INFORMATION TO USERS

Bilingual communication use in a Puerto Rico daily business environment

Barnes, Dora, Ph.D.

Fordham University, 1993

( )

BILINGUAL COMMUNICATION USE IN A PUERTO RICO

DAILY BUSINESS ENVIRONMENT

DORA BARNES, PhD

BS, Catholic University of Puerto Rico, 1965
MA, New York University, 1983

Mentor
Angela Carrasquillo, PhD

Readers
Anthony Baratta, EdD
Rowland Hughes, PhD

DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN THE GRADUATE SCHOOL OF EDUCATION OF
FORDHAM UNIVERSITY

NEW YORK
1993

( )

FORDHAM UNIVERSITY

GRADUATE SCHOOL

April 15   19 92

This dissertation prepared under my direction by
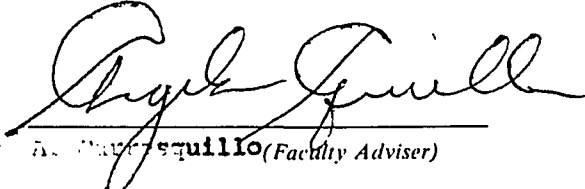
Dora M. Barnes

entitled Bilingual Communication Use in a Puerto Rico

Daily Business Environment

has been accepted in partial fulfillment of the requirements for the

Degree of Ph.D. in Language, LIteracy and Learning

Dr A. ... *quillo(Faculty Adviser)*

DEDICATION

This work is dedicated to Aracelis Colon whose faith in my abilities to complete a task this big kept me in the race until the finish line was crossed.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

THE PROBLEM

We talk about people when we speak about organizations. The objective of these enterprises is to provide a service or a good. Consequently for organizations to operate, a communication system must be in place. Most organizations function under dynamic conditions where change is very common. This dynamic mode of operation requires that strategies be in place to pass this information to those managers in the organization whose responsibility includes regrouping and reassigning resources to respond to these changes (Newstrom & Davis, 1989).

Organizational communication is the framework that holds together the different events that are the processes of managing a business. It is the factor responsible for transmitting and disseminating organizational objectives, policies, and programs in a way that effectively meets internal and external audience needs. It is the vehicle through which the organization's "personality" is presented to its audiences. Communicators are becoming more active, as their role as problem

solvers and decision makers is recognized in organizational management (Reuss & Silvis, 1985).

Hand in hand with this greater emphasis in communication has come a change in management style--from the school of passing very little information to an approach of genuine respect for the ever-changing, multifaceted audience, an audience that seeks information (Reuss & Silvis, 1985). The establishment of a communication network in the workplace becomes even a greater challenge if we take a closer look at how the work force profile has changed. Young people, women, and members of minority groups are a significant portion of today's work force. It is no longer possible to lump employees into a single group having the same interests and similar information, desires, and needs. There is an awareness that they come from different environments and have different backgrounds and different points of view (Gibson & Hodgetts, 1986).

Another important aspect of today's organizational environment is the role of low-ranking employees in what has become known as participative management. These groups of employees are given a voice in the communication process by presenting ideas for better utilization of equipment and processes as well as being open and vocal in issues affecting them (Nichols, 1989).

Although a significant amount of research has been conducted on the subject of organizational communication (Luthans & Larsen, 1989; Pincus, 1989; Ruddell, 1985), very little research has been done on this subject from the perspective of two languages in the communication network of an organization. In Puerto Rico, an interesting and somewhat unique organizational predicament is found. With very few exceptions, all the pharmaceutical industries currently operating on the island are subsidiaries of American or European companies. In each of these companies, Puerto Ricans, whose first language is Spanish, hold supervisory and managerial positions; Americans, whose first language is English, usually hold the top position or positions in the organizational ladder of the different corporations. The transfer of processes, procedures, technical information, and official documents is done in English which, in the majority of the cases, is the official language of the parent company. Under these circumstances, language plays a key role in the communication of these organizations. The fact that bilingual speakers can switch language, depending on the linguistic skills of the interlocutor, the topic of conversation, or the role relationship speakers find themselves in, is of vital importance to the organization. Communicative competence, therefore, in the particular and specific situation of Puerto Rican

supervisors in English-speaking companies located on the island encompasses the ability to transmit, in English and Spanish, meaning between sender and receiver.

One perspective of communicative competence viewed it as an impression formed by other people about a communicator (Rubin, 1984; Spitzberg, 1983). Observers form impressions of others' communication competence by making judgments about the knowledge and motivation the other possesses via his/her skills in a particular context. Skill is seen as performance of appropriate behavior, knowledge as an awareness of what is most appropriate in a particular situation, and motivation as a drive to perform (Rubin, 1983). Impressions of communication competence are formed also about a communicator's linguistic abilities from the communicator's actual behavior (Rubin et al., 1984). Observers may argue that a communicator's behavior was effective based on the goals observers imposed on the situation or ones they imagined the communicator might have. The impression formed of the appropriateness of the communication in a specific context constitutes one's impressions of another's communication competence (Spolsky, 1989; Taylor, 1988). This argument describes the importance of being able to effectively present and have accepted the communicators' own definition of themselves to others. This ability became even more critical if one was constantly dealing with two

languages, and needed to be accepted as an effective
communicator in both languages.

Statement of the Problem

The purpose of this study was to identify similari-
ties and differences in the bilingual communication
(through reading, listening, writing, and speaking)
involvement of bilingual supervisors within the organiza-
tional communication of an English-based enterprise in
Puerto Rico. The perceptions of the managers and super-
visors as to the contribution of effective communication
in English to their career growth and job opportunities
were also analyzed. Was the involvement the same when
communicating in English than when communicating in
Spanish? Was the involvement the same throughout the
different levels of supervision? Is the perception of
the English needs the same throughout the different
levels of supervision?

This is the work environment of many Puerto Ricans
in supervisory positions throughout the island of Puerto
Rico. How effectively Puerto Ricans are able to communi-
cate within their job responsibilities could directly
impact their growth potential within the company. This
was a reason to identify the bilingual communication
needs necessary to move in the career path of individuals
in supervisory positions. This could be the beginning of

curriculum revisions and/or different training approaches
both at the college level and at training offered by the
companies.

The study was conducted in Lederle Parenterals
Corporation and Lederle Piperacillin Corporation. These
companies were located in Carolina, Puerto Rico, and are
subsidiaries of American Cyanamid. These two companies
had completely separate facilities with dedicated equip-
ment, product line, and personnel. Both plants were
built in the same land complex with some service depart-
ments like Medical, Accounting, Cafeteria, Purchasing,
Materials, and Personnel serving both complexes. The
departments of Engineering and Maintenance, Quality
Control, and the Production units, which were directly
related to the manufacturing process, were dedicated for
each of the corporations.

The sample for this study was the entire population
of managers and supervisors of Lederle Parenterals Corpo-
ration and Lederle Piperacillin Corporation (approximate-
ly 57 in total--10 staff, 18 line managers, and 29 super-
visors). The demographic origin of the group was quite
heterogeneous. There were representatives from the
north, south, east, west, and central portions of the
island. In addition, 5% were Cubans, 2% were from Vene-
zuela, and 2% were native speakers of English. Overall,

98% were native speakers of Spanish, and 93% of the supervisors were Puerto Ricans.

Each supervisor was asked to fill out a questionnaire specially designed for this study. The questionnaire consisted of 40 questions addressing the variables of reading, writing, listening, and speaking. These variables measured the degree of literacy skills in organizational communication in both languages. In addition, there were questions addressing the importance of the English language for career growth. The questionnaire sought answers for the following questions:

1. Was there a significant difference among the staff managers, line managers, and supervisors in their mean organizational communication scores in Spanish?

2. Was there a significant difference among the staff managers, line managers, and supervisors in their mean organizational communication scores in English?

3. Was there a significant difference among the staff managers, line managers, and supervisors on their perception of the need of English for career growth?

4. Was there a significant difference among the supervisory group between their combined organizational communication scores and years of supervisory experience?

5. Was there a significant difference among the supervisory group between their combined organizational communication scores and gender?

6. Was there a significant difference among the supervisory group between their combined organizational communication scores and the number of persons directly supervised?

7. Was there a significant difference among the supervisory group between their combined organizational communication scores and age?

8. Was there a significant difference among the supervisory group between their combined organizational communication scores and education?

9. Was there a significant difference in the combined contribution of selected demographic characteristics (years of experience, gender, age, number of persons supervised, and education) in the organizational communication scores of the supervisors?

Theoretical Rationale

Impressions of communicative competence are formed about a communicator's linguistic ability from the communicator's actual behavior (Rubin, 1983). Observers may have perceived that a communicator's behavior was effective based on the goals observers imagined the communicator might have. The impression formed of the appropriateness of the communication in a specific context constitutes one's perception of another's communicative competence. According to Monge, Bachman, Dilland, and

Eisenberg (1982), a communicator competence construct for use in the workplace should focus on observable communication behaviors and omit or minimize social and interpersonal factors.

Canale and Swain (1980), on the other hand, define communicative competence as encompassing sociolinguistic, grammatical, discourse, and strategic competence. Not c _y is it necessary to know the rule by which language is produced and understood in different sociocultural contexts, but the elements and rules of _he language, the way linguistic form and meaning combine to achieve a functional spoken and written text, and a knowledge of the verbal and nonverbal communication strategies are essential to effectively communicate.

Communicative Competence

The development of a theory of communicative competence came as the result of Chomsky's limiting definition of the scope of the linguistic theory. Chomsky (1965) distinguished linguistic competence from linguistic performance. He defined linguistic competence, which was to be accounted for in the grammar as the underlying knowledge of an idealized native speaker of a language. In linguistic performance, Chomsky included such factors as the limitations of memory needed to explain the

constraint of the length of sentences that are grammati-
cally infinite (Taylor, 1988).

These developments in linguistic theory led Hymes
(1964) to propose the notion of communicative competence.
Communicative competence, as Hymes proposed it, offered a
theoretical foundation for the growing interest in the
teaching of language for communication. The communica-
tive teaching approach postulated that the second lan-
guage leaner must acquire not just control of the basic
grammar of the sentence but all the communicative skills
of a native speaker (Gazden, 1988; Widdowson, 1989).

Canale and Swain (1980) stressed the relevance of
communicative competence to second language teaching and
testing. In the model they offered, Canale and Swain
included linguistic competence within communicative
competence, arguing that rules of grammar were meaning-
less without rules of use. This notion of linguistic
competence was also supported by Jackendoff (1983), who
argued that it is the central component of any perfor-
mance model.

Bialystok and Sharwood-Smith (1985) made a proposal
for dealing with the relationship between competence and
performance. The distinction they proposed made it
possible to demonstrate important differences in both
acquisition and use, and to deal with the issue of
fluency. Bialystok's major contribution had been to add

the psychological or processing dimension to models of interlanguage that seemed confused between competence and process.

Communicative competence was best seen as a set of schemata or ritual interchanges plus individual differences in terms of proficiency as expressed in fluency, style, and creativity, and demonstrated in oral and written performances (Davis, 1989). Davis defined communicative competence as the use of language which is in part knowledge of ritual interchanges and in part control of fluency.

Organizational Communication

Communication was almost universally accepted as the most frequent managerial activity found in today's organization (Newstrom & Davis, 1989). From a business standpoint, communication was defined by Himstreet and Baty (1990) as a process by which information was exchanged between or among individuals through a common system of symbols, signs, and behaviors.

The flow of communication within the organization was downward, upward, and/or horizontal. Downward communication flows from superior to subordinate. This type of communication was based on the fact that people in high positions usually had a greater understanding of the organization and its goals than people at lower levels.

Upward communication is considered feedback to downward communication. Horizontal or lateral is used to describe exchanges between organizational units of the same hierarchical level (Himstreet & Baty, 1990). Organizational levels and goals determine managerial communication needs.

Communication is done to achieve a purpose: If the goal was achieved we probably could say we communicated successfully. For this to happen, others should understand the words as the sender intends to have the words understood. As a result of successful communication, the sender should perceive the receiver's favorable or unfavorable response.

Effective communication could be blocked by barriers that all communicators should be aware of. Lack of knowledge of the subject on either the sender's or receiver's part is one of these barriers. Ineffective listening is caused when the receiver's involvement with his/her feelings and problems makes it difficult for each receiver to hear what is really being communicated (DuBrin, Ireland, & Williams, 1989).

Every communication event usually begins with a person trying to send a spoken, written, or nonverbal message to a person or group. The perceived authority and expertise of the sender are factors that influence the attention the receiver will pay to the message. The

message is the key of the communication event and there
are factors that influence the way in which a message is
received. The complexity and length of the message and
the way the information is organized are some of the
factors that can influence the receiver's attention.
When the message is received and understood by the
receiver, then communication has occurred (DuBrin et al.,
1989).

Significance of the Study

In our complex society today, the business person is
responsible for bringing together human resources, mate-
rials, and capital to manufacture a product that society
will use. To accomplish this in the work environment,
the supervisors and managers must pass instructions and
priorities received from upper management to the persons
who will be actually doing the manufacturing job.
Instructions from upper management may come in English or
Spanish, and these instructions are passed, usually in
Spanish, to the people doing the job. For the
supervisory personnel there is a significant amount of
code switching in the everyday tasks of directing and
coordinating. A significant amount of communication is
constantly being done in both languages, even though
English is recognized as the lingua franca of business
(Mauser, 1977). Reading, writing, listening, and

speaking are constantly being used; however, no study is available to demonstrate the degree of bilingual communication involvement that is actually needed to be able to perform in this dual language environment.

Corporations spend thousands of dollars every year to train their supervisory personnel in the different management skills required to do their jobs effectively. Up to now, no specific needs or training approaches have been identified to cover the particular and specific needs of the unique situation we have in Puerto Rico. This study can serve as a foundation for training institutions, as well as the different private enterprises, who spend thousands of dollars every year in training seminars for key personnel.

Definition of Terms

In this study, the following terms are defined:

Communication. Gibson and Hodgetts (1986) defined communication as the transfer of meaning between sender and receiver. For the purpose of this study, this definition was used.

Communicative competence. The ability of an interactant to choose among available communicative behaviors in order that he/she may successfully accomplish his/her own interpersonal goals during an encounter with fellow

interactants within the constraints of the situation (Rubin, 1983).

Effective communication. The ability to express an idea and have the idea understood by the receiver.

Line manager. In this study, it is the positions reporting to the manager.

Literacy. Set of skills in reading, writing, listening, and speaking people have to varying degrees (Steadman & Kaestle, 1987).

Organizational communication. The transfer of information and knowledge among organizational members for the purpose of achieving the organizational objectives (Newstrom & Davis, 1989).

Perceptions. Ideas and conclusions formed by a person about his/her own personal abilities.

Supervisor. In this study, it is the positions reporting to the Line Managers.

Staff Manager. In this study, it is the supervisor reporting to the position of General Manager or President of the company in Puerto Rico.

Limitations of the Study

The study is limited by its nature, scope, and subjects. The nature and scope of the study are limited to the pharmaceutical industry in Puerto Rico. The vast majority of this industry on the island are subsidiaries

of American and, in a few instances, European companies. A very high percentage of the supervisory personnel are native speakers of Spanish who speak English with varying degrees of competency. The pharmaceutical industry is further limited to two particular plants located in a specific location on the island of Puerto Rico.

The subjects are limited only to the supervisors and managers of these two pharmaceutical plants where the study was conducted.

CHAPTER II

REVIEW OF THE RELATED LITERATURE AND RESEARCH

The purpose of this chapter was to review the literature on literacy and organizational communication, and how these two variables contributed to the communication competence in English and Spanish of supervisors and managers in the bilingual setting of the pharmaceutical industry in Puerto Rico. The areas under consideration are literacy, organizational communication, company culture and communication, communicative competence, and the self-assessment of skill needs to effective communication.

Communicative Competence

In the mid-50s, Chomsky (1957) directed linguistic studies away from structuralists' concerns with procedures for isolating phonological and grammatical elements of language in linguistic descriptions. Whereas structural linguists had focused on "surface" features of languages, Chomsky concerned himself with deep semantic structures and the ways in which sentences were understood and produced by native speakers of a language

(Lyons, 1984). Hymes looked at the actual speaker-listener in concrete events and gave prominence to that feature of language of which Chomsky took no account--social interaction.

