AMBIGUITY TOLERANCE AS AN
INSTRUMENT OF LEARNER PROFILING:

A Q Methodological study of how upper secondary school
students' perceptions of EFL reading
reconstruct a learner variable

Master's thesis
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Tiivistelmä – Abstract

Ihmiset suhtautuvat havaitsemaansa monitulkintaisuuteen yksilöllisesti. Siinä missä toiset kiistävät jopa monimerkityksellisyyden teoreettisen mahdollisuuden, hakeutuvat toiset mielellään epävarmoihin olosuhteisiin ja monimutkaisten tehtävien pariin. Monitulkintaisuuden sietäminen on yksilöllinen, tilannesidonnainen piirre. Tässä tutkimuksessa selvitetään kuinka tämä piirre näyttäytyy englantia opiskelevien lukiolaisten tavoissa suhtautua englanninkieliseen lukemiseen - toimeen, jossa kohdataan runsaasti epävarmuutta ja toimitaan osin arvailujen varassa.

Tutkimuksen tavoitteena oli koota oppijaprofiloinnin kautta kokonaisvaltainen kuva siitä, mitä monitulkintaisuuden sietäminen englanninkielisen lukemisen kontekstissa pitää sisällään. Hypoteesina oli, että oppijatyypit rajautuvat erilaisten tekijöiden perusteella: epävarmuuden sietämisen mukaan, havaitun uhkaärsykkeen herättämän psykologisen vasteen tyypin mukaan, sekä sen mukaan, miten erilaiset alimuuttujat, kuten mm. kieliahdistus ja sisäinen kontrolliorientaatio arvotetaan yksilöiden kokonaiskäsityksissä.

Tutkimuksessa käytettiin Q-metodia. Taustakirjallisuuden pohjalta luotiin aineistonkeräysväline, jolla kartoitettiin 36 lukiolaisen yksilölliset, tutkimuksen aihepiiriin rajatut näkemyskartat. Faktorianalyysin avulla näkemyksistä muodostettiin kuusi oppijatyyppiä, jotka tulkittiin sekä taustateorian että vastaajilta kerättyjen avointen kommenttien valossa.

Tulosten mukaan valtaosa kohderyhmästä kuuluu oppijatyyppiin, jota luonnehtii taipumus kiinnostua havaitusta monitulkintaisuudesta. Pienempi ryhmä oppijoita hyväksyy monitulkintaisuuden ilman varsinaista kiinnostusta ja vain pieni vähemmistö kokee monitulkintaisuuden ongelmaksi. Yksilölle ominaisen ajattelutavan lisäksi ryhmien keskeisimmät erot määräytyivät myös erityisesti tiettyjen motivaatiotason muuttujien perusteella, etenkin siltä osin, kun monitulkintaisuuden *sietäminen* vaihtuu *kiinnostukseksi*. Tästä johtuen piirteen vaihteluväli ei kulkenut suoraan jatkumona inhosta ihastukseen, vaan koostui limittäisistä mutta erillisistä osatekijöistä. Muutoin oppijatyypeissä ilmennetty monitulkintaisuuden sietäminen englanninkielisen lukemisen kontekstissa toisti useita tutkimuskirjallisuudessa piirteeseen yhdistettyjä ominaisuuksia, kuten piirteen kontekstisidonnaisuutta ja psykologisen vasteen tyyppejä.

Tutkimuksen valossa englantia opiskelevien lukiolaisten kykyä sietää epävarmuutta lukemisen kontekstissa voidaan kehittää parhaiten autonomisen motivaation tukemisen kautta.

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1 INTRODUCTION

Learning a foreign language is an intriguing process. It starts with a major uncertainty with everything being unknown and new to the learner. Although the learner quickly grasps new meanings and soon is able to use them in receiving and conveying messages in the target language, the uncertainty follows: language is ambiguous by nature and something always remains to learn and to discover. In other words, as the learning progresses, the learner is able to leave many uncertainties behind, but new ones will arise. Reading in a foreign language is particularly rich in uncertainty. In the process of comprehending a text in the target language, learners often face new, complex, and contradicting linguistic elements, such as unfamiliar words and structures that demand knowledge of vocabulary and grammar, but also unknown and ambiguous cultural input, which demands certain background knowledge. New texts, different types of reading activities and the fundamentally intricate nature of written communication are always bringing new challenges to language learners. What is then important is the way the learners face the perceived uncertainties. It is easy to conclude that, in the middle of a language learning process, it is far easier to work with the language, examine it, and get to know it if the uncertainties are tolerated or even considered fun or interesting.

The way learners personally perceive and tolerate uncertainty in language learning tasks and contexts is referred to as their *Ambiguity tolerance* (in the present study referred to as *AT*). AT is a psychological construct which is generally understood as the ability to cope with unclear stimuli (e.g. Larsen-Freeman and Long 1991: 191). According to existing research literature, the learners' level of AT not only correlates with their success in foreign language learning and reading (Naiman et al. 1978, cited in Johnson 2001: 142, Erten and Razi 2009: 39), but it also influences their strategy use (Oxford 1994: 4, Nishino 2007: 89, Ely 1989) and has a major effect on how comfortable they feel with different tasks and activities in a foreign language classroom (Erten and Razi 2009: 31). AT can, thus, both inhibit and promote the adoption of various patterns of behavior and the enjoyment of engaging in foreign language activities, which makes it an important learner variable.

Nevertheless, the studies to date only reveal certain correlations concerning AT, and despite research conducted in the field of Psychology, it is not yet understood how AT is realized in the context of foreign language learning. Descriptive research focusing on foreign language learners' AT is rare, which is why we do not yet know what AT entails in that specific context. We do not know, for instance, to what extent and in what ways the ability to accept and cope with uncertainty is affected by situational, motivational and personality factors, and to what extent and in what ways it can be realized in the learners' patterns of thought and behavior. Consequently, we also lack the means of acknowledging language learners with different levels of AT, as well as the knowledge of what type of teaching practices could be used to strengthen language learners' AT. The concept of AT in the context of foreign language learning undeniably calls for further research.

This study investigates the nature of AT in the context of reading in English as a foreign language. The underlying motive is to become aware and more knowledgeable about the reality of the target variable in such a way, that practical implications can be drawn. On a more practical level, this motive is realized in an aim of profiling learners with respect to AT in the context of English reading. The goal is, thus, to form learner types that represent not only the attitudinal, affective or logical perceptions characteristic to a certain group of learners, but that also illustrate the ways in which the learners actually tend to operate in reality. As a result, completing a detailed analysis on these alternative clusters of operant subjectivity is expected to result in a more precise description of AT, which would complement the specified context and the characteristics of the target population. Consequently, when the learner variable and the learners' alternative patterns of behavior and thought in ambiguous situations are made visible and understood better, practical implications concerning teaching practices, tasks, and learning situations can be made.

Accordingly, this study aims for discovering naturally emerging but truly existing patterns of thought and behavior among real learners. However, AT is by no means and easy variable to detect. It is difficult to observe, but it is not easy for learners to put complex emotions, experiences and attributions in words either, which would be necessary in an interview. What is more, answering a traditional questionnaire would require

processing data according to a chosen theoretical structure, which would go against the desired natural emergence of the patterns. Therefore, in the determination to discover clusters of viewpoints among people instead of patterns among theoretical categories, the methodology of choice is the Q Methodology. This provides the present study with a hybrid nature with both quantitative and qualitative characteristics, as well as gives the research literature review a key role as the basis of the data collection instrument.

As a result of the methodology choice, this study follows the classic Q procedures, which will be described thoroughly in the thesis. Theoretical knowledge was first operationalized into practical statement items resembling the variety of relevant viewpoints possible in the definite context of this study. After this, 36 upper secondary school learners of English were requested to rank-order the statement items in a map that would reflect their personal viewpoint on the perceived ambiguity in the context of English reading. Next, the data was a subject to a factor analysis, and finally, the emerging factors were interpreted in the light of both participant elaboration and previous research. The discovered subjectivity types, as well as the conclusions drawn, will be discussed in the light of the theoretical knowledge surrounding AT towards the end of this thesis.

The theoretical framework of the present study consists of two major themes. The first chapter is set out to introduce the contextual background relevant to AT in the present study. Although all of the areas related to language learning would be relevant with respect to AT, in order to limit the context in which the target variable is studied, the focus of this study is directed particularly to reading. Consequently, the first chapter concentrates on describing reading and readers, with the focus on the various demands that reading puts on the readers, as well as on the relevant behaviors and reader characteristics that have influence on the success of the reading process. The second chapter of the theoretical framework focuses on AT. This chapter will include definitions and detailed discussion about the concept, as well as summarize existing research literature with discovered relationships to other learner characteristics and behaviors that influence foreign language reading. The theoretical framework as a whole will give a detailed overall picture about the most central concepts and their relationships as considered relevant in the present thesis.

Lastly, a notification about the terminology used in this study should be made. In this thesis, foreign language will often be shortened to FL and English as a foreign language is often shortened to EFL. L1 refers to the learners' first language and L2 to their second language, although throughout the thesis, L2 and FL will be used interchangeably due to the different modes used by different researchers. Ambiguity tolerance is often shortened to AT. What is more, for the sake of simplicity, I have decided to address the first person singular as *she* throughout the paper regardless of the gender of the learners, respondents, or other individuals referred to in the text.

2 READING AND READERS

Reading is a central skill in knowing a foreign language. This aspect is particularly true with English, the target language of the present study, due to several reasons. In order to be able to successfully participate in the modern world and to gain access to the vast amount of professional, technical and scientific literature that has been published in English, individuals around the world tend to seek at least a reading knowledge of English (Hill and Parry 1992: 433, Alderson 1984: 1). What is more, as can be logically concluded on the basis of layman's observations, the individuals currently learning English as a foreign language are far more likely to use the language in online communication contexts involving written interaction than in communicative situations of orally buying train tickets and ordering in a restaurant when travelling to a target language country. English appears to be the *lingua franca* of the Internet, and it associates easily with new technology. English reading proficiency has, thus, become a type of necessity, and compared to a reading proficiency in any other language, it seems to enjoy a rather high status.

In addition to the importance of being able to use the *lingua franca*, English reading ability has an important role in the learners' personal and academic development (Alderson 1984: 1). First, FL learners are often exposed to a new language via reading, not listening, which is the opposite of the situation experienced by toddlers learning their first language (Schramm 2008: 231). This might be due to the appreciation of novels, magazines and other authentic materials in language teaching, to the reliance of EFL textbooks as the basis of courses and individual lessons, and to the possible opportuni-

ties for autonomous studies based on written material. Moreover, written text allows slow processing and repetition, which is very useful when introducing a certain language structure or studying linguistic items in detail. These aspects highlight the importance of reading in the process of EFL learning. Secondly, a good foreign language reading proficiency is very important for the learners in relation to their further studies. For instance, in Finnish universities, it is typical that a learner of almost any subject, e.g. Psychology, History, or Chemistry, is required to be able to read hundreds of pages of course books in advanced level English even though corresponding writing or speaking skills are not necessarily needed. This relates English reading ability to the individuals' academic and professional success.

Research on reading was very popular through the 80s and 90s, after which the interest turned towards speaking. This does not, however, make reading any less important a topic to study, as can be interpreted from the short discussion above.

The aim of this chapter is to introduce and motivate the contextual surroundings of this study. In this chapter, I will first discuss the reading process and describe it in terms of the generally accepted interactive approach. Secondly, I will discuss the characteristics of the FL readers and introduce a selection of important variables that influence the nature and success of their FL learning and reading processes.

Throughout this chapter, although many of the theories and generalizations do derive from L1 reading research, I aim to highlight the specific variables concerning FL reading and the factors that make FL reading processes challenging. What is more, as the focus of this thesis is on a personality characteristic and the individual processes during reading, and as the aim is not to measure the learners' reading ability or linguistic competence, the purely text-origin factors that may make a text easy or difficult to comprehend are not a relevant point of discussion. Factors such as text readability, authenticity or simplification, and complexity of the vocabulary, will thus be left out due to the limited scope of this study.

2.1 Reading as a process

The nature of reading process can be described in many terms. In his introductory book to reading, Alderson (2000: 14) describes reading as a rapid and dynamic, purposeful, motivated, flexible and variable, and gradually developing process. The process is different with different readers and texts, but also different for the same reader of the same text in different contexts, such as different time or purpose. It is also described as silent, internal and private. In addition, Alderson (2000: 15) highlights how reading includes conscious choices and conscious mental activity, such as deciding, focusing, ignoring, using knowledge of the alphabet and word classes, or using a dictionary when encountering an unknown word, but also automaticity, such as discriminating visual shapes of the letters or visualizing the setting when reading a novel.

Traditionally, researchers have attempted to analyze the reading skill as subskills in various types of taxonomies and hierarchies (Alderson and Urquhart 1984: xvi). Bartlett (1968, summarized in Alderson and Urquhart 1984: xvi), for instance, identifies five skills of reading, which are literal comprehension, reorganization of the ideas in the text, inferential ability, evaluation, and appreciation. The skills approach is not, however, applied in the present study due to two reasons. Firstly, although the research literature concerning the subskills of reading is vast, it is not clear that these separate skills really exist (Alderson and Urquhart 1984: xvii). Secondly, as the skills analysis is often carried out with the help of comprehension tests, the focus is often on the *product* of reading, i.e., the actual comprehension the reader gains after reading a text one way or another. This reveals nothing about the reading *process*, that is, how the understanding takes place and what behaviors are involved in the reader's interaction with the text (ibid: xviii). As describing the reading process in particular is of core interest in this thesis, the skills approach or the product of reading will not be discussed further.

The process of reading is currently described as pragmatic and interactive in the research literature. According to Hill and Parry (1992: 443, 446), in the pragmatic model of literacy, reading is socially structured and embedded, relevant knowledge-using meaning construction, which is undertaken in a social context, and always for some purpose. Thompson (1987: 50), who discusses the role of memory in language learning

and particularly in reading, summarizes in accordance that reading is often defined as interaction between the reader and the text: the text brings something from the writer and carries a potential for meaning, and the reader brings her background knowledge and a set of reading strategies, with which a meaning is created. Similarly, Schramm (2008: 231) describes reading as an active process of constructing understanding. In this process, both topic-specific pre-knowledge and psycholinguistic processing of information gained from the text are used as linguistic cues that activate particular knowledge domains. Furthermore, Alptekin (2006: 494) describes how this type of interactive reading results in two types of comprehension: a text-bound literal understanding, which is based on syntactic parsing and other lower level cognitive processes, and a knowledge-driven inferential comprehension, which is reasoning beyond the text, based on comprehension, interpretation, and other higher-level processes. Grabe (1991: 375) concludes that, in order to comprehend a text wholly, both identification and interpretation skills must be employed. Due to the evident theoretical support, also this thesis addresses reading as an interactive process.

Furthermore, the natural alternatives to the interactive approach are not currently supported. According to Hill and Parry (1992: 433, 445), the traditional autonomous model of literacy assumed that the text, the reader, and the skill of reading itself were autonomous entities and independent of each other and of other factors, and that reading was essentially a cognitive operation of meaning extraction or decoding, which is currently considered unlikely. In addition, e.g. Alderson (2000: 17) and Johnson (2001: 275) explain how the traditional components of the interactive approach, being the models of data-driven and concept-driven processing of text, are inadequate. They do, however, have a role in the modern interactive model, which is why their basic principles and detected shortcomings will be briefly introduced in the following.

Data-driven (or bottom-up) processing is, according to Alderson (2000: 17), passive decoding of "sequential graphic-phonemic-syntactic-semantic systems, in that order." In other words, the meaning of a text is considered to be located in the actual letters and words of the text, remaining mechanically extractable for any reader. However, as Schramm (2008: 232) states, in the reality of reading, decoding, syntactic parsing, semantic processing, and creating coherence are not actions in sequence, but instead they

interact with each other as well as with cognitive processes and the reader's pre-knowledge. In addition, in his introductory book to foreign language learning and teaching, Johnson (2002: 272) describes how in bottom-up processing (or *parsing* as he calls it), important factors, such as pragmatic value of the texts, cultural and background knowledge, and the contexts of the texts, are left without much attention. The approach also fails to explain the possibility of inferencing, i.e., the possibility to understand a message even with no evidence for the interpretation in the actual words of the text (ibid.). For instance, in the short dialog *There's the doorbell - I'm in the bath*, answering the door is not mentioned at all even though it is clear that the first turn is a request for answering the door and the second one is a reply with support (ibid.). Moreover, Garner (1987: 2) concludes that the bottom-up approach is inadequate due to the fact that, according to research, syntactic and semantic processing clearly influence word perception. Interactive models, on the contrary, do not define the direction of information flow, but instead allow sensory, syntactic, semantic and pragmatic information to be delivered simultaneously.

In concept-driven (or top-down) processing, the interpretation is created on the basis of the reader's suggestions, which are activated by contextual clues (Alderson 2000: 17). The suggestions derive from a matching *schema*. Schema as a construct originates in the research of remembering instead of linguistic research. One of the pioneering schema-theorists was Bartlett, who already in 1932 described the construct of schema in detail. According to Bartlett (1932: 201), schema is an active mass of past reactions and experiences, which cause any regularity of behavior. The mass is triggered by an organized set of incoming impulses. In other words, a matching schema helps recognizing and interpreting clues, and promotes a corresponding behavior. Developed to the context of reading, schemata are mental frameworks of information and background knowledge, which act as filters for incoming information and help the readers select probable interpretations while they read (Alderson 2000: 17, Johnson 2002: 275). The regularity of behavior addressed by Bartlett is, in the context of reading, represented by the regularity of interpreting. However, Grabe (1991: 384, 386) summarizes the L1 and L2 reading research of 1980s, and reminds that a schema seems to be a good *theoretical metaphor* for the reader's prior knowledge, but in practice, schemata are no clear and stable mental scenes, settings, or memories, and that reading requires more than good guessing.

Even FL reading always includes characteristics of both concept- and data-driven approaches, i.e., texts are always processed with these two ways. The processing is seen parallel, not serial, and the balance of these two varies with texts, readers, and purposes for reading (Alderson 2000: 17, 19). For instance, whereas enjoyable and elective reading of a text in a familiar genre employs more concept-driven processing, in a classroom setting with a difficult FL text more bottom-up skills might be needed. On one hand, according to Schramm (2008: 233), FL readers typically have difficulties in relying on data-driven processing. Their word recognition is slower, because their lexical access is not as automatic as it is in their first language. In addition, in the process of syntactic parsing, they have less morphological-syntactical grammar knowledge of the target language, so their syntactic strategies are often based on the characteristics of their first language. This might lead to paying more attention to unimportant word- and grammar-level information than to clues essential for wider interpretation (ibid.). Similarly, Johnson (2002: 277) discusses approaches to reading in the context of FL learning, stating that many FL readers overuse data-driven reading and typically process a text word by word, even refusing to progress if an unfamiliar word is not understood. This might, logically, prevent them from engaging in extensive reading and from enjoying reading, as well as be a sign of low AT, which will be discussed later in the present study.

On the other hand, efficient FL reading might be strongly characterized by concept-driven approach. Schema- and background knowledge can prove to have a very powerful impact on EFL reading comprehension. Erten and Razi (2009) investigated the influence of cultural familiarity in the comprehension of short stories, as well as the effect of "nativizing" the story by changing the names and the settings to more familiar ones. The study was conducted with 44 advanced-level EFL students at a state university in Turkey. The results indicate that a *cultural schema* (as compared to *textual* and *content schemata*) is a key element in allowing the readers to identify with and become involved in the text, which has a positive effect on reading comprehension (Erten and Razi 2009: 61, see also Garner 1987: 9). The results are similar to those of Alptekin's (2006), who investigated how cultural background knowledge influences inferential and literal L2 reading comprehension. 98 Turkish EFL university students answered multiple-choice questions after reading a short story. According to the results, a short story that is "nativized" from the target language culture aids L2 readers' inferential compre-

hension significantly, yet does not affect their literal understanding (Alptekin 2003: 503). Thus, mental frameworks might have a particularly vital role in FL reading comprehension.

In this section, I have directed the focus of this study into the process rather than the product of reading, as well as discussed the interactive nature of the reading activity. I have also addressed the two traditional models of reading, being data-driven and concept-driven approaches, with respect to their roles in the interactive approach and to the possible ways in which they might be balanced in FL reading. I will continue discussing the topic from another viewpoint as I move on to the next section concerning the agents of the reading process, i.e., the readers.

2.2 Explanations for differential reading processes among EFL learners

For language learners, reading can be considered a distinct ability, among writing, speaking, and listening. But what is required from a learner in order for her to have the ability to read successfully, in general and in a foreign language in particular? As concluded in the previous chapter, FL reading is much more than decoding linguistic elements and knowing words, but it is not self-evident what causes success or failure. Alderson (1984: 20) summarizes existing research literature, and examines evidence relating to the question of what causes FL reading problems. He concludes that an L2 reading problem is likely to be caused by mere insufficient language knowledge only for beginners; after a certain threshold for language competence is reached, any existing L1 reading abilities and strategies can be used in FL reading, which makes general reading ability a distinctive factor between more and less successful FL readers (see also Block 1992). This conclusion allows the comparison of L1 and FL reading ability, and breaks the assumption that FL reading success depends merely on FL proficiency. In the present study, the individual's contribution to the reading process, as well as the effect of her characteristics and general reading abilities, are similarly highlighted over language skills.

