CHAPTER TWO LITERATURE REVIEW

In this chapter, I will review research from three areas: motivation, reading, and English for Academic Purposes (EAP). For motivation, literature covered includes second/foreign language motivation, motivation in education, and reading motivation. For reading, I will present a summary of major theories, discuss the issue of language problems versus reading problems, the short-circuit/threshold hypothesis, pedagogical concerns on L2 reading instruction, and L1 content area reading instruction. For EAP/ESP literature, I will discuss general EAP/ESP concerns, EAP reading, and the issue of vocabulary in EAP reading.

Motivation Research

Motivation is a multifaceted construct and the term has been used differently to describe related but varied concepts. As Covington (1998) said, motivation is easier to describe than it is to define. Although numerous theories are available, researchers disagree strongly on the concept of motivation. Dörnyei (2001b, pp. 7-8) argues that a consensus in motivation research has been prevented by the following six main challenges of motivation research:

- Consciousness vs. unconsciousness (i.e. distinguishing conscious vs. unconscious influences on human behavior);
- Cognition vs. affect (i.e. explaining in a unified framework both the cognitive and the affective/emotional influences on human behavior);
- Reduction vs. comprehensiveness (i.e. mapping the vast array of potential influences on human behavior onto smaller, theoretically driven constructs);
- Parallel multiplicity (i.e. accounting for the interplay of multiple parallel influences on human behavior);
- Context (i.e. explaining the interrelationship of the individual organism, the individual's immediate environment and the broader socio-cultural context);

- Time (i.e. accounting for the diachronic nature of motivation – that is, conceptualizing a motivation construct with a prominent temporal axis).

Dörnyei (2001b) thus proposes a definition most researchers would agree on, i.e. motivation concerns the direction and magnitude of human behavior, including the choice of a particular action, the persistence with it, and the effort expended on it. In other words, motivation is responsible for why people decide to do something, how long they are willing to sustain the activity, and how hard they are going to pursue it.

Second/Foreign Language Learning Motivation

L2 motivation can be seen, Dörnyei (2001b) claims, as either an educational or a social and cultural issue, or a combination of both. Because foreign/second language learning can be, on the one hand, taken as a school subject and relate closely to academic achievement motivation. On the other hand, it can be viewed as a communication code in social interactions and associated with identification towards the respective L2 culture. This conceptualization is important in determining the focus of research and the selection of elements in L2 motivation theories. In the following sections, I will provide a historical retrospect on the evolution of L2 motivation research.

Skehan's Layman Hypotheses

Since motivation is an everyday term used extensively, we may first look at Skehan's (1989) summary of "the layman hypotheses." Skehan takes L2 motivation as one of the major areas under research on individual differences. He claimed that the main thrust of SLA research had been towards establishing how learners are *similar* and what processes of learning are *universal.* He questioned the justification of such research paradigm and called for a robust tradition for research in individual differences in L2 learning, including language aptitude, motivation, cognitive style, and strategic influences, etc.

Motivation, being a common sense term used daily, carries various implications as

people use it differently. Skehan summarizes the sources of a layman's approach to motivation as: (a) the inherent interest of learning itself – the Intrinsic Hypothesis; (b) the success experienced by learners – the Resultative Hypothesis; (c) a 'given' motivation the individual may bring to the learning situation – the Internal Cause Hypothesis; and (d) the external influences and incentives – the Carrot and Stick Hypothesis. His taxonomy captures general conceptualization on motivation that is not research oriented.

The Traditional Socio-psychological Approach

The earliest and most influential studies on motivation specific to language learning have been those conducted by Gardner and his colleagues (e.g. Gardner & Lambert 1972; Gardner 1985). Based on the self-reported data collected from Anglophone Canadians learning French, they distinguish between *integrative orientation* and *instrumental orientation*; the former involves an interest in learning an L2 because of a sincere and personal interest in the people and culture represented by the other language group, and the latter concerns the practical value and advantages of learning a new language. Gardner and Lambert (1972) hypothesized that an integrative motive is a more powerful predictor of L2 learning achievement than the instrumental one because it is rooted in the personality of the learner.

In Gardner's (1985) definition, motivation is a latent variable. It is aroused by any of the above two types of orientation and contains three major components: motivational intensity (effort), desire to learn the language, and attitudes towards learning the language. The Attitude/Motivation Test Battery (AMTB) developed by Gardner and his colleagues (Gardner, 1985; Gardner, Tremblay, & Masgoret, 1997) is to date the most widely used published standardized test of L2 motivation. A great number of studies on L2 motivation have followed Gardner's socio-psychological framework and reached similar conclusions.

Subsequent Studies Going Beyond the Gardner's Framework

Many of the subsequent studies aiming at refining the Gardner approach comes from a practical concern for the foreign language learning situations where learners take the L2 as a

school subject for credits and are less influenced by the culture associated with the target language.

Ely (1986) is probably the first one to raise doubts on Gardner and Lambert's (1972) integrative/instrumental conceptualization. The problem he finds with the Gardner approach is three folds: the distinctiveness of these two orientations, possibility of other motivational orientations from sources not covered by these two, and the degree of motivational strength. Based on his data from American college students learning Spanish, he discovers three clusters of motivation and the relation between type and strength of motivation. His Cluster A is similar to integrative orientation but differs in some major aspects. Cluster B resembles instrumental motivation and Cluster C is considered a "requirement" component. The former two are positive predictors of strength of motivation, while the latter is a non-significant negative predictor. Ely (1986) concludes with three implications: (a) instructional materials should be prepared to *appeal* to both clusters of motivation for the target population; (b) the *development* of both clusters of motivation type should be encouraged; and (c) learners' overall attitude toward L2 study should be carefully considered when implementing a language requirement for a major or a degree program.

Dörnyei (1990) is quite similar to Ely (1986) in purpose and method. Like Ely, Dörnyei uses Likert-type questionnaire to obtain self-reported data and interprets the data by way of factorial and regression analyses. With EFL-learning Hungarians as his subjects, he tries to define the relevance and characteristics of integrativeness and instrumentality in Foreign Language (FL), as well as locates other motivational components. In his motivational construct, he discovers four components: (a) an instrumental subsystem, (b) an integrative subsystem, (c) the need for achievement, and (d) attributions about past failure. Dörnyei finds that "the desire to integrate into a new community" should be positioned in the gray area between instrumental and integrative motivation. He also calls for attention to the latter two components. Dörnyei reaches three research implications. First, instrumentality and

integrativeness are just broad tendencies, not straightforward universals. Second, the need for achievement and attribution about past failures should receive more attention in the L2 filed. Third, two more factors to be considered when conducting L2 motivation research are *the level of target language* to be mastered and the *time* factor.

Urged by the same quest for a better L2 motivation construct, Crookes and Schmidt (1991) follow the previous two studies and review motivation research outside the field of applied linguistics and challenge the then-dominant research direction. This seminal paper initiated the discussion in applied linguistics about reopening the research agenda. They claim that the primary emphasis on attitudes and other social psychological aspects of Second Language (SL) learning is limiting and does not do full justices to the way SL teachers have used the term motivation. The two major limitations in L2 motivation research have been (a) the almost exclusive social-psychological approach, and (b) the failure to distinguish between the concepts of attitude and motivation. "Most teachers wish to motivate students, and attempt to do so in a variety of ways, of which altering attitudes to the subject matter is just one (p. 480)." Crookes and Schmidt base their literature review mostly on Maehr and Archer (1987) and Keller (1983b). They are greatly influenced by Keller's (1983b) education-oriented theory of motivation. The four major determinants of motivation identified by Keller (e.g. 1983b), i.e. interest, relevance, expectancy, and outcome, are borrowed and discussed in much detail. Crookes and Schmidt (1991) analyze the connection between motivation and SL learning in terms of four levels: (a) the micro level; (b) the classroom level; (c) the syllabus/curriculum level; and (d) considerations relevant to informal, out-of-class, and long-term factors.

Specifically under the micro level, Crookes and Schmidt (1991) emphasize the importance of attention and its link to motivation, for "definitions of motivation often refer to attention and persistence as the behavioral manifestations of motivation" (p. 484). They cite Schmidt's (1990) work on consciousness in SL learning and contend that *attention to input* is

a necessary condition for language learning and that what learners attend to and become aware of is what becomes intake. Factors to be considered under the other three levels include relevance, learners' skill level, affiliation, interest (curiosity), and adding instruction in self-management strategies.

With motivation research in psychology reviewed and specific L2 learning situations considered, Crookes and Schmidt's (1991) outline for the new research agenda is for L2 researchers to first provide a preliminary contextualized description of motivation, then consider conceptual, analytic, and methodological issues pertaining to motivation, and eventually accumulate generalizations concerning L2 motivation, through intervention in or comparison of situations in which there is motivation for SL learning. In the end, they restate a more appropriate definition of motivation in terms of choice, engagement, and persistence, as determined by interest, relevance, expectancy, and outcomes. They expect a theory of L2 motivation to be general and not restricted to particular contexts or groups. Moreover, they "seek to encourage a program of research that will develop from, and be congruent with, the concept of motivation that teachers are convinced is critical for SL success" (p. 502).