Hymes argued that knowing a language meant knowing not only what is grammatical, but also what is appropriate, and that language competence included knowing the rules for language use in a given sociocultural context. It involved knowing when to speak, when not to speak, what to talk about and with whom, and where and in what manner (Hymes, 1980, 1987).

Communication scholars such as McCroskey (1982), Phillips (1984), and linguists such as Davis (1989) have echoed this perspective in defining competence as "knowledge about" communication and skills as "ability to" communicate (performance). Phillips argued that competence (understanding) is based on observed skills and evaluated in terms of effectiveness in goal achievement. Speakers' performances reflect relationships between their own competence, the competence of others involved in the interaction, and the nature of the interaction itself as it unfolds. By situating linguistic theory within the broad framework of communication and culture, Hymes (1987) argued that members of a community or culture behaved and interpreted the behavior of others in

light of knowledge of the rules for the appropriate linguistic behaviors they had available to them.

Communicative competence research had as its foundation a wide variety of perspectives: linguistic, goals, skills, and social perspective (Canale & Swain, 1980; Davis, 1989; Hymes, 1980; Powell, 1980; Savignon, 1983; Taylor, 1988). Recent trends in linguistic and language studies have recognized that it is not enough to know what a language looks like and to be able to describe or even measure its categories, but that one must know what the language means to its users and how it is used by them (Widdowson, 1989).

According to Canale and Swain (1980) and Canale (1983a), communicative competence encompasses areas of:

1. <u>Sociolinguistic competence</u>: Knowledge of rules by which language is produced and understood appropriately in different sociocultural contexts. These rules depend on factors such as status and roles of participants, their purposes, topics, tasks, and norms or conventions for interaction.

2. <u>Grammatical competence</u>: Knowledge of the elements and rules of the language code, for example, vocabulary and rules for word formation, sentence grammar, spelling.

3. <u>Discourse competence</u>: Knowledge of the way in which linguistic form and meaning combined to achieve unified and functional spoken and written texts.

4. <u>Strategic competence</u>: Knowledge of verbal and nonverbal communication strategies that can be called into action when grammatical, discourse, and/or socio-linguistic rule systems had not been fully developed or were temporarily inaccessible.

In other words, for Canale and Swain communicative competence was not possible unless a combination of areas was mastered. These areas included a knowledge of the rules for understanding and producing language with appropriateness, including a combination of communicative functions, rules of discourse, and grammatical accuracy.

A second perspective interpreted communicative competence as the ability of a person to identify and attain goals. Two major approaches have related goals to competence. The first concentrated on the person's ability to control the environment in order to achieve goals and rewards (DeVito, 1989; Goffman, 1981; Parks, 1977; Wiemann, 1977), while in the second relational approach, the participants in a communicative interaction should be given the chance to satisfy their goals (Hornberger, 1989; Miller & Rogers, 1976). Phillips (1984) argued that goal attainment was actually the construct "effectiveness" and not "competence."

The fundamental proposition underlying virtually all communication competence research was that competent communicators were those who were effective at achieving their goal (Parks, 1977). The assessment of goal achievement can be difficult. In an organizational setting, goals are more public and explicit than in an interpersonal relationship. Goals are prescribed by the role of the individual within the organizational structure. When multiple goals exist, they are likely to be restricted in number and often in scope. In addition, conflicting goals are often resolved by negotiation during formal meetings (Reuss & Silvis, 1985).

A third perspective views communicative competence as an impression formed by other people about a communicator (Rubin, 1984; Spitzberg, 1983). Observers form impressions of another's communicative competence by making judgments about the knowledge and motivation the other possesses via his/her skills in a particular context. Skill is seen as performance of appropriate behavior, knowledge as an awareness of what is most appropriate in particular situation, and motivation as a drive to perform (Rubin, 1983).

This last perspective argued that impressions of communicative competence were also formed about a communicator's linguistic abilities from the communicator's actual behavior. Observers may argue that a

communicator's behavior was effective based on the goals observers imposed on the situation or ones they imagined the communicator might have. However, communication is also sometimes expressive in nature; that is, the communicator was not necessarily attempting to achieve a specific goal. The impression formed of the appropriateness of the communication in a specific context constitutes one's impressions of another's communicative competence. This definition of communicative competence attempts to narrow the range of the impression from the global traits the skills perspective advocates to a context-specific impression.

The quality of communication competence in organizational context depends on two basic skills: encoding, which is the active sending of messages, and decoding, which is a kind of active listening (Gibson & Hodgetts, 1986). When encoding the message, the sender must organize his or her thoughts into a coherent package. At this stage, words and phrases are selected by the sender so as to convey the correct meaning. The sender will take into consideration how the receiver is most likely to interpret or decode the message. A communicator competence construct for use in the workplace should focus on observable communication behaviors and omit or minimized social and interpersonal factors (Monge et al., 1982).

The framework under which this study was conducted comprises Canale and Swain's definition of communicative competence (competence includes various phases), Rubin's conclusion that the appropriateness of the communication in a specific context constitutes one's impression of another's communicative competence, and the Monge, Bachman, Dilland, and Eisenberg position that a communicator competence construct for use in the workplace should focus on observable behaviors and omit or minimized social and interpersonal factors.

Communication Within the Organizational
Enterprise

Communication is the transfer of meaning between sender and receiver (Gibson & Hodgetts, 1986). Himstreet and Baty (1990) defined communication from a business standpoint, as a process by which information was exchanged between or among individuals through a common system of symbols, signs, and behaviors. Organizational communication is the transfer of information and knowledge among organizational members for the purpose of achieving organizational efficiency and effectiveness (Gibson & Hodgetts, 1986). Within the organization, communication flow may be upward, downward, or horizontal. Downward communication flows from superior to subordinate and normally involves both written and oral

methods. This type of communication used as a guideline the fact that people in high positions usually had a greater understanding of the organization and its goals than people at lower levels; oral and written messages tend to become longer as they moved through organization level; and oral messages were subject to greater changes in meaning than were written messages (Himstreet & Baty, 1990). Upward communication is considered feedback to downward communication. Accurate upward information kept management informed about the feelings of subordinates, and paved the way for more accurate communication. This type of information was affected by the fact that it was feedback to requests and actions of superiors; subordinates told the superior what they thought the superior wanted to hear; it was based on trust in the supervisor, and it was threatening to subordinates (Himstreet & Baty, 1990).

Horizontal or lateral communication is used to describe exchanges between organizational units of the same hierarchical level. Informal horizontal communication took place in any system or organization where people were available to one another. The informal communication and behavior that was not task oriented developed alongside formal task communication and behavior, contributing to morale, to improvements in ways to accomplish tasks (Himstreet & Baty, 1990). A high level

of horizontal communication occurs in today's business climate because participatory management, decentralization, quality circles, and project teams have generated great interest in active participation.

Organizational levels and goals help determine managerial communication needs. There are three managerial levels in an organization--top, middle, and lower, and each level has a need for a specific type of information. Top level managers make up the relatively small group of executives who control the organization. They are interested in developments in the external environment and the ways in which these can be used to formulate strategies for the enterprise. They deal mostly with the overall enterprise objectives. Upper level managers are role models and leaders to lower levels of management. The ideal image for each manager to project is a balance between people orientation and task orientation. Middle management is probably the largest group of managers in most organizations. They are primarily responsible for implementing the policies and plans developed by top management. They coordinate and supervise the activities of the first level management. At this level the main concern is the behavioral side of the job. First level managers supervise and coordinate the activities of the operating employees. They directly manage and lead those

who are producing the good or service being sold by the enterprise (Gibson & Hodgetts, 1986).

In the day-to-day activities, managers play different communication roles within the organization. There are interpersonal roles. In this role the manager is a leader--hiring, training, and motivating employees; a figurehead--attending business diners and taking visitors to dinner. There are informational roles. Under this role the manager monitors, seeking information that may be of value to the company; the manager acts as a disseminator, transmitting relevant information back to others in the workplace, or he/she can act as a spokesperson when representing the company outside the organization or outside the department he/she is assigned. In addition, managers have a decisional role. Under this role, managers are entrepreneurs; they are the voluntary initiators of change; they are disturbance handlers, handling problems such as strikes, energy shortages, copyright infringements; they are resource allocators, deciding who in the department will be given various parts of the department's resources and who will have access to the manager's time; they are negotiators, doing negotiations as representatives of the company.

Due to varieties in background, education, and cultural differences, it is virtually impossible to lump employees into a single group having the same interests

and similar information wants and needs. Managers and supervisors must be capable of meeting these different wants and needs of the people they work with to be effective in the position they hold.

An important key issue in organizational communication is that it is still not clear how groups make collective sense of their experience and how they come to take organized action. One theory is that organized action is the product of consensus among organizational participants, a view that has led to the conceptualization of organizations as systems of shared meaning (Louis, 1980, 1983; Pfeffer, 1981; Smirich, 1983b; Wolfson, 1988). In this view, organization members act in a coordinated fashion as a result of sharing a common set of meanings or interpretations of their joint experiences.

Weick (1979) argued that only minimal shared understanding is required because organization is based primarily on exchange (of work for pay). In order to produce organized action, group members need only share the knowledge that the exchange will continue. Weick proposed that common ends and shared meanings, rather than being prerequisites, may be the outcome of organized action, as a group acts first, then retrospectively make sense of what they did together.

Donnellon, Gray, and Bougon (1986) argued that the basis for organized action in the absence of shared meanings is a socially shared repertoire of communication mechanisms. Certain communication forms may develop and sustain interpretations of group experiences which, if not similar, at least allow members to coordinate their action.

Stokes and Hewitt (1976) and Blom and Gumperz (1986) identified several communication mechanisms by which people reconcile their own beliefs and actions, as well as align their actions with those of others. The implication is that from a full set of behavioral options available to them, people select particular communication mechanisms that allow them to align their own individual actions with those of others. There must be some form of communication by which groups voluntarily forge agreements to coordinate or interlock their behaviors, despite apparent differences in their interpretations of those behaviors.

Communication provides the means for transcending differences of interpretation in advance of organized action, as well as for retrospective sense making about actions that have been taken. According to Weick (1979), groups develop common means to achieve divergent ends. Organizing requires only a recognition of mutual interdependence and some shared understanding of the code for

interaction (Weick, 1979). Organizational members have two alternative sets of organizing tools at their disposal: shared meanings and shared communication mechanisms. If achieving shared meaning is neither possible nor practical, influential members can still rely on their repertoire of shared communication mechanisms to create meanings consistent with their desired course for collective action.

Self-Evaluation

Social learning approaches have been gaining support as a valuable framework for furthering our understanding of career development processes (Krumboltz, Mitchell, & Jones, 1976; Mitchell & Krumboltz, 1984; Osipow, 1983). Bandura's (1977, 1982, 1986) self-efficacy theory and its application in understanding, facilitating, and investigating career development has been gaining empirical attention (Betz & Hackett, 1986; Osipow, 1986).

Bandura (1982) defines self-efficacy expectations as beliefs about one's own ability to successfully perform a given task. Personal efficacy, in his view, is not a passive trait or characteristic, but a dynamic aspect of the self-system that interacts complexly with the environment as well as with other motivational and self-regulatory mechanisms (outcome expectations) and with personal capabilities and performance accomplishment

(Bandura, 1986). Perceived self-efficacy is a judgment about personal capabilities that is influenced by and, in turn, influences performance, but is not reducible to objective skills. Rather, self-efficacy determines what we do with the skills we have.

Efficacy expectations are hypothesized to be acquired via four major routes (Bandura, 1986): performance accomplishments; various experiences, including observational learning through modeling; verbal persuasion; and one's psychological state. These four sources of efficacy information continually and reciprocally interact to affect performance judgments which, in turn, influence human action.

Bandura (1986) conceptualized self-efficacy as varying along three dimensions:

Level--which is defined as the degree of difficulty of the tasks or behaviors that an individual feels capable of performing.

Strength--refers to the confidence a person has in his or her performance estimates. Weak self-efficacy expectations are modified by disconfirming experiences. Strong self-expectancy promotes persistence in the face of obstacles.

Generality--is defined as the range of situations in which a person considers him or herself efficacious.

While acknowledging the role of outcome expectations in performance, Bandura (1986) argued that expected outcomes usually depend to a great extent on self-perceptions of performance capabilities and are generally less important in determining behavior.

The social cognitive theory examined the role of self-efficacy expectations in the career development process. Career self-efficacy is the construct within this theory that is explored as potentially useful to incorporate into models predictive of career choice and adjustment (Betz & Hackett, 1986). According to these authors, career self-efficacy is a generic label encompassing judgments of personal efficacy in relation to the wide range of behavior involved in career choice and adjustment. However, self-efficacy is a domain or task specific construct, and researchers have studied different aspects or subcomponents of career self-efficacy, such as self-efficacy for math performance, career decision making, and performance in a variety of specific academic majors or careers. "Career adjustment" refers to the process of implementing one's career choice and finding success and satisfaction in one's chosen career (Lofquist & Davis, 1984).

Literacy

Over the years, the term communicative competence as a communicative approach to language teaching has stressed meaningfulness and appropriateness. Although reading and writing have not been excluded, the implication of the field--communication, interaction, performance, fluency--implied oral modes. The confusions and misunderstandings surrounding the term "competence" have been pointed out by Taylor in terms of Chomsky's original meaning in the competence/performance dichotomy and in Hymes' reformulation which, according to Taylor (1988), combine a social dimension with a biological base. As Taylor pointed out, competence and proficiency have come to be firmly associated. Hirsch (1987) has also extended the metaphoric use of literacy as competence. Thus communicative competence theory, as it develops into a central doctrine of applied linguistics, is based on expanding the scope of linguistic knowledge: It is a set of ideas centered on human capacity for communication. Rickford (1987) explained that applied linguistics respond to problems in which language plays a crucial role.

Langer (1988) points out that there is widespread agreement that definitions of literacy have changed over time. However, within current usage, the term is used

randomly to mean a skill, a set of actions, and a state of being. He cites educational literature in which literacy refers to manifestations of performance or of carrying out a specific set of tasks which involve either reading or writing. At the same time, literacy is analyzed into discrete skills, such as encoding and decoding. Other sectors of opinion see literacy as a state of being, characterizing individuals as having or not having the components of culture.

Street (1984) contrasts two opposing points of view, one which views literacy as culturally neutral or as existing apart from society (autonomous), the other which views a subject as being highly sensitive to cultural contexts (ideological). According to Street, those who claim that literacy is acquired and used in the same way by all individuals represent an autonomous view.

Literacy, within the scope of communicative competence, helps to explain the changes that have taken place as the ethnography of communication has branched into communicative language teaching, or the ways in which a research program for investigating communication within specific cultures has evolved into goals for second language instruction (Dubin, 1988; Langer, 1988). Literacy, according to Steadman and Kaestle (1987), is not a single set of skills, but a set of skills that people have to varying degrees.

CHAPTER III

SUBJECTS, MATERIALS, AND PROCEDURES

The subjects, materials, and procedures of this study are described in this chapter. Detailed descriptions are given on (a) the selection of the sample for the study; (b) the materials, which include a questionnaire specifically designed for this study; and (c) the procedure used in the pilot study as well as the procedure used in the analysis of data collected during the study.

The Subjects

The subjects of this study were the entire population of managers and supervisors (approximately 57 in all) of Lederle Parenterals and Lederle Piperacillin. These two pharmaceutical firms were located in Carolina, Puerto Rico, on the northern coast of the island. The firms were two physically separated state of the art buildings within the same premises, each with dedicated equipment, production processes, and personnel. The number of employees between the two companies was 390.

Most of the supervisory personnel had a degree in science--biology, chemistry, pharmacy, or engineering. A small portion were accountants and those working in the area of human resources had degrees in psychology. More than 50% of the supervisory group had a Masters degree in science or business-related areas. One supervisor had a doctoral degree in organic chemistry. Approximately 20% of the supervisors had done some studying in the United States (either graduate or undergraduate work). The rest had pursued their college education in the different institutions of higher education in Puerto Rico. Approximately 4% of the supervisors do not have a college degree. All supervisors speak, read, and write English with varying degrees of competency.