EFL learners are a very heterogeneous group when regarding the characteristics and abilities influencing their learning processes and outcomes. Most research concerning

differences between learners focuses on the outcomes, or at least investigates the learning processes through their effects on the success in FL activities. Researchers are, however, very interested to discover what makes a good language learner. Larsen-Freeman and Long (1991: 153-219), for instance, list various explanations for differential success among L2 learners. These explanations include 1) Individual variables, including age and language aptitude, 2) Social-psychological factors, including motivation and attitude, 3) Personality traits, including self-esteem, extroversion, anxiety, risk-taking, sensitivity to rejection, empathy, inhibition and tolerance/intolerance of ambiguity, 4) Cognitive style, including field-independence/dependence, mental category width, reflectivity/impulsivity, aural/visual and analytic/gestalt, as well as 5) Other factors, such as hemisphere specialization, learning strategies, memory, interest, will, language disability, sex, birth order, and prior experience. This collection of explanations for learner success is generally accepted, although the variables seem to be grouped differently by different researchers. For instance, although Larsen-Freeman and Long (1991: 191) include AT in the group of personality traits, it is often considered a cognitive style (see, for instance, Chapelle and Roberts 1986).

Of the explanations above, language aptitude in particular is often considered the most distinctive variable in the FL learning outcomes. According to the Linguistic Coding Differences Hypothesis (LCDH), which was introduced by Sparks and Ganschow in 1991 (summarized in Sparks et al. 2000) and whose basic premises are strongly supported by other research, FL learning outcomes are greatly based on language aptitude, and no affective factors are likely to have causal significance in learning (Sparks et al. 2000: 251). Sparks et al. (2000: 253) report how there is a vast amount of evidence showing that, instead of any affective factors, cognitive processes and language skills in particular are the primary factors in L1 reading acquisition, word reading, and reading comprehension, and that there is no reason to anticipate that the relationship would be different in L2. However, in the present study, the interest is directed to the differences in FL processes caused by any other factors than mere language proficiency. It is, therefore, acknowledged that, regardless of how much influence e.g. affective factors have on the actual learning outcomes, they do exist, and they can make a major difference in the learning processes, such as the learner's emotions in a learning situation or her willingness to engage in language activities and keep learning the foreign language. Indeed,

this is the reason for why motivational variables, mentioned second in the list by Larsen-Freeman and Long (1991), will be discussed in more detail towards the end of this chapter.

The explanations for differential success are more detailed in relation to FL reading than in relation to FL learning in general. A closer inspection of these explanations gives an overall picture of the nature of a successful reading process. Hill and Parry (1992: 456) distinguish three skills that are necessary to reading: knowing a writing system and understanding the linguistic forms used in a text, possessing appropriate background knowledge and knowing how to apply it, and being able to engage in an interactive exchange appropriate to the text being read. In practice, the first resembles linguistic aptitude, the second implies the employed reading style (to what extent the approach to reading is concept-driven), and the third refers to appropriate reading strategies and mental actions. Furthermore, according to Thompson (1987: 50), there are as well three major factors involved in comprehending and storing the information contained in a text: the ability to use background knowledge about the content area of the text, the ability to recognize and use the rhetorical structure of the text, and the ability to use efficient reading strategies. Consequently, also Thompson highlights background information and strategies. Strategy-like behaviors and styles of approach to reading are also present in the list by Rubin (1987: 15-16), who summarizes that particular sets of cognitive and metacognitive behaviors, certain personality characteristics that influence the approach to tasks, particular preferences, as well as certain learner psychological characteristics, such as risk-taking, are all involved in the reasons for why some FL readers are more successful than others. Due to the evident support, it is acknowledged also in the present study that differential reading processes among EFL learners are influenced by the use of background knowledge, as well as the use of appropriate strategies and mental actions.

In this section, I will introduce a selection of variables that are likely to affect the nature of EFL reading process. Firstly, I will describe an advantageous style of approach to reading, compare local and global reading styles, as well as discuss the role of background knowledge in reading. Secondly, I will focus on differential learning and reading strategies and other strategy-resembling patterns of behavior. In the third section, I

will continue the discussion by addressing some important FL readers' mental actions that promote successful FL reading. Finally, in the fourth section, I will briefly discuss an affective learner variable referred to as self-determination, focusing on intrinsic motivation and learner autonomy. Altogether, the aim of these sections concerning specific learner variables is to introduce the theoretical field where AT, the core phenomenon of the present study, will be placed.

In addition, one point is worth a mention. A substantial amount of research literature can be found around every one of the variables discussed in this chapter, but a very detailed discussion about any of them per se remains outside the limited scope of the study. In order to include information that is relevant to the specified research setting and to leave out lengthy theoretical discussion, I only refer to a collection of important literature and keep the presentations brief. Moreover, in addition to these introductive summaries, research that connects the discussed learner variables with AT will be addressed in section 3.3 of this thesis.

2.2.1 Background knowledge and global reading style

Erten and Razi (2009: 70, see also Alptekin 2006) describe the process of how and why background knowledge is employed. As described before, in FL reading, a vast amount of cognitive resources are likely to be needed in analyzing the micro-level linguistic features of the text, because vocabulary and language structures of the foreign language are more unfamiliar to the learner. This is naturally very demanding for macro-level textual analysis and wider interpretation. Activating background knowledge, however, spares more attentional space to macro-level for interpretation, as mental representations of the unfamiliar contexts prompted by the text are not created from scratch. Correspondingly, Thompson (1987: 52) concludes his description of 'good readers' by stating that they more often activate a schema before reading a story, and, probably due to that, recall more topical information with respect to its relevance to the overall structure of the text. On the contrary, poor readers do not make a distinction between relevant and irrelevant information, but recall more random pieces. For these reasons, activating and using of background knowledge (or schemata, if you like) is seen as an essential part of successful FL reading.

As using schemata results in economical use of attentional resources and is even associated with distinguishing relevant information from that of less importance, activating background knowledge seems to influence the style of reading employed by an individual. The successful reading style can be described in many terms, but the typical expression is *global*. According to research literature (e.g. Block 1992, Carrell 1989), good readers appear to read more *globally*, which entails utilizing schemata and using a more concept-driven approach, whereas not so successful readers read more *locally,* that is, they have a more text-centered or language based approach. Comprehending a text in a wider sense is why good readers appear to be more sensitive to inconsistencies in the text, and to respond to a wider range of inconsistencies than poorer readers do (Block 1992: 321). In Block's (1992) study, L2 readers with greater L2 proficiency favored a global reading process, whereas those with less L2 familiarity used a more localized process and a more careful, data-driven approach (Block 1992: 322, 329). This is also noted by Alderson (2000: 347), who states that good readers appear to be more sensitive to intersential consistency and tend to use meaning-based cues to evaluate their understanding, whereas poor readers often over-rely on word-level cues and focus on intrasential consistency and decoding. According to Block (1992: 321), however, even good readers do not always report or may not recognize inconsistencies, possibly due to their desire to develop a coherent reading. Furthermore, according to Carrell (1989: 127), reading locally in L1 tends to correlate negatively with reading performance also for FL readers.

The discussion above does not, however, imply that establishing only the global coherence of the text matters. Schramm (2008: 234) points out that identifying local coherence on the basis of conjunctions, pronominal adverbs, pronouns, semantic relations, as well as other connectors is also of great importance. Thus, in addition to the macro-level reading, also the micro-level linguistic processing must be highlighted. Indeed, according to Alderson (2000: 18), a good reader is also characterized by automaticity of word recognition, speed, and accuracy, which makes them quick and precise. Grabe (1991: 386) points out similarly that the identification skills are extremely important for fluent readers, and that fast readers read fast not because of good guessing, but because of automaticity in word recognition. Moreover, according to Alderson (2000: 20), less successful readers are characterized by, for instance, poor phonetic decoding, insensitivity

to word structures, and poor encoding of syntactic properties, which indicates that a local reading style does not reflect correctness, but merely a lack of automaticity and global approach.

On one hand, good readers' automaticity and skilled micro-level linguistic processing might allow them to approach the text differently and read more globally, whereas their not so successful peers have no choice but to concentrate on text details. On the other hand, good readers' global style of approach might be due to a certain cognitive style that better allows them to tolerate uncertainty at word-level processing and to disregard details that are irrelevant with respect to the target of the reading task.

2.2.2 Language learning and reading strategies

Although research literature lacks consensus concerning the definition or the identification of language learning strategies, their importance is widely acknowledged. Rebecca Oxford, an important researcher in the field of FL learning strategies, states that "research has repeatedly shown that the conscious, tailored use of such strategies is related to language achievement and proficiency" (Oxford 1994: 3) and that "learning strategies are keys to greater autonomy and more meaningful learning" (Oxford 1990: ix). Generally, strategy training and awareness-raising are considered useful ways of supporting FL development (see, for instance, Oxford 1990: 12, Rubin 1987: 16, and Carrell 1989: 129). In addition, discovering patterns of FL learners' though and behavior with respect to their learning and operating in FL activities provides useful information about how they confront certain aspects in FL learning and reading. The present study is particularly interested in how they confront ambiguity in the context of EFL reading and how different types of strategic behaviors reflect alternative perceptions. In this section, I will define and describe strategies by briefly summarizing research literature, starting from general language learning strategy theories and proceeding into research on reading strategies. I will also discuss learner differences in strategy use. The strategy-resembling mental actions that are most essential to FL reading process, namely comprehension monitoring, selectivity of attention, and metacognition, will be discussed in the following subsection.

According to Ehrman and Oxford (1990: 312), "Strategies are the often conscious steps or behaviors used by language learners to enhance the acquisition, storage, retention, recall, and use of new information ". In other words, strategies are the different efforts, techniques and activities used by learners to control and improve their own learning (Alderson 2000: 307), and, for instance, actions taken in order to facilitate comprehension in EFL reading. Strategies can be categorized in various ways. In the following, I will first shortly summarize the classifications by Wenden (1987), O'Malley and Chamot (1990), and Oxford (1990) in order to cast light to the terms in which strategies are often referred to, as well as to illustrate how wide the strategies range, ending up covering a vast collection of behaviors related to FL learning.

Wenden (1987) summarizes the history of strategy research and clarifies the conceptual background on which the discussion on language learning strategies takes place. He perceives strategies from the learners' viewpoint and defines strategies to be realized in the learners' understanding of what they do to learn or manage their learning (Wenden 1987: 1). In more detail, learner strategies refer to three groups (ibid: 6-7). The first group is the language learning behaviors that learners actually engage in to learn and regulate the learning, such as thinking aloud and describing while processing a task. The second group is the strategic knowledge, i.e., what learners know about the strategies they use. The third group is the knowledge the learners have about the aspects of their language learning other than the strategies they use, e.g., about personal factors that facilitate L2 learning, about general principles to follow to learn successfully, and about their current FL proficiency. In short, Wenden (1987) distinguishes actual strategies, strategic knowledge, and other knowledge which may influence the choice and use of strategies. All these are relevant to EFL reading.

A more detailed classification on learning strategies can be found from the model of O'Malley and Chamot's (1990, see also the similar elements in Rubin 1987). First, learning strategies, which are attempts to develop competence in the target language, are distinguished from communication strategies (e.g. using gestures), which are connected to accomplishing communication goals, not language learning (O'Malley and Chamot 1990: 43, Rubin 1987: 23). Learning strategies are then divided into three groups, which are cognitive, social/affective, and metacognitive strategies (O'Malley and Chamot

1990: 43). *Cognitive* strategies include, for instance, inferencing, which means using information in the text to guess meanings of unfamiliar words, to predict outcomes and to complete missing parts of the text; deduction, which means applying known rules to understand language; visual imaging used for understanding and remembering information; transfer, which means using linguistic knowledge; and elaboration, which means integrating new ideas with known information (ibid: 45). Cognitive strategies also include various organizational strategies, such as connecting related ideas and chunking input into phrases on the basis of the level at which the information is most meaningful. *Social/affective* strategies are exemplified by cooperation, questioning for clarification, additional explanation, rephrasing, or examples, and self-talk or using mental control to reduce anxiety. (ibid: 50) *Metacognitive* strategies include, for instance, selective attention and reviewing attention, monitoring comprehension, as well as evaluating comprehension after a reading activity (ibid: 44). All these groups have relevance to EFL reading, and the behaviors categorized here as metacognitive strategies will be discussed even further towards the end of this chapter.

Another popular view on language learning strategies is based on Oxford's (1990) Strategy System (see also the Oxford's Strategy Classification System in Ehrman and Oxford 1990, as well as the summary by Oxford 1989). According to Oxford (1990: 17), there are following types of strategies: *metacognitive* techniques for organizing, focusing, and evaluating one's own learning; *affective* strategies for managing emotions or attitudes; *social* strategies for cooperating with others in the learning process; *cognitive* strategies for linking new information with existing schemata, for analyzing and classifying it, and for manipulating the language for reception and production; *memory* strategies for entering new information into memory and for retrieving it; and *compensation* strategies for overcoming deficiencies and limitations in one's language knowledge. Of these, memory-, cognitive- and compensation strategies are described as Direct strategies, which involve language and are aimed at dealing with language, whereas metacognitive-, affective- and social strategies are Indirect strategies, which support FL learning although they do not directly involve using language.

The knowledge and use of learning strategies varies among learners due to several aspects. According to Ehrman and Oxford (1990: 312), there is variation in how aware a

learner is of the use of strategies, how proficiently and how wide a range of different strategies are used, as well as how wide is the range of the circumstances in which they are used. In addition, Oxford (1990: 13) states that strategy use is also affected by, for instance, the learner's stage of learning, task requirements, general learning style, personality traits, motivation level, and purpose for learning the language, as well as teacher expectations. According to research, it seems that more aware and more proficient learners appear to use more appropriate and a wider range of strategies in a wider range of situations than do less proficient learners (Oxford 1989: 4). O'Malley and Chamot (1990: 85), however, comment on the aspect of learner awareness with respect to strategies. The research on learning strategies infers that strategies initiate as declarative knowledge and, with practice, become procedural, so the learner's ability to recognize a strategy can depend on the level in which they have become automatized. That is, as strategies first require more conscious effort and short-term memory, it is easier to be aware of them, but if they can be performed automatically, they might remain unconscious.

Reading strategies and mental actions concerning FL reading processes in particular are a subject of interest in the present study. Hosenfeld (1984) summarizes her own previous research, in which she studied teenage learners by means of think-aloud protocol and intro- and retrospective reflection (Hosenfeld 1984: 231, 233). In the 1977 study, Hosenfeld compared more and less successful readers' strategies in the context of FL reading and identified detailed behavior patterns. According to her analysis, successful readers are able to keep the meaning of the read passage in mind, whereas less successful readers tend to lose the meaning as soon as the text is decoded. Successful readers also read in broad phrases and tend to skip inessential words, which less successful readers rarely do. In addition, when facing unfamiliar words, the successful readers typically guess from the context, whereas the less successful readers easily turn to the glossary. Furthermore, successful readers are characterized by being able to identify grammatical categories, being sensitive to the specific word order in the FL, using illustrations, titles and orthographic information and making inferences from them, referring to the side gloss but using the glossary only as a last resort, looking up words appropriately, persisting to continue even if they do not succeed at decoding, recognizing linguistic relationships, using their pre-reading knowledge, implementing a planned solution to a

problem, and evaluating guesses (Hosenfeld 1984: 233-234). If this variety of success-ful reader's behaviors listed by Hosenfeld is compared with the strategy classification systems described above, both cognitive and metacognitive strategies appear to be represented, as well as the more detailed types of memory and compensation strategies, and even the employment of background information.

Similarly, Carrell (1989: 121) describes how strategies reveal "the way readers manage their interaction with written text", which also encompasses the style of approach to reading. In her 1989 study of university students' awareness of reading strategies, Carrell focused on the metacognitive aspect of strategy use in order to categorize reading strategies. The participants of the study were Spanish learners of English (N=45) and English learners of Spanish (N=75), and the employed Metacognitive Questionnaire completed after target language reading and reading comprehension test included 36 statements judged by Likert-scale (Carrell 1989: 123-124). According to the study, there are both *local* and *global* reading strategies, which can be judged with respect to their perceived difficulty and their perceived effectiveness (ibid: 126-127). In accordance with the theory concerning local and global reading styles described in the previous section of this thesis, the local strategies relate to, for instance, word-meaning and sentence syntax, and global strategies to, for instance, background knowledge and text organization. The results of Carrell's study indicate that perceiving the global type strategies effective and non-demanding was associated with higher proficiency level and better reading success, whereas the learners with lower proficiency level tend to concentrate more on the local strategies. It must, however, be acknowledged here that neither Carrell nor the other researchers in the field of strategies take strong stands on the causality; instead, they aim to *describe* the patterns of thought and behavior of FL learners, and the connections between learner success and a global reading style, for instance, are rarely more than correlations.

All in all, it appears that reading strategies and styles of approach to reading, addressed in the current and the in previous section, respectively, are intensely intertwined. This makes the contextual background of the present thesis quite intriguing. In addition, it directs interest to the thought processes underlying these patterns of behavior. The thought processes and mental actions in question will be addressed in the following.

2.2.3 Metacognitive control

A successful process of FL reading entails more than engaging into a use of a collection of distinct, even observable actions. The origin for successful reading strategy use is most likely in the particular type of cognition that brings about the behaviors, and it is in the learner's mind where the behaviors are combined into an advantageous reading style. Learning and reading strategies, thus, involve various types of mental actions, which will be addressed in the following. The mental actions addressed in this section can also be characterized as metacognitive strategies, as the force that operates on the cognitive resources of the learners is generally known as *metacognition*.

Garner (1987: 1) defines metacognition simply as the learners' knowledge and use of their own cognitive resources. Schramm (2008: 234) even includes strategy awareness and perceived strategy use, as well as the actual regulation and control of the reading process, under metacognition, which makes it an important roof term for various important aspects of reading. The role of metacognition in FL reading is not likely to be of any less importance. According to Block (1992: 322), there is some evidence that active *metacognitive control* distinguishes more and less skilled FL readers even better than the use of any other strategies. Metacognition involves an ability to stand back and observe oneself, and it is definitely related to effective learning and competent performance in any area of problem solving. In addition, proficient FL readers are more aware of, and perhaps also more able to verbalize the awareness of, how they control their reading. (Block 1992: 320, 321) As stated before, due to the unfamiliar linguistic and cultural input, foreign language readers need to repair more "gaps" in their understanding than L1 readers. Block (1992: 320) states that this makes the FL readers particularly able to reflect on their cognitive processes and use their metalinguistic awareness, which profits the readers with more metacognitive awareness. In other words, due to the great role of metacognition in FL reading, the differences between the more and less successful learners might be more visible when reading in a foreign language.

Schramm (2008) aims to develop a comprehensive view on the FL reading process of good FL learners while analyzing her earlier study. In 2001, Schramm examined the more successful readers' mental actions. She studied German undergraduate students

reading an American psychology textbook in English through think-aloud protocols. According to her conclusions, there are three levels involved in reading in FL (Schramm 2008: 236-237). First, good readers are able to develop clear goals and focus on, for instance, subsequent action, decision making, emotional stimulation, or display or supply of knowledge. Secondly, good readers recognize and use the sociocultural context of the text and are, consequently, able to identify and reconstruct the author's goal and action steps from the text. This means engaging in linguistic interaction: reading is a dilated speech situation in the sense that the author and the reader can work together although they are separated by both time and space. Thirdly, good readers are able to relate information from the text to their own goals and, therefore, also able to take action to monitor and secure their own comprehension. As a result, they evaluate problems with respect to their personal goals and act appropriately, which also means that, unlike the not so successful readers, good readers tend not to worry about comprehension problems that are not relevant to the task. All in all, the study comprehensively illustrates the significant role of the variety of mental actions in FL reading, and highlights cognitive styles as the differentiating variables among FL readers.

Being able to decide which problems can be ignored and which must be solved is, in research literature, referred to as *selectivity of attention*. Block (1992: 332) concludes that, whereas more proficient nonnative English readers seem to allocate their attention selectively and to be more concerned with overall meaning than with understanding every word, less proficient readers tend to feel that a sentence cannot be understood if all the words are not identified. Thus, selectivity of attention is closely connected to the approaches to reading, and global reading style in particular, which was described earlier in this thesis. The necessity of the less proficient readers for identifying unfamiliar words proposes a local, word-level and data-driven model of reading, whereas the more proficient readers seem to have a more concept-driven approach, having not to worry about the meaning of individual words if the essence of the sentence can be extracted (Block 1992: 334). Block (1992: 330) also describes how, when facing a vocabulary problem, proficient learners seem to be less conscious about it, as the selectivity of attention is already working and the unimportant unknown word is simply ignored, whereas less proficient readers are more active in trying to identify unknown words regardless of their importance.