The above three studies (Ely 1986; Dörnyei 1990; Crookes & Schmidt, 1991) well represent a discontent in the then-dominant research paradigm and serve as antecedents for the heated 1994 Modern Language Journal debate which consists of six related articles appeared on the same journal in the same year having a dialogue for a more justified scope of future L2 motivation research.

The 1994 Modern Language Journal Debate

In this section I will discuss these six articles according to their time of appearance on the Modern Language Journal (MLJ).

The first one by Oxford and Shearin (1994) is a further pursuit into educational and workplace psychology to look for implications. With Crookes and Schmidt's (1991) review

as a basis, they introduce important motivation theories including need theories, expectancy-value theories, equity theories, and reinforcement theories. They conclude with the following implications for L2 classroom teachers:

- Teachers should find out learners' reasons for learning the L2, be it instrumental, integrative, or requirement. The reasons under EFL and ESL contexts may be very different. But the basic human needs for acceptance and esteem should be similar. The change of motivation in students may be recorded as part of learner data.
- Teachers should help learners to form positive beliefs, set short-term and long-term goals, and provide training on learning strategy.
- Teachers should make the benefits of L2 learning explicit to students, including those intrinsic, extrinsic, tangible, and intangible ones.
- Teachers should cultivate a motivating learning environment.
- Teachers should encourage learners to provide intrinsic rewards for themselves in their learning processes, and emphasize the mastery of specific goals.

Dörnyei (1994a) also starts with an attempt to look for further components of L2 motivation beyond the Gardner social dimensions. The extra components Dörnyei identifies are various, such as need for achievement, self-confidence, self-efficacy, learned helplessness, and intrinsic/extrinsic types of regulations. He proposes an L2 motivation construct with a hierarchy of three levels, namely a language level, a learner level, and a learning situation level, to better encompass the reality encountered by L2 teaching professionals. More specifically, he summarizes motivational components specific to the lower day-to-day learning situation level. They are course-specific, teacher-specific, and group-specific components. For course-specific components, Keller's interest, relevance, expectancy, and satisfaction are again addressed. Under teacher-specific components, he draws on affiliative drive, authority type, and the socialization of student motivation. For group-specific components, goal-orientedness, norm and reward system, group cohesion, and classroom goal

structure are discussed. A hierarchical relationship of Dörnyei's framework for L2 motivation is presented in Table 1.

Table 1. Dörnyei's Framework of L2 Motivation

LANGUAGE LEVEL	Integrative motivational subsystem Instrumental motivational subsystem
LEARNER LEVEL	Need for achievement Self-confidence . Language use anxiety . Perceived L2 competence . Causal attributions . Self-efficacy
LEARNING SITUATION LEVEL	
Course-specific motivational components	Interest (in the course) Relevance (of the course to one's needs) Expectancy (of success) Satisfaction (one has in the outcome)
Teacher-specific motivational components	Affiliative motive (to please the teacher) Authority type (controlling vs. autonomy-supporting) Direct socialization of motivation . Modelling . Task presentation . Feedback
Group-specific motivational components	Goal-orientedness Norm and reward system Group cohesiveness Classroom goal structure (cooperative, competitive or individualistic)

Gardner and Tremblay (1994b) reply to three previous papers (Crookes & Schmidt 1991; Oxford & Shearin 1994; Dörnyei 1994a) on research agendas and theoretical frameworks. They, on behalf of the Gardner tradition, clarify their misunderstood points and claim that the

integrative/instrumental concept does not confine L2 motivation research. They call for caution in adopting theories from other research areas, especially when empirical evidence is absent. They agree with the previous authors in that social educational model has not addressed the situational characteristics of motivation. They argue that trait characteristics of motivation, together with situational characteristics, can influence state motivation. However, they also point out that the field of applied linguistics does not have adequate measures that assess state motivation in any given situation. Gardner and Tremblay (1994b) claim that "situational characteristics may provide a more promising direction for intervention when considering their higher malleability than traits. Furthermore, situational characteristics may interact with traits to increase or decrease motivation" (pp. 362-363).

Oxford (1994), in response to Gardner and Tremblay (1994b) and Dörnyei (1994a), agrees that situational characteristics of L2 motivation should receive much more research attention. Following that, Dörnyei (1994b) joins the dialogue and agrees with Gardner and Tremblay (1994a) that the field needs construct validation and pertinent empirical research.

Gardner and Tremblay (1994b), at the end of the 1994 debate, defend themselves on their instrument AMTB for its validity as well as on other methodological issues. Moreover, they clarify the use of some important terms and related concepts. For example, integrative orientation is part of integrativeness which, in turn, is part of integrative motive. Motivation, in their social-educational model, is a latent variable that includes three components: desire to learn the language, motivational intensity, and attitude towards learning and language.

More Recent Models

Gardner et al.'s Refined Model. To round off the 1994 Modern Language Journal debate, Gardner and his colleagues proposed new models in 1995 and 1997. Tremblay and Gardner (1995) take into account new additional factors discussed in previous studies and tries to integrate those factors into a more comprehensive construct. With the data they collected using a modified AMTB, Tremblay and Gardner (1995) calculate correlation

coefficients and identify relationship among relative variables. Their findings basically confirm two points. First, motivational behavior is believed to operationalize as effort, attention, and persistence. Second, between language attitude and motivational behavior there are three mediating variables, goal salience, valence, and self-efficacy.

Gardner, Tremblay, and Masgoret (1997) take the above study one step further. They argue that many SLA models deal only with the relationship between achievement and a small cluster of individual difference variables. With an attempt to move towards a full model of second language learning, Gardner et al. perform factorial and causal analyses on data collected using refined AMTB and many other measures. They discover substantial links among the affective measures and achievement. They concluded that the measured achievement comes from three sources, aptitude, strategy, and motivation, each has a correlation coefficient of .47, .29, and .48 respectively.

Dörnyei and Otto's Process Model. Dörnyei considers "time" to be an important but neglected factor in most motivational models. He argues that motivation in any learner is fluctuating and is influenced by many internal and external forces as it evolves. Dörnyei and Otto's (1998) process model of L2 motivation is a non-reductionist, comprehensive model that tries to incorporate a time element into L2 learning motivation. The two main dimensions in the model are Action Sequence and Motivational Influences. The first dimension, Action Sequence, represents the process of motivation from goals to intentions, to actions, to accomplishment of the goals, and then to final evaluation. The second dimension includes the energy sources and motivational forces that underlie and fuel the process.

The Return to an Educational Focus

Crookes and Schmidt (1991) point out the inadequacy of traditional second language approach to motivation. They argue that limitations to L2 motivation research have been the lack of attention to classroom learning. L2 motivation has for a long time been treated as a stable learner characteristic instead of something that is subject to change. Recent research

has called for an educational focus on situational characteristics of L2 motivation (e.g. Gardner & Tremblay, 1994a; Oxford, 1994).

In order to answer the call for a pedagogical concern, Dörnyei (2001a), based on his 1994 three-level framework, comprehensively discusses motivational strategies in the language classroom. Possible motivational teaching practice is summarized in four phases: creating the basic motivational conditions, generating initial motivation, maintaining and protecting motivation, and encouraging positive retrospective self-evaluation. The components of these practices are shown in Figure 2.

Various discussions on "how to motivate students" remained a common sense issue. Most L2 motivation studies to date have just tried to classify, identify, and describe the sources of motivation rather than practically and carefully examining the effects of particular day-to-day classroom motivational strategies. The effect of such motivational strategies is seldom verified under careful research effort. Compared to the power of dispositional motivation, situational motivation may only bring marginal or instantaneous effect and does not lead directly to learning achievement. If there is any effect of situational motivation, however, it should be worthy the efforts of research studies since it has the potential to accumulate in the long run.

Empirical Studies Specific to Foreign Language Contexts

Chang (1999) uses observations and interviews to investigate Taiwanese junior high school EFL learners' motivation. He indicates that this group of learners had both performance and mastery goals and attributes the phenomenon to cultural aspects such as parental influences on students and students' fear of academic failure. Intrinsic value is found to be associated with highly-motivated learners and extrinsic one to be with students of low motivation.