The sample population in this study had representatives originating from the south, east, west, north, and central portions of the island. In addition, 4% were Cubans, 2% were from Venezuela, and 2% were native speakers of English. Overall, 98% were native speakers of Spanish and 92% of the supervisors were Puerto Ricans.

The objective of this study was to identify the organizational communication strategies and skills used in the daily business environment of an English-based pharmaceutical industry with a Spanish-speaking staff. Different from other studies, however, this study tried to establish how these skills and strategies used in

English and Spanish contributed to the effectiveness of organizational communication. Also of importance is whether or not these strategies vary with the supervisory level within the organization.

The Materials

The materials utilized for data collection in this study consisted of a questionnaire written in English specifically constructed for this study by the investigator. A copy of the questionnaire is included in Appendix A. In addition, five supervisors were randomly chosen for an interview by arranging the employee numbers in ascending numerical order. Every eighth number was chosen for the interview which was approximately 30 minutes long and was conducted in Spanish.

The Questionnaire

The questionnaire, Bilingual Communication Use in a Puerto Rico Daily Business Environment, consisted of three major parts. Part I stated the instructions for completing the instrument. Part II consisted of five demographic questions. Part III consists of 40 questions to be answered using a Likert scale. Three questions addressed reading (question 16 in Spanish; questions 7 and 34 in English); 13 questions addressed writing (questions 3, 8, 15, 21, 23, 30, 35, and 37 in Spanish;

questions 11, 18, 24, 25, and 32 in English); 10 ques-
tions addressed listening (questions 1, 6, 10, and 17 in
Spanish; questions 2, 14, 20, 22, 31, and 36 in English);
8 questions addressed speaking (questions 9, 13, 29, 38,
and 39 in Spanish; questions 5, 26, and 33 in English).
These four variables identified the organizational commu-
nication skills of the supervisors. Six questions (ques-
tions 4, 12, 19, 27, 28, and 40) addressed the importance
of English literacy in career growth. In addition, four
open-ended questions were also included. The question-
naire was printed in three different colors of paper and
a different color was used with each level of management.
This gave an opportunity to evaluate the differences in
bilingual organizational communication skills among the
three levels of management in the study (staff, line
managers, and supervisors).

The Interview

Interviews were conducted using five supervisors
chosen at random after completion of the questionnaire.
The questions asked covered the major topics of the
questionnaire. Results of the interviews were used to
provide additional insight into organizational communica-
tion.

The interview consisted of five open-ended questions
and was conducted in Spanish. English would have been

used if one of the persons to be interviewed was a native
speaker of this language. Every effort was made to tape
each of the interviews, and each interview was
transcribed, analyzed, and categories assigned. The
following open-ended questions were used:

1. Where, in your daily work, do you make use of
the English language?

2. Where, in your daily work, do you make use of
Spanish?

3. If you were offered a position on the next
supervisory level, what communication skills in English
do you perceive are needed most?

4. If you were offered a position on the next
supervisory level, what communication skills in Spanish
do you perceive are required?

5. In your opinion, what are the three most impor-
tant requirements to be able to communicate best in this
company?

Procedures

This section described the procedures that were used
in the current investigation. Procedures included (a)
the development of the questionnaire, (b) the Jury of
Experts, (c) the pilot study, (d) the interviews, (e) the
selection of the subjects, (f) the collection of data,
and (g) the statistical analysis.

Development of the Instrument

The steps followed in the item construction of the instrument, Bilingual Communication Use in a Puerto Rico Daily Business Environment, used in this study included (a) a review of the literature (from this search, the areas to be included in the questionnaire were finalized or modified); (b) a review of existing questionnaires used by communication evaluators to identify strong and weak points in a person, as well as areas of interests and abilities; (c) the preparation of the questionnaire; (d) the evaluation by the Jury of Experts; and (e) the pilot study. The resulting questionnaire may be summarized as shown in Figure 1.

Organizational communication was measured through the bilingual skills in reading, writing, speaking, and listening demonstrated by the managers at the different levels in the organization. The importance of English in career growth was also measured.

The Jury of Experts

The initial design of the questionnaire was submitted to a jury of experts consisting of three qualified professionals in the areas of organizational communication and a teacher of English as a second language. Each person was asked to revise, delete, and/or add to the material based on his/her personal experiences, as he/she

best saw fit. Specifically, each person was asked to
review the questions for ambiguities in the terms used,
for the use of technical words, and for readability and
ease of understanding of instructions. The jury was also
asked to evaluate each question related to the variable
it was intended to measure. The English professor was
asked to review the questionnaire in terms of the lan-
guage. The original version of the instrument was
revised to include the comments of the experts consulted.
The validity of the questionnaire was established.

Figure 1

Summary of Questions in the Instrument and the Variables
They Measure

	Spanish	English	Measure
Reading	16	7, 14	Bilingual skills
Writing	3, 8, 15, 21, 23, 30,	11, 18, 24, 25, 32	through which organizational communication was
Listening	1, 6, 10, 17	1, 13, 20, 22, 31, 36	measured
Speaking	9, 13, 29, 38, 39	5, 26, 27	
English Literacy	4, 12, 19, 27, 28, 40		Importance on career growth

The Interview

The employee identification numbers of all partici-
pating managers and supervisors were arranged in numeri-
cal, ascending numbers. From this list, every eighth
number was chosen for the interview.

The interview was conducted in Spanish. The basic
questions were those of the questionnaire. By using the
same questions, we were able to confirm the data
collected in the questionnaire and hopefully expand it by
proving a little on each of the questions. The inter-
views were transcribed and classified using the same
descriptors as the questionnaire.

Collection of Data

Data were collected using the questionnaire entitled
Bilingual Communication Use in a Puerto Rico Daily Busi-
ness Environment. The questionnaire was prepared in
English and consisted of 40 questions addressing the
variables of reading, writing, speaking, and listening
through which bilingual organizational communication was
measured. In addition, questions related to the impor-
tance of English literacy in career growth, as well as
questions related to demographic data were also included.

Statistical Analysis

The data obtained from the study were analyzed as
follows: Research questions 1, 2, and 3 were assessed

using analysis of variance (Harshbarger, 1977; Tuckman, 1978). If significant differences among the supervisors' groups were found, Scheffé comparisons between all possible pairs of means would be performed (Hays, 1973). Research questions 4, 5, 6, 7, and 8 were assessed using partial correlation (Hinkle, Wiersma, & Jurs, 1979). Research question 9 was analyzed using multiple regression. All questions were tested for significance at the .05 level. In questions 1, 2, and 3, the dependent variables were organizational communication in Spanish, in English, and career growth, respectively. The independent variables in each hypothesis were supervisor level (staff manager, line manager, and supervisor). In questions 4 through 8, the independent variables were years of supervisory experience, gender, number of employees supervised, age, and education, respectively. The dependent variables were the supervisory group. In question 9, the independent variables were age, years of supervisory experience, gender, education, and number of persons supervised. The dependent variable was the organizational communication score. In addition to testing each of the questions, means and standard deviations were calculated for age, years of supervisory experience, and number of employees supervised. Frequencies were reported for gender and level of education.

The Pilot Study

The resulting questionnaire was piloted with nine supervisors of the pharmaceutical industry in the neighborhood of Carolina. Six questionnaires were returned. These persons were asked to answer the questionnaire and to comment on the length, the difficulty of instructions and questions, and the ease of working with the instrument. Following the pilot study, the open-ended questions were rewritten to be more explicit. In addition, some of the questions were also rewritten to be more specific about the topic being asked. Five questions on the importance of English for career growth potential were added. The length of the questionnaire went from 35 questions used in the pilot study to 40 questions in the revised version.

The questionnaire used in the pilot study was analyzed for reliability. The main objective of the pilot study was to determine the internal consistency and split-half reliability of the items examining communication skills in English and Spanish, as well as several items measuring the importance of English for career growth.

Because the instrument entitled Bilingual Communication Use in a Puerto Rico Daily Business Environment was investigator developed, a pilot study using the responses

of pharmaceutical companies supervisors was undertaken to determine the reliability of the questionnaire. For 11 items assessing organizational communication in Spanish, internal consistency reliability was 0.714 and the split-half reliability was 0.783. Internal consistency and split-half reliability coefficients for 18 items measuring organizational communication in English were 0.837 and 0.941, respectively. Responses of six items measuring general communication yielded an internal consistency coefficient of 0.509 and a split-half reliability of 0.816. The foregoing reliability coefficients were considered acceptable for the purpose of this study.

CHAPTER IV

RESULTS

The results of data analysis are presented in this chapter. It is divided into three major sections: (a) description of the sample, (b) statistical analysis of the research questions, and (c) supplemental findings related to subjects' responses to four open-ended interview questions. The data from the interviews are also included. The chapter concludes with a summary of the major findings.

Description of the Sample

The sample population of this study consisted of 48 staff managers, line managers, and supervisors from one pharmaceutical company in Puerto Rico. Table 1 presents the distribution of demographic characteristics for gender and education. The sample population of supervisors was almost evenly divided between males and females. Males made up a majority of staff managers and supervisors, and females made up a majority of line managers. More than 89.0% of the sample population earned a bachelor's degree or beyond. Specifically, 44.4% of the staff

Table 1

Distribution of L nographic Characteristics
(N = 48)

| | Supervisor Group | | | | | | |
| | Staff Managers (n = 9) | | Line Managers (n = 15) | | Supervisors (n = 24) | | Total | |
Variable	f	%	f	%	f	%	f	%
Gender								
Females	4	44.4	9	60.0	10	41.7	23	48.0
Males	5	55.6	6	40.0	13	54.2	24	50.0
Missing	—	--	—	--	1	4.2	1	2.1
Education								
High school diploma	—	--	—	--	1	4.2	1	2.1
Associate degree	—	--	—	--	3	12.5	3	6.3
Bachelors	2	22.2	7	46.7	8	33.3	17	35.4
Bachelors plus	3	33.3	4	26.7	3	12.5	10	20.8
Masters	4	44.4	3	20.0	8	33.3	15	31.3
Doctorate	4	44.4	3	20.0	8	33.3	15	31.3
Missing	—	--	—	--	1	4.2	1	2.1

managers had a masters degree compared to 33.0% of the supervisors and 20% of the line managers. One person, a line manager, reported having a doctorate.

Table 2 shows the means and standard deviations for supervisors' and managers' age, years of supervisory experience, and number of individuals supervised. The table reveals a profile of a supervisor or manager who is 40 years old, with 11.5 years of experiences and who supervises eight people. Supervisors reported the lowest mean age ($\underline{M}$ = 37.8 years) and fewest number of people supervised ($\underline{M}$ = 8.0). Staff managers were the oldest ($\underline{M}$ = 45.3 years), had the most seniority ($\underline{M}$ = 16.3 years), and supervised the most people ($\underline{M}$ = 8.9). Line managers had the lowest mean years of experience ($\underline{M}$ = 9.9 years). For the foregoing variables, there was sample variability in each of the means as indicated by the standard deviation.

Analysis of Research Questions

Nine research questions were stated and assessed as follows: Research questions 1 through 3 were assessed using analysis of variance; research questions 4 through 8 were assessed using partial correlation analysis; and research question 9 was assessed using multiple regression analysis. Each research question is stated,

Table 2

Means and Standard Deviations for Age, Years of
Supervisory Experience, and Number of Individuals
Supervised
($\underline{N}$ = 48)

	Supervisor Group			
Variable	Staff Managers ($\underline{n}$ = 9)	Line Managers ($\underline{n}$ = 15)	Supervisors ($\underline{n}$ = 24)	Total
Age				
$\underline{M}$	45.333	40.267	37.826	40.043
$\underline{SD}$	6.519	8.259	7.958	8.148
Years of experience				
$\underline{M}$	16.333	9.867	10.665	11.496
$\underline{SD}$	5.339	4.627	19.381	14.033
People supervised				
$\underline{M}$	8.889	8.267	7.957	8.234
$\underline{SD}$	11.709	7.878	7.413	8.315

followed by reference to an appropriate table and a discussion of the results of statistical analysis. A minimum level of significance of 0.05 was used in the evaluation of the data. In presenting the results of data analysis, organizational communication scores, years of supervisor experience, age, and education were treated statistically as continuous variables. Supervisory group was a categorical variable divided into staff managers, line managers, and supervisors. Gender was a categorical variable coded "1" for males and "0" for females.

Organizational Communication in Spanish

Research question 1 asked: Was there a significant difference among staff managers, line managers, and supervisors in their mean organizational communication scores in Spanish?

Table 3 presents the results of analysis of variance comparing the mean organizational communication scores in Spanish of staff managers, line managers, and supervisors. The table indicates that there were no significant differences in the mean organizational communication scores of staff managers, line managers, and supervisors, $F(2, 45) = .532$, $p > .05$. The mean scores of staff managers, line managers, and supervisors were statistically the same. Thus, no evidence was provided to support research question 1.

Table 3

Summary of Analysis of Variance of Mean Organizational
Communication Scores in Spanish Among Staff Managers,
Line Managers, and Supervisors
($\underline{N}$ = 48)

Source of Variance	$\underline{df}$	Sum of Squares	Mean Squares	$\underline{F}$
Between groups	2	72.486	36.243	.532 (ñ.s.)
Within groups	45	3063.514	68.078	
Total	47	3136.000		

Group	$\underline{n}$	Mean	Standard Deviation
Staff managers	9	64.778	5.357
Line managers	15	63.333	10.547
Supervisors	24	66.125	7.450

Organizational Communication in English

Research question 2 asked: Was there a significant difference among staff managers, line managers, and supervisors in their mean organizational communication scores in English?

Table 4 summarizes the results of analysis of variance comparing the mean organizational communication scores in English of staff managers, line managers, and supervisors. The table shows that there were no significant differences among staff managers, line managers, and supervisors in their mean organizational communication scores in English, $F(2, 45) = 2.279$, $p > .05$. The results of data analysis indicated that the organizational communication scores of staff managers, line managers, and supervisors are the same. Thus, evidence was not found to support research question 2.

English for Career Growth

Research question 3 asked: Was there a significant difference among staff managers, line managers, and supervisors in their mean perceptions of the need of English for career growth?

Table 5 presents a summary of the results of analysis of variance for the mean perceptions of the need of English for career growth of staff managers, line

Table 4

Summary of Analysis of Variance of Mean Organizational
Communication Scores in English Among Staff Managers,
Line Managers, and Supervisors
($\underline{N}$ = 48)

Source of Variance	$\underline{df}$	Sum of Squares	Mean Squares	$\underline{F}$
Between groups	2	242.024	141.012	2.279 (n.s.)
Within groups	45	2389.789	53.106	
Total	47	2631.813		

Group	$\underline{n}$	Mean	Standard Deviation
Staff managers	9	73.222	8.258
Line managers	15	79.467	4.749
Supervisors	24	75.750	8.152

Table 5

Summary of Analysis of Variance of Mean Perceptions of
the Need of English for Career Growth Among Staff
Managers, Line Managers, and Supervisors
(N = 48)

Source of Variance	df	Sum of Squares	Mean Squares	F
Between groups	2	6.824	3.412	.390 (n.s.)
Within groups	45	393.656	8.748	
Total	47	400.480		

Group	n	Mean	Standard Deviation
Staff managers	9	26.222	3.801
Line managers	15	26.600	3.203
Supervisors	24	25.750	2.418

managers, and supervisors. The table shows that there were no significant differences among staff managers, line managers, and supervisors in their mean score of their perception of the need of English for career growth, $F(2, 45) = .390$, $p > .05$. The results of data analysis showed that the mean score of the perception of the need of English for career growth of staff managers, line managers, and supervisors were statistically the same. Therefore, no evidence was found to support research question 3.

Organizational Communication and Years of Experience

Research question 4 asked: Was there a significant relationship among supervisory groups between their combined organizational communication scores and their years of supervisory experience when gender, number of persons directly supervised, age, and education were controlled.

Table 6 summarizes the results of partial correlation analysis examining the relationship between organizational communication scores and years of supervisory experience controlling for selected demographic and work-related variables. The table indicates that the zero-order correlation and the partial correlations for the relationship between organization communication scores and years of supervisory experience were not significant.