According to Schramm (2008), the more successful readers' mental actions additionally include *comprehension monitoring*. Block (1992: 319) describes the comprehension monitoring process in detail. According to her, comprehension monitoring has three phases and six steps: the evaluation phase includes the steps problem recognition and problem source identification; the action phase includes the steps strategic plan and action/solution attempt; and the checking phase includes the steps check and revision. All of these steps of comprehension monitoring operate rather automatically and even unconsciously: they are usually observable only after some confusion (ibid: 320). Similarly to selectivity of attention, comprehension monitoring is an illustrative example of how metacognitive control can characterize more successful FL readers.

Additionally, readers may be at variance regarding the cue systems they use to evaluate whether they have understood their reading. What characterizes proficient EFL readers, according to Block (1992: 328), is that they often do not state explicit plans or strategies, they check solutions less explicitly and consistently, and they maybe identify more inclusive referent. In other words, although the good readers must have strategic awareness and control over their reading, their reading skills allow their reading to appear more random compared to the less proficient readers' more stiff and sequential standards of evaluating reading.

It is no wonder that mental actions effect FL learning even more than the mere skills of the learner. If one has got the right tools and knowledge of their appropriate use, and if one understands which steps need to be taken in order to achieve the personal goals that have been set in relation to the context, working with difficult and ambiguous input can be better tolerated. The ability to manage learning and cognitions perhaps even changes the demands of FL learning activities; evaluating and modifying personal goals with respect to the FL learning context, for instance, could lessen the amount and intensity of potential situational ambiguity. The complexity of learning situations and FL learner's individual tendency to tolerate the uncertainty connected to FL learning are the topics of the following chapter. However, before moving on to ambiguity tolerance, one additional cluster of FL learner characteristics must be addressed. In the present study, *Self-determination theory* will prove to provide useful concepts for describing FL readers' patterns of thought and behavior, as well as their success.

2.2.4 Self-determination: intrinsic motivation and learner autonomy

Classically, motivation is the force that affects the choice, effort and persistence with a certain action or behavior, and it, therefore, has an effect also on FL learning outcomes (Dörnyei 2001: 7). Typically, motivation is a complex concept, and it ranges over numerous internal and external components that effect language learning (ibid: 8). Dörnyei (2001: 10-11) summarizes how, during its long history, the construct of motivation has been realized in various models, involving concepts such as drives, habits, needs, attitudes, cognitions, and beliefs, employed in a variety of theories, such as Bandura's self-efficacy theory from 1997, Weiner's attribution theory from 1992, and the Self-determination theory (or SDT) originated by Deci and Ryan in 1985. In the widely accepted and used SDT, Deci and Ryan (2000: 68) highlight individual resources in both regulating behavior and developing personality. Two major aspects intertwined in the SDT theory, being *intrinsic motivation* and *learner autonomy*, prove to act as vital components of the present thesis, and will, thus, be introduced thoroughly in this section. I will begin with discussing the viewpoint of intrinsic motivation and then move on to addressing learner autonomy, although, as can be seen, the variables are not too separate from each other.

In research literature, there seems to be a consensus regarding the positive definition of intrinsic motivation. Deci and Ryan (2000: 70) state that "Perhaps no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn." Intrinsically motivated learners, thus, enjoy the process of learning the target language and engaging in the activities per se, instead of being motivated by, for instance, the desire to interact and become similar with and the admiration held towards the target language and its speakers, known as *integrative* motivation, or the pragmatic gains and consequences of learning the language, known as *instrumental* motivation (Dörnyei 2001: 51). Likewise, according to Noels (2001: 45), intrinsic orientations refer to "reasons for L2 learning that are derived from one's inherent pleasure and interest in the activity; the activity is undertaken because of the spontaneous satisfaction that is associated with it." The reasons for learning are, as a result, closely connected to the learner's self.

The range of motivational constructs, or the continuum of self-regulation, is discussed in Deci and Ryan (2000), and analyzed further in, for instance, Noels (2001). In SDT, intrinsic motivation lies on the most self-determined (or most "motivated") end of a continuum, which stretches over several types of extrinsic motivations to amotivation (Deci and Ryan 2000: 72). Intrinsic motivation is based on inherent interest of any activity or behavior, whereas extrinsic motivation is driven by an outcome separate of the target activity (ibid.). Logically, these aspects affect, for instance, the likelihood of the learner to engage in the activity of reading in the long run. What is more, according to the theory, the subtypes of motivation do not necessarily reflect the level or amount of motivation, but only the motivational orientation and the regulatory processes relevant to the behavior, as well as the perceived locus of causality (ibid.). For instance, if succeeding in a reading activity holds a personal importance for a learner, the regulation is referred to as an identified type, and the locus of causality is categorized as somewhat internal, but the motivational orientation is nevertheless labeled as extrinsic (ibid.). Nevertheless, according to Deci and Ryan (2000: 73), the most self-determined types of external motivation, in which the drives for acting include self-control, internal rewards, personal value, or the realization of the learner's self-image, can be combined into a motivational composite referred to as *autonomous motivation*.

However internal a process the intrinsic motivation is, it can be promoted or crushed by outside forces. According to Deci and Ryan (2000: 68), the prerequisites for self-determination involve three innate psychological needs, being competence, relatedness, and autonomy, which is why intrinsic motivation requires supportive conditions to occur and endure. In the practice of FL learning and teaching, relatedness can be achieved by providing security, a sense of competence can be conveyed by proficiency-promoting feedback, and a sense of autonomy and internal locus of causality can be promoted by allowing space for personal choices and possibilities for the acknowledgement of feelings, for instance. In contrast, external restrictions, rewards, and pressure in the learning context may promote a sense of external locus of causality, which diminishes intrinsic motivation and self-determination, or autonomy.

Benson (2011: 84) likewise discusses the relationship between autonomy and intrinsic motivation. In his thorough book about autonomy in FL learning, Benson (2011) dis-

cusses *learner autonomy* in detail by drawing together previous research. According to Benson (2011: 58-59), learner autonomy is a wide-ranging capacity for taking responsibility for one's own learning, and in practice, making vital decisions concerning the management of learning. Autonomy indeed refers to a learner capacity, not merely an out-of-class situation of learning independently. This is why Benson (2011: 14-16) prefers the term *learner control* and intensely highlights autonomy's origin in social interaction and collaboration instead of solitude. Autonomy, or learner control, also includes a much narrower concept referred to as self-regulation. Self-regulation is the learner's ability to make use of her cognitive abilities in developing academic skills, which is why it highlights the cognitive aspects of school learning (Benson 2011: 43). Benson (2011: 44) states that, although the capacity promotes independence, also the development of self-regulation naturally requires socially supportive environments. Fazey and Fazey (2001: 348) additionally remind that the development of autonomy is also affected by individual factors in addition to those of the environment.

Figure 1. Defining autonomy: the capacity to take over learning. (Benson 2011: 61)

According to Benson (2011: 61), there are three dimensions to exercise learner control, or autonomy. These are illustrated in figure 1. Firstly, autonomy exercised towards *learning management* involves planning, organization, and self-evaluation of the learning, as well as employing learner strategies (Benson 2011: 92, 96). Secondly, controlling *cognitive processes* involves reflection, directing attention, and metacognitive knowledge, which bear a resemblance to metacognitive strategies (ibid: 101, 109). What

is more, according to Benson (2011: 82), this type of learner control is also exercised over motivation, emotions and beliefs by executing cognitive choices. This can be realized by, for instance, modifying personal attributions for previous and current success and failure, which influences motivation to take on following challenges (Benson 2011: 83), or applying affective strategies for lowering anxiety (Benson 2011: 89, 99. See also Oxford 1990: 140). Thirdly, learner control over *learning content* includes, in addition to deciding the learning contents, determining and implementing personal learning goals (Benson 2011: 112, 115), which was acknowledged in the previous section as an important aspect of metacognitive control.

Autonomy is commonly related to internal *locus of control*, and e.g. Deci and Ryan (2000: 70) even consider the two concepts corresponding. Nevertheless, both of these variables are positively related to learning achievement in research (see, for instance, Fazey and Fazey 2001: 346). According to White's (1999: 452) definition, locus of control is the orientation of an individual towards what determines her success or failure: a belief in one's personal capacity to control outcomes is referred to as internal locus of control, while a belief that outside forces influence events is referred to as external locus of control. Locus of control is, thus, a general view of personal agency in the world, including attributions, i.e., retrospective reasoning for the causes of different outcomes (Benson 2011: 83). Consequently, locus of control is generally considered a much narrower concept than learner autonomy, but it has a vital role in the development of learners' FL motivation and self-image; if a learner believes that she succeeds due to her individual abilities, she is more likely to have a stronger FL self-image and tend to be more eager to take up new challenges. All in all, locus of control refers to a personal belief or perception, whereas learner autonomy refers to a capacity.

Autonomy-related psychological characteristics have been studied by, for instance, Fazey and Fazey (2001). They investigated first-year undergraduates (N=394) at registration, concentrating on their perceptions of their personal competence, self-esteem, motivation, and locus of control. The measures used in the wide study included the Self-Perception Profile for College Students by Neemann and Harter 1986, the Academic Motivation Scale (or AMS) by Vallerand et al. 1992, and the Academic Locus of Control Scale by Rossouw and Parsons 1995. As a result, the study indicated a positive pro-

file for new students, i.e., the majority of students arrive at university with a good potential to be autonomous in their learning, with motivation at the internalized end of the continuum, and a perceived internal locus of control. What is more, in the research report, Fazey and Fazey (2001: 346) describe the characteristics of autonomous learners by summarizing research literature. Firstly, autonomous individuals tend to have a sense of self which includes a personal belief system that provides them with a framework for personal planning and decision-making. Secondly, autonomous individuals hold metacognitive skills, such as ability to self-evaluation and reflection, as well as skilled strategy use. Thirdly, autonomous people typically tend to be intrinsically-motivated, which agrees well with the discussion above.

Intrinsic motivation and learner autonomy have a common basis in self-determination. Self-determination and learner control, then, overlap with metacognitive control, use of learning strategies, and consequently, even the style of approach to reading. As FL learning is rich in uncertainty and complexity with respect to both the learning activities and the natural nature of the input, it seems likely that the discussed learner characteristics, which appear to correlate with FL success, are in one way or another connected to acceptance of uncertainty. The discussed aspects of FL reading will be revisited in the second half of the theoretical framework from another point of view, as I focus on a learner variable called ambiguity tolerance.

3 AMBIGUITY TOLERANCE (AT)

Individuals interpret situations and messages with the help of contextual cues. Ambiguity is related to lack of those cues. In an EFL reading activity, a learner is likely to face unknown cultural and linguistic elements, which makes the contextual cues easily insufficient. Logically, this causes uncertainty and confusion respective to the level in which ambiguity is tolerated by the learner. (Erten and Topkaya 2009: 29-30) This, in effect, must have influence on EFL processes. What is noteworthy, however, is that the essential difference between learners regarding their tolerance of ambiguity is not how much ambiguity they confront, i.e., what amount of the input is unfamiliar to them depending on their age or proficiency level, for instance, but their tendency to *perceive* the cognitive challenge caused by the new and complex elements disturbing and threatening.

The first half of the theoretical framework of this thesis focused on describing the FL reading process and the characteristics of a FL reader. Discussing the interactive nature of EFL reading and the theories of data-driven and concept-driven approaches formed the basis for the forthcoming discussion. Additionally, the key aspects concerning FL readers proved to include the tailored use of background-knowledge and reading strategies, which combine into a global and goal-oriented reading style aided by skilled meta-cognitive control. Self-determination, involving intrinsic motivation and autonomy, was also given an important role. The latter half of the theoretical framework will be focused on a personality variable called *Ambiguity Tolerance* (a.k.a. Tolerance of ambiguity, AT). This chapter consists of four parts. I will begin the chapter by digging into the various definitions of AT on the basis of what it stands for in the present study, and present the theory behind the concept. Secondly, I will discuss AT's connection to learner success as it is likely to be the most recognized characteristic of the variable. Additional relationships revealed between AT and other variables are discussed in the subchapters of the third section, in which I will draw together relevant conclusions and suggestions discovered in individual studies. As a final point, this chapter ends with a short summary that concludes the theoretical framework.

3.1 Ambiguity and tolerance

In research literature, *ambiguity* is described in various terms. It refers to uncertainty about the future (Johnson 2001:141), perceived insufficiency of information regarding a particular stimulus or context (McLain 1993: 183), stimulus with lack of information (McLain 1993: 184), and "too little, too much, or seemingly contradictory information" (Norton 1975: 607). Ambiguous situation is, therefore, characterized by a lack of adequate cues, which results in insufficient reorganization or categorization by an individual (Budner 1962: 30). It is easy to imagine what this can mean in a FL classroom or in a context of FL reading: due to the unfamiliar linguistic elements, for instance, a learner does not understand the teacher's directions, feels that a text completely lacks familiarity and logic, cannot make decisions with a predictable result, and cannot have any solid expectations about a new text since the information provided by any cues is inaccessible.

This section aims to describe the theory around AT as a phenomenon. It consists of two parts. In the first part, I will refer to the psychologist Stanley Budner (1962) when summarizing his descriptions about the theoretical component dimensions of AT. He focuses on intolerance of ambiguity, and suggests that it arouses similar reactions in a person as perception of threat in general. In the second part, I will discuss other characteristics of AT, including the range of the tolerance-intolerance-continuum, the level of operation of the responses, and the stability of the trait across different situations.

3.1.1 AT resembling a psychological reaction to perceived threat

In his pioneering article, Budner (1962) applies the psychological categories of reactions to a perceived threat in such a way that he can define AT in terms of its dimensions. Budner (1962: 30) describes the different types of reactions to perceived threat in detail. According to him, responses to any stimuli take place in both *phenomenological* and *operational* level, of which the former refers to individual perceptions and feelings, and the latter to the concrete world with natural and social objects. What is more, the usual defense reactions to a threat include *submission*, in which the threat cannot be altered, and *denial*, in which reality can be and is altered. On the basis of these two background aspects, Budner introduces the Four postulated indicators of perceived threat, or four types of reactions to perceived ambiguity. These will be briefly introduced in the following, accompanied with examples of matching questionnaire items from Budner's Scale of Tolerance-Intolerance of Ambiguity (1962: 34).

The first type of response to perceived ambiguity is Phenomenological Denial, which includes the reactions of repression and denial. In practice, it means that the too uncertain reality is altered theoretically in an individual's own perceptions, and that, consequently, the world is perceived black and white. The opposite behavior to phenomenological denial would be theoretical acceptance of ambiguity. According to the AT scale by Budner, the phenomenological denial can be indicated, for instance, by agreement with the statement *There is really no such thing that a problem that can't be solved*.

The second type of response is Phenomenological Submission, which is realized in anxiety and discomfort. As the reality cannot be altered even in thinking, the individual's

emotional state is affected. The opposite behavior for phenomenological submission is either a neutral emotional state due to the simple acceptance of ambiguity, or attraction and feeling enjoyment. In Budner's scale, phenomenological submission can be indicated, for instance, by agreement with the statement *What we are used to is always preferable to what is unfamiliar*.

The third type of response is Operative Denial, which includes destructive or reconstructive behavior, i.e., altering the natural or social objects of the reality. The opposite behavior would logically be accepting the ambiguity and employing advantageous strategic behavior while coping with the perceived threat. Operative denial is in Budner's scale realized, for instance, by agreement with the statement *The sooner we all acquire similar values and ideas the better*.

The fourth and final type of response is Operative Submission, which typically includes avoidance behavior: as the natural or social objects of the reality cannot be altered, they are avoided. The opposite behavior would be accepting or even approaching ambiguous situations and activities, and in the context of EFL reading, this could mean, for instance, that a learner prefers the more ambiguous alternative way of completing a reading task. Budner's examples of suitable items for this type of reaction to threat involve, for instance, the statement *In the long run it is possible to get more done by tackling small, simple problems rather than large and complicated ones*.

As a result, the component dimensions of AT psychologically follow those of perceiving a threat. Naturally, Budner is not the only one who considers facing ambiguity and facing a threat comparable. For instance, Norton (1975: 608), a psychologist and the designer of MAT-50, a classical and widely used measure for AT, accordingly defines Intolerance of Ambiguity as "a tendency to perceive or interpret information marked by vague, incomplete, fragmented, multiple, probable, unstructured, uncertain, inconsistent, contrary, contradictory, or unclear meanings as actual or potential sources of psychological discomfort or threat". Due to the apparent consensus regarding this aspect of AT, the response levels and types described by Budner will be involved in one of the core hypotheses of this study (described in section 4.1), as well as employed as a structural basis for the data collection instrument (introduced in section 4.2.3).

3.1.2 The range, level of operation, and stability of AT

AT is not a strict either-or variable, but individuals land on a continuum from tolerance to intolerance of ambiguity. What is more, Budner (1962: 29) suggests that the tolerance-intolerance continuum can, at the more tolerant end, even extend over mere tolerance. According to him, very tolerant individuals can have a tendency to interpret ambiguous situations not only manageable, but even desirable: instead of rejection or mere acceptance, the individual experiences attraction towards ambiguity. Likewise, according to McLain (1993: 184) AT ranges from aversion to attraction. McLain is the creator of MSTAT-1 (Multiple Stimulus Types Ambiguity Tolerance), a 22-item tool to measure individual's AT. The measure is very general and not designed for reading or FL learning in particular, but it displays various characteristics of AT, particularly at the more tolerant end of the continuum. For instance, according to McLain (1993: 185), AT includes willingness to take risks (or feeling less aversion to risky situations), cognitive complexity (or having positive reactions to ambiguous stimuli) and receptivity to change, of which all extend beyond mere tolerance. Naturally, the tendency to perceive ambiguity as desirable could be accounted for a personality variable other than AT, but due to the evident trend in both older and newer research literature to extend AT towards attraction, this is also the view taken in the present study.

What is more, there are many levels of operation on which AT might have an influence, from evaluation of situations and effects in thinking to actual operational reactions and ability to function calmly in ambiguous situations. According to the research literature, the latter alternative appears to be a more popular view, although every definition has its own nuances (see, for instance, Budner 1962: 30, Mclain 1993: 184, Chapelle and Roberts 1986: 30-31). For instance, White (1999: 451) associates AT to coping skills or strategies, when stating that it is "a response formulated by the learner to feelings of uncertainty or confusion, whereby the uncertainty is accommodated so that it does not obstruct progress." She continues that such a response requires patience, endurance and confidence on personal ability to continue to progress, which even gives the reaction a conscious nature as it appears to require personal effort. On the other hand, Ely (1989: 439), the originator of the Second Language Tolerance of Ambiguity Scale (or SLTAS), relates AT more to thinking than operating. According to him, AT is "the relative de-

gree of discomfort associated with thinking: that one does not know or understand exact meaning; that one is not able to express one's ideas accurately or exactly; that one is dealing with overly-complex language; that there is a lack of correspondence between the L1 and the L2." In the present study, as described in the previous section, the psychological response to facing ambiguity is considered comparable to that of facing threat, which logically results in adopting Budner's (1962) considerations of AT's level of operation. Therefore, in this study, AT is considered affecting both evaluations in the mind and real life reactions, i.e., it is assumed to take place both in phenomenological and operational levels.

Another dimension to address when discussing personality variables is their stability. Recently, the more generally accepted view is that individual characteristics are not very stable but vary according to context, time, and other factors (Ely 1989: 437). We can, however, talk about *situation specific* characteristics, which appear stable in limited contexts. Similar to the view of Ely (1989: 437), also the present study considers AT a situation specific characteristic, and therefore, relatively stable in certain conditions. In the present study, the context is limited to EFL reading.

Furthermore, in this thesis, EFL reading is understood as a fruitfully ambiguous situation. According to Budner (1962: 30), there are three types of ambiguous situations: *Novel* situations carry no familiar cues; *Complex* situations hold too numerous cues to be taken into account; and in *Insoluble* situations the cues are contradicting. In addition, Chapelle and Roberts (1986: 31) add a fourth situation type to the list, the *Unstructured* situations, in which the cues cannot be interpreted due to a lack of organization (see also Norton 1975: 608). McLain (1993: 184), among other researchers, agrees with these four types of situations when summarizing that ambiguity can include input that is unfamiliar, complex, dynamically uncertain, or subject to multiple conflicting interpretations, and the four situation types are also acknowledged in the structure of MSTAT-1. Chapelle and Roberts (1986: 31) state that an L2 situation has a good potential to be ambiguous in all the four ways, which makes it a useful context for studying AT. This supports the contextual limitations defined in the present study, and allows locating AT in the narrow context of EFL reading.