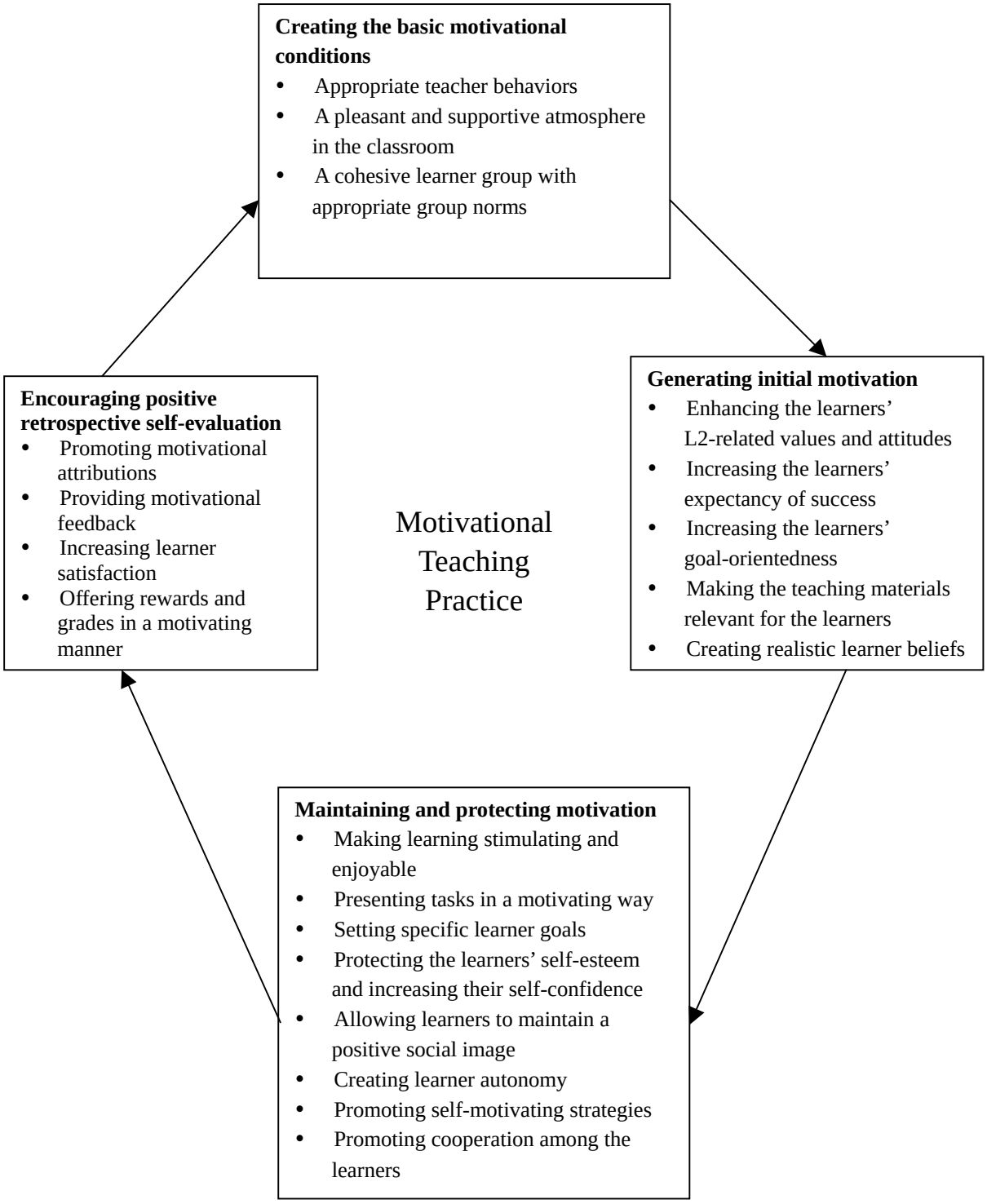

Figure 2. Dörnyei's framework for motivational strategies

Warden and Lin (2000) survey over 2,000 non-English-major college students at two educational institutions in Taiwan and examine the existence of integrative motivation in the Taiwanese EFL context. They find that EFL learners in Taiwan possess instrumental and

"required" motivation. However, the integrative motivation much emphasized in other contexts is absent in this student population. The importance of English as a language in Taiwan as perceived by learners, Warden and Lin (2000) argue, does not lie on social interactions with westerners; rather, it is mainly to be used in workplaces or for further academic pursuit. They call for a better understanding of exactly what motivates EFL students for it could improve educational results, reduce misdirected effort, and decrease the frustration felt by both students and teachers.

Chang and Lehman (2002) is probably the first experimental study investigating motivational effects in an L2 setting. They apply Keller's instructional design theory and examine the effects of the Relevance component of the ARCS model within a computer-based interactive multimedia lesson for Taiwanese EFL learners. Their findings indicate that (a) the use of relevance enhancement strategies facilitated students' language learning regardless of learners' level of intrinsic motivation, (b) more highly intrinsically motivated students performed better regardless of the specific treatments they received, (c) the effects of the two variables were additive; intrinsically motivated students who learned from the program with embedded instructional strategies performed the best overall, and (d) there was no significant interaction between the two variables.

Motivation and Preference

Jacques (2001) is concerned about the relation between motivation and preference. He constructed both teacher and student questionnaires to investigate motivation in both language learning and language teaching and its relationship to preferences for instructional activities, as well as the areas of match and mismatch between student and teacher responses with regard to preferences for instructional activities. Jacques recruited 21 teachers and 828 students in Spanish, French, and Portuguese classes at the University of Hawaii at Manoa to answer a 54-item teacher questionnaire and a 101-item student questionnaire respectively. The two parts of his student questionnaire are instructional preferences and motivational factors.

With factor analysis for instructional preferences, he found that the following five factors accounted for 49.7% of the total variance: (1) practical proficiency orientation, (2) challenging approaches, (3) cooperative learning, (4) innovative approaches, and (5) traditional approach. With factor analysis for motivational factors, he found that the following six factors accounted for 47.9% of the total variance: (1) value components, including integrative orientation, interest in foreign languages and cultures, instrumental orientation, intrinsic motivation, and task value, (2) expectancy components, including expectancy, anxiety, and language aptitude, (3) motivational strength, (4) competitiveness, (5) heritage language, and (6) cooperativeness.

He performed correlation analysis for the two parts of his questionnaire and concluded that there are numerous relationships between certain motivational subscales and certain preferences for instructional activities subscales in the student responses. Jacques' study was probably the first one to look at the interplay between motivation and learner preference for classroom activities. As he said, the data seem to indicate that certain types of students and teachers engage in foreign languages for different purposes and prefer to learn or teach via certain classroom activities. An understanding of what both sides need and expect would be a significant first step towards success of classroom communication.

Motivation in Education

Summary of Major Theories

Dörnyei (2001a) states that motivation is an umbrella-term involving a wide range of different factors. He puts together the currently dominating motivational approaches in the following table to show the main tenets and principles of major motivational theories.

Table 2. Summary of the Most Well-known Contemporary Motivation Theories in Psychology

THEORIES	SUMMARIES	MAIN COMPONENTS	MAIN MOTIVATIONAL TENETS AND PRINCIPLES
Expectancy-value theories	Brophy (1999), Eccles and Wigfield (1995)	Expectancy of success; the value attached to success on task	Motivation to perform various tasks is the product of two key factors: the individual's *expectancy of success* in a given task and the *value* the individual attaches to success on that task. The greater the perceived likelihood of success and the greater the incentive value of the goal, the higher the degree of the individual's positive motivation.
Achievement motivation theory	Atkinson and Raynor (1974)	Expectancy of success; incentive values; need for achievement; fear of failure	Achievement motivation is determined by conflicting approach and avoidance tendencies. The positive influences are the *expectancy* (or perceived probability) of success, the incentive *value* of successful task fulfillment and *need for achievement*. The negative influences involve *fear of failure*, the incentive to *avoid* failure and the *probability* of failure.
Self-efficacy theory	Bandura (1997)	Perceived self-efficacy	*Self-efficacy* refers to people's judgment of their capabilities to carry out certain specific tasks, and, accordingly, their sense of efficacy will determine their choice of the activities attempted, the amount of effort exerted and the persistence displayed.
Attribution theory	Weiner (1992)	Attributions about past successes and failures	The individual's explanations (or 'causal attributions') of why past successes and failures have occurred have consequences on the person's motivation to initiate future action. In school contexts ability and effort have been identified as the most dominant perceived causes, and it has been shown that past failure that is ascribed by the learner to low ability hinders future achievement behavior more than failure that is ascribed to insufficient effort.
Self-worth theory	Covington (1998)	Perceived self-worth	People are highly motivated to behave in ways that enhance their sense of *personal value and worth.* When these perceptions are threatened, they struggle desperately to protect them, which results in a number of unique patterns of face-saving behaviors in school settings.
Goal setting theory	Locke and Latham (1990)	Goal properties: specificity, difficulty and commitment	Human action is caused by purpose, and for action to take place, *goals* have to be set and pursued by choice. Goals that are both specific and difficult (within reason) lead to the highest performance provided the individual shows goal commitment.
Goal orientation theory	Ames (1992)	Mastery goals and performance goals	*Mastery goals* (focusing on learning the content) are superior to *performance goals* (focusing on demonstrating ability and getting good grades) in that they are associated with a preference for challenging work, an intrinsic interest in learning activities, and positive attitudes towards learning.
Self-determination theory	Deci and Ryan (1985), Vallerand (1997)	Intrinsic motivation and extrinsic motivation	*Intrinsic motivation* concerns behavior performed for its own sake in order to experience pleasure and satisfaction such as the joy of doing a particular activity or satisfying one's curiosity. *Extrinsic motivation* involves performing a behavior as a means to an end, that is, to receive some extrinsic reward (e.g. good grades) or to avoid punishment. Human motives can be placed on a continuum between self-determined (intrinsic) and controlled (extrinsic) forms of motivation.
Social motivation theory	Weiner 1994), Wentzel (1999)	Environmental influences	A great deal of human motivation stems from the sociocultural context rather than from the individual.
Theory of planned behavior	Ajzen (1988), Eagly and Chaiken (1993)	Attitudes; subjective norms; perceived behavioral control	Attitudes exert a directive influence on behavior, because someone's attitude towards a target influences the overall pattern of the person's responses to the target. Their impact is modified by the person's subjective norms (perceived social pressures) and perceived behavioral control (perceived ease or difficulty of performing the behavior).