Table 6

Summary of Partial Correlation Analysis for the
Relationship Between Organizational Communication Scores
and Years of Supervisory Experience Controlling for
Gender, Number of Persons Supervised, Age, and Education
($N \geq 41$)

Variable(s) Controlled for	Zero-Order Correlation for Organization Communication Scores and Years of Supervisory Experience ($r_{12} = -.042$, $p > .05$)
Gender (G)	−.035 (n.s.)
Number of persons supervised (NPS)	−.033 (n.s.)
Age (A)	−.004 (n.s.)
Education (E)	−.073 (n.s.)
G, A	.001 (n.s.)
G, E	−.063 (n.s.)
NPS, A	.004 (n.s.)
NPS, E	−.056 (n.s.)
A, E	−.033 (n.s.)
G, NPS, A	−.003 (n.s.)
G, NPS, E	−.058 (n.s.)
G, A, E	−.027 (n.s.)
NPS, A, E	−.019 (n.s.)
G, NPS, A, E	−.022 (n.s.)

Controlling for one or more of the variables in the relationship between organizational communication scores and years of supervisory experience did not have a significant intervening effect on the zero-order correlation, $r12$ = -.042, p > .05. Specifically, Table 6 shows that when one variable was controlled, partial coefficients ranged from -.004 to -.073. When two variables were controlled, partial correlation coefficients ranged from .004 to -.063. When three variables were controlled, partial correlation coefficients ranged from -.003 to -.058. When all variables (gender, number of persons supervised, age, and education) were controlled, the partial correlation coefficient was -.022, suggesting that selected demographic and work-related variables did not have a significant intervening effect on the relationship between organizational communication and years of supervisor experience. Thus, the results of partial correlation analysis did not support research question 4.

Organizational Communication and Gender

Research question 5 asks: Was there a significant relationship among the supervisory groups between their combined organizational communication scores and gender when number of persons directly supervised, age, education, and years of supervisory experience were controlled?

Table 7 summarizes the results of partial correlation analysis examining the relationship between organizational communication scores and gender controlling for selected demographic and work-related variables. The table shows that the zero-order correlation coefficient between organizational communication scores and gender, as well as a series of partial correlation coefficients, were not significant.

The zero-order correlation between organizational communication scores and gender was $r12 = -.037$, $p > .05$. Entry of one or more of the mediating variables did not have a significant effect on the relationship between organizational communication scores and gender. When one mediating variable was controlled for, partial correlation coefficients ranged from .017 to -.048. Controlling for two variables yielded partial correlation coefficients which ranged from .024 to -.040. When all variables were controlled for, the partial correlation coefficient was .015.

The introduction of selected demographic and work-related variables did not have a significant effect on the relationship between organizational communication scores and gender. Thus, the results of partial correlation analysis did not support research question 5.

Table 7

Summary of Partial Correlation Analysis for the
Relationship Between Organizational Communication Scores
and Gender Controlling for Number of Persons Supervised,
Age, Education, and Years of Supervisory Experience
($\underline{N} \geq 41$)

Variable(s) Controlled for	Zero-Order Correlation for Organizational Communication Scores and Gender ($\underline{r}12 = -.037$, $\underline{p} > .05$)
Number of persons supervised (NPS)	.017 (n.s.)
Age (A)	-.028 (n.s.)
Education (E)	-.048 (n.s.)
Years of supervisory experience (YSE)	-.029 (n.s.)
YSE, NPS	.023 (n.s.)
YSE, A	-.028 (n.s.)
YSE, E	-.036 (n.s.)
NPS, A	.024 (n.s.)
NPS, E	.006 (n.s.)
A, E	-.040 (n.s.)
YSE, NPS, A	.024 (n.s.)
YSE, NPS, E	.015 (n.s.)
YSE, A, E	-.035 (n.s.)
NPS, A, E	.012 (n.s.)
YSE, NPS, A, E	.015 (n.s.)

Organizational Communication and Number of Persons

Supervised

Research question 6 asked: Was there a significant relationship among the supervisory groups between their combined organizational communication scores and the number of persons directly supervised when age, education, years of supervisory experience, and gender were controlled?

Table 8 summarizes the results of partial correlation analysis related to the relationship between organizational communication scores and number of persons directly supervised controlling for age, education, years of supervisory experience, and gender. The table shows that the zero-order correlation coefficient between organizational communication scores and number of persons directly supervised, as well as a series of partial correlation coefficients were not significant.

The zero-order correlation coefficient between organizational communication scores and number of persons directly supervised was $r_{12} = .228$, $p > .05$. However, the magnitude of the foregoing relationship indicated a trend suggesting that the larger the number of individuals directly supervised, the higher the organizational communication scores among line managers, supervisors, and staff managers.

Table 8

Summary of Partial Correlation Analysis for the
Relationship Between Organizational Communication Scores
and Number of Persons Directly Supervised Controlling for
Age, Education, Years of Supervisory Experience, and
Gender
($N \geq 41$)

Variable(s) Controlled for	Zero-Order Correlation for Organizational Communication Scores and Number of Persons Directly Supervised ($r12 = +.228$, $p = .05$)
Age (A)	.225 (n.s.)
Education (E)	.217 (n.s.
Years of supervisory experience (YSE)	.226 (n.s.)
Gender (G)	.226 (n.s.)
YSE, G	.226 (n.s.)
YSE, A	.225 (n.s.)
YSE, E	.212 (n.s.)
G, A	.225 (n.s.)
G, E	.212 (n.s.)
A, E	.211 (n.s.)
YSE, G, A	.225 (n.s.)
YSE, G, E	.209 (n.s.)
G, A, E	.208 (n.s.)
YSE, G, A, E	.207 (n.s.)

Entry of one or more of the mediating variables did not have a significant effect on the relationship between organizational communication scores and number of persons directly supervised. When one mediating variable was controlled for, partial correlation coefficients ranged from .217 to .226. Controlling for two variables yielded partial correlation coefficients ranging from .211 to .226; partial correlation coefficients ranged from .208 to .225 controlling for three mediating variables. When all mediating variables were controlled for, the partial correlation coefficient was .207.

Although a trend was found, as previously discussed, for the relationship between organizational communication scores and number of persons directly supervised, partial correlation analysis used to control for selected demographic and work-related variables did not provide evidence to support research question 6.

Organizational Communication and Age

Research question 7 asked: Was there a significant relationship between their combined organizational communication scores and age when education, years of supervisory experience, gender, and number of persons directly supervised were controlled?

Table 9 summarizes the results of partial correlation analysis related to the relationship between

Table 9

Summary of Partial Correlation Analysis for the
Relationship Between Organizational Communication Scores
and Age, Controlling for Education, Years of Supervisory
Experience, Gender, and Number of Persons Supervised
($N \geq 41$)

Variable(s) Controlled for	Zero-Order Correlation for Organizational Communication Scores and Age ($r12 = -.118$, $p > .05$)
Education (E)	-.138 (n.s.)
Years of supervisory experience (YSE)	-.110 (n.s.)
Gender (G)	-.115 (n.s.)
Number of persons supervised (NPS)	-.112 (n.s.)
YES, G	-.110 (n.s.)
YSE, NPS	-.107 (n.s.)
YSE, E	-.122 (n.s.)
G, NPS	-.113 (n.s.)
G, E	-.135 (n.s.)
NPS, E	-.127 (n.s.)
YSE, G, NPS	-.107 (n.s.)
YSE, G, E	-.121 (n.s.)
YSE, NPS, E	-.116 (n.s.)
G, NPS, E	-.128 (n.s.)
YSE, G, NPS, E	-.116 (n.s.)

organizational communication scores and age controlling for education, years of supervisory experience, gender, and number of persons directly supervised. The zero-order correlation between organizational communication scores and age, and the partial correlation coefficients were not significant.

The zero-order correlation between organizational communication scores and age was $r12 = -.118$, $p > .05$. When one or more of the mediating variables was controlled, the partial correlation coefficients explaining the foregoing relationship were not significant. Specifically, when one variable was controlled for, partial correlation coefficients ranged from $-.110$ to $-.138$. Controlling for two and three mediating variables yielded partial correlation coefficients ranging from $-.107$ to $-.135$ and from $-.107$ to $-.128$, respectively. When all mediating variables were explained, the partial correlation for the relationship between organizational communication scores and age was $-.116$. Thus, the results of data analysis did not provide evidence to support research question 7.

Organizational Communication and Education

Research question 8 asked: Was there a significant relationship among the supervisory groups between their combined organizational communication scores and

education when years of supervisory experience, gender, number of persons directly supervised, and age were controlled?

Table 10 summarizes the results of partial correlation analysis related to the relationship between organizational communication scores and education controlling for years of supervisory experience, gender, number of persons directly supervised, and age are controlled. The table shows that the zero-order correlation coefficient between organizational communication scores and education, and a series of partial correlation coefficients were not significant.

The zero-order correlation between organizational communication scores and education was $r12 = -.106$, $p > .05$. Entry of one mediating variable at a time yielded partial correlation coefficients ranging from -.079 to -.128. Partial correlation coefficients ranged from -.090 to -.134 when three mediating variables were controlled. When all mediating variables were controlled, the partial correlation between organizational communication scores and education was -.100. Thus, the results of the partial correlation analysis did not provide evidence to support research question 8.

Table 10

Summary of Partial Correlation Analysis for the
Relationship Between Organizational Communication Scores
and Education Controlling for Years of Supervisory
Experience, Gender, Number of Persons Supervised, and Age
($N \geq 41$)

Variable(s) Controlled for	Zero Order Correlation for Organizational Communication Scores and Education ($r12 = -.106$, $p > .05$)
Years of supervisory experience (YSE)	-.121 (n.s.)
Gender (G)	-.110 (n.s.)
Number of persons supervised (NPS)	-.079 (n.s.)
Age (A)	-.128 (n.s.)
YSE, G	-.123 (n.s.)
YSE, NPS	-.091 (n.s.)
YSE, A	-.132 (n.s.)
G, NPS	-.078 (n.s.)
G, A	-.131 (n.s.)
NPS, A	-.100 (n.s.)
YSE, G, NPS	-.090 (n.s.)
YSE, G, A	-.134 (n.s.)
YSE, NPS, A	-.102 (n.s.)
G, NPS, A	-.098 (n.s.)
YSE, G, NPS, A	-.100 (n.s.)

Organizational Organization and Combined

Demographic Characteristics

Research question 9 asked: Was there a significant contribution made by the combination of selected demographic characteristics (years of supervisory experience, gender, age, number of persons supervised, and education) to the combined Organizational Communication scores of supervisors?

Table 11 summarizes the results of multiple regression analysis examining the contribution made by selected demographic characteristics to supervisors' organizational communication scores. Since gender was the only categorical variable, additional variables were created for the interaction of gender with years of supervisory experience, age, number of persons supervised, and education, respectively. The additional variables and the demographic variables identified in research question 9 made up the multiple regression equation.

Table 11 indicates that the combined contribution of main effects (years of supervisory experience, age, number of persons supervised, and education) and the interaction effects (gender x each of the demographic characteristics) explained 12.6% of the variance in supervisors' organizational communication scores. The results of multiple regression analysis failed to provide evidence to support research question 9.

Table 11

Summary of Multiple Regression Analysis for the Combined
Contribution of Years of Supervisory Experience, Gender,
Age, Number of Persons Supervised, and Education to
Supervisors' Organizational Communication Scores
($\underline{N}$ = 48)

Source	Sum of Squares	$\underline{df}$	Mean Squares	$\underline{F}$
Regression	970.015	9	107.779	.781 (n.s.)
Residual	6719.234	38	176.822	
Total	7689.250	47		

Cumulative $\underline{R}$ = .355

Cumulative $\underline{R}^2$ = .126

Supplementary Findings

To add qualitatively to the results of the survey,
respondents were asked to answer briefly four questions.
Respondents were asked: If you were offered a job at the
next management level, what reading, writing, speaking,
and listening skills in English would you need to
develop? Thirty-three percent of the staff managers
indicated reading, 67.0% indicated writing, 78.0%
reported speaking, and 33.0% identified listening as
skills in English that would need development if they
were offered a job at the next management level.

One staff manager reported that she would seek
improvement in each of the skill areas in order to

"communicate my ideas in a simple and clear way."
Another staff manager felt that the development of writ-
ing skills was necessary for the next management level,
while yet another staff manager wrote that she wanted to
improve all of her skills. Reading uncommon vocabulary,
writing to the point, speaking idiomatic expressions, and
listening more closely were the organizational communica-
tion skills she wanted to develop more fully.

Among line managers, 40.0% reported reading, 53.5%
writing, 73.3% speaking, and 33.3% listening as the
English skills they would need to develop if offered a
job at the next management level. Speed reading in
English was mentioned by line managers as well as by
staff managers as a skill needed at the next management
level.

Report writing, organizing an outline, improving
vocabulary and grammar were the writing skills most
frequently reported by line managers for improvement.
Line managers indicated that they wanted to improve their
speaking skills to feel more comfortable speaking to
groups and to maintain the "flow of conversation." One
line manager suggested that developing her speaking
skills would help "get rid of accents, simplify explana-
tion, [and] clear exposition of ideas." "Eliminating
distractions" was a reason given by a line manager to
develop listening skills.

Two thirds of the supervisors reported that writing and speaking in English were the skills they would need to develop most if offered a job at the next management level. Listening was reported by 50.0% and reading by 29.2% of the supervisors as other skills they would need to develop if offered a job at the next management level. Developing vocabulary and improving comprehension were the reading skills supervisors wanted to develop. To improve their English writing skills, supervisors felt that learning synonyms and technical vocabulary, eliminating grammatical errors, and developing proficiency in writing letters, reports, and memos would help prepare them for a job at the next management level.

"Being able to express myself fluently, correctly, and amplify my vocabulary" were the reasons given by a supervisor to develop her English speaking skills if offered a promotion to the next management level. Improvement in listening skills was reported by supervisors as a way to better understand telephone calls, participate in a meeting, and as one supervisor put it: "to force myself to not translate in Spanish."

The second question asked respondents was the same as the first with one notable exception: If you were offered a job at the next management level, what reading, writing, speaking, and listening skills in Spanish would you need to develop? Overall, staff managers, line

managers, and supervisors felt that their organizational
communication skills were better in Spanish than in
English. One third of all respondents felt that their
skills in Spanish did not need development if offered a
job at the next management level. One line manager
seemed to express the opinions of many of his colleagues:

> From my perspective, upgrading my skills in
> Spanish in the work environment we have,
> doesn't give you any advantage for growth. It
> may be a cultural growth which won't give you
> any advantage company-wise.

Among staff managers, 22.2% identified reading,
44.4% writing, 33.3% speaking, and 44.4% listening as
skills in Spanish they would want to develop if offered a
job at the next management level. Although written
comments were infrequent, staff managers indicated that
vocabulary and speed reading were skills to develop in
Spanish. Developing grammar in writing, speaking clearly
and effectively without mixing English and Spanish,
listening more attentively, and avoiding repetition were
Spanish skills that staff managers felt they would need
to develop if offered a job at the next management level.

Line managers reported very few comments related to
the need to develop their skills in Spanish if offered a
promotion. Three line managers mentioned "speed reading"
or "reading faster" as a skill they would want to
develop. "Finding the appropriate wording" and "updating
myself on the latest business writing techniques" were

comments of two line managers pertaining to the development of their writing skills in Spanish. "Organizing ideas," "using new vocabulary," "talking slowly," and "addressing a group" were the speaking skills line managers reported they would need for a job at the next management level. One line manager wanted to develop her listening skills if offered a promotion "to be more receptive to people's needs and requirements."

Among supervisors, 25.0% indicated reading, 41.7% writing, 37.5% speaking and listening as the skills in Spanish they would want to develop if offered a job at the next management level. Several supervisors indicated that speed reading in Spanish was a skill they would need if offered a promotion. "To present ideas clearly and concisely," "to lessen grammatical errors," "to avoid long sentences," and "to improve report writing" were the Spanish writing skills that supervisors reported they would need to improve if offered a promotion. One supervisor wrote that her "most urgent need" would be to adapt her "personal writing style to the company's preferred writing style." To develop their listening skills in Spanish, supervisors wanted to eliminate bad habits, to improve their attention spans, and to listen "before you have an opinion."