3.2 AT in correlation with learner success

AT is mentioned in various lists and definitions of researchers' descriptions of a successful language learner's personality (see, for instance, Erten and Topkaya 2009: 29-30). In their introductory book to second language acquisition research, Larsen-Freeman and Long (1991: 188-191) list personality traits that can have influence in FL learning, and AT is mentioned among willingness to take risks, sensitivity to rejection, empathy, self-esteem, anxiety, and inhibition. Likewise, in a similar list by Johnson (2001: 141), AT is considered one of the personality variables of "a good language learner" among, for instance, extroversion (vs. introversion), empathy and ego permeability, low sensitivity to rejection, and field independence (vs. dependence). What is more, it is in the nature of AT that it influences reasoning and awareness involved in FL learning. In Norton's (1975: 607) classical definition for AT, the variable resembles "how a person psychologically copes with ambiguous information", which in its part "affects the perception, interpretation, and weighting of cognitions." In the following, I will present other studies that have discovered a connection between FL learner success and AT.

Naiman et al. (1978, cited in Johnson 2001: 142 and Larsen-Freeman and Long 1991: 191) report significant correlations between AT and learning success. Using the aforementioned Budner's (1962) scale, they found correlation between AT and success in listening comprehension test, as well as that of between AT and learner attitudes towards the teacher's use of target language in classroom: less tolerant learners were more annoyed and threatened by the extended FL utterances. Both of these discoveries are related to overall success in FL learning. The connection between AT and FL learning success is also studied by, for instance, Chapelle and Roberts (1986). They investigated AT and field independence (or FI) in relation to adult learners' EFL acquisition in the US. The study was carried out with a multiple regression analysis and 61 learners. According to the results, AT and FI explained a significant amount of variance on several language measures to such an extent that it could not be accounted for other variables.

It is not, however, clear just how AT relates to FL learning. Chapelle and Roberts (1986: 30-31) give an attempt to cast light on the issue by summarizing research. They conclude that low AT, or ambiguity intolerance, may cause the learner to resort to black

and white solutions, strive to categorizing components instead of ordering them along a continuum, jumping to conclusions, as well as avoiding ambiguous situations. In a context of EFL reading, the behaviors could be realized by, for instance, a person's stiffness and refusal to understand multiple meanings when reading prose or other texts, her not seeing the development of events in a text, and her resistance against homework and class activities that involve ambiguity. Consequently, it could easily result in negative experiences about FL learning activities, less practice and engagement with the FL, a poor FL self-image, and perhaps even reduced FL learning success. It could even be assumed that, whereas behaviors caused by intolerance of ambiguity are likely to cause the level of AT lower even more, engaging in activities characterized by ambiguity could eventually be considered rewarding, providing the learners with practice, and increasing their AT.

AT's connection not only with FL learning in general but also with FL reading in particular is more than mere assumptions. For instance, Erten and Topkaya (2009) studied AT by administering the SLTAS to 188 tertiary level Turkish EFL students. They found a strong relationship between AT and perceived success in FL reading in specific, and came to quite a logical conclusion: the more tolerant of ambiguity the learners are, the more successful is their FL reading process (Erten and Topkaya 2009: 39). It is, however, worth a mention that studies such as Erten and Topkaya's cannot reveal causal relationships between AT and FL success, but are only able to report correlations, trends and patterns, which is why AT's influence on the reality of learning processes often remains on the level of theoretical suggestions.

In the present thesis, reading success is not a subject of interest as such, and thus, no attempts to draw straightforward correlations between AT and "good FL readers" will be made. The aim is rather to describe the learners' behavior during FL reading process and attain further knowledge of the nature of AT in this specific context. Moreover, as most of the subvariables connected to AT and addressed in this thesis are also variables that typically can characterize "good learners", the relationship between AT and successful FL reading is examined from a different angle, and becomes visible only when analyzing the subvariables' mutual coherence in the data. The subvariables in question, as well as their relation to AT, are discussed in the following section.

3.3 AT in association with other learner variables

AT experienced in relation to EFL reading has not been a very popular phenomenon among researchers, and even the few existing studies have very different focuses, which makes the field somewhat shattered and reveals various gaps. It cannot be denied that, although AT might be a clear construct in the field of Psychology, it has been considered a minor detail in the FL learning and reading research. As can be seen in the previous sections, the essence around the discussion about AT is that it definitely is a useful characteristic in FL learning and reading, where ambiguity is faced frequently. Perhaps more detailed studies have not been considered necessary.

AT is rarely in the focus of the research, but, nevertheless, some studies reveal relationships between it and other factors and, therefore, help to form a wider understanding of the phenomenon. In this section, I will introduce a selection of the discovered connections of AT. The chosen connections are AT's relationship to learning styles, cognitive styles and strategies, to student perceived locus of control and student autonomy, to intrinsic motivation, and to reading anxiety. This variety of connections is easily found from the research literature, and it is easy to address them from the viewpoint of FL reading. Moreover, with the exception of reading anxiety, the variables in question were established as very significant aspects in the process of FL reading. What is more, several other discovered connections of AT, such as its relationship to dogmatism (see McLain 1993: 185), do not fit into the defined context of the present thesis, and have to remain, therefore, out of the limited scope of this study.

The main aim of this chapter and discussing these aspects in FL learning is to describe what potentially characterizes learners who are tolerant or intolerant of ambiguity, and to start constructing behavior types for learners with specific viewpoints concerning AT. The underlying motive is to get material for the data collection instrument, so that certain viewpoints could be associated with certain real life choices. Throughout these sections, it should be kept in mind that, as was described in the previous chapter, the learner variables overlap with each other quite a bit. In addition, instead of discussing the subvariables per se or engaging in thorough introductions, in these sections, the discussion is focused on the relationship between AT and the different subvariables.

3.3.1 AT and learning styles, cognitive styles and strategies

Learning style refers to a characteristic pattern of mental functioning connected to learning. It involves, for instance, the reaction to and the processing of new information. Learning styles are often connected to or even seen as personality types, and they are, by default, determined by the learner's personality. (Ehrman and Oxford 1990: 311) In this section, I will review AT's connections to learning styles, cognitive styles and learning strategies on the basis of the existing research literature. As AT in this context has not been a very popular topic, the separate studies referred to do not provide hard scientific results that could be straightforwardly applied in the present study, but rather allow assumptions and logical connections concerning AT that will be of use in the formation of the data collection instrument and of the general understanding of the variable.

Ehrman and Oxford (1990) studied adults' learning styles according to the Myers-Briggs Type Indicator scales (or MBTI), as well as their learning strategies according to Oxford's Strategy Classification System (see section 2.2.2). They describe and compare eight alternative personality types and their connections to several different learning styles and strategies. The alternative personality types mentioned involve Extraverts, Introverts, Sensing types, Intuitives, Thinkers, Feelers, Judgers and Perceivers (Ehrman and Oxford 1990: 317). According to Ehrman and Oxford (1990: 311), AT is one of the important learning style dimensions which show differences between different learners. According to their results (Ehrman and Oxford 1990: 317), there is a connection between intolerance of ambiguity and both Sensing and Judging type students. Sensing type students like step-by-step processing and use memory-, cognitive and metacognitive strategies, and are least connected to compensation, affective and social strategies. Judgers use metacognitive and social strategies, and are least connected to compensation strategies, but also very rarely or never use memory-, cognitive and affective strategies. Based on these conclusions, it could be assumed that learners' preference of certain strategies could be associated with their level of AT: a very conscious planning and organizing learning, as well as rare use of intelligent guesses, could characterize ambiguity intolerant learners, whereas, for instance, a tendency and ability to lower one's own anxiety could indicate higher AT.

Another dimension connected to personality types and learning styles are the learners' cognitive styles. Ehrman and Leaver (2003) introduce a new approach to understanding cognitive styles, being the Ehrman-Leaver construct, and illustrate its use with two student cases. The construct includes ten cognitive style dimensions or subscales, which are Field independent and Field sensitive, Random-Sequential (or non-linear - linear), Global-Particular, Inductive-Deductive, Synthetic-Analytic, Analogue-Digital, Concrete-Abstract, Leveling-Sharpening and Impulsive-Reflective (Ehrman and Leaver 2003: 396). All of these subscales involve dimensions according to how consciously information processing is controlled, which influences the perception of phenomena as wholes or as composites. With respect to the present study, the most interesting conclusion is connected to Random readers. According to Ehrman and Leaver (2003: 398), effective Random learners are characterized by AT to the extent that they even embrace surprises that interrupt others. Random learners typically structure information by internal criteria and work out their own learning sequences, i.e., they tend to learn in their own order and to count on their own resources even in unfamiliar situations. Despite the term used, Random learners can be systematic although their systems and approaches may seem random to others. In this study, it is assumed that learners' identification to the Random cognitive style reflects their AT.

Additional view to learning styles is provided by Ely (1989). Ely studied the influence of AT on L2 learning strategies among university level Spanish students. According to his results, several of his hypotheses regarding AT were confirmed. Firstly, AT is a significant negative predictor of reliance on the L1, which would be realized in looking up words straightaway and trying to find similarities between L1 and L2 words. Secondly, low AT is connected to focusing on details, feeling uncomfortable of being forced to skip information, planning exactly ahead what to say, thinking carefully about grammar when writing, and asking the teacher the right words when speaking. Tolerant learners are, in contrast, more willing to use strategies dealing with L2 and looking for overall message when reading a text. (Ely 1989: 439, 442) Ely's descriptions of the different behaviors and processes of learners with high and low AT clearly resemble the local and global reading styles discussed in section 2.2.1 of this thesis. These results support the initial assumption that a strong relationship can be drawn between AT and global style of approach to reading, including various types of behaviors in which it is realized.

Also other research connects AT to certain specific FL reading strategies, although the implications are not always straightforward. Griffiths (2003) studied the relationship between course level and reported frequency of language learning strategy use by speakers of different nationalities, with the help of Strategy Inventory for Language Learning (or SILL by Oxford 1990). In the 2003 article, she also describes "plus" strategies: those strategies that were used highly frequently by higher level students and those reportedly used highly frequently across all students. Griffiths (2003: 379) groups the plus strategies into several Proposed Strategy Groups based on the target of the strategy. The alternative targets include interaction with others, vocabulary, reading, language systems, management of feelings, management of learning, utilization of available resources, and also tolerance of ambiguity. Strategies related to AT comprise Griffiths' Proposed Strategy Group D, and include items 22: trying not to translate texts word for word, 24: guessing the meaning of unfamiliar words, and 27: reading without looking up every new word. Griffiths (2003: 378) concludes that the strategies in this sub-group are possibly used by higher level students as a means of managing continuity when they lack knowledge. Aim for continuity can be easily associated with the aim to comprehend a text as a whole, which is, again, characteristic of a global reading style. Aim for continuity can, in addition, resemble a behavior closely related to AT.

In addition, Nishino (2007) presents a longitudinal case study of the motivation and reading strategies of two Japanese middle school EFL students beginning to read extensively. During this 2.5-year study, four interviews were conducted, the students were regularly tested, and participant behavior in each reading session was observed. As a result, Nishino reports significant individual preferences in the use of reading strategies, and a dynamic change in the participants' L2 reading motivation as the reading became increasingly fluent. Nishino (2007: 89) additionally discovered a connection between AT and strategy use. According to the observations, AT is seen, for instance, in the learner's dislike of referring to dictionaries or glossaries, because for tolerant students this might interrupt the "flow" of reading, as well as in the absence of feeling that the text must be understood precisely. In addition, guessing from context appears to be too arbitrary for less tolerant students. These types of dissimilarities in behavior once more reflect how the strategy use of learners with higher AT mirrors a more global reading approach, whereas less tolerant learners read more locally.

All in all, according to research literature, AT seems to be strongly associated with definite types of globally-oriented strategic behaviors, as well as a certain style of approaching and organizing reading. It is well motivated to include these relationships in the core hypotheses of this study, as due to their evident relevance to AT, they have a potential to accumulate important knowledge in the prospective process of learner profiling.

3.3.2 AT and learner autonomy and locus of control

As was described in section 2.2.4, learner autonomy and locus of control are considerably intertwined concepts. To recap, in the present thesis, learner autonomy is defined as the capacity to be in control of one's own learning (Benson 2011: 58), whereas locus of control refers to the individual perception of that control (White 1999: 452). Currently, there are only few studies that combine AT and learner autonomy, or AT and locus of control. The relationships between the concepts do, however, seem legitimate in the target context defined in this thesis.

White (1999) conducted a longitudinal study of the expectations, shifts in expectations, and beliefs of self-instructed language learners, focusing on learner-context interface, AT and locus of control. The participants of the study include adults beginning distant language learning. According to her observations, external locus of control and low AT both characterized learners who were struggling to identify and accept the constrictions of the self-instructed context (White 1999: 453). In other words, uncertain learners were more likely to expect external resolutions to the problems they confronted. White (1999: 456) draws a conclusion that, as the learners' reactions at a self-instruction interface are shaped by AT, a learner characteristic such as AT can influence how the learners conceptualize and experience learning. Although, in the present study, the participants are upper secondary school students and they have no self-instruction interface, the relationship between low AT and external locus of control can be taken to use as an initial assumption that might be useful in the forthcoming learner profiling.

Another study was conducted by Pascal (1973). He studied 185 students in experimental psychology course on socialization in order to examine their individual preferences of instructional methods. One of his results was that students with a preference of flexibil-

ity and self-instructed reading have high AT and a greater need for autonomy, whereas students who preferred lectures as instructional methods were characterized by less interest in abstract and scientific thinking and lower AT (Pascal 1973: 276). This supports the association between AT and learner autonomy, and, what is more, is in accordance with the understanding of AT in the present study: rather than merely accepting ambiguous situations, learners with higher AT often choose challenges and prefer a lack of constraints. What is more, compared to their peers, the learners preferring the independent study option were more likely to complete more voluntary reading and to enjoy writing papers (ibid.). This is in accordance with the concept of self-determination described in section 2.2.4 of this thesis, which combines autonomy with intrinsic motivation. It also calls for investigating the potential relationship between AT and intrinsic motivation.

3.3.3 AT and intrinsic motivation

Although there is an intuitive relationship between AT and intrinsic motivation, there are not many studies that have addressed it. Kondo-Brown (2006), however, investigated the relationship between 17 affective factors in association with Japanese FL reading comprehension and *kanji* knowledge test scores. The sample was 43 university students in advanced Japanese courses. According to the results, the affective factors that directly associate with the two types of achievement are self-perception of Japanese reading ability, perceived difficulty in learning *kanji*, and the intensity of motivation for reading Japanese. However, high intrinsic orientation is, in addition, in a key role in the determination to learn Japanese and to engage in FL learning activities (Kondo-Brown 2006: 60). What is more, according to the results, low AT may be a sign of a lack of intrinsic motivation for reading Japanese (ibid: 63), which supports the intuitive association.

Moreover, Fransson (1984) reports an experiment on effects of intrinsic and extrinsic motivation on learning, and although he does not mention AT, he addresses an associated variable, being the reaction of anxiety. In his study, Fransson arranged 88 university students into four experimental groups with different levels of intrinsic motivation and test anxiety, and designed a reading comprehension task in two alternative settings, in which he either created or eliminated conditions for both extrinsic motivation and po-

tential sources of anxiety, with, for instance, the presence of external rewards. Fransson (1984: 115) concludes that the type of motivation for reading affects whether the choice of approach to a learning task is a surface-learning strategy or deep-level learning, and thus also tends to influence the type, but not necessary the success, of the outcome. What is more, in Fransson's study, anxiety is strongly connected to lack of intrinsic motivation and vice versa (1984: 88, see also Noels 2001: 50). Similarly, in the present study, these two variables are considered the two natural extremes of a same continuum. Anxiety, which is thus contrasted with intrinsic motivation, will be discussed in more detail in the following section.

3.3.4 AT and foreign language learning and reading anxiety

AT has been connected to anxiety from the start. Anxiety and other emotional reactions to a perceived threat comprise the second reaction type in Budner's (1962) categorization, being the Phenomenological Submission. In addition, according to Norton (1975: 615), AT involves counter-anxiety behavior, as e.g. a person who is highly tolerant of ambiguity is more capable of dispelling personal anxiety, and also that of others. What is a subject of interest in the present study, is the relationship between AT and learner perceived anxiety in the context of EFL reading. In this section, I will first summarize the discussion about the existence and effects of FL learning and reading anxiety, and then briefly address the construct's connection to AT.

Horwitz, Horwitz and Cope (1986) introduce the Foreign Language Classroom Anxiety Scale (FLCAS), report results from a pilot testing with 75 university students from an introductory Spanish class, define FL anxiety, and describe its effects on FL learning. According to the research analysis, FL anxiety is the learner perceived feeling of tension, worry and nervousness, accompanied by the arousal of the autonomic nervous system (Horwitz et al. 1986: 125). In addition, Horwitz et al. (1986: 128) identify FL anxiety as a conceptually distinct variable in FL learning, considering it a specific anxiety reaction that only takes place in certain situations and due to certain influences on the learner's self-concept. In a nutshell, as the linguistic and socio-cultural standards, according to which the FL communication attempts are evaluated, are uncertain to the learner, performing in the FL is likely to challenge the learner's self-concept as a com-

petent communicator. The language learner's self-concept is, thus, limited in comparison to that of L1 speaker's, because due to the learner's inadequate level of competence, the range of communicative choices and authenticity available are restricted. This becomes the source of anxiety. In a learning environment, the anxiety is realized in difficulty concentrating, forgetting, avoidance behavior, overstudying, perfectionism, and being unable to guess unknown words, for instance (ibid: 126-127). Horwitz,et al (1986: 125-126) admit that there has been no clear relationships between anxiety and general FL acquisition, but at the same time suggest that anxiety is a major hindrance in FL learning and restricts learners' ability to perform successfully. It could be logically concluded that at least the learning process, if not the outcome, will be more or less affected by any experienced anxiety.

What is more, Saito, Garza and Horwiz (1999) introduce a construct of another specific anxiety reaction, FL reading anxiety. The researchers also present the Foreign Language Reading Anxiety Scale (FLRAS), and report the results of a preliminary study of reading anxiety. The subjects of the study were 383 first-semester university students of French, Japanese and Russian. According to the results, FL reading anxiety exists, it can vary by target language and writing systems, it increases with the perception of the difficulty of reading, and it correlates negatively with FL grades.

However, in their response article, Sparks, Ganschow and Jarowsky (2000) are taking a contrary position to Saito et al. on the issue of FL learners and anxiety. They focus on summarizing evidence from recent research in reading acquisition, problems in the FLRAS, problems in Saito et al's research design, as well as Saito et al's failure to control for participants' level of language ability and native language reading. In the article, Sparks et al. also summarize the Linguistic Coding Differences Hypothesis (LCDH), which suggests that FL learning is profoundly based on language aptitude (see also section 2.2 of this thesis). Consequently, if affective factors cannot be causal factors in FL learning, FL anxiety must be based on FL learning difficulties, not vice versa (Sparks et al. 2000: 251). Sparks et al. (2000: 253) additionally add that, as affective factors are not very important in L1 reading acquisition, word reading, or reading comprehension, it is not likely that they would have any more effect in L2 reading. However, despite these conclusions and the existing problems in Saito et al's study, the assumption re-

mains that FL anxiety, or reading-related FL learning anxiety, exists. Despite its role in the outcome of the FL learning reading remains open to discussion, its effects on the process appear valid.

Saito et al. (1999: 203) summarize how FL reading has a potential to be particularly anxiety provoking activity due to the unfamiliar scripts and writing systems, as well as the unfamiliar cultural material, which are the reasons for why it is also considered particularly ambiguous. In addition, both Sparks et al. (1999: 214) and Horwitz et al. (1986: 130) state that the more anxious the learners are, the more stiffly they tend to read: they feel that they should understand everything, they are not comfortable with reading if something is unclear, and they want to know about a cultural topic before trying to read about it in the target language. As has been described in the ongoing chapter of this thesis, these aspects also describe learners with low AT.

There is clearly a theoretical overlap between AT and FL anxiety, although very few studies have actually addressed the two. EL-Koumy (2000), nevertheless, studied 150 university students with the help of MAT-50 (Norton 1975) and the TOEFL reading comprehension subtest. According to the analysis, El-Koumy (2000: 10) draws a conclusion that AT is also in practice very closely related to anxiety, since learners with low AT end up panicking and rejection similarly to very anxious students. She also suggests that it might be useful to tolerate ambiguity only to a certain extent, since "too tolerant" readers seem to take unnecessary risks and become careless with their reading similarly to very unanxious students (El-Koumy 2000: 10). However, as was described in section 2.2, successful readers aim for global understanding, apply the level of their reading in accordance with different goals, attempt to maintain the flow of reading, and follow personal systems of consistence that may seem random to others, for instance, which is why they might easily appear careless. In this study, the relationship between and the similarity of AT and anxiety are taken to use, but as the focus is on learners' perceptions of their reading processes, it is not a subject of interest to investigate whether a learner can be too tolerant of ambiguity or not. Furthermore, although studies connecting AT and anxiety similarly to El-Koumy are rare, the evident overlap between the two concepts allows raising anxiety among the core variables used in the present study for learner profiling.