Source: Dörnyei (2001b), pp.10-11.

Emerging Trends in Research on Learning Motivation

Jarvela (2001) argues that many past studies separated motivation from cognitive learning and left to the background many contextual factors such as schools, classrooms, family, peer groups, community, country, as well as culture, ethnicity and the historical context. A more realistic concern should be on how cognitive processes and motivation interact as elements of human learning. Therefore, he calls for a shift from research on motivation and cognition to *an integrated approach on learning and motivation in context.* Anderman and Anderman (2000) also note that in recent years, researchers have focused less on stable personality characteristics and more on contextual factors, a trend consistent across all psychology and education research. What researchers should work on is how we can better capture the dynamic ways in which learners and context mutually interact in real-time in the classroom. Volet (2001) observes emerging trends in recent research on motivation in learning contexts in terms of conceptual shifts as follows:

- From a decontextualized to a situated and experimental approach
- From stable motivational traits to dynamic conceptualizations of motivation
- From a dominance on cognitive aspects to multi-dimensional aspects
- From single-level to multi-level conceptualizations and analyses
- From uni-directional to bi- or multi-directional individual and contextual influences
- From single to integrated or multidimensional theoretical perspectives

Keller's ARCS Model and Related Concepts

A search for specific motivational strategies led me to further research on Keller's (1983a, 1983b, 1987a, 1987b, 1987c, 1999a, 1999b) ARCS model. As discussed earlier, Keller's model was introduced to foreign/second language teaching relatively early by Crookes and Schmidt (1991). It serves as a basis for their educational turn on L2 motivation research and hence has obtained a great number of responses in the L2 field. Keller's model was again borrowed by Dörnyei (1994a, 2001a, 2001b) in his three-level framework. He

indicates that his course-specific motivational components can be well described with the four motivational conditions proposed by Keller and subsequently by Crookes and Schmidt (1991).

The ARCS Model is developed by Keller (1979, 1983a, 1983b, 1987a, 1987b, 1987c, 1999a, 1999b) for the purpose of theorizing the concept of pedagogical motivation and providing general heuristics for classroom practitioners to integrate motivational appeals into instructional design. The model, grounded in expectancy-value theory derived from the work of Tolman (1932) and Lewin (1938) (cited in Keller, 1987a), formerly consisted of four basic categories of motivational conditions: interest, relevance, expectancy, and satisfaction (the former two subdivided from *value* and the latter two from *expectancy*). These are the areas that, Keller claim, instructional designers must understand and respond to in order to produce instruction that is interesting, meaningful, and appropriately challenging (Keller 1983a, p. 395). In 1987, the model was changed and refined to give a slightly different emphasis and to create an acronym that makes the model easier to use in an applied setting. The first category was changed from "Interest" to "Attention" and the third from "Expectancy" to "Confidence" (Keller & Kopp, 1987). The first letters of each category produce the word ARCS and the model is now referred to as the ARCS Motivational Model of Instructional Design.

According to Keller, the four major aspects of ARCS model have to be met for learners to become and remain motivated. A brief summary of these four components is as follows. *Attention* is a prerequisite for learning. Learners have sensation-seeking needs and knowledge-seeking curiosity. A first step in motivation is to gain and sustain learners' attention. The classic *relevance* question is "Why do I have to study this?" In order to motivate students to learn, the instructor should convince them that the instruction is related to important personal goals or motives. *Confidence*, the expectancy for success, has to be nurtured so that learners would not avoid pursuing an interesting and desired goal simply

because they believe that the likelihood of achieving it was too low. Instructors' responsibility here is to provide learning conditions where the psychological risks are low. In order to maintain a continued motivation, *satisfaction* has to be ensured through positive consequences, real or simulated setting to use newly acquired knowledge, and consistent standards for task accomplishments.

Keller contends that these motivational design and management is a kind of environmental input which will, together with personal input such as individually-held motives and expectancy, lead to effort. Effort, in turn, combined with abilities, skills, knowledge, and the environmental learning design, brings about performance. The consequences of performance will feed back to personal motives and form a learning cycle.

Motivational Strategies for Attention

Among the four components of the ARCS model, *attention* serves as a starting point for learning to occur. Keller (1983a) defines attention as a broad term encompassing interest and curiosity. Zook (2001) also emphasizes the importance of attention in instructional sequencing:

> Attention is the gateway to learning. If learners do not attend to new information, regardless of the media or learning activity used to engage them with it, that information will never make it to working memory. If information never moves into the state of working memory, learners cannot construct meaningful links to their preexisting knowledge in long-term memory. (p. 296)

Small et al. (1996) try to identify sources of "boring" and "interesting" learning situations through analysis of learners' descriptions and group the responses using components from ARCS model. They conclude that learner interest involves four underlying dimensions – pleasure, arousal, competence, and potency. The former two are linked to generating and sustaining current learning interest, while the latter two are more closely related to fostering a continuing motivation to learn.

Arnone and Small (1995) specifically focus on curiosity and explore in depth on its multidimensional construct and examine its relationship to all of the ARCS components. Both Keller (1983a) and Arnone and Small (1995) used Berlyne's (1965) distinction between *perceptual curiosity* and *epistemic curiosity*, with the former referring to a more sensory-level reaction and selective attention in response to particular objects in the environment and the latter to information-seeking and problem-solving behavior that occurs as a result of the stimulation of curiosity. A somewhat analogous differentiation is Malone's (1981) *sensory and cognitive curiosity*. Arnone and Small (1995) propose to look at them as *diversive curiosity*, induced by non-specific stimuli such as boredom and changelessness, and *specific curiosity*, induced by specific stimuli such as uncertainty, cognitive conflict, incongruity, etc. Keller also distinguishes curiosity in another dimension -- *state and trait curiosity*. State curiosity is a function of more stable trait curiosity and its contingency with other environmental variables.

Arnone and Small (1995) further propose the concept of Zone of Curiosity. Learner attention has to be stimulated and sustained at an appropriate level between too low a level of boredom and indifference versus too high a level of anxiety and hyperactivity. Arnone and Small (1995) argue that once learner curiosity falls into the very low end, attention and subsequent fundamental conditions needed for learning will never occur. "Learner attention is a prerequisite to the establishment of relevance, building of confidence, and recognition of satisfaction potential. When attention is absent, the learner never enters the zone of curiosity, remaining instead in a zone of disinterest" (p. 9).

Keller provides many pedagogical strategies for inducing attention. These strategies can be classified into three categories: perceptual arousal, inquiry arousal, and variability. Table 3 illustrates the principles of main supporting strategies Keller recommends under each of the three categories of attention.

Table 3. The Attention Component in ARCS Model and its Main Supporting Strategies

Subcategories & Process Questions	Main Supporting Strategies
Perceptual Arousal What can I do to capture their interest?	Create curiosity, wonderment by using novel approaches, injecting personal and/or emotional material.
Inquiry Arousal How can I stimulate an attitude of inquiry?	Increase curiosity by asking questions, creating paradoxes, generating inquiry, and nurturing thinking challenges.
Variability How can I maintain their attention?	Sustain interest with variations in presentation style, concrete analogies, human interest examples, and unexpected events.

Source: Keller (1987b), p. 2.

To implement the ARCS model, Keller (1987c) provides a systematic process, in addition to the above principles, with four phases – Define, Design, Develop, and Evaluate. Classroom instructors need to perform an audience motivation analysis using an inverted U curve to create a learner motivation profile for an optimal level of motivation.

A good audience analysis can indicate what types of motivation strategies to use and where the greatest emphasis must be. If the motivation level is already high, instructors should focus on the instruction and try not to irritate or de-motivate them. Objects and measures are established according to the audience analysis. The instructor then generates and selects appropriate strategies, and integrates them into the content and structure of instruction. After piloting and revising, the strategies can then be implemented and then evaluated.

In addition to the sequential phases, Keller also provides general pedagogical guidelines for designing motivational strategies. They should:

- not take up too much time;
- not detract from the learning objectives;
- fall within the time and money constraints of the development and implementation aspects of the instruction;

- be acceptable to the audience; and
- be compatible with the delivery system, including the instructor's personal style.

As Keller (1983b) positions his theory, the ARCS model works best as a tool to assist in improving the appeal of instructional materials and programs.

Research on Interests and Learning

Pintrich and Schunk (1996) regard interest as one of the most common explanations for motivation and discuss its relationship with learning. Krapp, Hidi, and Renninger (1992) propose three general definitions of interest that can help us understand the diverse construct of interest. The three definitions include *personal interest, situational interest, and interest as a psychological state*. According to Krapp et al., *personal interest* is a personality trait of the individual that is a relatively stable, enduring disposition. Such personal interest is usually assumed to be directed toward some specific activity or topic in contrast to curiosity, which is assumed to be a characteristic of the person that is more diffusely directed. *Situational interest* is defined by Krapp et al. (1992) as interest that is generated mainly by environmental conditions. Given this situated perspective, researchers tend to ignore individual differences and look for general principles to describe how the features of the environment can generate interest. *Interest as a psychological state* reflects an interactive and relational perspective on interest whereby an individual's personal interest interacts with the interesting environmental features to produce the psychological state of interest in the person (Krapp et al., 1992). Renninger (1992) further conceptualizes interest as occurring only when the individual has both high value for an activity and high stored knowledge about the activity or topic.