The third question asked: How is the need to know English related to career growth in this company? Only

three respondents did not write an opinion concerning the relationship between knowing English and career growth. Almost 94.0% of all supervisors expressed an opinion. Some opinions were brief, stating that English was "very important" and "necessary." Other opinions suggested that since "it's an American-based company, English is the common language between plants." One staff manager argued that knowing English is "directly proportional. The higher you go the more English you must know." Another staff manager stated: "Good communication skills are needed to interact with our counterparts in company headquarters and other company plants in the USA."

While reiterating that it is an American company, several line managers suggested that English was important because of "outside contact" and "if you have good control over the English language you have overcome one of the greatest barriers" to career growth. One line manager wrote that English was not only necessary for good internal communication within the company but was necessary to deal with "regulatory agencies." Another line manager suggested that knowing English well was an advantage because "when you compete with a person with your same attributes the person who is more fluent than you in the language" may get the promotion. Still another argued that "some managerial levels are inaccessible to those who are not proficient in English" since

communication in English both inside and outside the company is necessary.

Supervisors also indicated that "this is an American company." A supervisor commented that "our performance is evaluated by headquarters whose language is English [and] so can be detrimental to the way you project yourself to them." Other supervisors suggested that documents, reports, and procedures needed for daily work are written in English. Another supervisor wrote that English is very important for career growth because "it offers versatility in your communication abilities."

In contrast, one supervisor indicated that knowing English is not as critical for middle and lower supervisory levels as it is for upper management levels. The predominant opinion, however, as expressed by a supervisor was that without writing and speaking English well "there is no possibility of career growth."

The fourth question was as follows: How does the use of two languages in the daily work activities contribute to the communication environment of this plant? Staff managers reported that using two languages in daily work activities had advantages. As a means of improving communication within the plant, staff managers reported that Spanish and English were used differently in daily work activities. A staff manager wrote that "Spanish [was] used for oral instructions, casual conversation,

culture, and rules; English [was] used for written commu-
nication as well as reading and most presentations."

Line managers stressed the importance of using two
languages to facilitate the flow of information. As one
line manager put it: "By using both languages we can
better communicate our messages to our peers, our
employees and with our superiors." It was also reported
that the use of two languages may lead to "misunderstand-
ings." Another opinion was expressed by a line manager
who wrote that "two languages in this plant is a key
element to operate efficiently and more productively." A
line manager stated: "Any person who speaks two lan-
guages will be in a better position to understand proce-
dures and regulations and to translate them." The use of
two languages was viewed as "beneficial as we interrelate
with non-English speakers as well as non-Spanish
speakers," and "as a link with the majority of employees
who hardly understand English." The use of two languages
was also viewed by line managers as promoting a "clear
understanding of performance goals and productivity
requirements" and allowing for "greater flexibility to
communicate with a larger number of people, hiring non-
local personnel and improving business."

Supervisors reported that the use of two languages
generally added a positive and enriching element to
communication in the plant. The use of two languages

seemed "essential" to at least one supervisor who reported that while "oral communications are carried out in Spanish, documentation and memos are done in English." Another supervisor saw the use of two languages as facilitating interoffice communication. She wrote: "Our verbal and written communication between us, the main plant, regulatory agencies, and the people performing the work require the use of English and Spanish languages." The use of two languages was considered very important by a supervisor who needed Spanish to communicate with lower level employees and English to communicate with "upper management or outside contacts."

Finally, a supervisor suggested that there were positive and negative contributions resulting from the use of two languages. The positive use of two languages "gives us the opportunity to be able to express ourselves more effectively depending on our audience." In contrast, a negative aspect of using two languages may lead to confusion as people try to "incorporate words that are not correctly pronounced or written from one language to the other."

Interviews

To confirm findings proved with the questionnaire five persons chosen randomly from the sample (one staff, two line managers, and three supervisors were

interviewed. All interviews were conducted in Spanish and took an average of 20 minutes each. The interview consisted of five open-ended questions. The questions asked were:

Question 1. Where, in your daily work, do you make use of the English language?

The staff manager mentioned he used English to write memos and reports, to read job-related litrature and company information, to speak on the phone with mainland counterparts, to speak with mainland visitors, and to communicate when he went to the mainland on business trips.

The line manager said she used English to read articles on work-related information and to write most memos and reports.

One of the supervisors mentioned he used English to read catalogue information for placing purchase orders of materials, to translate procedures into Spanish, and to write a few memos. Another supervisor mentioned she used English to read laboratory methods, to read work-related literature, and to write reports, memos, and procedures. The third supervisor mentioned she used English to read work-related information, to write some memos/reports, and to speak on the phone occasionally.

Question 2. Where, in your daily work, do you make use of Spanish?

The staff manager mentioned he used Spanish to pass information/instructions to subordinates, to communicate with peers and subordinates, to communicate with the secretary, and to communicate in informal meetings.

The line manager mentioned she used Spanish for oral communication with subordinates and peers, and also in formal and informal meetings.

One of the supervisors mentioned he used Spanish to pass instructions to the operators, to get feedback from the operators, to communicate with peers and supervisors, and to offer training related to work areas and procedures. The second supervisor mentioned she used Spanish for group discussions and for daily communication with peers and subordinates, and for training the people under her responsibility on work-related issues and procedures. The third supervisor mentioned she used Spanish to communicate with subordinates, in discussions and meetings with the supervisor, and for communicating with peers as well as in formal and informal communication.

Question 3. If you were offered a position on the next supervisory level, what communication skills in English do you perceive are mostly needed?

The staff manager perceived as important on the next level of supervision the ability to fluently speak and write English. He also expressed as important the ability to communicate ideas clearly, and the ability to make good and effective presentations.

The line manager presented as important the ability to fluently speak, read, and write English.

The first supervisor perceived that the ability to speak English clearly, to understand English, and to write English well were very important on the next level of management. The second supervisor perceived speaking and writing English well were important for the next level of management. The third supervisor perceived speaking and understanding English were very important for the next level of supervision.

Question 4. If you were offered a position on the next supervisory level, what communication skills in Spanish do you perceive are required?

The staff manager mentioned that the ability to communicate well with all levels of management was important but he did not see any special or specific areas in Spanish that should be developed for the next level of supervision.

The line manager perceived that there was nothing to improve in the communication skills in Spanish for the next level of supervision.

The first supervisor mentioned that writing in Spanish was a skill he perceived needed to be improved. The other two supervisors did not perceive any communication skill in Spanish that needed to be worked on for the next level of supervision.

Question 5. In your opinion, what are the three most important requirements to be able to communicate best in this company?

The staff manager mentioned speaking English and Spanish as well as writing and understanding English were the most critical areas to best communicate in this company.

The line manager perceived speaking English and Spanish, being a good writer, and giving effective presentations were important to effectively communicate in this company.

The first supervisor mentioned speaking English and Spanish, the ability to read English, and good spelling in English were essential for good communication. The third supervisor perceived being a good listener, speaking English and Spanish, and understanding written English were essential for communicating in the company.

Summary

Using 48 staff managers, line managers, and supervisors of a pharmaceutical company as the sample population, nine research questions were examined. Results of analysis of variance did not find significant differences among the foregoing groups with respect to their mean organizational communication scores in Spanish and English, as well as their mean perceptions related to the need for English for career growth. Partial correlation and multiple regression analyses did not find significant relationships between organizational communication scores and selected demographic characteristics (age, education, years of supervisory experience, number of persons directly supervised, and gender).

Supplemental analysis suggested that a majority of staff managers, line managers, and supervisors wanted to develop their writing and speaking skills in English if offered a job at the next management level. Overall, staff managers, line managers, and supervisors reported that their reading, writing, speaking, and listening skills in Spanish were well developed if offered a promotion to the next management level. Knowing English was considered essential to career growth because the company was based in the United States. A good command of English language skills was important for interplant

communication, as well as for communication with govern-
ment regulatory agencies. Staff managers, line managers,
and supervisors suggested that being bilingual (English
and Spanish) served as a link with the majority of
employees who speak only Spanish, facilitated the flow of
information, and contributed positively to the corporate
culture.

These results were confirmed with the interviews
done with five members of the supervisory group--one
staff manager, one line manager, and three supervisors.
The interviews showed that across the three levels of
supervision, English was used in the daily work environ-
ment for the reading of technical information, for the
writing of official reports and documents, and the major-
ity said, for communicating with mainland visitors.
Likewise, Spanish was used in the daily work environment
to pass on instructions and information to subordinates,
and in formal and informal communication with peers.

Skills in English perceived as needing improvement
on the next management level were identified as writing
and speaking fluently. The majority of those interviewed
stated that no improvement of skills in Spanish was
perceived as needed in the next management level.

When asked about the three most important require-
ments to best communicate with the company, there was
consensus among the interviewed persons that speaking

both languages was essential for good communication.

Writing English was also identified as very important for communicatiing within the company.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the purpose, materials, procedures, and findings of the study. Conclusions derived from the findings, as well as recommendations are also included.

Summary

Purpose of the Study

The purpose of this study was to identify similarities and differences in the bilingual communication (reading, listening, writing, and speaking) involvement of bilingual supervisors within the organizational communication of an English-based enterprise in Puerto Rico. The perceptions of the managers and supervisors as to the contribution of effective communication in English and Spanish in their career growth and job opportunities were also analyzed.

The work environment of many Puerto Ricans in supervisory positions throughout the island of Puerto Rico is bilingual in nature. How effectively Puerto Ricans are able to communicate within their job responsibilities can

directly impact their growth potential within the company. This was a reason to identify the literacy needs necessary to move in the career path of individuals in supervisory positions. This could be the beginning of curriculum revisions and/or different training approaches both at the college level and at training offered by the companies.

The study was conducted in Lederle Parenterals Corporation and Lederle Piperacillin Corporation. These companies were located in Carolina, Puerto Rico and are subsidiaries of American Cyanamid. These two companies had completely separate facilities with dedicated equipment, product line, and personnel. Both plants were built in the same land complex with some service departments like Medical, Accounting, Cafeteria, Purchasing, Materials, and Personnel serving both complexes. The departments of Engineering and Maintenance, Quality Control, and the Production units, which were directly related to the manufacturing process, were dedicated for each of the corporations.

The sample for this study was the entire population of managers and supervisors of Lederle Parenterals Corporation and Lederle Piperacillin Corporation (approximately 57 in total--10 staff, 18 line managers, and 29 supervisors). The demographic origin of the group was quite heterogeneous. There were representatives from the

north, south, east, west, and central portions of the island. In addition, 5% were Cubans, 2% were from Venezuela, and 2% were native speakers of English. Overall, 98% were native speakers of Spanish and 93% of the supervisors were Puerto Ricans.

Each supervisor was asked to fill out a questionnaire especially designed for this study. The questionnaire consisted of 40 questions addressing the variables of reading, writing, listening, and speaking through which bilingual organizational communication was measured. In addition, there were questions addressing the importance of English language for career growth. The questionnaire sought answers for the following questions:

1. Was there a significant difference among the staff managers, line managers, and supervisors in their mean organizational ommunication scores in Spanish?

2. Was there a significant difference among the staff managers, line managers, and supervisors in their mean organizational communication scores in English?

3. Was there a significant difference among the staff managers, line managers, and supervisors on their perception of the need of English for career growth?

4. Was there a significant difference among the supervisory group between their combined organizational communication scores and years of supervisory experience?

5. Was there a significant difference among the supervisory group between their combined organizational communication scores and gender?

6. Was there a significant difference among the supervisory group between their combined organizational communication scores and the number of persons directly supervised?

7. Was there a significant difference among the supervisory group between their combined organizational communication scores and age?

8. Was there a significant difference among the supervisory group between their combined organizational communication scores and education?

9. Was there a significant difference in the combined contribution of selected demographic characteristics (years of experience, gender, age, number of persons supervised, and education) in the organizational communication scores of the supervisors?

Design of the Study

The subjects of this study were the entire population of managers and supervisors (approximately 57) of Lederle Parenterals and Lederle Piperacillin. Most of the supervisory personnel had a degree in science-- biology, chemistry, pharmacy, or engineering. A small portion were accountants and those working in the area of

human resources had degrees in psychology. More than 50%
of the supervisory groups had a Masters degree in science
or business-related areas. One supervisor had a doctoral
degree in organic chemistry. Approximately 20% of the
supervisors had done some studying in the United States
(either graduate or undergraduate work). The others had
pursued their college education in the different institu-
tions of higher education in Puerto Rico. Approximately
4% of the supervisors did not have a college degree. All
supervisors spoke, read, and wrote English with varying
degrees of competency.

Findings

Forty-eight questionnaires were returned for an 84%
response. The results of data analysis were presented in
three major sections: description of the sample, statis-
tical analysis of the research questions, and supplemen-
tal findings related to subjects' responses to four open-
ended questions.

Description of the Sample

The sample population of this study consisted of 48
staff managers, line managers, and supervisors from one
pharmaceutical company in Puerto Rico. The distribution
of the demographic characteristics for gender and educa-
tion showed the sample population of supervisors was

almost evenly divided between males and females. Males
made up a majority of the staff managers and supervisors,
and females made up a majority in the line managers.
More than 89% of the sample population earned a Bache-
lor's degree or beyond. Specifically, 44.4% of the staff
managers had a Masters degree compared to 33% of the
supervisors and 20% of the line managers. One person, a
line manager, had a doctorate.

The means and standard deviations for supervisors'
and managers' age, years of supervisory experience, and
number of individuals supervised was as follows: The
profile was of a supervisor or manager who was 40 years
old, with 11.5 years of experience and who supervised
eight persons. Supervisors reported the lowest mean age
($\underline{M}$ = 37.8 years) and fewest number of persons supervised
($\underline{M}$ = 8). Staff managers were the oldest ($\underline{M}$ = 45.3
years), had the most seniority ($\underline{M}$ = 16.3 years), and
supervised the most people ($\underline{M}$ = 8.9). Line managers had
the lowest mean years of experience ($\underline{M}$ = 9.9 years).

Analysis of Research Questions

Nine research questions were stated and assessed as
follows: Research questions 1 through 3 were assessed
using analysis of variance; research questions 4 through
8 were assessed using partial correlation analysis; and
research question 9 was assessed using multiple

regression analysis. In presenting the results of data analysis, organizational communication scores, years of supervisory experience, age, and education were treated statistically as continuous variables. Supervisory group was a categorical variable divided into staff managers, line managers, and supervisors. Gender was a categorical variable coded "1" for males and "0" for females.

The analysis of variance comparing the mean organizational communication scores in Spanish of staff managers, line managers, and supervisors indicated that there were no significant differences in scores when analyzed at a significant level of 0.05. The mean scores of staff managers, line managers, and supervisors were statistically the same. Data did not support research question 1.

The results of analysis of variance comparing the mean organizational communication scores in English of staff managers, line managers, and supervisors at a level of significance of 0.05 showed that there was no significant difference among the three groups. Results of the data analysis indicated that the scores among the three groups were very similar. Thus, evidence was not found to support research question 2.

The analysis of variance for the mean scores on the perception of the need of English for career growth of staff managers, line managers, and supervisors showed

that when analyzed at a level of significance of 0.05 there was no significant difference among the three supervisory groups. The results of data analysis demonstrated that the mean scores were statistically the same and no evidence was found to support research question 3.

The results of partial correlation analysis examining the relationship between organizational communication scores and years of supervisory experience controlling for selected demographic and work-related variables showed that the zero-order correlation and the partial correlations for the relationship between organizational communication scores and years of experience were not significant. Controlling for one or more of the variables in the relationship between organizational communication scores and years of supervisory experience did not have a significant intervening effect on the zero-order correlation when analyzed at a significant level of 0.05. Specifically, when one variable was controlled, partial coefficients ranged from -0.004 to -0.073. When two variables were controlled, partial correlation coefficients ranged from 0.004 to -0.063. When three variables were controlled, partial correlation coefficients ranged from -0.003 to -0.058. When all variables (gender, number of persons supervised, age, and education) were controlled, the partial correlation coefficient was -0.022, suggesting that selected demographic and work-

related variables did not have a significant intervening effect on the relationship between organizational communication and years of supervisory experience. The results of partial correlation analysis did not support research question 4.