3.4 Summary

On the back of this theoretical framework, it is evident that there is a strong and wide-ranging interaction between the complex learner variable of AT and the intriguing and demanding process of FL reading. Research that would clearly focus on AT, particularly under FL reading, is rare. This is the reason for why research focusing on the characteristics of a successful FL reading process and that of focusing on the psychological construct in question must be combined manually, drawing together points of resemblance intuitively, in order to create a theoretical framework that covers the aspects relevant to the aims and the research setting of the present study.

A variety of points are highlighted in the current literature review. To begin with, reading has a significant role in FL learning, and various aspects influencing the nature of the process of reading can be related to certain learner characteristics. What is more, these learner characteristics can be associated with certain patterns of behavior and thought. Moreover, the focus of the present study is directed to AT, i.e., one concept in a complex net of important learner variables which affect the FL learner's evaluations of the learning activities, as well as her ability to function in an ambiguous situation. It is, therefore, worth investigating which of the typical patterns of behavior and thought recognized in FL reading process could be considered relevant and informative with respect to AT. Always leaning on existing research literature, the previous section introduced a number of these relevant connections. Hereafter, authentic learner perceptions and understandings of these discovered connections between AT and the other aspects of FL reading are likely to be of use in the process of constructing new knowledge about AT in the context of EFL reading, which is the main objective of the present study.

On the whole, the connections and assumptions that emerged from the research literature and that were discussed in the present chapter have an important role in this study in providing material with which to illustrate clusters of subjective experiences of FL learners, with respect to AT, and in the context of EFL reading. The complete aims, the detailed research setting, and the applied methodology of the present study are discussed in the following chapter.

4 THE PRESENT STUDY

In this section, I will introduce the research setting of this thesis. I will present the research questions, explain and discuss the research methodology, introduce the participants and the process of collecting the data, and describe the methods of data analysis.

4.1 The research questions

The research philosophy adopted for this study is phenomenology, which highlights human perceptions and experiences as the primary source of information in producing new knowledge (Stanford Encyclopedia of Philosophy 2013). Accordingly, the research approach of the present study is phenomenography, in which the subject of interest is not the studied phenomenon per se, but the different ways of experiencing it. Indeed, according to White (1999: 445), in the context of investigating learner characteristics, phenomenography aims to reveal the variety and variation of the learners' experiences, interpretations and apprehensions, and the target phenomenon is examined through the eyes of the learner. Similarly, in this thesis, the main aim is to investigate the variety of learner experiences and, in particular, the categories for experiencing the target phenomenon in the target context. As a result, the research question of this study is:

In the context of EFL reading, how is ambiguity tolerance reconstructed in the emerging subjectivities of upper secondary school students?

Subjectivities are in other words clusters of subjectivity, or similarities and differences in viewpoint on a particular subject (Watts and Stenner 2012: 4, Brown 1980: 5). Subjectivities are even comparable to learner profiles or behavior types in the sense that they reveal the variety of types for both perceiving something and for operating in reality according to certain principles. The aim of this thesis is, thus, to examine and describe naturally emerging learner subjectivities distinguished by AT and related subvariables in the defined context. As a result, the existing viewpoints will reflect the ways in which AT is reconstructed among the target population, which provides theoretical information about the learner variable, as well as practical evidence for the manifestation of AT in real life FL reading situations.

Subjectivities are natural groupings, and instead of being defined in advance by theoretical concepts and borders, they must be allowed to emerge unpredictably, requiring interpretation in retrospect. However, although the nature of the emerging viewpoints cannot be acknowledged in advance, the relevant research literature, the aims, and the contextual limitations of an individual study leave room for initial hypotheses. In this thesis, three hypotheses for what might determine the borders of the naturally emerging subjectivities are raised. Together these hypotheses cover a large part of the relevant background theory, which is important premise for a study in which a theoretical construct is intended to be reconstructed from its components. Consequently, the emerging behavior types are anticipated to reflect the different elements listed below (a-c):

a) Tolerance and intolerance of ambiguity (AMB).

In the emerging subjectivities, the most profound distinguishing element in the learner profiles might be the leaners' level of AT. The learners are likely to land on a continuum from highly tolerant learners to highly intolerant, but the balance between the extremes, as well as the implications that the geography of learners on the continuum has on the theoretical construct, remains to be discovered.

b) Budner's (1962) construct of Tolerance-Intolerance of Ambiguity:

i) The phenomenological and operational levels of perception
ii) The reactions of denial and submission
iii) The four types of responses to perceived threat: phenomenological denial (PD), phenomenological submission (PS), operative denial (OD), and operative submission (OS)

In this thesis, the emerging subjectivities are assumed to be divided on the basis of typical levels of perception, i.e., whether the psychological response roused by ambiguity relates to thinking or to the concrete reality, or the typical types of reaction, i.e., whether the ambiguity is rejected or obeyed. AT reflects, in its essence, an individual's tendency to react to a threat, which is why it is realistic to assume that the learner responses in the defined context of the present study will fall into the categories that were originally designed to help describing and defining the psychological construct in question.

c) The AT-related subvariables: learning and reading styles, cognitive styles, and learning and reading strategies (STR), locus of control (LOC), student autonomy (AUT), intrinsic motivation (INT), and reading anxiety (ANX).

As described in the previous chapter, all of the subvariables above can, in one way or another, be related to or affected by AT in the context of EFL reading. Consequently, the mutual coherence of the variables reflected by an individual learner's position to them will accumulate knowledge of the nature of AT in the defined context. In this study, a major interest is directed to the emerging ways in which learners choose to value items related to these different aspects while they create a perception of AT from its components. The aim is, thus, to discover how these learner variables are represented in the naturally emerging subjectivities.

Studying subjectivities is a complex task, and it requires a definite methodology. The methodological choices and central applications will be discussed in the following.

4.2 Data and methods

This section consists of five parts. It begins with an introduction of *Q Methodology* (or simply *Q*). The first part includes outlining the core principles and introducing important Q terminology, which will be referred to throughout the rest of this thesis. As the Q terminology and procedure can appear quite complex, it might be of use to consult concrete examples of one way to carry out a Q methodological study, which is why I will refer to the appendices already in this section. After the introduction, the discussion continues in the second part, in which I will outline the reasons for choosing Q Methodology for this particular study. I will also describe the advantages and disadvantages the methodology brings. The third part includes description of how the methodology has been applied to fit the specific needs of the present study and of the modifications that have been made in order to complement this particular research setting. In this part, I will also introduce the appendices in more detail. The fourth part is focused on reporting when and how the data collection took place. As a final point, the methods of analysis will be introduced and explained in the fifth part.

The main sources of reference for this section overlap heavily with each other. The principles, concepts and procedures of Q Methodology are summarized and briefly introduced in, for instance, the 2005 article by Van Exel and de Graaf, and described in significantly more detail by Watts and Stenner in their 2012 thorough and up-to-date introductory book for doing Q methodological research. Both of the two, among many others, rely heavily on the classical 1980 textbook by a pioneering Q methodologist and a psychologist, Professor Steven R. Brown. Despite the updated sources of reference, the fundamentals of the theory appear to have remained the same throughout the last three decades.

4.2.1 The Q Methodology

Q Methodology was originally developed by the psychologist William Stephenson already in 1935, after which it has been modified and improved by various researchers (Watts and Stenner 2012: 7, Brown 1980: 5). The intriguing research technique provides a foundation for the systematic study of *subjectivities,* i.e., subjective experiences and perceptions among a group of participants (Watts and Stenner 2012: 4, Brown 1980: 5). In practice, Q methodological data is collected by rank-ordering a pack of statement items on a definite type of map (see as an example the Finnish statement cards of the present study in appendix 4, as well as the answer sheet in appendix 2). Next, a factor analysis is performed on the maps in order to reveal any existing clusters of opinion. In theory, however, the methodology is not that straightforward. In this section, I will describe the basic principles and processes of a Q methodological study.

Q Methodology is used to study correlations in actual human behavior. It, therefore, allows studying patterns of thought and behavior as they naturally exist. In contrast, using more traditional, variable-based questionnaires easily leads to studying correlations between any theoretical constraints superimposed on the behavior in the first place, not the behavior itself (Brown 1980: 5). Brown (1980: 5) illustrates this problem frequently faced in the more traditional approach:

This misconception might be compared to that of a physicist who, if upon discovering a high correlation between the measurements of his watch and his wall clock, assumes that he has measured time. All that he has really shown is that his two measuring devices are related, which says nothing about time. There is no underlying dimension, such as time, which is causing the two time pieces to correlate or to load highly on the same factor; it is simply that their mechanisms have been constructed in virtually identical ways.

Hence, unlike more traditional approaches, Q correlates individuals instead of tests and describes holistic perspectives, not correlations between specific traits of people (Watts and Stenner 2012: 12). In practice this results, in a sense, in changing the roles of rows and columns of the quantitative data, which gives the statistical procedures different targets. As a result, the discovered correlations in the data indicate types of viewpoint which actually exist, and thus, give information about clusters of similarities and differences in viewpoints on the phenomenon studied (Van Exel and de Graaf 2005: 1).

The first steps of a Q methodological study, including definition of *the concourse*, development of *the Q set*, selection of *the P set*, and carrying out *the Q sorting*, will be discussed in the following. The last step, analysis and interpretation, will be discussed further in the study.

Concourse refers to the functional discourse surrounding a chosen topic, entailing a collection of all the potential statements and relevant aspects that can be made about a particular subject (Brown 1993: 94). In practice, concourse is an indefinite list which consists of several dozens of statements relating to the studied phenomenon. According to Watts and Stenner (2012: 60), there a various ways to gather the concourse, for instance interviews, questionnaires, observations, popular literature, and research literature). They (2012: 60-61) state that, in practice, the sampling is often best to begin with an extensive reference to academic literature while conducting a literature review to the study in question, as the field needs to be studied thoroughly in any case in order to identify any key issues required for the concourse. Another convenient starting point would be adapting items from existing questionnaires and scales related to the research topic (ibid.). One example of a study in which the statements are obtained from research literature is that of LeCouteur and Delfabbro's (2001). They examined which discursive repertoires for explaining teaching and learning were preferred by university teachers and which by students. The concourse of their study was based on the theoretical model formulated by Samuelowicz and Bain, which means that, in practice, they self-generated

the abundance of statements in accordance with the theory, providing a concourse with a sufficiently representative coverage. Indeed, in addition to choosing *how* to gather the concourse, it is important for the researcher to critically and logically decide *what* is relevant with respect to the research questions and the limitations of the study.

Q set (or *Q sample*) is a representative subset of the statements (Brown 1993: 98). The Q set aims to represent a descriptive and coherent miniature of the large concourse, and its coverage must be in harmony with the research question, context, topic and width of the study, which it is why the selection and modification of statements to a representative whole is often a complex task (Van Exel and de Graaf 2005: 5). For example, the Q set of the present study can be seen in appendix 1. The Q set can be either *structured*, i.e., the studied phenomenon is broken down into roughly balanced sets of component sub-themes, or *unstructured*, i.e., the phenomenon is treated as a whole (Watts and Stenner 2012: 67.). What is more, the researcher may let the Q set *emerge* from the concourse naturally, or *impose* it on the concourse based on a chosen theory that complements the aims of the study (Van Exel and de Graaf 2005: 5). In addition, a Q set must be balanced in the sense that is cannot be biased towards a particular opinion, but this does not have to mean that, e.g., exactly half of the statements are expressed positively and half negatively (Watts and Stenner 2012: 67).

There are no detailed guidelines addressing the size of the Q set. According to Watts and Stenner (2012: 61), the Q set is often 40 to 80 statements wide, although, for instance, Brown (1993) used only 20 statements, and Valenta et al. (2001) 23 statements. Watts and Stenner (2012: 67) reason that, if the sorting task needs to be simplified and the contexts calls for taking down the number of items while keeping the Q set representative, the semantic coverage of the statements should be broadened by making the content more general (Watts and Stenner 2012: 67). Reciprocally, if the content is extremely detailed, more statements are needed, which can, however, be very laborious for the respondents.

The participants of the study are referred to as the *P set* (Watts and Stenner 2012: 70, Brown 1980: 192). Instead of being random, the P set is a controlled group of respondents who are considered relevant to the phenomenon studied (Watts and Stenner 2012:

71, Brown 1980: 192). The P set usually is smaller than the Q set, i.e., rarely over 50 participants, and substantially smaller than what is required in a more traditional survey research (Brown 1993: 104). When evaluating the width and content of the Q set and the size and other features of the P set, it should be kept in mind that due to the characteristics of the research technique, the Q set statements constitute the *sample* of the study, and must thus be representative, whereas each participant becomes a *variable*, and must thus be a controlled choice (Watts and Stenner 2012: 70). As already mentioned earlier in this section, this is the opposite of more traditional methodologies.

Q sorting is the actual data collection procedure in Q studies (Brown 1993: 93). It is a physical procedure that equivalents answering to a questionnaire. Q sorting begins when the respondent is provided with the Q set in the form of a pack of randomly numbered cards, each card containing one Q set statement, as well as with a large score sheet resembling a map, which reflects values from most agree to most disagree (Van Exel and de Graaf 2005: 6-7, Brown 1980: 196). For example, the cards of the presents study can be seen in appendix 4 and the score sheet in appendix 2. Usually, the answer sheet entails some type of symmetrical shape calling for a "forced-choice distribution", which forces a certain number of items to be placed under each ranking value (Watts and Stenner 2012: 77). Forced distribution is both pragmatic and convenient for both the respondents and the researchers, and it carries statistical advantages that a free, non-standardized distribution severely lacks (Watts and Stenner 2012: 77, LeCouteur and Delfabbro 2001: 210). What is more, according to Brown (1980: 200), the width of the distribution ranking values in the score sheet should be guided by the size of the Q set: +4 to -4 is often employed with less than 40 statements, +5 to -5 with 40 to 60 statements, and +6 to -6 with over 60 statements, which, however, is already very rare.

Next, the respondent is instructed to read through all of the statements, and while reading, to begin dividing the statements into three piles: statements she generally agrees with, likes or finds important; statements she disagrees with; and statements about which she is neutral, doubtful or undecided (Van Exel and de Graaf 2005: 7, Watts and Stenner 212: 83). After this, the respondent is asked to rank-order the statements in the score sheet, one provisional category at a time, according to her point of view regarding the issue (Watts and Stenner 2012: 83). The prompt addressing the respondent's view-

point on a specific topic is in the Q sorting often referred to as *the condition of instruction* (Watts and Stenner 2012: 50). The final arrangement of statements is recorded for further analysis (Watts and Stenner 2012: 87). In addition, it is highly recommended to have the Q sorting followed by an interview, in which each respondent is asked to elaborate on her point of view, in particular the most significant statements ranked at the extreme ends of the continuum. This information provides a vital support to the interpretation of factors later on. (Watts and Stenner 2012: 83, Brown 1980: 200)

4.2.2. The methodology choice

In this section, I will briefly outline the reasons for choosing Q Methodology for the present study, as well as describe the nature of the methodology.

As Van Exel and de Graaf (2005: 20) point out, irrespective of its long history, Q remains an innovative and somewhat contradicting method in many fields of study. On one hand, it has considerably interpretative dimensions and it highlights the subjective role of the researcher, which is rarely acceptable in quantitative research. On the other hand, it includes complex statistical analysis, which is rare in qualitative studies. However, if executed appropriately and consistently, Q is a reliable method. This is supported by the fact that e.g. the results of Q studies have been found very replicable (Van Exel and de Graaf 2005: 6). What is more, according to Watts and Stenner (2012: 13), much of the dislike and suspicion of the method derives from misunderstandings, e.g. the failed attempts to complete Q methodological factor analysis to traditional, survey-type data matrices, which often contain different units of measurement in different columns. In Q technique factor analysis, the measuring unit for each row must be matching throughout, which makes a demand for a skilled employing of high-quality Q set data, and rejects the possibility of applying the Q technique to any random type of existing data collected with other purposes (ibid.).

Another potential source of debate is the subjective and substantial role of the researcher in developing the sample of the study. Thomas and Baas (1992, in Van Exel and de Graaf 2005: 8) describe how, although the development of the Q set lacks detailed guidelines and different investigators may determine different Q sets even from the

same concourse, there are two reasons for why the method nevertheless remains sincere. First, as the aim of the researcher is always to arrive at a descriptive set of statements of the wide discourse surrounding the phenomenon, the Q sample is only a logical construction by the researcher. Secondly, regardless of what the researcher considers a balanced Q set, the statements are only tools, and eventually the participants are the ones who give the meanings to the statements through rank-ordering them. In addition, the existing comparative studies show that same conclusions are likely to be reached even with different Q sets collected by different means. Furthermore, Watts and Stenner (2012: 68) conclude that, as the respondents tend to actively configure individual meanings regardless of the statements, even a poor Q set can give useful results.

The first reason for choosing Q Methodology instead of other and more typical methodologies is the nature of the phenomenon studied. As was seen from the theoretical background section of this study, the information found about AT is, at large, very shattered. Q Methodology functions well as a mean of bringing the information together, as all the different relationships and assumptions can and must be drawn into the concourse as well as be represented in the Q set. This allows for the complex phenomenon to be examined from various viewpoints as a whole. In addition, adapting the concourse allows for restraining the phenomenon into a limited context appropriate for the scope of this thesis.

Another reason for using Q is the exquisite sense of control it gives to the respondents in the midst of the data collection. As Van Exel and de Graaf (2005: 20) describe, after finishing the rank-ordering, the participants can see how their opinions concerning the phenomenon are reflected on the score sheet. They can see their opinions in relation to each other and make any changes they wish. In contrast, in a traditional questionnaire, the participants tend to manage one statement at a time and might be inconsistent with their answers because items seem more distinct from each other. Q sorting is self-referent, subjective, and operant, as no constructed effects in the data collection instrument can define an individual's conception of the studied phenomenon, and thus the subjectivities are allowed to form naturally (Brown 1980: 6). I believe that this sense of control and entirety that the participants will have over their contribution, as well as the lack of constraints in describing the behaviors bring reliability to the study as a whole.

Most importantly, Q complements well the research question of the present study. As the aim is to identify naturally emerging clusters of subjectivity concerning AT in the context of EFL reading, Q methodological procedures are logically preferred over traditional questionnaires. When the Q procedures are used for analyzing the mutual coherence of relevant and descriptive statement items concerning a limited phenomenon, actual patterns of perception among a chosen group can be revealed (Van Exel and de Graaf 2005: 4). Studying how a learner variable such as AT is reconstructed in the emerging subjectivities of EFL learners has, therefore, a solid basis in Q Methodology.

Q Methodology is very demanding: it requires great effort from the researcher in collecting the concourse, in choosing and modifying the Q set, in having a controlled group of participants complete the Q sorting, in doing the statistical analysis, and in interpreting the results. It is, however, also fascinatingly creative, reflective, and intriguing.

4.2.3 Applications of Q in the present study

Applying Q Methodology involves various choices and subjective reasoning, and, thus, makes a demand for a process as transparent as possible. In this section, I will describe the process of developing both the data collection instruments and the research setting of this study.

Similarly to LeCouteur and Delfabbro (2001), the concourse of the present study was obtained from research literature. Numerous relevant statements were gathered from existing AT measures thoroughly designed and tested by researchers. These included Budner's scale for AT (1962), Norton's MAT-50 (1975), McLain's MSTAT-1 (1993), and Ely's SLTAS (1989). Additionally, several statements were produced on the basis of the research described in the theoretical background section of the present study, i.e., by operationalizing the conclusions and assumptions found in research literature that are, or can be modified to be, relevant to the chosen phenomenon in the described context. The literature review of this thesis has, therefore, had an important role in the development of the functional background discourse that works as a basis for the data collection instrument.

Furthermore, the Q set of the present study has been developed according to a theory instead of only letting it naturally emerge. Logically, a great variety of wide-ranging tolerance versus intolerance of ambiguity statements emerged from the AT-related research literature, in contrast to the smaller amount of those statements that refer only to some assumption or aspect of AT. I, however, repeatedly included also the more rare viewpoints into the Q set in order to have it represent a wider selection of statements; otherwise, the differences between the Q sorts might remain very subtle. In other words, although the connections between AT and locus of control and AT and intrinsic motivation, for instance, are more of suggestions that factual statements of the nature of the phenomenon, no learner profiles could be identified without involving the nuances in viewpoint that the participants might have into the Q set. Moreover, the Q set statements of this study were carefully modified and balanced between the four postulated responses to threat defined by Budner (1962). This allows the Q sorting to indicate to what extent the subjectivities of the respondents agree with Budner's theory. As a result, in addition to being *imposed* on the concourse, the Q set of this study is also *structured*.