Pintrich and Schunk (1996) point out that despite problems in both the theoretical conceptions of interest and in the measurement of interest, the research has revealed fairly consistent results regarding how interest is related to other cognitive and achievement outcomes. In terms of cognitive outcomes, interest is generally related positively to

measures of memory, attention, comprehension, deeper cognitive engagement, and thinking (Schiefele, 1991; Tobias, 1994). Hidi (1990) suggests that when interest is high, there does not have to be as much effortful selective attention and that interest could result in more spontaneous attention and less cognitive effort, but still have a positive influence on learning. Pintrich and Schunk (1996) argue that future research will probably be more likely to address the issue of how interest has an influence on learning instead of on whether it does have an effect.

Reading Motivation

L1 Reading Motivation Research

Outside of the L2 field, motivation has been regarded as a domain-specific concept and there has been a considerable body of research on reading motivation. McCombs (1997) cites research evidence to support his contention on domain specificity of reading motivation in the following passage:

> Motivation to read is both domain-specific and multidimensional. What may motivate a particular student to read is not necessarily what may motivate another student to read….Research on student shows that, across different students, when interest in reading particular materials is present, it increases attention, use of effective learning strategies, and reading comprehension. (p. 126)

Wigfield (1997) provides further evidence for the domain specificity of reading motivation. He argues that for certain of the aspects of reading, motivation may be unique to reading only. For some of the important motivation constructs, particularly competence and efficacy beliefs, there is strong evidence for domain specificity. For other constructs, particularly achievement goal orientations, most of the measures are general. Wigfield, Guthrie, and McGough (1996), under a large research program at National Reading Research Center in the U.S., develop the Motivations for Reading Questionnaire (MRQ) to measure

children's reading motivation in L1 contexts.

Guthrie and Solomon (1997) believe that situational interests are the basis for developing long-term intrinsic motivations for reading. Cultivating a learning context that can suitably support situational interests is thus imperative. Based on various motivation theories, Guthrie and Solomon propose the following design principles for increasing reading motivation in the classroom context:

- Conceptual themes – integrative and interdisciplinary themes
- Real-world experiences – personal engagement and physical operation
- Self-direction – providing autonomy support, enabling students to make choices, participate in decisions, and personally identify with the learning goals of the classroom
- Interesting texts – variety of sources, topics, and difficulty
- Social collaboration – socially interacting with others to learn
- Self-expression – encouraging reproduction after comprehension

Other than the above principles, Guthrie and Solomon (1997) add two more guidelines. First, teachers should provide supports for strategy learning, including modeling, explaining, and coaching. Second, there should be coherence among goal relevance, level of difficulty, feasibility, and cost-effectiveness.

Interest and Reading

In addition to research on interest and learning in general, there has been a body of research focusing specifically on interest and reading. Pintrich and Schunk (1996) point out that "the researchers who have studied situational interest have often been reading researchers who have been investigating text-based interest and trying to understand how different aspects of texts can generate and sustain interest on the part of readers" (p. 302).

Schraw, Bruning, and Svoboda (1995) construct a 10-item Perceived Interest Questionnaire (PIQ) that measures overall situation interest in the content and issues raised by the text. The PIQ contains statements that are expected to yield a single interest factor and it

focuses exclusively on the reader's assessment of his or her own feelings of interest. With the instruments they developed, Schraw et al. (1995) identify sources of situational interest in reading and conclude that writing a text that is cohesive, easy to understand, vivid without being sensational, and draws on concrete examples may lead to a noticeable increase in interest and text learning.

Following Dewey's (1913) point that interest is a critical factor in school learning, L1 reading researchers have pursued ways to make expository texts more interesting, since when students are interested in a topic or an activity, they are engaged "in a whole-hearted way" (Dewey, 1913, p. 65). Wade and Adams (1990) found that when college students read in L1, interest was a better predictor of recall than importance. According to Wade, Schraw, Buxton, and Hayes (1993), reading research has admonished that textbook writers should make their texts more interesting in order for readers to read and remember better. Writers have heeded to make expository materials more interesting, usually by embedding in them personalized anecdotes and highly interesting but nonessential details (Hidi, Baird, & Hildyard, 1982; Pearson, Gallagher, Goudvis, & Johnston, 1981). Researchers have termed this kind of interesting but unimportant information *seductive details* (Garner, Gillingham, & White, 1989). Wade et al. (1993) claimed that there is a good deal of evidence that adding seductive details to texts does not facilitate and may even interfere with the learning of important information. Their analysis suggests that attention given to highly interesting information may be quite different from attention given to important, uninteresting kinds of information.

Reading Research

In the following sections, I will focus the literature review on the part of reading, including a summary of major reading theories, major L2 reading issues such as the debate over L1 reading versus L2 language ability in L2 reading performance, the

short-circuit/threshold hypothesis, pedagogical concerns for L2 reading instruction, and some implications from the field of L1 content-area reading instruction.

Summary of Major Theories

L2 reading theories are influenced strongly by L1 reading models. In this section, I first present a summary of major reading theories. Then I discuss some more relevant theories and issues in more detail. Table 4 is a summary I compiled based on related reading research. In addition to this summary, I will discuss some of the more relevant theories in more detail.

Table 4. Summary of Major Reading Theories

Major Reading Theories	Representing Authors	Main Tenets
Bottom-up Models	Gough (1985), LaBerge & Samuels (1985)	Reading is a decoding process for information inscribed in paper. Text information is to be processed before comprehension can be achieved.
Top-down Models	Goodman (1965, 1971), Smith (1982)	Reading is an active process driven by the reader's cognitive, linguistic and affective experiences.
Interactive Models	Rumelhart (1985), Carrell, Devine & Eskey (1988)	Reading is a cyclical process in which higher level cognitive activities and lower level perceptual activities interact with each other.
Transactional Models	Rosenblatt (1994), Goodman (1994)	Reading is a dynamic activity in which readers utilize residue left in individual linguistic-experiential reservoir as a basis to get personal meanings from the written texts.
Model of Attitude Influence	Mathewson (1994)	Attitude and affective variables are included in the explanation of reading behaviors and performance.

The Psycholinguistic View of Reading

Many discussions on ESL reading instruction are based on psycholinguistic descriptions of the reading process. Among related theories, Goodman's (1970) metaphor "reading as a psycholinguistic guessing game" serves as a representative. This view of reading emphasizes the fact that proficient reading is an active process in which the reader produces

hypotheses about the message of the text, then samples textual cues to confirm or reject those hypotheses. L2 instructional implications from such view on reading include concentration on passage-level semantic cues, forming hypotheses before reading and to confirm or reject later, deemphasizing graphophonic and syntactic accuracy, and developing a tolerance for inexactness and fostering a willingness to take chances and make mistakes. Rosenblatt (1978) and Widdowson (1979) liken successful reading to an act of creation, that is, the reader creates meaning through the interaction with a text.

Rosenblatt's Transactional Model

The transactional theory (Rosenblatt, 1994) treats reading as a dynamic activity in which readers utilize residue left in individual linguistic-experiential reservoir as a basis to deal with the writer through codes inscribed on paper. How much one gets from a specific reading transaction does not depend as much on the physical texts as it does on personal aspects. Hence no two readings are identical, neither those of two readers reading the same text nor those of the same reader reading the same text at different time. Every reader is able to interpret the written text in his or her own unique way for personally defined purposes. Under the metaphor of transaction, reading is a deal made by the reader with the writer by means of the text. A reader thus buys something, does not buy others, negotiates on certain parts, and finally strikes the deal. Certain parts of content intended by the writer might be missed by a reader. This then, does not count as part of the transaction. On the other hand, reader would probably perceive more than what the writer intended to convey. And this would be a transaction meaningful to the readers by all means.

Rosenblatt (1994) further proposes a continuum for readers to position the text. "The reading event must fall somewhere in a continuum, determined by whether the reader adopts a 'predominantly aesthetic' stance or a 'predominantly efferent' stance" (p. 1066). In her view, efferent reading is more straightforward – the man's attention is focused on learning what is to be done as soon as the reading ends. When taking a more aesthetic stance, readers' private

part of meaning – sensations, images, feelings, and ideas – come into play.

Goodman (1994) elaborates on the transactional theory and also looks at reading as construction of meaning. He uses the concept of "dual text" to highlight this point by saying "In a transactional view, both the knower and the known are transformed in the process of knowing" (p. 1114). He classifies purposes of reading into environmental, occupational, informational, recreational, and ritualistic. Purpose and intention affect readers' stance, and hence their interpretation of the text. Language also serves as cue systems when readers construct their texts and comprehend. The three systems of language are the graphophonic, the lexico-grammatical, and the semantic-pragmatic. He summarizes seven cognitive strategies readers use: initiation or task recognition, sampling and selection, inference, prediction, confirming and disconfirming, correction, and termination. In describing the transactional nature of reading, Goodman uses "cycles" to represent the repeated processes. He says cycles are sequential, each dependent on preceding cycles. There are three types of cycles – visual (optical), perceptual, and syntactic. In his concluding remarks, Goodman's depiction of reading activities as "flexibility and diversity within unity" corresponds with Rosenblatt's "private" and "public" sense of comprehension. And it is the unlimited possibility of the private part of meaning that makes reading a joyful never-ending journey.