The results of partial correlation analysis examining the relationship between organizational communication scores and gender controlling for selected demographic and work-related variables showed that the zero-order correlation coefficients were not significant. The zero-order correlation between organizational communication scores and gender, when analyzed at a level of significance of 0.05 was -0.037. Entry of one or more of the mediating variables did not have a significant effect on the relationship between organizational communication scores and gender. When one mediating variable was controlled for, partial correlation coefficients ranged from 0.017 to -0.048. Controlling for two variables yielded partial coefficients which ranged from 0.024 to -0.040. When three variables were controlled for, partial correlation coefficients ranged from 0.024 to -0.035. When all variables were controlled for, the partial correlation coefficient was 0.015. The introduction of selected demographic and work-related variables did not have a significant effect on the relationship between organizational communication scores and gender.

The results of partial correlation analysis did not
support research question 5.

The results of partial correlation analysis related
to the relationship between organizational communication
scores and number of persons directly supervised control-
ling for age, years of supervisory experience, education,
and gender showed that the zero-order correlation coeffi-
cient between organizational communication scores and
number of persons directly supervised were not signifi-
cant. The zero-order correlation coefficient between
organizational communication scores and number of persons
directly supervised, when tested at a significant level
of 0.05, was 0.228. However, the magnitude of the fore-
going relationship indicated a trend suggesting that the
larger the number of individuals directly supervised the
higher the organizational communication scores. Entry of
one or more of the mediating variables did not have a
significant effect on the relationship between organiza-
tional communication scores and the number of persons
supervised. When one mediating variable was controlled
for, partial correlation coefficients ranged from 0.217
to 0.226. Controlling for two variables yielded partial
correlation coefficients ranging from 0.211 to 0.226;
partial correlation coefficients ranged from 0.208 to
0.225 controlling for three mediating variables. When
all mediating variables were controlled for, the partial

correlation coefficient was 0.207. Although a trend was found for the relationship between Organizational Communication scores and number of persons directly supervised, partial correlation analysis used to control for selected demographic and work-related variables did not provide evidence to support research question 6.

The results of partial correlation analysis related to the relationship between organizational communication scores and age controlling for education, years of supervisory experience, gender, and number of persons supervised showed the zero-order correlation between organizational communication scores and age, and the partial correlation coefficients were not significant. When one or more of the mediating variables were controlled, the partial correlation coefficients explaining the foregoing relationship were not significant. Specifically, when one variable was controlled for, partial correlation coefficients ranged from -0.110 to -0.138. Controlling for two and three mediating variables yielded partial correlation coefficients ranging from -0.107 to -0.135 and from -0.107 to -0.128, respectively. When all mediating variables were explained, the partial correlation for the relationship between organizational communication scores and age was -0.116. The result of data analysis did not provide evidence to support research question 7.

The results of partial correlation analysis related
to the relationship between organizational communication
scores and education controlling for years of supervisory
experience, age, gender, and number of persons supervised
showed that the zero-order correlation coefficients were
not significant. The zero-order correlation coefficient
between organizational communication scores and education
when analyzed at a level of significance of 0.05 was
-0.106. Partial correlation coefficients ranged from
-0.090 to -0.134 when three mediating variables were
controlled. When all mediating variables were con-
trolled, the partial correlation between organizational
communication and education was -0.100. The results of
the partial correlation analysis did not provide evidence
to support research question 8.

Multiple regression analysis examining the contribu-
tion made by selected demographic characteristics to
supervisors' organizational communication scores was done
for question 9. Since gender was the only categorical
variable, additional variables were created for the
interaction of gender with years of supervisory experi-
ence, age, number of persons supervised, and education,
respectively. The additional variables and the demo-
graphic variables identified in research question 9 made
up the multiple regression equation. The combined
contribution of main effects (years of supervisory

experience, age, number of persons supervised, and educa-
tion) and the interaction effects (gender x each of the
demographic variables) explained 12.6% of the variance in
supervisors' organizational communication scores. The
results of multiple regression analysis failed to provide
evidence to support research question 9.

Supplementary Findings

To add qualitatively to the results of the survey,
respondents were asked to answer briefly four questions.
Respondents were asked: If you were offered a job at the
next management level, what reading, writing, speaking,
and listening skills in English would you need to
develop? Thirty-three percent of the staff managers
indicated reading; 67% indicated writing; 78% reported
speaking; and 33% identified listening skills in English
that would need development if they were offered a job at
the next management level.

One staff manager reported that she would seek
improvement in each of the skill areas in order to "com-
municate my ideas in a simple and clear way." Another
staff manager felt that the development of writing skills
was necessary for the next management level, while yet
another staff manager wrote that she wanted to improve
all her skills. Reading uncommon vocabulary, writing to
the point, speaking idiomatic expressions, and listening

more closely were the organizational communication skills she wanted to develop more fully.

Among line managers, 40% reported reading, 53% writing, 73.3% speaking, and 33.3% listening as the English skills they would need to develop if offered a job at the next management level. Speed reading in English was mentioned by line managers as well as by staff managers as a skill needed at the next management level. Report writing, organizing an outline, improving vocabulary and grammar were the skills most frequently reported by line managers for improvement. Line managers indicated that they wanted to improve their speaking skills to feel more comfortable speaking to groups and to maintain the "flow of conversation." One line manager suggested that developing her speaking skills would help "get rid of accents, simplify explanations, [and] clear exposition of ideas." "Eliminating distractions" was a reason given by a line manager to develop listening skills.

Two thirds of the supervisors reported that writing and speaking in English were the skills they would need to develop most if offered a job at the next management level. Listening was reported by 50% and reading by 29.2% of the supervisors as other skills they would need to develop if offered a job at the next level of management. Developing vocabulary and improving comprehension

were the skills supervisors wanted to develop. To improve their English writing skills, supervisors felt that learning synonyms and technical vocabulary, eliminating grammatical errors, and developing proficiency in writing letters, reports, and memos would help prepare them for a job at the next management level.

"Being able to express myself fluently, correctly, and amplify my vocabulary" were the reasons given by a supervisor to develop her English-speaking skills if offered a promotion to the next management level. Improvement in listening skills was reported by supervisors as a way to better understand telephone calls, participate in meetings, and as one supervisor put it: "to force myself not to translate in Spanish."

The second question asked respondents was the same as the first with one notable exception: If you were offered a job at the next management level, what reading, writing, speaking, and listening skills in Spanish would you need to develop? Overall, staff managers, line managers, and supervisors felt that their organizational communication skills were better in Spanish than in English. One third of all respondents felt that their skills in Spanish did not need development if offered a job at the next management level. One line manager seemed to express the opinions of many of his colleagues: "from my perspective, upgrading my skills in Spanish in

the work environment we have doesn't give you any advantage for growth which won't give you any advantage company-wise."

Among staff managers, 22.2% identified reading, 44.4% writing, 33.3% speaking, and 44.4% listening as skills in spanish they would want to develop if offered a job at the next management level. Although written comments were infrequent, staff managers indicated that vocabulary and speed reading were skills to develop in Spanish. Developing grammar in writing, speaking clearly and effectively without mixing English and Spanish, listening more attentively and avoiding repetition were Spanish skills that staff managers felt they would need to develop if offered a job at the next level of management.

Line managers reported very few comments related to the need to develop their skills in Spanish if offered a promotion. Three line managers mentioned "speed reading" or "reading faster" as a skill they would want to develop. "Finding the appropriate wording" and "updating myself on the latest business writing techniques" were comments of two line managers pertaining to the development of their writing skills in Spanish. "Organizing ideas," "using new vocabulary," "talking slowly," and "addressing a group" were the speaking skills line managers reported they would need for a job at the next

management level. One line manager wanted to develop her

listening skills if offered a promotion "to be more

receptive to people's needs and requirements."

Among supervisors, 25% indicated reading, 41.7%

writing, 37.5% speaking and listening as the skills in

Spanish they would want to develop if offered a job at

the next level of management. Several supervisors indi-

cated that speed reading in Spanish was a skill they

would need if offered a promotion. "To present ideas

clearly and concisely," "to lessen grammatical errors,"

"to avoid long sentences," and "to improve report writ-

ing" were the Spanish writing skills that supervisors

reported they would need to improve if offered a

promotion. One supervisor wrote that "her most urgent

need" would be to adapt her "personal writing style to

the company's preferred writing style." To develop their

listening skills in Spanish, supervisors wanted to elimi-

nate bad habits, to improve their attention spans, and to

listen "before you have an opinion."

The third question asked: How is the need to know

English related to career growth in this company? Only

three respondents did not write an opinion concerning the

relationship between knowing English and career growth.

Almost 94% of all supervisors expressed an opinion. Some

opinions were brief, stating that English was "very

important" and "necessary." Other opinions suggested

that since "it's an American based company, English is the common language between plants." One staff manager argued that knowing English is "directly proportional. The higher you go the more English you must know." Another staff manager stated: "Good communication skills are needed to interact with our counterparts in company headquarters and other company plants in the USA."

While reiterating that it is an American company, several line managers suggested that English was important because of "outside contact" and "if you have good control over the English language you have overcome one of the greatest barriers" to career growth. One line manager wrote that English was not only necessary for good internal communication within the company but was necessary to deal with "regulatory agencies." Another line manager suggested that knowing English well was an advantage because "when you compete with a person with your same attributes the person who is more fluent than you in the language" may get the promotion. Still another argued that "some managerial levels are inaccessible to those who are not proficient in English" since communication in English both inside and outside the company is necessary.

Supervisors also indicated that "this is an American company." A supervisor commented that "our performance is evaluated by headquarters whose language is English

[and] so can be detrimental to the way you project your-
self to them." Other supervisors suggested that docu-
ments, reports, and procedures needed for daily work are
written in English. Another supervisor wrote that
English is very important for career growth because "it
offers versatility in your communication abilities."

In contrast, one supervisor indicated that knowing
English is not as critical for middle and lower supervi-
sory levels as it is for upper management levels. The
predominant opinion, however, as expressed by a supervi-
sor was that without writing and speaking English well
"there is no possibility of career growth."

The fourth question was as follows: How does the
use of two languages in the daily work activities con-
tribute to the communication environment of this plant?
Staff managers reported that using two languages in daily
work activities had advantages. As a means of improving
communication within the plant, staff managers reported
that Spanish and English were used differently in daily
work activities. A staff manager wrote that "Spanish
[was] used for oral instructions, casual conversation,
culture and rules; English [was] used for written commu-
nication as well as reading and most presentations."

Line managers stressed the importance of using two
languages to facilitate the flow of information. As one
line manager put it: "By using both languages we can

better communicate our messages to our peers, our employees and with our supervisors." It was also reported that the use of two languages may lead to "mis-understandings." Another opinion was expressed by a line manager who wrote that "two languages in this plant is a key to operate efficiently and more productively." A line manager stated: "Any person who speaks two languages will be in a better position to understand procedures and regulations and to translate them." The use of two languages was viewed as "beneficial as we interrelate with non-English speakers as well as non-Spanish speakers," and "as a link with the majority of employees who hardly understand English." The use of two languages was also viewed by line managers as promoting a "clear understanding of performance goals and productivity requirements" and allowing for "greater flexibility to communicate with a larger number of people, hiring non-local personnel and improving business."

Supervisors reported that the use of two languages generally added a positive and enriching element to communication in the plant. The use of two languages seemed "essential" to at least one supervisor who reported that while "oral communications are carried out in Spanish, documentation and memos are done in English." Another supervisor saw the use of two languages as facilitating interoffice communication. She wrote, "Our

verbal and written communication between us, the main plant, regulatory agencies, and the people performing the work requires the use of English and Spanish languages." The use of two languages was considered very important by a supervisor who needed Spanish to communicate lower level employees and English to communicate with "upper management and outside contacts."

Finally, a supervisor suggested that there were positive and negative contributions resulting from the use of two languages. The positive use of two languages "gives us the opportunity to be able to express ourselves more effectively depending on our audience." In contrast, a negative aspect of using two languages may lead to confusion as people try to "incorporate words that are not correctly pronounced or written from one language to the other."

Summary

These results were confirmed with the interviews done with five members of the supervisory group--one staff manager, one line manager, and three supervisors. The interviews showed that across the three levels of supervision, English was used in the daily work environment for the reading of technical information, for the writing of official reports and documents, and the majority said, for communicating with mainland visitors.

Likewise, Spanish was used in the daily work environment to pass instructions and information to subordinates, and in formal and informal communication with peers.

Skills in English perceived as needing improvement on the next management level were identified as writing and speaking fluently. The majority of those interviewed stated that no improvement of skills in Spanish was perceived to be needed on the next management level.

When asked about the three most important requirements to best communicate within the company, there was a consensus among the interviewed persons that speaking both languages was essential for good communication. Writing English was also identified as very improtant for communicating within the company.

Conclusions

Based on the findings of this research, the following conclusions were formulated:

1. There was no significant difference among the three levels of management in their mean organizational communication scores in Spanish.

2. There was no significant difference among the three levels of management in their mean organizational communication scores in English

3. There was no significant difference among the three levels of management in their mean perception of the need of English for career growth.

4. There was no significant relationship among the three levels of management between their combined organizational communication scores and their years of supervisory experience when gender, number of persons directly supervised, age, and education were controlled.

5. There was no significant relationship among the three levels of management between their combined organizational communication scores and gender when the number of persons directly supervised, age, education, and years of supervisory experience were controlled.

6. There was no significant relationship among the supervisory groups between their combined oraganizational communication scores and the number of persons directly supervised when age, education, years of supervisory experience, and gender were controlled.

7. There was no significant relationship among the supervisory groups between their combined organizational communication scores and age when education, years of supervisory experience, gender, and number of persons directly supervised were controlled.

8. There was no significant relationship among the three levels of supervisory groups between their combined organizational communication scores and education when

years of supervisory experience, gender, number of per-
sons directly supervised, and age were controlled.

9. There was no significant contribution made by
the combination of selected demographic characteristics
(years of supervisory experience, gender, age, number of
persons supervised, and education) to the combined orga-
nizational communication scores of supervisors.

10. All levels of management in the companies in
which the study was conducted recognized the need to know
English and the importance this had in career growth.

11. It was also recognized that in the particular
and unique situation of the pharmaceutical industry in
Puerto Rico, it was also important to know Spanish--
especially levels of supervision that work directly on
the operator level.

12. There was consensus among the three levels of
management that the higher the position in the organiza-
tional ladder, the better the skills with English as a
second language needed to be.

13. A significant number of the respondents consid-
ered they had no need to improve their Spanish skills.

14. Most of the technical information was available
in English, so most of the reading was done in this language.

15. Fluency in oral English was identified by the
three levels of management as the skill needing most
development and practice.

16. Developing skills in Spanish was not perceived as having any impact on career growth.

Implications and Recommendations for
Further Research

The demands of the workplace are growing more and more complex. Basic math, reading, and comprehension skills of entry levels job applicants, in many instances, are missing. New technology and equipment are replacing old equipment and processes, while the operators remain a steady workforce with many years of experience. At the same time, workers are getting more autonomy and decision-making authority, which in turn calls for higher order skills such as critical thinking and problem solving (Feldman, 1991). The role of supervisors and managers in this demanding work climate is critical for the success of the organization. Managers direct the organization; they are vested with formal authority over an organizational unit. They have access to information which enables them to make decisions and plan strategies for their areas of responsibility.

The managers' responsibilities call for many roles. Some are ceremonial in nature, such as taking customers to dinner or touring with visitors. A manager must also be a leader and under this role, part of the responsibilities are those of trainers of their own staff as well as

innovators and trend setters. In addition, the managers play the liaison role, spending as much time with peers and other people outside their units as they do with their own subordinates (Himstreet & Baty, 1990; Newstrom & Davis, 1989). Informational roles include being a monitor. Under this role the managers scan their environment for information, interrogate their contacts and subordinates, and receive unsolicited information as a result of the network of personal contacts. As disseminators, they must share and distribute much of this information. As spokesmen, managers send some of the information to people outside their unit, lobbying for an organizational cause, or informing the influential people who control their organizational units (DuBrin, Ireland, & Williams, 1989).