The Q set of the present study contains 36 statements. Important details of the Q set can be seen in appendix 1. In the appendix, the statements are given random numbers, which will be used in completing the Q sorting in practice as well as in carrying out the analysis; this was accomplished by generating 36 random integers between 1 and 36 in a closed sequence, using and online generator. What is more, in the appendix, the statements are grouped according to Budner's response type categories. It is also marked with an abbreviation which subvariable the statement is designed to touch. The statements are balanced so that 8 statements altogether cover general ambiguity tolerance/intolerance (AMB), 8 statements cover intrinsic motivation and anxiety (INT/ANX, 4 statements each), 8 statements cover autonomy and locus of control (AUT/LOC, 4 statements each), and 12 statements cover strategy use (STR), in which I have included variables related to strategy use, learner style, cognitive style, and reading style. The theory operationalized in the statements derived from the research literature discussed in the theoretical background section of the present thesis. The considerable overlap is recognized, but not considered harmful due to the fact that the statements are nevertheless diverse enough to reveal nuances and trends in the final Q sorts and their analysis. What is more, similarly to various other studies (e.g. Budner 1962, McLain

1993), also here the instrument is designed to describe ambiguity *in*tolerance. Approximately half of the statements are reversed into negative and, therefore, marked with an asterisk.

The answer sheet of the present study was designed with care and can be seen in appendix 2. The distribution of statements in the score sheet is 'forced' in the sense that a participant has to agree and disagree with a certain amount of statements to a certain extent. However, the steep shape of the distribution leaves considerable space for insignificant or undecided statements, which calls for fewer difficult decisions and reduces pressure and feeling restricted (Watts and Stenner 2012: 80, Brown 1980: 200). What is more, the distribution used in the sheet is from least agree to most agree though values from 1 to 9, which takes after the typical -4 to +4, and which complements well the less-than-40 item Q set of the present study (Brown 1980: 200). I consciously decided to avoid the frequently used minus and plus values in the score sheet in order to prevent the respondents from becoming upset if they have to give a negative ranking to a statement they agree with due to the score sheet's fixed distribution. According to Watts and Stenner (2012: 79), this could easily happen, which would make the Q sorting uncomfortable. In addition, the recommended post-sorting interviews were in the present study replaced by written comments; instruction sheet (appendix 3) includes moderate space for elaboration.

The P set of this study was developed with respect to the research question. The respondents were chosen from an upper secondary school in Central Finland and were at the time of the data collection attending the English courses 5 and 8. They were 17- or 18-year-old Finnish EFL students who had studied English from the third grade of elementary school, that is, from the age of eight or nine. They had had experiences of various types of EFL reading, ranging from school textbooks to novels and Internet texts. The total P set was the size of 36 students, which complements well the width of the Q set and the limited scope of this study. 37 students altogether were addressed, but the sort of one student was left out from the analysis due to severely incomplete answering. Most importantly, the P set is a defined group to which facing AT in the context of EFL reading is a relevant and frequent phenomenon, which is a condition that must be obeyed in the chosen methodology.

4.2.4 Data collection

The data collection took place on two occasions, on September and October 2012. The Q sorts were collected during the 45 minute long English lessons, under the observation of the teacher of the English courses in question. The respondents were provided with A4 size written instructions (appendix 3), the A3 size score sheet (appendix 2), and a pack of 36 randomly numbered statement cards (appendix 4) printed in light lilac paper and lightly laminated. After a short oral introduction by the researcher, the participants were requested to read the instructions and begin with the rough sorting described previously in this chapter, after which they were continued with the more detailed rank-ordering. It was highlighted to the respondents in both groups that they are free to change their arrangement of statements at any stage of their sorting, that there are no right or wrong answers, and that they will have full anonymity. The time needed for completing the Q sorting and writing the comments varied among the participants from 30 to 45 minutes.

4.2.5 Methods of analysis

This study relies on two types of data. First, there are 36 Q sorts, which are examined in detail in order to discover the different subjectivities among a group of upper secondary school learners of English, with reference to AT, and in the context of EFL reading. Secondly, there are altogether 144 written comments of open elaboration, as each of the 36 participants commented on their most salient opinions by providing explanations for the four items in the extreme ends of the agreement continuum, valued in the Q sorting as 1 or 9. As the comments are mostly used as an additional aid for interpretation and the focus is, thus, merely on their content, this section about the methods of analysis will concentrate on the quantitative Q sorts.

On one hand, as Van Exel and de Graaf (2005: 8) state, the quantitative analysis of Q sorts is in practice, to a large extent, a technical, scientific, and objective procedure. On the other hand, as highlighted by Watts and Stenner (2012: 92), the analysis involves various vital choices, and the possibility for numerous acceptable solutions requires the researcher for a thorough understanding of the specific context, data, and aims of the

study, so that the best possible solution can be found. In the present thesis, the quantitative analysis was completed with PQMethod, which is a free statistical program widely used in Q methodological studies (e.g. Valenta et al. 2001) and which, in contrast to e.g. SPSS, allows data entry in Q sorts (Watts and Stenner 2012: 9). The same statistical procedures, could, however, be completed with other programs or even by hand (for demonstration, see Brown 1980 chapter 3). In the following, I will briefly go through the steps taken in the analysis. The main source literature for this section as well as for the data analysis of this study has been the online PQMethod Manual by Peter Schmolck (2012) as well as the already mentioned Watts and Stenner (2012), in which the use of PQMethod has been described in detail.

The procedures included in the analysis of the Q sorts are various. The first step is to calculate *a correlation matrix* of all the Q sorts entered into the program. The correlation matrix indicates how similar or different the Q sorts are with each other. The second step is that of performing *a factor analysis* of the matrix. This procedure looks for patterns among the correlations, that is to say, creates factors. The computed factor matrix also displays *factor loadings*, that is, the strengths on which separate Q sorts appear to identify with each of the created factors. In the third step, the factor matrix and the loadings are studied in detail, and it must be decided which factors to analyze further. Choosing the factors for further analysis can be based on various conditions, and the researcher might try several solutions before settling on a final result, but the choices must always be validated. The fourth step is clarifying the chosen factor solution with *factor rotation*. The rotation does not chance the consistencies in the data but it might give the researcher a better viewpoint, which will help interpretation. In addition, this step includes *flagging* any defining Q sorts. Defining Q sorts support a factor with a statistically significant loading. The characteristics of the defining sorts, i.e., the particular respondents' opinions on the Q set statements, are used in the upcoming step of calculating several types of values to the chosen factors. (Schmolck 2012, Van Exel and de Graaf 2005: 8-9)

The fifth step is the actual analysis carried out by the QANALYZE module of the PQMethod-program. The scores regarding the Q set statements of the flagged Q sorts are used in computing Z-scores[1] for the factors, with the purpose of displaying the factors' positions on the Q set statements. This procedure reveals statements that characterize and distinguish the factors. In addition, the QANALYZE module calculates *composite sorts*, i.e., synthetic Q sort arrays for each of the chosen factors, comprising a weighted average of the flagged sorts, which allows comparing the factors with each other. The linear factor Z-scores calculated from the sorts of several actual participants do not, unsurprisingly, naturally follow the non-linear and forced distribution of Q scoring, but creating the composite sorts with the values from +4 to -4 is a matter of convenience and aids the sixth step, the interpretation. (Schmolck 2012, Van Exel and de Graaf 2005: 9-10)

Interpretation is where the factor values are combined with the information gained from open questions and comments. Interpretation is a vital part of the analysis, and only the interpreted factors with descriptive titles can be considered as *results* of a Q methodological study. (Schmolck 2012, Van Exel and de Graaf 2005: 9-10) After discovering the existing group of subjectivities, they can be compared and addressed in discussion, and any conclusions can be applied in a new knowledge about the studied phenomenon.

The procedures taken in analyzing the data of the present study will be described in more detail in the following chapter, in which I will present the research results of this study.