Alexander (1997), however, observes a potential problem with the transactional theory with regards to expository reading. She contends that transactional theory ignores the motivational dimensions of exposition and may bring one unintended effect on the reinforcement of stereotypes regarding expository text and the act of information seeking. When reading materials are abruptly simplified into a dichotomy of efferent and aesthetic texts, we may be led to forgo the potentially motivating qualities of expository texts and the rewards and beauty associated with knowledge seeking. She delineates in detail how more efferent exposition can also be very motivating, especially on fostering a positive self-schema. Alexander's definition of self-schema consists of knowledge that individuals can reflect on

and explicate and that forms the basis of people's present and future selves. Three motivational variables she addresses are: goal orientation, interest, and agency. In terms of goals, the reading task itself, by having readers process the information read for the purpose of study, has a more or less inherent motivation. Generally, the more intrinsic and self-generated the goals, the greater possibility one can obtain a personal and moving experience of the type Rosenblatt envisioned only for the aesthetic stance.

Day and Bramford's Model for Extensive Reading

Day and Bamford (1998) advocate an extensive approach, in contrast to traditional intensive approach, to foreign language reading. They define extensive reading as rapidly reading "book after book," with the readers' attention on the meaning, instead of the language, of the texts. They also present a model of the major variables motivating the decision to read in a second language, based on expectancy-value theory. Figure 3 is a visual representation of this model.

Language Problem vs. Reading Problem

There has been a debate on whether L2 reading problem is more of a deficiency of L1 reading ability or that of L2 language proficiency (e.g., Eskey, 1988). Alderson (1984) summarizes related research and concludes that L2 reading is both a language and a reading problem, but with firmer evidence that it is a language problem, especially for low levels of foreign language competence. Carrell (1991) claims that both L1 reading and L2 language are statistically significant predictors for L2 reading. These two factors aggregately explain a major variance in L2 reading comprehension. However, she argues that L2 language proficiency seems to be more important for EFL students while L1 reading ability is more important for ESL students. Her conclusion coincides with Alderson's inclination towards L2 reading being a language problem for low level L2 proficiency.

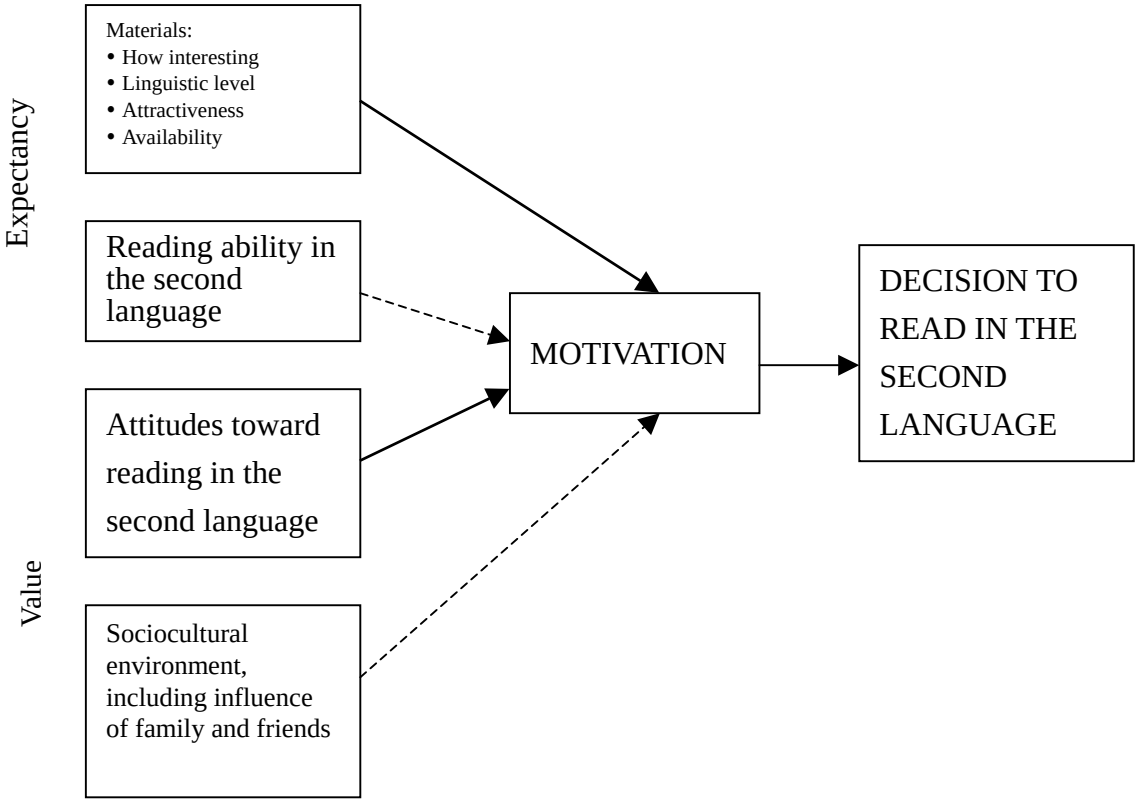

Figure 3. Model of the major variables motivating the decision to read in a second language (A solid line indicates a stronger influence than a broken line.) (Day & Bamford, 1998, p. 28)

Bossers (1992) reaches different conclusion from Carrell and Alderson. He discovers that even for advanced learners, L2 knowledge is strongly related to L2 reading comprehension. The strength of correlation between L1 ability and L2 reading comprehension does not differ significantly for readers with higher or lower L2 proficiency. The discrepancies in results reached by Alderson (1984) and Carrell (1991) and that by Bosser (1992) may be well explained by Eskey's (1988) contention that "for good readers, decoding skills do not become less important, it just becomes more automatic."

Taillefer (1996) uses the following equation to represent his conceptualization on the issue of L1 reading competence versus L2 language proficiency.

L2 reading = L1 reading + L2 language proficiency

Talliefer's subjects are French college students with similar L1 reading ability but varied L2

language proficiency. Based on previous studies, he assumes that both factors are significant predictors of L2 reading ability and wants to find out the relative importance of each in reading tasks of varied cognitive complexity. Taillefer concludes that the complexity of tasks is what matters when weighing the relative importance of L1 reading and L2 language ability. On tasks of lesser cognitive complexity (in his particular study, scanning), L1 reading ability is more important. On tasks of higher cognitive complexity (in his particular study, reading comprehension), L2 language proficiency makes a great difference. However, scanning, when compared with overall reading comprehension, is a relatively unimportant sub-skill and therefore L2 ability has in general a more dominant role.

The Short-circuit / Threshold Hypothesis

An important concept in L2 reading literature is the short-circuit hypothesis and the threshold hypothesis. The two terms are usually used interchangeably and represent the same concern on L2 reading.

The Language Threshold

The concept of "language threshold" was first introduced by Clarke (1980). His observation on Spanish learners reading English very much confirms the psycholinguistic view of reading in that reading is not an exact process which depends on accuracy at all levels of language but rather, it seems to be a process of hypothesizing, testing, confirming, or rejecting. However, unlike Goodman and others who use a "good reader" model to explain reading behaviors, Clarke contends that there may not be so-called "good readers" or "poor readers." It seems that L2 readers demonstrate good or poor reading behaviors at different points of time. Limited control over the target language "short-circuits" the good readers' system and causes him/her to revert to poor reader strategies when confronted with a difficult or confusing task in the second language. Clarke argues that relying only on the "psycho" part of reading will not be sufficient in explaining L2 reading. The "linguistic" part can

short-circuit otherwise good reading strategies.

Other Types of Threshold

Hudson (1982) proposes to look at a second component (other than the L2 proficiency component) when L2 reading is short-circuited, i.e. schemata. He contends that "from perspective of schemata theory, the principal determinant of the knowledge a person can acquire from reading is the knowledge he or she already possesses" (p. 185). He considers that problem of poor L2 reading may be either simply a symptom of low L2 proficiency or one of false schemata production and reconciliation in conjunction with low language proficiency. He indicates that a breakdown in the processing of the second component (schemata) can cause disruption in first component (L2) processing. The linguistic ceiling is only one determinant of reading comprehension. Sometimes schemata can override language proficiency as a factor in comprehension. The fact that it can be overridden indicates that it is not a fixed or static proficiency, but is rather a relative proficiency.

Carrell and Eisterhold (1983) propose a third component to account for poor L2 reading behavior – the cultural background. They observe that many L2 reading problems come from the implicit cultural knowledge presupposed in a text. A great number of the content and its associated background are not relevant to students' world. There is usually an absence of appropriate generalized information assumed by the writer and possessed by a reader sharing that writer's cultural background. Similarly, Robinett (1978) contends that covert cultural information is a factor in reading performance and suggests that the teacher facilitate reading by providing specific background experience.

Grabe (1986) claims that proficient L2 reading depends on the interaction of various types of knowledge – linguistic, background, and schematic – which must come together to form a "critical mass."

Pedagogical Concerns on L2 Reading Instruction

Eskey (1973) argues that many middle or advanced level ESL teachings are dominated by "beginners' models" in which language instruction is overly emphasized in the expense of reading instruction. Or, put in another way, many reading instructions are merely language instruction through a medium of reading. Harris (1966) and Yorkey (1970) believe that reading and study skills can be taught independently of language instruction.

