five point scale, the professors referred to the level of ability of the students in the fields of reading/comprehension and writing (Table 6).

Level of ability	Reading/comprehension	Writing
1	0%	2.8%
2	21.6%	41.7%
3	70.3%	47.2%
4	8.1%	8.3%
5	0%	0%
Mean	2.86	2.61

Table 6: Level of ability of the students in the fields of reading and writing

From the collected data we can observe that the majority of the professors tend to consider that the students have an inferior level to the intermediate value of ability (average of 2.86 in a scale of 5 points in reading/comprehension and 2.61 in writing).

In a specific strategy level, the data can be analyzed through the values of central tendency measures for each one of the items (Table 7)

	Items	Mean	Median	Mode
R E A D I N G	Selection of information	2.77	3.00	3
	Basic knowledge activation	2.83	3.00	3
	Concentration and attention	3.31	3.00	3
	Specific vocabulary understanding	2.97	3.00	3
	Understanding concepts	3.25	3.00	3
	Development of strategies	2.80	3.00	2
	Content retention	3.06	3.00	3
	Ability to understand texts in English	2.28	2.00	2
W R I T I N G				
	Clearness and organization of ideas	2.63	3.00	3
	Coherence and cohesion of speech	2.71	3.00	3
	Ability to synthesize information	2.56	2.50	2
	Relevance and effectiveness in the presentation of ideas	2.74	3.00	3
	Ability to use of the specialized vocabulary	3.00	3.00	3
	Knowledge about the rules of elaboration of reports and texts	2.50	2.00	2
	Ability to build references and quotations	2.31	2.00	2
Ability to write in English.	2.00	2.00	1	

Table 7: Reading and writing strategies levels of usage.

According to the professors, and regarding reading/comprehension, concentration and attention and the understanding of concepts are the aspects where the students seem to have more ability and the capacity to understand texts in English and to select information the items where they seem to be less competent.

From the items associated with writing the professors point out the relevance and effectiveness in the presentation of ideas and the capacity to use the specialized vocabulary as the aspects where the students seem to have to more ability and the ability to build references and quotations and the capacity writing in English as the aspects where the students seem to disclose less ability.

3. Value attributed to writing correctness in papers, reports or exams and the development of strategies to help the students.

The wide majority of the professors (90%) state that they take this topic into in consideration when assessing the students and also the wide majority of the lectures (88%) state to develop strategies to help the students to develop their abilities and to overcome difficulties

INTERVENTION: STUDY SKILLS WORKSHOP

In a general scope we aim to promote authentic instruction through cooperative and active learning and cognitive apprenticeship by putting the students at the centre of their own learning by giving them an effective control.

The organization of this workshop was based on a set of studies on reading. comprehension and writing in Higher Education and instruction/intervention experiences in this field. The structure is centred in the accomplishment of specific activities based on a "task" set that tries to reproduce concrete situations of the need to read. to write or to understand information in a fast autonomous and efficient way.

The twelve activities that composed the workshop aimed to analyse: the variety of strategies available; the definition/content of each strategy; the objectives of each strategy; the aspects to have in consideration when we use of each specific strategy; the stages to follow and their implications; the advices to take before, during and after each activity; the inherent rules and implications of each activity and their usefulness for the day-by-day of the Higher Education student.

The activities from the workshop were: 1: Vocabulary usage (general and specific); 2: Referencing; 3: Context analysis; 4: Keyword detection; 5: Main idea detection; 6: Inference; 7: Outlining; 8: Summarizing; 9: Comprehension (explicit and implicit), 10: Exam question answering techniques

CONCLUSIONS

The collected results seem to indicate that the students use both skills very often, although reading slightly more often mainly for academic reasons and to accomplish their immediate academic needs. This type of approach to learning can be analysed based on the characteristics of the sample, mainly composed by student-workers. In fact, the time and effort of the students devoted to the academic tasks is constrained by their professional duties what leads to a generalized surface approach to learning.

The results also indicate that the students seem to show more availability to receive instruction, although the learning instruction experience in this field has demonstrated that student-

workers have many difficulties when it comes to regulate their academic tasks and make them compatible with their professional schedules.

The levels of ability of the students in these two skills, based on the frequency in the use of specific strategies, allowed us to conclude that students reveal a higher level of competence in reading/comprehension and seem to have more difficulties in writing. This way, and based on the data that confirms that they consider reading more important for their academic success and show a higher demand for instruction in this field, we can infer the high standard role that reading/comprehension plays in this educational field as a way to receive and analyse information.

This research also tried to provide information on the professors' perceptions and opinions not only on their students' competence, daily performance and difficulties but also lead the professors to think about their own performance as feedback providers, instructors and assessors.

Data has demonstrated that professors consider that their students have an intermediate level of performance in both skills. However, results have indicated that they consider that their students have a better performance in reading/comprehension than in writing. In fact, this result is consistent with the previously analyzed questionnaires regarding the students' level of competence in each field.

Moreover, when asked to refer to the main difficulties of the students, the professors referred the same tendency detected in the students' questionnaire. In fact, there seems to be a general idea that associates the level of usage of a certain strategy and the degree of complexity involved in its performance. From the analysis of the data from the two instruments can be inferred a tendency for the adoption of a surface approach to the study by these students, usually marked by an intention to complete the task (or learning) requirements along with the memorization of information and procedures for assessment. Once again, the nature of the approach to learning of the students reveals a very practical and vocational perspective of learning based on their professional targets.

When asked if they performed any strategies during classes to promote the students skills, the results revealed how these professors perceive these skills and their importance for the students' success. In fact, this was also the general idea of the students when considering these skills very important for their academic performance and success.

Based on the conclusions from this study, we argue that professors should be motivated to provide feedback instructions to their students and so academic discourse must be intensively worked out with students. Professors must share their perceptions and expectations on the reading/comprehension and writing aims and approaches through the development of specific interaction ways. On the other hand, professors must make their expectations, opinions, demands

and understandings explicit and accessible to students in order to help them to get acquainted with the higher education demands.

Advice and specialized guidance should be encouraged and students' participation in all kinds of support programs should be a true priority providing students with some help and support. The example of a study skills workshop presented here is just an example of how research should be conducted in this field in order to respond to the students needs, focusing on the confrontation of the student-lecturer perspectives, expectations and perceptions of demands, objectives and outcomes.

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