Under each and every one of these roles, effective communication is of utmost importance. To give us an idea of what communicative competence is, we find that research on this subject has had as its foundation a wide variety of perspectives: linguistic, goals, skills, and social perspective (Canale & Swain, 1980; Davis, 1989; Hymes, 1980; Powell, 1980; Savignon, 1983; Taylor, 1988). Recent trends in linguistic and language studies have recognized that it is not enough to know what a language looks like and to be able to describe or even measure its categories, but one must know what the language means to

its users and how it is used by them (Widdowson, 1989).
For Canale and Swain (1980) and Canale (1983a), communicative competence is not possible unless a combination of areas are mastered. These areas include a knowledge of the rules for understanding and producing language with appropriateness, including a combination of communicative functions, rules of discourse, and grammatical accuracy.. Rubin (1984) and Spitzberg (1983) view communicative competence as an impression formed by other people about a communicator. Monge, Bachman, Dilland, and Eisenberg (1982) believed a communicative competence construct for use in the workplace should focus on observable communication behaviors and omit or minimize social or interpersonal factors.

By virtue of their interpersonal contacts with their subordinates and with their network of contacts, the manager emerges as the center of the organizational unit. In the specific setting of the pharmaceutical industry in Puerto Rico, to be able to carry out these different roles, two languages allow for effective communication with all levels in the organization--allow for efective communictive competence. As a result of the findings of this study, the following recommendations are made to the training programs of the private companies. These recommendations could also be used as the basis for curriculum changes. The recommendations are:

1.   Spoken English was one of the areas most fre-
quently identified by many of the managers as an area in
need of development. This is a topic that should be part
of the training programs of the company. This training
should include appropriate terminology and technical
information for the pharmaceutical industry. In addi-
tion, written English was also an area in need of devel-
opment identified by many supervisors. It is a subject
that should also form part of the training program.
Training for this skill should emphasize vocabulary,
verbs, tenses, and general grammar. Further research is
necessary to find out if the needs to improve specific
skills in the English language are the same in other
pharmaceutical plants throughout the island in which the
workforce is similar to the plants where the study was
conducted.

2.   English was perceived to be very important for
career growth within the company. The consensus was that
since it is an American company English was the common
language between plants. Another general perception was
that the higher the position in the organizational lad-
der, the more fluent in English the person had to be.
English was also seen as the skill that could make the
difference in getting a promotion when the candidates
under evaluation had similar job experiences. Further
research is needed to identify the levels of competency

in English necessary for each level of supervision in the
oraganizational ladder.

3. Spanish skills were perceived by one third of
the managers and supervisors as not requiring further
development. On the other hand, Spanish was identified
as very important for passing information to subordi-
nates, especially to the operator levels. In addition,
Spanish was identified as the language used for oral
communication in informal conversation with peers and
subordinates. Further research is needed to truly iden-
tify the Spanish skills the different management levels
have, and the level of competency necessary for each
level of supervision. Research is necessary to explain
why the different skills (writing, reading, speaking, and
listening) are perceived as needing further development
in English but not in Spanish.

Although no significant differences were found
between the variables of organizational communication and
English, Spanish, and demographic characteristics of the
sample, the study seemed to indicate that English was
important for career growth. The fact that the companies
were of American origin seemed to be related to this
general perception. In addition, writing and speaking
English were the skills most frequently identified as
needing further development if offered a position at the
next management level.

On the other hand, a significant number of managers and supervisors believed that no further development of Spanish skills was necessary if they were offered a job at the next level. Spanish, however, was used for formal and informal communication with subordinates and peers. Speaking both languages, English and Spanish, was identified as an important requirement for effective communication in the company.

REFERENCES

Allen, R. R., & Brown, K. L. (1976). Developing communication competence in children. Chicago: National Textbook.

Argyris, C. (1965). Explorations in interpersonal competency. Journal of Applied Behavioral Science, 1, 58-83.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bandura, A. (1982). Self-efficacy theory in human agency. American Psychologist, 73, 122-147.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Benitez, E. (1987, Fall). Talented local managers replace expatriates. Business Puerto Rico, pp. 44-45.

Betz, N. E., & Hackett, G. (1986). Applications of self-efficacy theory to understanding career choice behavior. Journal of Social and Clinical Psychology, 4, 279-289.

Bialystok, E., & Sharwood-Smith, M. (1985). Interlanguage is not a state of mind: An evaluation of the construct of second language acquisition. Applied Linguistics, 6(2), 63-69.

Blau, G. (1987). Using a person-environment fit model to predict job involvement and organizational commitment. Journal of Vocational Behavior, 30, 240-257.

Blom, J., & Gumperz, J. (1986). Social meaning in linguistics structures: Code switching in Norway. In J. Gumperz & D. Hymes (Eds.), Directions in sociolinguistics (pp. 43-56). New York: Holt, Rinehart & Winston.

Bochner, A. P., & Kelly, C. W. (1974). Interpersonal competence: Rationale, philosophy and implementation of a conceptual framework. Speech Teacher, 23, 279-301.

Bovee, C., & Thill, J. (1986). Business communication today. New York: Random House.

Brownstone, D. M., & Franck, I. M. (1987). The manager's advisor. New York: AMACOM.

Canale, M. (1983a). From communicative competence to communicative language pedagogy. In J. Richards & R. Schmidt (Eds.), Language and communication. London: Longman.

Canale, M. (1983b). On some dimensions of language proficiency. In J. Oller (Ed.), Issues in language testing research (pp. 26-32). London: Newbury House.

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. Applied Linguistics, 1, 1-47.

Charan, R. (1991, September-October). How networks reshape organizations--for results. Harvard Business Review, pp. 104-115.

Chomsky, N. (1957). Syntactic structures. The Hague: Mouton.

Chomsky, N. (1965). Aspects of a theory of syntax. Cambridge, MA: MIT Press.

Chomsky, N. (1988). Language and problems of knowledge. Cambridge, MA: MIT Press.

D'Aprix, R. (1985). Communicators in contemporary organizations. In C. Reuss & D. Silvis (Eds.), Inside organizational communication (pp. 15-30). New York: Longman.

Davis, A. (1989). Communicative competence as language use. Applied Linguistics, 10, 157-170.

DeVito, J. (1989). The interpersonal communication book. New York: Harper & Row.

Donnellon, A., Gray, B., & Bougon, M. (1986). Communication, meaning, and organized action. Administrative Science Quarterly, 31, 43-55.

Dubin, F. (1988, April). Diaspora literacies. Paper presented at the MLA Right to Literacy Conference, Columbus, OH.

DuBrin, A. J., Ireland, R. D., & Williams, J. C. (1989). Management and organization. Cincinnati: South West Publishing Company.

Eccles, R. (1991, January-February). The performance measurement manifested. Harvard Business Review, pp. 131-137.

Emanuel, M. (1985). Auditing organizational communication. In C. Reuss & D. Silvis (Eds.), Inside organizational communication (pp. 45-58). New York: Longman.

Feldman, S. (1991, October). Corporate America makes education its business. Management Review, pp. 10-16.

Foltz, R. G. (1985). Communication in contemporary organizations. In C. Reuss & D. Silvis (Eds.), Inside organizational communication (pp. 3-14). New York: Longman.

Forest, M. E. (1984). Spanish speaking employees in American industry. Business Horizons, 27, 14-17.

Gazden, C. (1988). Classroom discourse. Portsmouth, NH: Heinemann.

Gibson, J. W., & Hodgetts, R. M. (1986). Organizational communication: A managerial perspective. New York: Harcourt Brace Jovanovich.

Glauser, M. J. (1984). Upward information flow in organizations: Review and conceptual analysis. Human Relations, 37, 613-643.

Goffman, E. (1981). Forms of talk. Oxford: Basil Blackwell.

Gorden, W. (1984, May/June). Organizational imperatives and cultural modifiers. Business Horizons, pp. 76-83.

Griffin, R. (1987). Management. Boston: Houghton Mifflin.

Gumperz, H. P., & Hymes, D. (1972). Directions in sociolinguistics. New York: Holt, Rinehart & Winston.

Harris, M. M., & Schaubroeck, J. (1988). A meta analysis of self-supervisor, self-peer, and peer-supervisor ratings. Personnel Psychology, 41, 43-62.

Harshbarger, T. R. (1977). Introductory statistics: A decision map. New York: Macmillan.

Hays, W. L. (1973). Statistics for the social sciences. New York: Holt, Rinehart & Winston.

Himstreet, W., & Baty, W. (1990). Business communication. Boston: PWS-KENT Publishing House.

Hinkle, D. E., Wiersma, W., & Jurs, S. G. (1979). Applied statistics for the behavioral sciences. Boston: Houghton Mifflin.

Hirsch, E. (1987). Cultural literacy. Boston: Houghton Mifflin.

Hornberger, N. (1989). Tramites and transportes: The acquisition of second language communicative competence for one speech event in Puno, Peru. Applied Linguistics, 10, 214-230.

Hymes, D. (1964). Introduction. In J. Gumperz & D. Hymes (Eds.), The ethnography of communication. Washington, DC: American Anthropological Association.

Hymes, D. (1971). Competence and performance in linguistic theory. In R. Huxley & E. Ingram (Eds.), Language acquisition: Models and methods (pp. 78-89). New York: Academic Press.

Hymes, D. (1980). Language in education: Ethnographic essays. Washington, DC: Center for Applied Linguistics.

Hymes, D. (1987). Communicative competence. In H. von U. Ammon, N. Dittmar, & K. J. Mattheier (Eds.), Sociolinguistics: An international handbook of the science of language and society (pp. 28-40). New York: Walter de Gruyter.

Irving, K. (1986). Communicating in context: Intercultural skills for ESL students. Englewood Cliffs, NJ: Prentice-Hall.

Isenhart, M. (1987). Interpersonal communication in high tech culture: Eastern or western? Journal of Applied Communication Research, 15(1, 2), 35-52.

Jackendoff, R. (1983). Semantics and cognition. Cambridge, MA: MIT Press.

Jaikumar, R. (1986, November/December). Post industrial manufacturing. Harvard Business Review, pp. 69-76.

Krumboltz, J. D., Mitchell, A. M., & Jones, G. B. (1976). A social learning theory of career selection. The Counseling Psychologist, 6, 71-80.

Langer, J. (1988). The state of research on literacy. Educational Researcher, 42(6), 57-65.

Levine, D. R., Baxter, J., & McNulty, P. (1987). The culture puzzle: Cross-cultural communication for English as a second language. Englewood Cliffs, NJ: Prentice-Hall.

Lewis, D. (1985). Languages and languages. In A. P. Martinich (Ed.), The philosophy of languages (pp. 133-148). New York: Oxford University Press.

Lightbrown, P. M., & White, L. (1987). The influence of linguistic theories on language acquisition research: Description and explanation. Language Learning, 37, 483-510.

Lincoln, J. R. (1991). Employee work attitudes and management practice in the U.S. and Japan: Evidence from a large comparative study. In B. Staw (Ed.), Psychological dimensions of organizational behavior (pp. 327-339). New York: Macmillan Publishing Company.

Lofquist, L. H., & Davis, R. V. (1984). Research on work adjustments and satisfaction: Implications for career counseling. In S. D. Brown & R. W. Lent (Eds.), Handbook of counseling psychology (pp. 217-237). New York: Wiley.

Lorsch, J., & Takagi, H. (1986). Keeping managers off the shelf. Harvard Business Review, 4, 60-65.

Louis, M. (1980). Surprised and sense making: What newcomers experience in entering organizational settings. Administrative Science Quarterly, 25, 225-251.

Louis, M. (1983). Organizations as culture-bearing milieux. In L. D. Pondy, P. J. Frost, G. Morgan, & T. Dandridge (Eds.), Organizational symbolism (pp. 39-54). Greenwich, CT: JAI Press.

Luthans, F., & Larsen, J. (1989). How managers really communicate. In J. Newstrom & K. Davis (Eds.), Organizational behavior (pp. 423-438). New York: McGraw-Hill.

Lyons, J. (1984). Noam Chomsky. Kingsport, TN: Kingsport Press.

MacKowiak, J., & Eckel, F. (1985). Career management: An actual process. American Journal of Hospital Pharmacy, 42, 554-560.

Mauser, F. (1977). Losing something in the translation. Harvard Business Review, 14, 163-164.

McClelland, V. A. (1988). Upward communication: Is anyone listening? Personnel Journal, 67, 124-129.

McCroskey, J. C. (1982). Communication competence and performance: A research and pedagogical perspective. Communication Education, 31, 1-8.

McFarland, D. (1986). The managerial imperative. Cambridge, MA: Ballinger Publishing Company.

Miller, F. E., & Rogers, L. E. (1976). A relational approach to interpersonal communication. In G. R. Miller (Ed.), Explorations in interpersonal communication (pp. 325-340). Beverly Hills, CA: Sage.

Miller, M. D., Reynolds, R. A., & Cambra, R. E. (1987). The influence of gender and culture on language intensity. Communication Monographs, 54, 101-105.

Miner, A. S. (1987). Idiosyncratic jobs in formalized organizations. Administrative Science Quarterly, 32, 327-351.

Mitchell, L. K., & Krumboltz, J. D. (1984). Research on human decision making and counseling. In S. D. Brown & R. W. Lent (Eds.), Handbook of counseling psychology (pp. 238-280). New York: Wiley.

Monge, P. R., Bachman, S. G., Dilland, J. P., & Eisenberg, E. M. (1982). Communication competence in the workplace: Model testing and some development. Communication Yearbook, 5, 505-527.

Monge, P., Edwards, J., & Kriste, K. (1983). Determinants of communication network involvement: Connectedness and integration. Group and Organizational Studies, 8(1), 83-111.

Morrow, P. C., & McElroy, J. C. (1987). Work commitment and job satisfaction over three career stages. Journal of Vocational Behavior, 30, 330-346.

Newstrom, J., & Davis, K. (1989). Organizational behavior. New York: McGraw-Hill.

Nichols, D. (1989). Taking participative management to the limit. In J. Newstrom & K. Davis (Eds.), Organizational behavior (pp. 336-342). New York: McGraw-Hill.

Osipow, S. H. (1983). Theories of career development. Englewood Cliffs, NJ: Prentice-Hall.

Osipow, S. H. (1986). Career issues through the life span. In M. S. Pallak & R. O. Perloff (Eds.), Psychology and work: Productivity, change, and employment (APA Master Lecture, pp. 137-168). Washington, DC: American Psychological Association.

Pacanowsky, M., & O'Donnell-Trujillo, N. (1982). Communication and organizational cultures. Western Journal of Speech Communication, 46, 115-130.

Parks, M. (1977, October). Issues in the explication of communication competency. Paper presented at the annual convention of the Western Communication Association.

Pfeffer, J. (1981). Management as symbolic action: The creation and maintenance of organizational paradigms. In L. L. Cummings & B. Straw (Eds.), Research in organizational behavior (pp. 1-52). Greenwich, CT: JAI Press.

Pfeffer, J. (1991). Beyond management and the worker: The institutional function of management. In B. Staw (Ed.), Psychological dimensions of organizational behavior (pp. 327-339). New York: Macmillan.

Phillips, G. M. (1984). A competent view of "competence." Communication Education, 33, 25-36.

Pica, T. (1988). Communicative competence and literacy. Reading Research and Instruction, 27(3), 1-15.

Pincus, T. (1989). Communicative satisfaction, job satisfaction and job performance. In J. Newstrom & K. Davis (Eds.), Organizational behavior (pp. 439-454). New York: McGraw-Hill.

Powell, R. (1980, September). <u>Differentiating among social situations: An investigation into the situational element in communication competency</u>. Paper presented at the annual convention of the International Communication Association, Acapulco, Mexico.

Pylyshin, Z. W. (1973). The role of competence theories in cognitive psychology. <u>Journal of Psycholinguistic Research</u>, <u>2</u>, 21-50.

Reuss, C., & Silvis, D. (1985). <u>Inside organizational communication</u>. New York: Longman.

Rhodewalt, F., Saltzman, A. T., & Wittmer, J. (1984). Self-handicapping among competitive athletes: The role of practice in self-esteem protection. <u>Basic and Applied Social Psychology</u>, <u>5</u>, 197-209.

Rickford, J. (1987). The haves and have nots: Sociolinguistics surveys and the assessment of speaker competence. <u>Language in Society</u>, <u>16</u>(2), 52-60.

Rubin, R. B. (1983). Conclusions. In R. B. Rubin (Ed.) <u>Improving speaking and listening skills</u> (pp. 270-273). San Francisco: Jossey-Bass.

Rubin, R. B. (1984, April). <u>Validity and reliability of the communication competency assessment instrument</u>. Paper presented at the annual convention of the International Communication Association, San Francisco.