Eskey and Grabe (1988) remind us of the limitations of reading models in relation to teaching. They argue that models exemplified in theories are ideal, but the real L2 readers we teach are developing readers with gaps and limitations in both top-down and bottom-up skills. In reality, we rely very much on individual students' own learning abilities. So, Eskey and Grabe (1988) argue, the teachers' job is to facilitate, instead of mechanically control, students' learning. In the long run, both top-down and bottom-up skills can only be developed by extensively reading over time. There are all kinds of unpredictable situations in reading and times when students encounter difficulties that their strategies cannot resolve. L2 reading teachers can serve as an all-purpose reference tool to resolve uncertainties. In terms of instruction on bottom-up skills, Eskey and Grabe (1988) argue that doing exercises is not the primary means of developing identification skills. The primary means is reading itself – extensive reading over time.

Carrell and Eisterhold (1983) give suggestions on classroom activities based on schema theory from the aspects of texts and readers. On the part of texts, they advocate Krashen's concept of narrow reading. Krashen (1982) raises the idea of "narrow reading" to encourage L2 reading on the same topic, by the same author, or with the same genre so that learners can familiarize themselves with relevant background in terms of lexis, syntax, and cultural and background knowledge. On the part of readers, they recommend two alternatives: providing background information and previewing, especially for the less proficient language students.

Previewing can include presenting specialized vocabulary and structures that the teacher predicts will cause difficulties.

Carrell (1988) proposes pedagogical suggestions from both lower level and higher level processing. For lower-level skills, she suggests the following for effective teaching of vocabulary:

- The words to be taught are key words in the target passages;
- The words are taught in semantically and topically related sets so that word meanings and background knowledge improve concurrently;
- Both definitional and contextual information of the words should be involved;
- Students should be engaged in deeper processing of word meanings; and
- Only a few words are taught per lesson per week.

For higher-level processing, Carrell (1988) suggests teachers to help students build background knowledge on the topic prior to reading, through appropriate pre-reading activities. Eskey and Grabe (1988) ascribe four important ingredients to successful L2 reading instruction for top-down skills:

- Materials that the students will be genuinely interested in reading;
- A workable format for assigning the materials;
- Substantial amounts of materials; and
- Practice over considerable periods of time.

Based on the concept of "strategy schemata" proposed by Casanave (1988), Auerbach and Paxton (1997) hypothesize that learners' metacognitive awareness on their own reading processes and strategy use is beneficial for their comprehension. They train learners to examine their own reading behaviors as researchers by means of five research tools (conceptions questionnaire, strategy awareness and comprehension assessment, reading interviews, reading inventory, and strategy questionnaire in both L1 and L2). By immersing

students in discussion and reflection about reading, they increased learners' metacognitive awareness and control in L2 reading, as well as their enjoyment of English reading. By transferring some of the research tools to the students themselves, Auerbach and Paxton (1997) engage learners in guided enquiry about their own reading. They suggest that it may be this stance of inquiry that ultimately gave learners the greatest sense of control and confidence in approaching English reading.

Focusing on the part of texts instead of readers, Hauptman (2000) argues that the traditional view that takes language (including grammar and vocabulary) and text length as major determinants for the ease and difficulty of L2 reading texts is insufficient. He uses schema theory as his framework and reviews literature on adult L2 reading ease/difficulty. He proposes a modern view for explaining the comprehensibility of L2 texts with background schemata as the most important factor, followed by levels of text signaling and finally the language. He observes that readers with abundant background knowledge and low language ability can still extract needed information from texts. The functioning of well-established schemata may compensate for linguistic inadequacy considerably. The second factor, signaling, determines the accessibility of texts to a great extent, too. He advises teachers not to choose linguistically simplified texts, but authentic texts that are sufficiently signaled. Highly signaled texts should contain both iconic signaling (pictures, graphs, charts, tables, maps, etc.) and non-iconic signaling (boldface, underline, margin notes, titles/subtitles, outlines, etc.). Hauptman (2000) believes that the amount of redundancy produced by the signaling available within the text should become criteria for textbook selection. Attention on linguistic factors (such as discourse and text length) is to be paid only after these primary ease factors are resolved.

The use of pre-reading activities is one of the areas in L2 reading pedagogy that has received lots of research effort. Closely related to schema theory, it is generally believed that pre-reading tasks can prepare the reader for possible linguistic, cultural, or conceptual

difficulties in a text, and activate existing schematic knowledge. Many empirical studies have examined and compared the effects of various types of pre-reading activities. Anstey and Freebody (1987) find that pictorial introduction, content-directed questions, and free association to the title all facilitate inferences for Australian fifth graders. Among the three types of activities, content-directed questions aided literal comprehension most effectively. Taglieber, Johnson, and Yarbrough (1988) apply a schema view of reading and assign Brazilian college students into one of the four pre-reading groups: pictorial context, vocabulary pre-teaching, pre-questioning, and control. They found pictorial context and pre-questioning to be most effective, followed by vocabulary pre-teaching. Chen and Graves (1995) compare previewing, providing background knowledge, a combination of the two, and a control group for Taiwanese college students' comprehension of American short stories. Previewing and the combination of the two have better effects than background knowledge alone in promoting reading comprehension. In the above empirical studies, all types of pre-reading activities produced better comprehension than no pre-reading activities at all. Nuttal (1996) summarizes pre-reading activities into six types: providing a reason for reading, introducing the text, setting a top-down task, breaking up the text, dealing with new language, and asking signpost questions. Other types of pre-reading activities include accessing prior knowledge, writing about experience related to the topic, asking questions based on the title, semantic mapping, making predictions based on previewing, identifying the text structure, skimming for general idea, reading the introduction and conclusion, and writing a summary of the article based on previewing (Auerbach & Paxton, 1997, p. 259).

L1 Content Area Reading Instruction

Content Area Reading (CAR) has long been a concern for secondary level teachers even when second or foreign language is not involved. Its origin can be traced back to 1920 when the idea – "Every teacher should be, to a certain extent, a teacher of reading." became a

slogan (Ryder & Graves, 1994). The first book entirely devoted to this topic "Teaching Reading in Content Areas" was published by Herber in 1970. Shortly after that, secondary school teachers in the U.S. have to receive trainings in reading instruction before they obtain official certificates.

Frameworks for CAR have been proposed to provide complete and flexible instructional sequences. Table 5 is a summary of four major frameworks showing concerns on some central issues such as preparing and guiding students for the reading to come (Richardson & Morgan, 1990). Each framework divides the CAR instruction into stages with important elements in the stage highlighted.

Table 5. A Comparison of Content Area Reading (CAR) Frameworks

IF (Instructional Framework) Herber, 1978	DRA (Directed Reading Activity) Singer & Donlan, 1985	ARC Vaughan & Estes, 1986	PAR Richardson & Morgan, 1990
Preparation	Determine background	Anticipation	Preparation
Motivate			Determine background
Provide background	Build background		Build background
Develop purposes, anticipation	Pre-question and read		
Provide direction		Realization	Assistance
Develop language	Review actively		Read purposefully
			Develop comprehension
Guidance	Provide extension		
Develop reading guides		Contemplation	
			Reflection
Develop reasoning guides			Provide extension, critical thinking
			Determine comprehension
Independence			

Source: Richardson & Morgan (1990), p. 20.

Among the pre-reading, during-reading, and post-reading stages, teachers usually find the pre-reading stage to be the area most workable in a classroom. In a survey of teaching practices, professors specializing in content area literacy ranked pre-reading methods as the most important thing content teachers could do to help students learn from text (Gee & Rakow, 1987). Manzo, Manzo, and Estes (2001) contend "effective comprehension depends largely

on the readers' 'readiness': entering the page with an appropriate mental set, or orientation" (p. 71). The three dimensions of orientation include attitude, background, and reading strategies. Specifically on attitude orientation, the purpose is to elicit reader engagement by focusing attention and reducing distraction, piquing interest in the topic and the task, and motivating for sustained effort (Manzo, Manzo, & Estes, 2001).

Rubin (1993) argues that even though learners' internal motivation is the best and most effective kind, teachers cannot rely on it. A good teacher should provide extrinsic motivating techniques for students to gain their attention and direct their energies toward a particular learning goal. She identifies five general motivating techniques as aids to bringing students and textbooks together: using analogies, relating personal anecdotes, disrupting readers' expectations, challenging students to resolve a paradox, and introducing novel and conflicting information or situations.

EAP/ESP Research

The development of EAP as a subcategory of English for Specific Purposes (ESP) and an independent integrated discipline can be traced back to a time when people in non-English speaking countries started to use English as a medium of professional and academic communication across national borders. Many British linguists began to view language and language teaching as a resource for communication rather than a subject of intellectual pursuit. The following sections discuss general EAP/ESP concerns, EAP reading in particular, and vocabulary in EAP reading.

General EAP/ESP Concerns

Halliday, McIntosh, and Strevens (1964) initiated the concept of *register analysis* in which language is described as varieties used in particular disciplines or occupations, based on statistical differences in lexis and syntax. In early 1990s, Swales (1990) and Bhatia (1993)

developed a more focused methodology referred to as *genre analysis* as an alternative approach to satisfy the need for text-specificity.