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[1] "*Factor z scores or simply, factor scores:* The individual sorts that were "flagged" by the user as the best representatives of the factor are aggregated or "averaged" into one set of statement scores. The exact computational procedure consists in first z-standardizing every sort, and then applying different weights for every sort depending on the sort's factor loading, and computing the weighted average. Finally, every factor score is z-standardized again, i.e. every factor score has the same mean (0) and standard deviation (1), and hence scores are directly comparable across factors. The formula for the factor weights, according to Brown (1980) originates from Spearman (1927):

```
w_ij = a_ij / (1 - a^2_ij)
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where a_{ij} is the factor loading of the *i*th individual on the *j*th factor, and w_{ij} is the weight.''

(Schmolck 2012, PQManual. http://schmolck.userweb.mwn.de/qmethod/pqmanual.htm#view)

5 IN QUEST OF SUBJECTIVITIES

In this chapter, I will present and describe the results of the present study, which are both quantitative and qualitative of nature. In this search for learner subjectivities, I will proceed chronologically, first presenting the results regarding the procedures relevant to the formation of the factors, i.e., the approaching *subjectivities*, and then moving on to explaining, describing, and comparing the individual factors in detail.

In the first section, I will describe my choices included in the factor formation and factor rotation, as well as display a general view on the patterns and groups approaching from the data. In this section, as well as throughout this chapter, I will illustrate the results with the help of various tables.

For the rest of this chapter, I will cover the factors one by one, so that the data concerning a single factor can conveniently be drawn together into a comprehensible whole before moving on to the next one. Consequently, each of these factor sections consists of three subchapters: 1) presentation of the statistical data accumulated from the Q sorts, 2) presentation of the participant motives, and 3) establishing a summary concerning the forthcoming behavior profile. The aim of the first part is to present the statistically most characterizing and distinguishing statements of the factor. The second part addresses the fact that subjectivities include more than the mere statistical factors; in order to transform the numerical data into behavioral profiles, the motives and the reasoning behind the choices must be acknowledged. In practice, I will cover comments to statement items from the most salient statements onwards, that is, starting from addressing the items with the strongest Z-scores. What is more, not all of the 144 participant comments are presented here, instead only a translated selection of those with informative content. Finally, the third part of each of the factor sections includes a detailed discussion based on the two types of data. The aim of the third part is to interpret and describe the factor as a whole and advance it to a subjectivity.

Before moving on to the results, I shall draw attention to a couple of characteristics of the upcoming tables, in particular those that display the factor scores for each of the discovered factors. In the tables, both the Q-scores and the Z-scores are shown in order

to allow easy comparisons and at the same time to be specific. What is more, in the arrays presented, the most neutral statements of each factor (with Q-scores +1, 0, and -1) are not shown, because the aim is to characterize the factors on the basis of the most salient statements. However, in addition to the factor score arrays, I will present the most statistically distinguishing statements of the factors, in which also the more neutral statements can prove to be important. Additionally, as the statements in the actual Q set are long and there as many as 36 of them, I have used shortened versions in the analysis and will present those also here accompanied by the number of the statement. For more detailed reference, the full statements can be seen in appendix 1 and the actual Q set cards, with the statements in Finnish, in appendix 4.

5.1 The five factor solution

This section describes the process that begun with entering the values of the 36 Q sorts and resulted in a definite factor solution. As the quantitative analysis is in the present study done in accordance with the procedures that the statistical program PQMethod has to offer, the theory behind the choices is, to a large extent, based on the PQManual by Schmolck (2012).

First, PQMethod calculated a correlation matrix of all of the 36 Q sorts (appendix 5). As described in the previous section, this matrix represented the level of similarity between the viewpoints of individual respondents. Next, the correlation matrix was subject to a commonly used factor extraction method PCA (Principal Component Analysis), which was here an alternative to a considerably less often used procedure of Centroid factor analysis (Schmolck 2012). PCA identifies and presents the most natural groupings of different sorts and, thus, creates principal factors. What is more, in this process, each Q sort was also calculated factor loadings. As described in the previous section, factor loadings represent how strongly any sort is associated with any factor. The participant loadings to the eight most natural factors created by PCA are seen in table 1.

Table 1. Unrotated factor matrix loadings with * indicating a defining sort.

	Factors							
Sorts	1	2	3	4	5	6	7	8
1	0.7302*	0.2811	0.0081	0.1267	-0.2463	-0.0758	0.0437	-0.2404
2	0.3819	0.5245	0.1048	0.1524	0.4157	-0.0539	0.0093	0.1107
3	0.4652	-0.2750	0.0984	0.3922	0.3425	0.0184	-0.4495	0.0014
4	0.8604*	0.1335	-0.1327	0.0500	-0.0698	-0.1268	-0.1379	0.1161
5	0.6662*	0.0034	-0.0895	0.3692	-0.2102	0.1228	-0.1953	-0.3954
6	0.7588*	0.4652	-0.0698	-0.0428	-0.2827	0.1439	0.1357	-0.1030
7	0.8818*	-0.2179	-0.1858	0.0668	0.0749	0.0914	-0.0332	-0.1028
8	0.6868*	0.1288	0.0022	0.3651	-0.1131	-0.0216	0.0885	-0.1033
9	0.5370	0.0624	0.4677	0.2619	-0.0476	-0.0605	-0.2386	0.1624
10	0.1330	0.5588	-0.0738	-0.2844	0.1771	0.5090	0.1861	-0.2852
11	0.2536	-0.0853	-0.1730	0.3251	0.2215	0.3704	0.1099	0.6631*
12	-0.3556	0.3751	-0.5529	0.1147	0.3003	0.2299	-0.0818	-0.1618
13	-0.4833	0.2025	0.3976	0.4394	-0.0305	-0.0478	0.3500	0.0058
14	0.5549	-0.1417	0.1137	-0.1837	0.2556	-0.4261	0.3609	-0.0063
15	-0.7510*	0.0690	-0.1652	0.2831	-0.1124	-0.2322	0.2447	-0.0181
16	0.6794*	0.1692	-0.2324	-0.3448	0.0547	-0.2229	-0.0395	0.2504
17	0.8580*	-0.2449	0.0430	0.0028	-0.0424	0.0452	0.3009	-0.0309
18	0.8263*	-0.2301	0.1152	0.0640	0.0783	-0.0399	0.0921	-0.0465
19	0.4447	0.0625	0.4974	-0.2172	0.1180	0.3135	0.2367	-0.1471
20	0.3674	0.1539	0.6816*	0.0424	-0.1971	0.0277	-0.0731	0.0652
21	-0.0386	0.4726	-0.0622	0.1818	0.5695	-0.3235	-0.0525	-0.1511
22	-0.1601	0.6058*	-0.0694	0.1128	-0.1708	0.3894	-0.0263	0.1397
23	0.7935*	0.1184	0.2369	0.1728	-0.0115	0.1294	0.0796	-0.1337
24	0.5984	0.2948	0.0899	-0.2271	-0.1997	0.0040	-0.3954	0.2006
25	-0.0986	0.6629*	0.1028	-0.4647	-0.1176	-0.1308	-0.0889	0.1618
26	0.6944*	0.0387	0.1788	-0.2514	0.3625	0.1142	0.0761	0.1251
27	0.8976*	-0.3017	0.0513	-0.0808	0.0282	0.0298	0.0087	-0.1195
28	0.8642*	0.0144	-0.0285	-0.1172	0.0306	0.1365	0.0873	0.1497
29	0.8118*	0.2258	-0.0991	0.0052	0.0823	-0.0729	-0.0881	-0.0721
30	0.7391*	0.0736	0.2391	0.2028	-0.2840	-0.0575	-0.2026	0.0518
31	0.1652	0.3108	0.7032*	0.0325	0.1128	-0.1003	0.0573	-0.0633
32	0.1383	0.6179*	-0.3145	0.0018	-0.3830	-0.3146	0.1598	0.0555
33	0.8242*	-0.0136	-0.3462	0.1016	-0.0429	-0.0089	0.1389	0.0908
34	0.7327*	-0.2919	0.0035	-0.4051	-0.1415	0.0110	0.1799	0.1073
35	0.5264	0.1603	-0.2587	0.5244	0.0071	-0.1052	0.3027	0.2060
36	0.7147*	0.0593	-0.2345	-0.2141	0.2447	-0.2358	-0.1293	-0.1951

From these eight factors, I initially decided to analyze further only those which follow two rules. First, a chosen factor should explain more than half of the common variance for at least one participant, which is fulfilled if the squared loading for a single factor is larger than half of the sum of the squared factor loadings; a2>h2/2. Secondly, in order

for the factor to be analyzed further, the loading for it by at least one participant should be statistically significant at p>.05. Checking the realization of these two rules can be accomplished by taking advantage of the pre-flagging algorithm of PQMethod, which is designed to mark the so called *defining* loadings that obey the two rules. In table 1, the defining loadings are marked with an asterisk. According to the two rules presented, the factors chosen for further analysis were factors 1, 2, 3, and 8. However, I also decided to include factor 5 in further analysis as it has a supporter with a loading as high as .56 (sort 21), and, after experimenting various factor solutions, it was evident that factor 5 would get more support from the dropped factors 4, 6 and 7 in the rotation phase.

Table 2. Explanation values of the chosen factors.

Factors						
	1	2	3	5	8	Cumulative
Defining sorts	19	3	2	0	1	25 (69.4%)
Expl.var.	39%	9%	7%	5%	3%	63%

The explanation values of the chosen factors are presented in table 2. 25 of the 36 participants, i.e., 69.4%, have a clear support for one of the chosen factors. The remaining eleven participants were confounded between two or more factors and did not reach the level of significance in any of the factors. However, all of them do have reasonably high loadings for at least one of the chosen factors: seven of them over the level .5 and the remaining four over .46. It is, thus, clear that the majority of participants is influenced by the chosen factors, and that the dropped factors numbered 4, 6 and 7 are not carrying a very significant importance. What is more, in comparison, in a study by Valenta et al. (2001: 116), for instance, only 47% of the participants had significant correlations with the three factors that were chosen for analysis and interpretation.

Table 2 additionally presents how the five factor solution explains 63% of the total variation. This is very sufficient, as, for instance, in a Q methodological study of teacher and student preferences by LeCouteur and Defabbro (2001: 212), a four factor solution concerning a student group explained 49% of the variation, and a three factor solution concerning a teacher group explained 62% of the variation, which are both lower than the initial explanation value in the present study. The explanation values thus support

the preliminary five factor solution. In consequence, as the solution can be defended by the reasons just presented, the factors initially numbered as 1, 2, 3, 5, and 8 will from this point forward be referred to as factors 1, 2, 3, 4, and 5, respectively.

The five factors chosen in the present study are not balanced with each other; instead, factor 1 is strongly supported by the majority of the respondents on the cost of the others (see tables 1 and 2). This implies that, in general, the participants agree with each other and that, in reality, there is one major factor explaining a large amount of the variation among students. This, however, does not imply that the rest of the factors were not as existent, as they are strongly supported by some participants who, in contrast, have very weak loadings for factor 1.

Although factors do not have to be supported on equal strength, I decided to clarify the minor factors with the help of factor rotation in order to help interpretation and definition of the factors. This was accomplished by using the PQMethod's program PQROT, which is designed for graphical hand-rotation of principal factors. The factor rotation included various adjustments. I first balanced factors 2 and 4 in order to let the closest supporter of 4, participant 21, to be in as great focus as possible (-25). I also made the distinction between factors 1 and 3 more evident in order to take use of the nuances that the supporters of factor 1 clearly had towards factor 3 (-10). In addition, I centered the defining sorts of the factors by rotating slightly factors 1 and 2 (+5), as well as 3 and 4 (-5), and then strengthened the loadings of the only supporter of factor 5, participant 11, by rotating factor 5 with factors 2 (+15), 3 (+5), and 4 (-5). As the factors appeared to have better balance after these procedures, no more rotating actions seemed necessary.

The effects of the factor rotation can be seen in tables 3 and 4. The variation is now explained in a more balanced way between the factors. In addition, the five factor solution includes now as much as 29 of the 36 participants (80.5%) on a statistically significant level, leaving out only 7 confounded participants, of which 5 support the existing loadings with values over .5 and only two participants remain below that. As a result, after the rotation, the five factors chosen for further analysis cover a very large majority of the respondents.

Table 3. Rotated factor matrix loadings with * indicating a defining sort.

	Factors				
Sorts	1	2	3	4	5
1	0.7441*	0.2252	0.1306	-0.0710	-0.3228
2	0.3854	0.2756	0.1230	0.6100*	0.0726
3	0.4055	-0.4200	0.1686	0.1913	0.1150
4	0.8798*	0.1023	0.0326	-0.0153	0.0903
5	0.6754*	-0.0657	0.0246	-0.1641	-0.4054
6	0.7699*	0.0878	0.0810	-0.2151	-0.1494
7	0.8776*	-0.3124	-0.0229	-0.0369	-0.0219
8	0.6864*	0.0758	0.1228	-0.0310	-0.1375
9	0.4482	0.0757	0.5653	0.0223	0.1137
10	0.1837	0.3234	-0.1053	0.4206	-0.3489
11	0.2662	-0.0198	-0.0944	0.1027	0.7068*
12	-0.2272	0.1802	-0.6550*	0.3922	-0.1491
13	-0.5279	0.2333	0.2938	0.0972	-0.0688
14	0.5040	-0.2772	0.1994	0.1769	0.0660
15	-0.6970*	0.1633	-0.2941	-0.0874	-0.0491
16	0.7197*	0.1291	-0.1004	0.0925	0.2380
17	0.8143*	-0.2725	0.2108	-0.1366	0.0184
18	0.7678*	-0.3115	0.2651	-0.0157	0.0168
19	0.3475	-0.0659	0.5462	0.1902	-0.1581
20	0.2553	0.2091	0.7443*	-0.0444	-0.0387
21	-0.0277	0.1329	-0.0201	0.7323*	-0.1443
22	-0.1151	0.6460*	0.0311	0.1187	-0.0216
23	0.8302*	0.0050	-0.1004	0.0349	-0.1316
24	0.6324*	0.3406	0.0340	-0.0606	0.1114
25	-0.0578	0.6738*	0.0697	0.1936	-0.0038
26	0.6403*	-0.1436	0.2801	0.3517	0.1729
27	0.8449*	-0.3775	0.2182	-0.0931	-0.0434
28	0.8521*	-0.0339	0.1355	0.0274	0.1577
29	0.8291*	0.0738	0.0294	0.1754	-0.0852
30	0.6955*	0.1381	0.3887	-0.1948	-0.0204
31	0.0568	0.1977	0.6904*	0.3095	-0.1430
32	0.2539	0.6963*	-0.2799	-0.0918	-0.1161
33	0.8702*	-0.0418	-0.1792	-0.0760	0.1122
34	0.6977*	-0.2257	0.1675	-0.2585	0.1444
35	0.5752	0.1425	-0.1526	0.0456	0.1886
36	0.7401*	-0.1637	-0.1323	0.2387	-0.1352

Table 4. Explanation values after factor rotation.

	Factors					
	1	2	3	4	5	Cumulative
Defining sorts	20	3	3	2	1	29 (80.5%)
Expl.var.	38%	8%	8%	5%	4%	63%

Next, the rotated factors were studied for bipolarity. If a factor is bipolar, that is, being defined both by positive and negative loading sorts, a negative synthetic factor array should be created by manually reversing the values of the positive loaded sort, in order to allow an interpretation of the factor from both positive and negative viewpoints (Simon and Stenner 2012: 165, 168). Bipolarity is initially found here in factors 1 and 3 as, among the group of defining sorts, participants 12 and 15 have a high negative support to the otherwise positive supported factors. However, later in the analysis, I discovered with the help of participant comments that participant 15 had actually agreed with other supporters of factor 1 and, due to a personal misinterpretation of the instructions, ranked-ordered the statements in the opposing order, thus appearing as a negative supporter. Participant 12, however, proved to be a valid negative defining sort. Nevertheless, in order to overcome the problem of bipolarity and to be specific, before knowing the true nature of sort 15, I manually de-flagged both negative sorts before computing the factor values presented in the next section, intending to address the two sorts as a separate alternative versions of the factors they support. Sort 12 will be addressed this way, but as sort 15 is merely an additional consistent supporter among the numerous defining sorts of factor 1, and as the time-frame of conducting this study limits the possibilities of re-calculating all the factor values, the contribution of sort 15 will remain outside of the computational process.

For interpretation, it is important to be able to compare the factors with each other. The following table 5 presents all the hypothetical factor arrays together, which allows comparisons concerning single statements. This table also includes the hypothetical factor array for the negative alternative of factor 3, manually generated from the Q sort of participant 12, and labeled in the table as 3N. What is more, in table 5, the statements are sorted by consensus versus disagreement, i.e., the statements more close to the top of the table indicate items on which the factors statistically appear to agree with each other, whereas towards the bottom of the table the statements become increasingly more statistically distinguishing and, thus, more important for the identification of the factors.

Table 5. Comparison of the five factor arrays: factor Q-scores for each statement sorted by consensus vs. disagreement. (Variance = 4.667, St. Dev. = 2.160)

Item	Factor Arrays					
	1	2	3	3N	4	5
18 Learning to read in English up to the learner N	3	1	0	0	2	1
12 Having control over own anxiety N	1	-1	2	2	1	2
3 Reading techniques and organized reading	-1	1	0	-2	0	-2
29 Global reading approach N	3	2	3	0	1	0
22 Similar opinions on text use in studying English	-1	-1	-1	0	-1	-4
33 Accepting unclear translations from the teacher N	3	-1	0	-3	0	2
11 Having control over own success in reading processes N	4	2	4	-2	0	1
34 Reading several texts at once N	0	-4	-4	3	-1	-1
1 Having no English-Finnish dictionary	-2	-4	-1	0	0	0
6 Using the co-text with unknown words	-2	-2	0	-4	-4	-3
15 Less likely to complete ambiguous tasks	0	1	2	-2	4	1
2 Avoiding starting to read due to anxiety	-4	-2	1	3	0	0
14 Recognizing and disregarding irrelevant sections N	1	0	3	-1	1	-1
20 Interpreting with too few cues	-2	0	-1	2	2	1
24 Reading independently vs. under a guidance N	2	-3	-2	1	-1	-1
27 Getting an easier text or a different task	-1	1	-1	-1	2	-1
17 Not interrupting the flow of reading N	-1	-2	-1	-2	-1	2
10 Feeling uncomfortable with skipping over sections	0	2	-1	2	1	-2
28 Feeling uncomfortable with reading a text in a new way	-1	0	-1	4	2	3
19 Leaving problems unsolved without help	-3	0	-4	1	-2	-2
30 Comparing unknown words to familiar words N	1	0	-2	1	-1	3
32 Texts must have correct interpretations	0	3	-1	4	-2	-1
26 Being clear about what is being read	1	4	1	0	-2	0
7 Missing the joy of reading in a foreign language N	4	-1	0	0	3	1
5 Knowing the type of the text and the reasons for the reading	-2	-2	-3	1	0	2
9 Feeling uncomfortable with independent reading	-4	1	1	1	1	0
13 Feeling positive about open tasks N	2	2	-2	-3	-2	2
16 Understanding how complicated texts can be N	2	-2	2	-1	1	-3
21 Reading a designed collection of short texts	-2	2	1	-3	-2	-4
25 Random reading style N	1	-1	3	-1	-3	3
31 Feeling more anxiety than interest	-3	3	- 2	2	2	4
8 Avoiding ambiguous reading	-3	3	2	2	-3	-2
23 Reading authentic books voluntarily N	2	-4	-3	-1	-3	0
36 Easy reading would get boring N	2	-3	2	-4	-4	4
35 Preferring familiar theme and content	0	0	4	-2	4	-3
4 Cheating with authentic reading	0	4	-4	3	3	-2

Presenting the results of this study now continues from the viewpoint of individual types of subjectivities, as I begin describing the five factors one by one, starting from factor values, moving on to participant elaboration, and ending up summarizing the central characteristics associated with the group.

5.2 Type 1 - The tolerant, autonomous and motivated

As was displayed in the previous section, Factor 1 has altogether 20 defining sorts, which is over a half of the data, and it explains as much as 38% of the variation in the Q sorts. Consequently, while on one hand, it represents one of the factors in this study, on the other hand, it describes a behavioral profile with which the majority of upper secondary school learners of English could more or less identify with. In this section, I will present the results concerning the first and the strongest pattern of correlations that arose from the data. I will start from the statistical results, then move on to the participant motives, and finally present a summary of the characteristics of the first discovered subjectivity.

5.2.1 Factor values for factor 1

The factor scores for factor 1 are presented in table 6. Due to the balanced instrument, if, in the factor's composite sort, the negative statements (marked with an N) are agreed with and the positive statements disagreed with, the factor reflects AT. If the agreement goes the other way round, the factor indicates ambiguity intolerance. If there is variation in the agreement towards positive and negative statements throughout the factor, it implies that a certain type of AT is in question. As can be seen, factor 1 shows clear stand towards all the viewpoints reflecting AT.

In more detail, in the ten most characterizing statements with ranking values (-)3 and (-)4, operative submission level is the most emphasized with 40% coverage, which indicates an evident absence of avoidance behavior in this group. Also emphasized, with 30% coverage, is the phenomenological denial level, which here reflects AT and acceptance of complexity on a theoretical level. Two of the ten most characterizing statements reflect AT on an emotional level, and only one item is left for operative denial level, which is, as can be seen, much underrepresented throughout the composite sort. The reason for this is likely to be the fact that individuals in a group with a high AT have little need to operate with confronted ambiguity in reality, as they probably tolerate it as it is.

Table 6. Factor scores for Factor 1. Both the Z- and Q-score are shown, as well as the subvariable and psychological response-type that the items are designed to touch. Reversed items marked with N.

Item	Z-scores	Q-scores	Subvariable	Response
7 Missing the joy of reading in a foreign language N	2.051	4	Int	PD
11 Having control over own success in reading N	1.381	4	Loc	PD
18 Learning to read in English up to the learner N	1.310	3	Loc	OS
29 Global reading approach N	1.286	3	Str	OD
33 Accepting unclear translations from the teacher N	1.194	3	Amb	PD
23 Reading authentic books voluntarily N	1.135	2	Int	PS
24 Reading independently vs. under a guidance N	0.955	2	Aut	PD
13 Feeling positive about open tasks N	0.920	2	Aut	OS
36 Easy reading would get boring N	0.865	2	Amb	PS
16 Understanding how complicated texts can be N	0.770	2	Amb	PD
…				
21 Reading a designed collection of short texts	-0.786	-2	Amb	OS
20 Interpreting with too few cues	-0.798	-2	Anx	PS
1 Having no English-Finnish dictionary	-0.946	-2	Str	OS
6 Using the co-text with unknown words	-1.072	-2	Str	PD
5 Knowing the type of the text and the reasons	-1.077	-2	Str	PS
31 Feeling more anxiety than interest	-1.134	-3	Anx	PS
8 Avoiding ambiguous reading	-1.370	-3	Loc	OS
19 Leaving problems unsolved without help	-1.415	-3	Loc	OS
2 Avoiding starting to read due to anxiety	-1.427	-4	Anx	OS
9 Feeling uncomfortable with independent reading	-1.909	-4	Aut	PS

The most distinguishing statements for factor 1 are seen in table 7. These include the reversed items 23 "I would like to read more authentic English books and/or I already read lots of them." and 24 "Reading and interpreting a text independently is more effective than working under a teacher's guidance." Unlike all the other factors, factor 1 indicates a slight support to these two items, which reflects intrinsically motivated and autonomous approach to reading. Factor 1 also involves a very strong disagreement with item 9 "It feels uncomfortable if I have to read something in English independently without instructions and/or guidance", which is also designed to indicate the learner's capacity for autonomy.

Table 7. Distinguishing Statements for Factor 1. Both the Z- and Q-score are shown. (P < .05 ; asterisk (*) indicates significance at P < .01)

Factors	1		2		3		4		5	
Item	Q	Z	Q	Z	Q	Z	Q	Z	Q	Z
23 Reading authentic books voluntarily N	2	1.13	-4	-2.28	-3	-1.53	-3	-1.30	0	0.00
24 Reading independently vs. under a guidance N	2	*0.95	-3	-1.12	-2	-0.77	-1	-0.34	-1	-0.46
9 Feeling uncomfortable with independent reading	-4	*-1.91	1	0.19	1	0.47	1	0.68	0	0.00

5.2.2 "Everyone is responsible for their own learning."

In this section, I will first present a selection of comments concerning the highest and lowest ranked statements of factor 1, which are items 7, 9, 11, and 2. In addition, I will present comments to a few other items that were considered important by a section of participants in this group even though, on average, they did not reach the highest status in the factor's composite sort but instead reflect less agreement inside the group. Factor 1 has a statistically significant support from 20 participants. In addition, participants 13, 14 and 35 have the highest support for factor 1 although not on a statistically significant level.

The most characteristic and important statement for the supporters of factor 1 is the reversed item 7, which is very strongly agreed with and which has a very high Z-score of 2.051.

7. If you read English only from school books you will miss most of the joy of reading in a foreign language.

1) Because schoolbooks are focused on teaching, it's better to read something you find interesting instead and learn besides. (sort 4)
2) In school books there are not as often as interesting topics as you would have in texts you choose yourself. You also quickly gain new vocabulary by reading different texts. (sort 18)
3) Usually in school books there are only chapters that have something to do with the course. If you read what you like, you can get more interested in English. (sort 26)
4) You must read also other texts besides schoolbooks because then you learn more thoroughly and usually texts in schoolbooks are narrow and perhaps boring. (sort 36)
5) Because you only get a fraction out of the magnificence of the English language if it's only read from schoolbooks. Reading books, newspapers etc. and chatting online with foreigners develop language skills and thinking in a deeper way. (sort 7)
6) English is by far the most talked and written language internationally. All media and information is accessible mostly in English. Reading English only from school books causes anxiety and might cause aversion towards the language. The more you read in English, the more rewarding it is. (sort 27)

7) It's important to me that I read English also from other sources than schoolbooks. In school books the vocabulary is limited anyway. (sort 16)
8) The role of schoolbooks is to teach how to use all the possible types of English texts. (sort 1)
9) I find reading in English fun and it develops language skills. And I want to challenge myself by reading something different. (sort 34)
10) I consider reading English books nicer than reading Finnish books. And usually the Finnish versions of English books are worse. (sort 33)

The comments concerning item 7 are focused on various issues. Examples from 1 to 5 reflect the uninteresting nature of schoolbooks and the effects that more interesting reading has on learning more thoroughly, becoming interested in the language, and gaining a larger vocabulary. This is intriguing, as the item is supposed to focus on the *joy* of extensive reading and intrinsic motivation, not its *usefulness* and instrumental or integrative motivation. Example 6 focuses on the extraordinary status of English language faced outside schoolbooks. Gaining access to the international world with seems to be the main motivator for studying the language. This motivational orientation also seems to be rather integrative and instrumental than purely intrinsic. Example 7 concentrates on personal processes and on the effect that reading has on the person's self-image. The comment does not reflect intrinsic motivation even though the demands for extra reading are internal, particularly as the person foregrounds vocabulary learning. In example 8, the participant reasons matter-of-factly how the schoolbooks do not even represent any genuine reading, but instead are only a mean to prepare the learners for reading English texts in real life. As a result, examples 9 and 10 show the only comments that reflect intrinsic motivation to reading and highlight the joy of reading.

The next important statement for factor 1 is item 9, which is very strongly disagreed with and which has a Z-score of -1.909.

9. It feels uncomfortable if I have to read something in English independently without instructions and/or guidance.

11) At its best using English feels easier for me than using Finnish. (sort 1)
12) I don't mind not having instructions before reading some text. I do understand texts even without specific instructions. (sort 33)
13) It's not at all uncomfortable. (sort 5)
14) Independent studies and the possibilities they offer suit me well. (sort 7)
15) I prefer reading independently, one gets to proceed on one's own tact and focus on the things one personally considers important. (sort 17)
16) It gives more pleasure to read independently, in your own tact and without restrictions. (sort 27)
17) When reading independently there's more room for free reflection, as you don't need to concentrate on given instructions. (sort 18)
18) Reading independently gives fluency to reading. (sort 29)

Comments in examples 11 and 12 highlight the learner's own competence and capability to understand English texts easily. It must be noted that this might as well indicate their high proficiency level instead of their high AT and general lack of anxiety. Example 13, in contrast, simply disagrees with the statement, which can be interpreted as merely tolerating or even approaching independent reading, regardless of the reasons. Examples from 14 to 17 indicate a consciously autonomous learning style and valuing the advantages of independent reading. In example 18, the participant additionally brings out the usefulness aspects and promotes the effects which the autonomous reading style has on learning results.

Item 2 has a Z-score of -1.427. Ranking this item important represents a substantial absence and dislike of avoidance behavior. The comments mostly simply disagree with the statement. In example 19, however, the participant also highlights her personal stick-to-itness when facing challenges.

2. I avoid starting to read because I know that it might be anxiety provoking and awful.

    19) If I consider something challenging I don't give up right away but try my best. (sort 34)

The reversed item 11 has a Z-score of 1.381. The participant comments to this item show simply agreement. What is interesting is that, although the wording of the statement includes the first person singular *me* and is, thus, prompted to be considered a personal issue, the comments such as the representative examples 20 and 21 reveal how the respondents tend to generalize the statement to a very phenomenological, factual, and de-personalized level.

11. In the end it is me who controls my own success in reading.

    20) Because it's fully up to oneself, no one else, how reading is mastered. (sort 5)
    21) Everyone is responsible for their own learning. (sort 29)

In addition to the four statements in the extremes, there were other items that some participants were very passionate about. Items 19, 33, 18, 29, 8, and 31 received an average Q-score of 3. In the following, I will present the item in question in addition to some comments to it from participants who had ranked it as 1 or 9.