Rubin, R. B., & Henzl, S. (1984). Cognitive complexity, communication competence, and verbal ability. <u>Communication Quarterly</u>, <u>32</u>, 263-270.

Ruddell, T. (1985). Chartering the communication function. In C. Reuss & D. Silvis (Eds.), <u>Inside organizational communication</u> (pp. 59-76). New York: Longman.

Sachs, P. R. (1982). Avoidance of diagnostic information in self-evaluation of ability. <u>Personality and Social Psychology Bulletin</u>, <u>8</u>, 242-246.

Sampson, G. (1980). <u>School of linguistics</u>. Stanford, CA: Stanford University Press.

Sampson, G. (1987). Review article. <u>Language</u>, <u>63</u>, 871-886.

Savignon, S. (1983). Communication competence: Theory and classroom practice. Reading, MA: Addison-Wesley.

Schauber, E., & Spolsky, E. (1985). The bounds of interpretation. Stanford: Stanford University Press.

Smirich, L. (1983a). Organizations as shared meaning. In L. P. Pondy, P. J. Frost, G. Morgan, & T. Dandridge (Eds.), Organizational symbolism (pp. 55-65). Greenwich, CT: JAI Press.

Smirich, L. (1983b). Studying organizations as cultures. In G. Morgan (Ed.), Beyond method: Strategies for social research (pp. 160-172). Beverly Hills, CA: Sage.

Smith, T. W., Snyder, C. R., & Handelsman, M. M. (1982). On the self-serving function of an academic wooden leg: Test anxiety as a self-handicapping strategy. Journal of Personality and Social Psychology, 42, 314-321.

Snyder, C. R., Smith, T. W., Augelli, R. E., & Ingram, R. E. (1985). On the self-serving function of social anxiety: Shyness as a self-handicapping strategy. Journal of Personality and Social Psychology, 48, 970-980.

Snyder, M. L., Smoller, B., Strents, A., & Frankel, A. (1981). A comparison of egotism, negativity, and learned helplessness as explanations for poor performance after unsolvable problems. Journal of Personality and Social Psychology, 40, 24-30.

Snyder, M., & Skrypnek, B. J. (1981). Testing hypotheses about the self: Assessment of job suitability. Journal of Personality, 49, 193-211.

Snyder, M. L., & Wicklund, R. A. (1981). Attribute ambiguity. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), New Directions in attribution research (Vol. 3, pp. 417-432). Hillsdale, NJ: Erlbaum.

Spitzberg, B. H. (1983). Communication competence as knowledge, skill, and impression. Communication Education, 32, 323-329.

Spolsky, E. (1989). Conditions for second language learning: Introduction to a general theory. Oxford: Oxford University Press.

Staw, B. (1991). The self-perception of motivation. In B. Staw (Ed.), Psychological dimensions of organizational behavior (pp. 235-248). New York: Macmillan.

Steadman, L., & Kaestle, C. (1987). Literacy and reading performance in the United States, from 1980 to the present. Reading Research Quarterly, 22, 8-46.

Stokes, R., & Hewitt, J. (1976). Aligning actions. American Sociological Review, 41, 838-849.

Street, B. (1984). Literacy in theory and practice. Cambridge: Cambridge University Press.

Strube, M. J., Lott, C. L., Le-Xuan-Hy, G. M., & Deichmann, A. K. (1986). Self-evaluation of abilities: Accurate self-assessment versus biased self-enhancement. Journal of Personality and Social Psychology, 51, 16-25.

Swan, W. B., & Reed, S. J. (1981). Acquiring self-knowledge: The search for feedback that fits. Journal of Personality and Social Psychology, 41, 1119-1128.

Tarver, J. (1985). Face to face communication. In C. Reuss & D. Silvis (Eds.), Inside organizational communication (pp. 205-222). New York: Longman.

Taylor, D. (1988). The meaning and use of the term "competence" in linguistics and applied linguistics. Applied Linguistics, 9(2), 148-168.

Thiederman, S. (1988). Overcoming cultural and language barriers. Personnel Journal, 67(12), 34-40.

Thomas, J. G., & Griffin, R. W. (1991). The power of social information in the work place. In B. Staw (Ed.), Psychological dimensions of organizational behavior (pp. 249-259). New York: Macmillan.

Trope, Y. (1983). Self-assessment in achievement behavior. In J. Suls & A. G. Greenwald (Eds.), Psychological perspective of the self (Vol. 2, pp. 247-259). Hillsdale, NJ: Erlbaum.

Tuckman, B. W. (1978). Conducting educational research. New York: Harcourt Brace Jovanovich.

Tushman, M., Newman, W., & Romanelli, E. (1991). Convergence and upheaval: Managing the unsteady pace of organizational evolution. In B. Staw (Ed.), Psychological dimensions of organizational behavior (pp. 646-657). New York: Macmillan.

Wallace, C., & Goodman, Y. (1989). Research currents: Language and literacy development of multilingual learners. Language Arts, 66, 542-551.

Weick, K. E. (1979). The social psychology of organizing. Reading, MA: Addison-Wesley.

Widdowson, H. (1984). Theoretical implications of interlanguage studies for language teachings. In A. Davies, C. Cripper, & A. Howatt (Eds.), Interlanguage (pp. 89-102). Edinburgh: Edinburgh University Press.

Widdowson, H. (1989). Knowledge of language and ability for use. Applied Linguistics, 10, 128-137.

Wiemann, J. M. (1977). Explication and test of a model of communication competence. Human Communication Research, 3, 195-213.

Wolfson, N. (1988). The bulge: A theory of speech behavior and social distance. In J. Fine (Ed.), Second language discourse: A textbook of current research (pp. 287-312). Norwood, NJ: Ablex.

APPENDIX A

QUESTIONNAIRE

BILINGUAL COMMUNICATION INVOLVEMENT IN A PUERTO RICO

DAILY BUSINESS ENVIRONMENT

Dora M. Barnes

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE
GRADUATE SCHOOL OF EDUCATION OF
FORDHAM UNIVERSITY

NEW YORK
1991

Data Sheet

All information will be held in strict confidence and will only be used by the researcher to determine the significance of certain variables to the results of the study. Please give the appropriate response for each item.

1. Years in supervisory position:_____years

2. Sex:_____Male   __ _____Female

3. Number of persons you directly supervise:_____

4. Highest degree earned

   _____ High school diploma

   _____ Associate degree (2 years)

   _____ Bachelor degree

   _____ Bachelor degree plus

   _____ Masters degree

   _____ Doctoral degree

5. Your age:_____ years

Questionnaire

In the questions that follow, I would like you to describe how you communicate. Think of your behavior in general, rather than about specific situations.

In responding to the statement, circle the answer that most appropriately reflects your perception or opinion. Use the following scale:

> 5 = strongly agree
> 4 = agree
> 3 = undecided
> 2 = disagree
> 1 = strongly disagree

LISTENING SPANISH

1. When someone else is speaking in Spanish, I allow the speaker to express his/her thoughts without interrupting.

   5   4   3   2   1

LISTENING ENGLISH

2. I summarize essential details before a conversation in English ends to assure correct understanding.

   5   4   3   2   1

WRITING SPANISH

3. During a meeting conducted in English, I take notes in Spanish.

   5   4   3   2   1

CAREER GROWTH

4. Being able to express myself clearly and fluently when speaking in English increases my growth potential with this company.

   5   4   3   2   1

SPEAKING ENGLISH

5. I am more proficient in oral English than in oral Spanish.

   5   4   3   2   1

LISTENING SPANISH	6.	I pay close attention to what people are saying to me when conversation is conducted in Spanish.

		5	4	3	2	1

READING ENGLISH	7.	I read most of the work-related technical information in magazines written in English.

		5	4	3	2	1

WRITING SPANISH	8.	I develop each paragraph around a topic sentence when writing in Spanish.

		5	4	3	2	1

SPEAKING SPANISH	9.	I actively participate in meetings conducted in Spanish.

		5	4	3	2	1

SPEAKING SPANISH	10.	During a meeting, I can switch from Spanish to English and from English to Spanish very easily.

		5	4	3	2	1

WRITING ENGLISH	11.	I conclude the text of a report written in English with a summary of key findings.

		5	4	3	2	1

CAREER GROWTH	12.	Being able to write clear memos and/or reports in English is important for career growth in this company.

		5	4	3	2	1

SPEAKING SPANISH	13.	When making a presentation to an audience of peers and upper management, I would rather speak in Spanish than in English.

		5	4	3	2	1

LISTENING ENGLISH	14.	I maintain eye contact with the speaker when engaged in a conversation conducted in English.

     5   4   3   2   1

WRITING SPANISH	15.	I am more proficient in written Spanish than in written English.

     5   4   3   2   1

READING SPANISH	16.	I read most of the work-related technical information in Spanish.

     5   4   3   2   1

LISTENING SPANISH	17.	During a conversation in Spanish, noises and other conversations going on around me do not distract me.

     5   4   3   2   1

WRITING ENGLISH	18.	I am very conscious of grammatical errors in reports written in English.

     5   4   3   2   1

CAREER GROWTH	19.	Being able to understand telephone conversations in English is important for my growth potential in this company.

     5   4   3   2   1

LISTENING ENGLISH	20.	I write down the most important details of a message delivered in English.

     5   4   3   2   1

WRITING SPANISH	21.	When writing in Spanish, my objective is to get the reader's attention in what I am trying to communicate.

     5   4   3   2   1

LISTENING ENGLISH	22.	I use restatement questions to encourage clarification and explanations during a conversation in English.

     5   4   3   2   1

WRITING SPANISH	23.	I identify all relevant issues when writing a report in Spanish.

       5   4   3   2   1

WRITING ENGLISH	24.	I incorporate visual aids as part of reports written in English to better project the idea I am trying to communicate.

       5   4   3   2   1

SPEAKING ENGLISH	25.	During a meeting conducted in English, I take notes in English.

       5   4   3   2   1

SPEAKING ENGLISH	26.	I take active participation in meetings conducted in English.

       5   4   3   2   1

CAREER GROWTH	27.	My career growth potential is impacted by my ability to express myself fluently in English.

       5   4   3   2   1

CAREER GROWTH	28.	The higher you go in the organizational ladder, the more fluent in English you must be.

       5   4   3   2   1

SPEAKING SPANISH	29.	I use Spanish for most of the oral communication with the areas I directly supervise.

       5   4   3   2   1

WRITING SPANISH	30.	I use Spanish for most of the written communication with the areas I directly supervise.

       5   4   3   2   1

LISTENING ENGLISH	31.	I pay close attention to what people are saying to me when conversation is conducted in English.

       5   4   3   2   1

WRITING ENGLISH	32.	I edit reports for organization and substance when these are written in English.

| | | 5 | 4 | 3 | 2 | 1 |

SPEAKING ENGLISH	33.	When I speak in English, I organize ideas in my head in Spanish and then translate into English.

| | | 5 | 4 | 3 | 2 | 1 |

READING ENGLISH	34.	I can understand technical reports written in English.

| | | 5 | 4 | 3 | 2 | 1 |

WRITING SPANISH	35.	I group ideas into logical categories when writing a report in Spanish.

| | | 5 | 4 | 3 | 2 | 1 |

LISTENING ENGLISH	36.	In a conversation in English, noises and other conversations around me do not interfere with my listening.

| | | 5 | 4 | 3 | 2 | 1 |

WRITING ENGLISH	37.	I use English for most of the written communication with other areas or departments that are not under my direct supervision.

| | | 5 | 4 | 3 | 2 | 1 |

SPEAKING SPANISH	38.	Most of the information available for meetings is in English, but I conduct my meetings in Spanish.

| | | 5 | 4 | 3 | 2 | 1 |

SPEAKING SPANISH	39.	In a work-related telephone conversation, I prefer to speak in Spanish.

| | | 5 | 4 | 3 | 2 | 1 |

CAREER GROWTH	40.	I am equally proficient in English and Spanish.

| | | 5 | 4 | 3 | 2 | 1 |

Please answer briefly:

1. If you were offered a job at the next management
    level, what reading, speaking, writing, and listening
    skills in English would you need to develop?

    Reading_____

    _____

    Writing_____

    _____

    Speaking_____

    _____

    Listening_____

    _____

2. If you were offered a job at the next management
    level, what reading, writing, speaking, and listening
    skills in Spanish would you need to develop?

    Reading_____

    _____

    Writing_____

    _____

    Speaking_____

    _____

    Listening_____

    _____

3. How is the need to know English related to career growth in this company?

_____

_____

_____

4. How does the use of two languages in the daily work activities contribute to the communication environment of this plant?

_____

_____

_____

APPENDIX B

THE JURY OF EXPERTS

Keith Davis, PhD

Professor Emeritus of
  Management
Arizona State University
Tempe, Arizona 85282

John Newstrom, PhD

Professor
School of Business and
  Economics
University of Minnesota
Duluth, Minnesota 55812

Stanley Deetz

Associate Professor
Department of Communication
Rutgers University
New Brunswick, New Jersey
  08903

Elizabeth Sanders, PhD

Professor of English
University of Puerto Rico

Box 29550, 65 Inf. Station
Rio Piedras, PR 00929
4-11-90

Dear

I am a doctoral student in the Division of Curriculum and
Teaching in the Graduate School of Education at Fordham
University, pursuing a degree in Language, Learning, and
Literacy.

The dissertation topic I will be investigating is the
literacy and organizational communication skills of
native speakers of Spanish holding supervisory positions
in the U.S. based pharmaceutical industry of Puerto Rico.

As an expert in the area of second language acquisition,
communicative competence, and/or organizational communi-
cation, I am requesting your help in the evaluation of my
instrument. Your comments on whether each item refers to
the variables identified in the left margin, whether
there are any ambiguities in the way the questions are
phrased, whether each statement is easily read and any
comment you might want to add will be appreciated. I
also request your permission to use your name as part of
the jury of experts.

I thank you for helping me achieve this important goal in
my career.

Sincerely yours,

Dora M. Barnes

ABSTRACT

BILINGUAL COMMUNICATION USE IN A PUERTO RICO
DAILY BUSINESS ENVIRONMENT

Dora Barnes, PhD

Fordham University, New York, 1993

Mentor: Angela Carrasquillo, PhD

Organzational communication in two languages--Eng-
lish and Spanish--was studied in a pharmaceutical manu-
facturer in Puerto Rico. The study was conducted among
three levels of management--staff, line managers, and
supervisors--the majority of which have Spanish as their
first language and work in plants that are part of an
English-based enterprise. The subjects' perception on
the issue of organizational communication was probed
through a questionnaire entitled Bilingual Communication
Use in a Puerto Rico Daily Business Environment specifi-
cally designed for this study. Bilingual communication
through the variables of reading, writing, speaking, and
listening skills in English and Spanish were evaluated
for the three levels of supervision.

The research questions for the study had to do with
the variable of organizational communication in Spanish
and English. The demographic variables of gender, number
of persons directly supervised, age, education, and their
relationship to organizational communication were also

studied. In addition, the importance of English for career growth was also included as part of the study.

Data were analyzed using analysis of variance for the questions on organizational communication in Spanish and English, as well as the perceptions related to the need of English for career growth. Organizational communication in English and Spanish and the different demographic characteristics were analyzed using partial correlation analysis. Organizational communication and the combined contribution of selected demographic characteristics were analyzed using multiple regression analysis.

The results of the study indicated that reading is done mostly in English; English is used for most of the official writing of work-related documents; most of the informal and formal oral communication is done in Spanish; English was seen as a necessity for career growth.

A need to improve specific skills of the English language was identified in this study. Further research is necessary to verify if the English skills needing improvement in other pharmaceutical plants throughout the island are similar to those of this study.

VITA

VITA

Name	Dora Barnes
Place of Birth	Ponce, Puerto Rico
Date of Birth	September 13, 1943
High School	Liceo Ponceno Ponce, Puerto Rico Graduated 1961
Bachelor of Science Biology/Chemistry	Catholic University of Puerto Rico Ponce, Puerto Rico Conferred May 1965
Master of Arts Science Education	New York University New York, New York Conferred August 1983
Doctor of Philosophy	Fordham University New York, New York May 1992
Present Position	Quality Control Section Manager Lederle Parenterals Lederle Piperacillin Carolina, Puerto Rico