Other than a linguistic concern, Widdowson (1983), in an attempt to theorize ESP, claimed that ESP, as opposed to general purpose English, is a narrow-angle *training* instead of *education*. In order to play a role in broader educational processes, designs of EAP/ESP courses should focus more on purposeful activity rather than specific language.

Bloor and Bloor (1986) propose a *common core hypothesis* stating that, while language could be specified in great detail in very specific situations, whatever register or genre one studies, there lies a set of common grammatical and lexical items running though the various types. As more concerns were put on language skills in addition to language items, Flowerdew and Peacock (2001) argue that:

> An EAP discipline is defined as much by the activities performed within it as by its typical language forms and meanings. EAP needs to prepare learners to read textbooks, listen to lectures, write essays, and do library research, among a range of other skills. (p. 17)

In the same vein, Hutchinson and Waters (1987) contend that competence in the skills required in the target situation is more important than the specific language of those situations.

One thing that is critical to EAP and not addressed in general purpose English is the specialized background knowledge, for it aids language learners' insufficiency and helps the extraction, assimilation, and accommodation of knowledge. However, Flowerdew and Peacock (2001) also remind language teachers that "language proficiency level seems to play at least as important a role as background knowledge in the comprehension of reading texts" (p. 87). Clapham (2001) pointed out the difficulty in defining discipline specificity in a classroom where learners are varied, not so specialized, and still may pursue a variety of academic advancement. Therefore she agrees with Dudley-Evans and St. John (1998) and

advocates the coming back of EAP to a range of English for General Academic Purpose (EGAP) texts.

Other than the history of EAP development, a pedagogical concern is on how EAP curriculum is designed and delivered. Flowerdew and Peacock (2001) point out that approaches to EAP syllabus design have been very much influenced by research in applied linguistics. A list of approaches (Hall & Crabbe, 1994) to EAP syllabus design includes the earliest lexicogrammer-based approach, the 1970s function-notional-based approach, discourse-based approach in the late 1970s, genre-based approach (Swales, 1990), learning-centered approach (Hutchinson & Waters, 1987), skills-based approach, task-based approach, and content-based syllabus (Brinton, D. M., Snow, M. A., & Wesche, M. B., 1989). All these approaches provide frameworks as guidelines for EAP course design.

As EAP professionals turn to a pursuit for pedagogy, more emphasis is placed on methodology over content and linguistic items. It is generally believed that EAP/ESP does not have a specific methodology (Strevens, 1988, cited in Flowerdew & Peacock, 2001), but methodology associated with EAP/ESP settings is usually considered innovative and specialized. Flowerdew and Peacock (2001) found out that the most consistent notion running through existing approaches to ESP/EAP methodology is the *purposeful and authentic learning activity*. Phillips (1981) proposed four major principles for EAP/ESP task design. They are the principles of reality control, non-triviality, authenticity, and the tolerance of error. Purposefulness and authenticity are again the emphasis, with a focus on the "how" and "why" rather than the "what" of learning. Here the teacher becomes a facilitator and a guide rather than an authoritative source of knowledge. Recognizing the common core hypothesis, Dudley-Evans (2001) argues that the most important aspects of communication in academic contexts are common to all disciplines. Therefore ESP/EAP teaching should not focus on "specialized varieties" of English, but with the more common features appeared in specific academic environments.

EAP Reading

When EFL students start to read English in content courses, the nature of their reading activity goes through a fundamental change. The language being read carries the knowledge desired instead of being the sole object of study. This is the dichotomy Dudley-Evans and St. John (1998) distinguish as TALO (Text As a Linguistic Object) and TAVI (Text as a Vehicle of Information). This transition from reading in a TALO to a TAVI mode is not an easy one but has not been adequately addressed in most EFL/ESL classes. More importantly, they need to practice extensively in order to internalize relative study skills and serve their purposes. What can be done to help such learning is addressed in literature on EAP reading instruction.

Flowerdew and Peacock (2001) identify a number of macro- and micro-reading skills that EAP students need to develop. The macro skills include the ability to make use of learners' existing knowledge to make sense of new material and fit new knowledge into their schema. Important micro skills include recognizing logical relationships, recognizing definitions, generalizations, examples, explanations and predictions, and distinguishing fact from opinion.

Dubin, Eskey, and Grabe (1986) classify EAP reading skill instruction into low, intermediate, and advanced levels. In the low level, they suggest prototype reading lab components such as rapid word and phrase recognition exercises, phrased reading, rate development activities, and skimming and scanning, etc. For the intermediate level, reading rate development is considered central. And for the advanced level, extensive reading becomes an important component of the instruction.

EAP reading skills and sub-skills listed by Jordan (1997) include the following: prediction; skimming; scanning; distinguishing between factual/non-factual, important/less important, relevant/irrelevant, explicit/implicit information as well as ideas, examples, and opinions; drawing inferences and conclusions; deducing unknown words; understanding graphic presentation; and understanding text organization and linguistic/semantic aspects.

With such wide range of study skills needed in EAP, Waters and Waters (1992) consider that developing study skill "competence" in students is more important than teaching the specific individual skills. Carrell and Carson (1997) call for the attention on both intensive and extensive instruction and practice in reading skills; intensive because learners need the particular reading strategies such as reading for detail and distinguishing main ideas from evidence, extensive because they need to gain the experience and ability to deal with large amount of texts required by all academic disciplines.

Jordan (1997) identifies four main approaches to reading courses: (a) psychological – focusing on what takes place in the mind of the individual reader by means of exercises at the levels of simple word recognition and of interpretation; (b) linguistic – focusing on the words and sentences of the text by means of overt lexical and grammatical exercises; (c) content-orientated – basing on the view that if readers have, or are given, a specific purpose for their reading, efficiency will be improved; and (d) pedagogically-oriented – exemplified by 'those courses where learning theories are the prime motivation for the design of the total course rather than the design of individual exercises. Self-access materials, from which students make their own choices and work at their own pace, exemplify this last approach.

Vocabulary in EAP Reading

Laufer and Nation (1999) administer the reading comprehension part from Cambridge First Certificate of English on 84 Israeli students and define a threshold for EAP reading as 65% to 70% of that particular test. Through interviews with students, they find the most important L2 reading threshold as knowledge of vocabulary, followed by subject matter, discourse markers, and then syntactic structure.

Coxhead and Nation (2001) classify specialized vocabulary of English for academic purposes into four types. The first category is the 2,000 high frequency words, accounting for 80% of the words in most academic texts, with 176 function words in it. The second

type is 570 academic vocabulary, accounting for 8.5% to 10% of academic texts. These words are less common in other types of texts. The third type is called technical vocabulary and it varies according to the specialized disciplines. In each discipline, there are about 1,000 such vocabulary and they account for 5% of academic texts. The last one is the low frequency words. They argue that the main purpose in isolating academic vocabulary or a technical vocabulary is to provide a sound basis for planning teaching and learning.

Cobb and Horst (2001) say that ESP curriculum designers have attempted to identify and teach the lexis, syntax, functions, and discourse patterns most commonly used in a domain. Such endeavor proves effective and efficient for the training of waiters, tour guides, and pilots. However, when the specific purpose is to read extended texts in a professional or academic domain, it becomes much more complex. From their studies in Oman, they discover that lexical threshold is more important than syntax or other types of linguistic threshold. Most content area professors see students' language problems as almost exclusively vocabulary problems. Moreover, students' main vocabulary problems are at the general instead of the technical level. Different studies indicate that stable learning requires meeting each word at least five times or eight times. Abbreviating the process by learning wordlists and translation equivalents result in static knowledge unlikely to increase comprehension of novel texts. The purpose of EAP vocabulary courses should be to introduce academic learners to a large number of general English words in authentic contexts, so that they remember the words and can interpret their meanings in novel contexts.

Joe (2004) studied Taiwanese vocational and technical college students ' vocabulary size. Following the hypothesis that vocabulary size is an important indicator of reading comprehension and a concern on whether EAP reading courses are justified for vocational and technical students, Joe (2004) examined theories about EAP reading threshold defined by vocabulary size. He administered Nation's (1990) vocabulary size tests to groups of students who were under the same vocational and technical educational system as those participants

from Site A in this study. In his study, he administered 1,000, 2,000, 3,000, and 5,000 vocabulary size tests. Only two out of four groups of students obtained 50% correction rate on the 1,000-word vocabulary size test, the other two groups' correction rates were 34% and 12% respectively. On the 2,000-word test, only one group reached a correction rate of almost 21%. On the 3,000-word test, correction rates from these four groups were all lower than 10%, and on the 5,000-word test, correction rates from these four groups were all lower than 1%. Joe concludes that vocational and technical college students' vocabulary size is seriously inadequate for EAP/ESP courses to be meaningful and effective.

In this chapter, I have reviewed motivation research in the L2 field, in education, as well as the domain-specific reading motivation in L1 context. In addition, I have discussed reading research from the more general theories to the more specific reading/language problem and the short-circuit/threshold hypothesis. Studies on L1 content area reading instruction have also been summarized. Finally, I have covered important issues in EAP/ESP research with respect to a concern on reading. The literature reviewed here provided theoretical framework and rationale for the design of this study that will be explained in the following chapter.