The reversed item 19 has a Z-score of -1.415 and it is, thus, disagreed with by several participants. As can be seen, despite the -3 rank in the factor's non-linear composite sort and being excluded from the extreme statements by default, the Z-score of this item is actually more significant compared to that of item 11, which gained a Q-score of 4. Nevertheless, disagreeing with the statement reflects inner locus of control and again an absence of avoidance behavior. In example 22, the participant expresses her personal effort and curiosity towards the difficult text, and a reasonable disfavor of merely giving up. In example 23, the participant highlights her determination, sense of responsibility, and crucial role in problem solving to a more significant extent. As a matter of fact, the participant appears to have an extremely strong inner locus of control, as she considers herself the only existing expert regarding the problems she might have with texts.

19. If I face a problem with a text and there's nobody to help me, I tend to leave it un-solved.

22) I would at least want to try to figure out what the text is about. (sort 26)
23) I NEVER leave things unsolved; if I face a problem, I will solve it independently. Nobody could understand the problem if they hadn't put their mind to it. "Self-help is the best help". (sort 27)

Factor 1 appears to be very consistent, as item 8, again concerning avoidance behavior when facing ambiguity, is generally disagreed with. It has a Z-score of -1.370. The comments are present in two representative levels of intensity: example 24 reflects employing personal effort instead of avoiding difficulties, whereas example 25 extends a bit further by reflecting an approach behavior regarding challenges.

8. I avoid reading if I know that a text is difficult to comprehend, it has multiple inter-pretations or it is about a topic I know nothing about.

24) If I consider something challenging I don't give up right away but try my best. (sort 34)
25) I always welcome a challenge. (sort 28)

The reversed item 18 has a positive Z-score of 1.310. The comments generally reflect learner autonomy. The item was designed to address the phenomenological and even theoretical level of perception, directing very little attention to personal level, but the views on the comments appear to either reflect a general level (example 26) or to be very personalized (example 27).

18. Even though the teacher had an important role in learning English, learning to read in English is mostly up to the learner.

> 26) Because it's fully up to oneself, no one else, how reading is mastered. (sort 5)
> 27) Based on my personal experiences, one learns to read by choosing an interesting book. (sort 23)

The reversed item 29 has a Z-score of 1.286, which indicates an agreement with a global reading style often connected to AT and successful FL reading. The reasons behind the choices can be various, and a few of them are illustrated in the participant comments. In example 28, the participant reports not paying attention to unfamiliar words, which is perhaps a strategic choice for upholding the flow of reading. The comment in example 29 highlights the usefulness aspect, as understanding the whole is associated with improved learning.

29. When reading, I focus on understanding in wider a sense than on a word and grammatical level: what the text is roughly about and which issues are related to each other.

> 28) I don't pay much attention to distinct words if I don't know them. (sort 4)
> 29) When you understand the whole you learn better. (sort 30)

The reversed item 33 has a Z-score of 1.194. It mirrors acceptance of ambiguity from the teacher, an absence of black-and-white thinking, as well as an absence of feeling uncomfortable when facing ambiguity. This statement tended to be considered self-explanatory and difficult to justify, but nevertheless the comments revealed a variety of motives. For instance, example 30 is focused on the characteristics of English language, example 31 on the characteristics of a teacher, and example 32 on general theories of knowing and personal agency. Comment 32 is particularly interesting, as it implies that, in a described situation in reality, the participant would remain motivated to seek out the interpretation even though the teacher was unable to give a sufficient answer, which highlights personal agency and autonomy. However, comments in examples 31 and 32 do involve a possibility that the participants actually have faith in the existence of one true translation, which is contradictory to AT on the phenomenological level.

33. I am not troubled even if the teacher could not say exactly how something is translated into Finnish.

> 30) English is a language you cannot translate 100%. (sort 6)
> 31) Even a teacher cannot know everything, that's humane! (sort 16)
> 32) No-one can always know everything and by interpreting and checking a dictionary the meaning usually becomes clear. (sort 33)

Item 31 has a Z-score of -1.134 and was, thus, disagreed with by several participants, which logically implies that difficult EFL reading is considered more interesting than anxiety provoking. However, according to the comment in example 33, the potential anxiety associated with difficult EFL reading is not outweighed by the interest, but by the effects which exercising reading skills have on learning. This again illustrates how the motivational orientation experienced can be instrumental or integrative instead of intrinsic.

31. Reading a difficult text in English is more anxiety provoking than interesting.

   33) Skills develop more efficiently when you read a difficult text. (sort 18)

Despite the slight differences of opinion regarding the motivational orientations or tolerating/approaching new challenges, one statement clearly breaks the consensus of the group. Six out of the twenty supporting participants of Factor 1 placed one of the distinguishing statements of the factor, item 23, in the positive extreme by ranking it as 4. The mean Q-score for the item is nevertheless only 2, its Z-score being only 1.135, which indicates that there is a considerable disagreement in the group concerning voluntarily extensive reading. The existing comments clearly reflect an intrinsic motivational orientation: examples from 34 to 36 illustrate a love of reading in English. Example 37 is mostly focused on admiring the English language, and thus, reflects a strong integrative motivation.

23. I would like to read more authentic English books and/or I already read lots of them.

   34) I read almost all books besides from schoolbooks in English. (sort 17)
   35) I read lots of English literature at the moment and could read even more! (sort 7)
   36) Reading English books gives more satisfaction than reading Finnish books. Even words sound fancier and better in English. (sort 27)
   37) I'd like to learn the English language really well and speak it as fluently as I speak Finnish. (sort 26)

5.2.3 Summary of type 1

Reviewing the statistical results of factor 1 in the light of information gained from participant comments both verifies and modifies the initial features of the factor. In this section, I will draw together the two types of data and summarize the characteristics of the newly formed subjectivity *The tolerant, autonomous and motivated*.

The first and strongest behavior type that arises from the data entails patterns of thought and behavior that very strongly and consistently reflect AT. The acceptance of ambiguity on a phenomenological level is not all-embracing, as comments to item 33, for instance, suggest that the learners might be looking for a one true interpretation after all. However, among the target population, type 1 can be assumed to reflect as complete and illustrative real life AT as possible. With this in mind, every one of the aspects initially associated with AT, both in the research hypotheses and the data collection instrument, seem to be relevant; all of the response types described by Budner (1962) have been addressed without disregarding any level of operation, and the relationships to learner autonomy and locus of control, to preferring of certain globally oriented strategies and styles, and to the relevance of intrinsic motivation and anxiety appear to be valid. All in all, it is an encouraging finding that such a strong majority of learners support a behavior type this positive.

However consistent the subjectivity is, with respect to AT, it does highlight some specific aspects. In comparison to other arising groups, type 1 mirrors particularly strong learner autonomy and internal locus of control, i.e., acknowledges the learner's own agency in the learning process. Thus, learners sharing this subjectivity will recognize the importance of personal effort in learning, both in practice as concerning their own learning, and in theory as a phenomenon, concerning their peers and learners in general. The conveyed personal agency also concerns both the learners' *capacity*, as was defined by Benson (2011), and their *beliefs* about their capacity, which was the idea in White's (1999) definition. All in all, personal agency is widely recognized in the group, and some of the individuals are extremely assured of the vital role and responsibility of the learner, as, e.g., in problem solving, a learner might consider herself as the only expert and the only possible solver regarding a problem faced during a reading process (see

example 23). The exceptional connection between strong AT and learner autonomy were also seen in the results of White (1999) and Pascal (1973).

The aforementioned viewpoints concerning autonomy and locus of control are also reflected on the psychological reaction types by the absence of avoidance behavior. This is discovered both in the numerical analysis and the participant comments. What is more, in addition to indicating personal determination and effort, the lack of avoidance behavior is, according to the participant comments, also associated with a taste for challenges, which results into approaching ambiguous tasks. This is where the positive extreme of the ambiguity tolerance-intolerance-continuum can be extended from *acceptance* to *attraction*. This observation is in accordance with the original AT construct described by Budner (1962), as well as with the newer definition by McLain (1993).

Moreover, the autonomous learners of this behavior type are not likely to associate anxiety with independent reading or other ambiguous reading activities. This is seemingly due to two reasons: the recognized advantages of autonomy and the learners' strong belief in their own skills. On one hand, the learners seem to recognize various benefits of teaching that promotes autonomy, such as the possibility for individual learning processes, the extra fluency gained by using the language independently, and the positive room for free reflection. Both in theory and in practice, EFL reading process is accepted with all the strain it naturally brings, as for instance, open tasks and facing unfamiliar words and imprecise translations from the teacher are tolerated well. This is, of course, only logical, as anxiety quite closely resembles the response level of phenomenological submission in the definition of AT (e.g. El-Koumy 2000). On the other hand, challenges related to EFL reading might be welcomed in the absence of anxiety because the learners are not excessively worried about the possible consequences of failing. What remains open to discussion is the notion derived from the comments to item 9 (see examples 11 and 12 in specific), which hint at the possible role of proficiency: it is only logical that more proficient learners appear very tolerant for ambiguity, particularly as AT is often placed in lists describing successful FL learners (e.g. Johnson 2001: 141), and as previous studies have drawn connections between AT and success in both FL learning (e.g. Chapelle and Roberts 1986) and reading (Erten and Topkaya 2009)

Irrespective of the level of the learners' language skills in type 1, they seem to share a global reading style and a use of various different globally-oriented strategies that, in the research literature, are associated with AT and successful reading processes (e.g. Griffiths 2003, Nishino 2007, Ely 1989). The reasoning behind employing these behaviors is, however, at variance. As a matter of fact, the most intriguing discovery concerning this group is the variety in motivational orientations.

According to the statistical analysis, the factor appeared to reflect lack of anxiety, and instead logically point towards the other end of the theoretical continuum conveyed by, e.g., Fransson (1989: 88) and Noels (2001: 50), being intrinsic motivation. However, the one item that addressed pure intrinsic motivation, i.e., the enjoyment of engaging in the FL activities per se (Dörnyei 2001: 51), clearly broke the consensus of the group. This was item 23 concerning voluntarily extensive reading. A significant part of the group highlights the role of voluntary reading to a substantial extent, either for the love of the language or for the love of reading, whereas others do not engage in reading English books in free time. Thus, intrinsic motivation that leads to extensive reading potentially helps developing AT, but it is clear that type 1 is not necessarily characterized by a will to read extensively in free time.

Besides item 23, there were other items designed to address intrinsic motivation that were ranked high by the respondents, but according to the participant comments, the motives were not purely intrinsic, but were targeted towards rewards outside the task at hand. In other words, instead of describing the joy - or the discomfort - of a specific type of reading, prompted by the statement, the participants often focused on the usefulness of certain types of activities and their effects on EFL learning. Several comments involved remarks on language skills or vocabulary although the item was not designed to be associated with these. It is, therefore, clear that the majority of the learners in this group seem to be willing to face anxiety, challenges and complicated texts for the sake of learning, which is personally valuable due to its effects on the learner's self-concept. Any existing anxiety is even re-interpreted as something natural and expected in the learning and reading processes, and considered useful and even empowering. These patterns of behavior show ambition for learning. The motivation for engaging in an EFL reading task is, thus, not the pleasure induced by the FL reading activity but the pleasure

brought on by personal development. On the whole, the type of motivation recognized in type 1 appears to be comparable to the concept of *autonomous motivation* described by Deci and Ryan (2000: 73), in which the most self-determined types of external motivation relating to self-control, internal rewards, personal value, or the learner's self-image are combined.

Furthermore, according to the participant comments, the English language is often relished and strongly associated with real life use. A majority of the learners in this group share a realistic understanding of the quite minor role of schoolbooks in the entirety of language learning, involving both the shortages in their deliberate contents and their humble potential for raising interest. As school books are unable to answer for the requirements of real language use, reading more than what is found in school books seems to be a particularly important stand shared in the group. English is seen as something richer and more useful than the narrow image of it conveyed via schoolbooks. The adoration for both the English language and the international status and culture associated with it, as well as the potential personal determination to achieve a native-like proficiency, point strongly towards what Dörnyei (2001: 51) calls integrative motivational orientation. As the integrative aspect is also closely related to personal value and self-image, it can be included in the autonomous motivation. After exploring the motivational viewpoints of subjectivity type 1, the connection between autonomous motivation and AT seems quite valid, and the widespread autonomous orientation becomes the main characteristic of this behavioral profile.

5.3 Type 2 - The intolerant and avoidant

Factor 2 explains 8% of the variation in the 36 Q sorts. It entails a significantly smaller group of respondents compared to factor 1, but it will, nevertheless, prove to constitute a valid and comprehensible subjectivity after all the pieces of data are put together. In this section, I will start with factor values, move on to participant motives, and eventually present a summary of the characteristics of the second discovered subjectivity.

5.3.1 Factor values for factor 2

Factor scores for factor 2 are presented in table 8. According to the table, factor 2 reflects mostly ambiguity intolerance: of the characterizing items with values 4, 3, -3 and -4, only one item (no 1) is reversed to indicate some type of AT. Two thirds of the intolerance-indicating items at this level are designed for phenomenological level. However, of the items that are valued 2 or -2, the items indicating AT outnumber the opposite, which makes factor 2 a mixed case. At this level, the phenomenological and operative levels are equally represented.

Table 8. Factor scores for Factor 2. Both the Z- and Q-score are shown, as well as the subvariable and psychological response-type that the items are designed to touch. Reversed items marked with N.

Item	Z-scores	Q-scores	Subvariable	response
4 Cheating with authentic reading	1.657	4	Int	OD
26 Being clear about what is being read	1.472	4	Str	PD
32 Texts must have correct interpretations	1.451	3	Amb	PD
8 Avoiding ambiguous reading	1.389	3	Int	OS
31 Feeling more anxiety than interest	1.304	3	Anx	PS
10 Feeling uncomfortable with skipping over sections	1.119	2	Str	PS
13 Feeling positive about open tasks N	1.078	2	Aut	OS
11 Having control over own success in reading N	1.016	2	Loc	PD
21 Reading a designed collection of short texts	0.890	2	Amb	OS
29 Global reading approach N	0.828	2	Str	OD
…				
16 Understanding how complicated texts can be	-0.849	-2	Amb	PD
2 Avoiding starting to read due to anxiety	-0.869	-2	Anx	OS
6 Using the co-text with unknown words	-1.057	-2	Str	PD
5 Knowing the type of the text and the reasons	-1.057	-2	Str	PS
17 Not interrupting the flow of reading N	-1.058	-2	Str	OD
24 Reading independently vs under a guidance N	-1.122	-3	Aut	PD
36 Easy reading would get boring N	-1.283	-3	Amb	PS
34 Reading several texts at once N	-1.471	-3	Amb	OD
1 Having no English-Finnish dictionary	-1.471	-4	Str	OS
23 Reading authentic books voluntarily N	-2.279	-4	Int	PS

The distinguishing statements of factor 2 can be seen in table 9. Unlike any of the other factors, factor 2 includes a very strong agreement with the reading-strategy related item 26 "When reading, one should the entire time be clear about what is being read instead

of only at the end of the reading thinking about the main points that were understood.", and a strong agreement with item 32 "It is no use claiming that texts do not have right interpretations or questions do not have right answers, since they almost always do". These two statements belong to the phenomenological denial group and are designed to indicate stiff, ambiguity intolerant black-and-white impressions of reading. Additionally, factor 2 is the only factor that does not take a stand on item 19 "If I face a problem with a text and there's nobody to help me, I tend to leave it unsolved" and slightly disagrees with the reversed item 12 "When a reading task or a text makes me anxious, I can control my feelings so that I can still continue working (e.g. by calming myself, focusing on positive thoughts)." These two are connected to the learners own active role in the reading process and the difficulties involved in it.

Table 9. Distinguishing statements for factor 2. Both the Z- and Q-score are shown. (P < .05 ; Asterisk (*) indicates significance at P < .01)

Factors	1		2		3		4		5	
Item	Q	Z	Q	Z	Q	Z	Q	Z	Q	Z
26 Being clear about what is being read	1	0.52	4	1.47	1	0.36	-2	-1.14	0	0.00
32 Texts must have correct interpretations	0	-0.24	3	*1.45	-1	0.00	-2	-0.96	-1	-0.46
19 Leaving problems unsolved without help	3	-1.41	0	0.13	-4	-2.13	-2	-0.88	-2	-0.91
12 Having control over own anxiety N	1	0.64	-1	-0.44	2	0.53	1	0.47	2	0.91

5.3.2 "I don't like reading."

Factor 2 is supported by participants 22, 25 and 32. As the supporters for factor 2 are significantly fewer than those for factor 1, in addition to the two extremes of the composite sort of the factor, I will also present comments to important statements that received a status of (-)3 and were nevertheless ranked as 4 or -4 in some sorts. What is more, some of the statements in the factor's composite sort did not gain any comments due to the lack of consensus in the group, which narrows down this section even more.

The most important item for factor 2 is the reversed item 23. It is very strongly disagreed with and, thus, received a Z-score of -2.279. The comment in example 38 shows lack of interest for additional reading, but it does not reveal whether this is due to dis-

like of reading in general or to already having enough reading e.g. in Finnish. It would be reasonable to bet for the former, as the participant is passionate enough to give the statement a topmost rank in her Q sort.

23. I would like to read more authentic English books and/or I already read lots of them.

> 38) I don't want to have anything more to read. (sort 22)

There were no comments regarding item 4 (If I had to read an authentic book for school, I could see myself reading the same book in Finnish, seeing a film that is based on the book, or googling a summary to help me.), which would be the next important characteristic statement for the factor with a Z-score of 1.657. This means that, although the item is ranked high in the factor's composite sort, not one of defining sorts had placed it in the extreme. The following comment is, therefore, for item 26, which has a Z-score of 1.472. In example 39, the comment shows agreement with the statement and reflects conscious attempts to make the best possible use of the text in question. In addition to a practical level of operating, the comment reflects a theoretical belief that it is generally important for learning if texts are gone through in detail. All this suggest a very conscious and explicit view of learning.

26. When reading, one should the entire time be clear about what is being read instead of only at the end of the reading thinking about the main points that were understood.

> 39) You get much more out of a text when you know the entire time what is being said. You get much more out of it when besides the main points you also know what is being said in the other, not-so-important sections. (sort 25)

Item 1 (I wouldn't care to put the effort in finding out what an unidentified word means if I don't have an English-Finnish dictionary but only an explanation in English.) and the reversed item 34 (It is OK for me to read several texts at once comparing them, or a same text from different angles. I would not try to finish one section at a time before moving on to the next.), both sharing the Z-score of -1.471, as well as item 32 (It is no use claiming that texts do not have right interpretations or questions do not have right answers, since they almost always do.) with a Z-score of 1.451, remained without comments. They are as well considered characterizing statements for factor 2 although they did not score (-)4 in any of the defining sorts. Next, however, comes item 8, which has a Z-score of 1.389. The only comment, presented in example 40, is from a very strongly

agreeing participant. Although the item is designed to address tendency for avoidance behavior when confronting ambiguity, the comment does not really say anything about the participant's AT, as her reasons for not liking reading remain open.

8. I avoid reading if I know that a text is difficult to comprehend, it has multiple interpretations or it is about a topic I know nothing about.

    40) I don't like reading. (sort 22)

Item 31 (Reading a difficult text in English is more anxiety provoking than interesting; Z-score 1.304) as well as the reversed 36 (It would be boring and wearing if reading was always easy; Z-score -1.283) remained without comments. Next statement in line, the reversed item 24, has a Z-score of -1.122. Comments in examples 41 and 42 recognize the important role of the teacher. In the light of the statement, the former implies a conception that learning is more effective if nothing is left unclear. In addition, the clarifying task is outsourced to the teacher. The latter does not take a stand on the effectiveness, but instead highlights the emotional aspects associated with the issue; working under a teacher's guidance is more comfortable and less demanding. It seems, therefore, as if the participant might be avoiding ambiguity.

24. Reading and interpreting a text independently is more effective than working under a teacher's guidance.

    41) The teacher helps if there's something unclear. (sort 22)
    42) I like the teacher being in charge, it's more difficult to get started on your own. (sort 25)

In addition to the items presented above, a comment to item 17 raises interest. The statement has a Z-score of -1.058 and is only ranked as -2 in the factor's composite sort, but nevertheless received a status of -4 by one participant. The comment in example 43 reflects a conscious strive for studying texts in detail instead of enjoying the flow of reading. On one hand, this suggests that the style of reading EFL texts is likely to be more stiff and local than that of reading texts in Finnish, for instance, but on the other hand, it seems that the participant is extremely eager to learn and to engage in the conscious and active process of learning.

17. If I face an unknown word I'd rather not use a glossary, ask a friend, etc., because that interrupts reading. I just guess the meaning or muddle forward instead.

43) When I face a new word, knowing what it means is just what I want to do. It doesn't matter that it interrupts reading a bit. (sort 25)

5.3.3 Summary of type 2

As was seen in the beginning of this section, the quantitative analysis of Factor 2 pointed towards ambiguity intolerance, which was also present in the learner elaboration. What is more, the data presented so far has indicated that the group lacks clear consensus regarding various issues. This is realized in a severe lack of comments for the characterizing statements, which makes the two types of data very separate. Moreover, the lack of consensus results in the fact that the features which the individuals in the group have in common and which define this subjectivity derive from more consistent but less-extreme opinions. In this section, I will combine the statistical data with the participant motives and describe the characteristics of the newly formed subjectivity *The intolerant and avoidant*.

Despite the moderate lack of consensus in the group, the data indicated several viewpoints that clearly mirror ambiguity intolerance. It can, therefore, be assumed that, among the target population, subjectivity type 2 reflects as complete real life ambiguity intolerance as possible, which allows making conclusions about the role of the different subvariables in the construct. However, what is noteworthy is that, although they stand at the opposite ends of the tolerance-intolerance-continuum, type 2 is far from being the mere opposite of type 1. It that was the case, in the numerical analysis, the two viewpoint clusters would have been reflected by one bipolar factor, but as can be seen, they are, in fact, regarded as two individual subjectivities with their own nuances and characteristics.

According to the quantitative data concerning type 2, the intolerance seems to be realized mostly on a phenomenological level, which mirrors conservative and rigid black and white thinking, as well as experiencing anxiety when facing ambiguous reading. However, the intolerance of ambiguity in this group is also seen in patterns of behavior concerning practical actions, which is very strongly in accordance with the results of

Ely (1989). The behavior type is, for instance, clearly distinguished from other factors by a shared urge to understand exactly all of the text in the midst of reading, and therefore, the flow of reading is contentedly broken in order to check any unfamiliar words. In addition, skipping over sections, for instance, feels uncomfortable. Also Ely (1989) connected intolerance of ambiguity to focusing on details, looking up words right away, and disliking skipping. What is more, similarly to Ely, Griffiths (2003) and Nishino (2007) remarked how AT is particularly connected to a reading style that enables continuity. As a result, it feels quite logical that in a subjectivity type reflecting very low AT, maintaining the 'flow' of reading on the cost of missing out some minor details is not valued very high. Presumably, this behavioral pattern is due to the theoretical belief that it is generally important and useful for FL learning to go through texts in detail, and that there is a correct interpretation for every text.

Additional and closely related characteristic shared in this group is a tendency for avoidance behavior, most typically based on a lack of curiosity towards reading. It is extremely typical for this behavior type to cheat when facing tasks involving authentic reading (item 4), as well as to absolutely refuse voluntary extensive reading (item 23). EFL learning and reading are seen as conscious work limited to school environment instead of something fun and useful associated with personal and voluntary engagements in real life, which makes intrinsic motivation in this group very low. The conclusion that low intrinsic motivation and low AT concur is in accordance with the results of Kondo-Brown (2006). Any existing motivation in this group is rather something that Dörnyei (2001: 51) calls instrumental, referring to the pragmatic consequences of the action. The participants tend to be more or less externally motivated to engage in a conscious and explicit process of EFL learning. All in all, EFL reading is not liked, but if it is done, the learners tend to try to make a best possible use of it because of the external demands, which is why they, unfortunately, engage in a stiff and local reading style.

The learners do, at least theoretically, recognize their own role in controlling FL reading and learning processes. However, according to a shared view in type 2, it is preferred to have the teacher in charge facilitating the activities, and the activities should be controlled, simple and easy. According to the research literature, this preference can be typical for learners with low AT; Pascal (1973), for instance, concluded that the learners

who prefer lectures as instructional method had lower AT than their more autonomously orientated peers. Moreover, type 2 learners do not seem to have very strong belief in their own agency or competence, which is perhaps the reason for why learning is not perceived as internally motivated and self-determined process of development. This might be due to their unsuccessfully employed reading strategies, a mismatch between their personal needs and the environment, or simply due to a relatively lower proficiency level.

5.4 Type 3 - The more and less self-assured self-developers

Similarly to factor 2, also factor 3 explains 8% of the total variation between the Q sorts. However, one out of the defining sorts of factor 3 has one statistically significant negative score to the factor, which makes the factor bipolar and calls for interpreting the sort somewhat separately as its own sub-subjectivity. In this section, I will first present the factor values concerning factor 3, yet disregarding the bipolarity. Next, I will list a collection of the existing participant motives. Here, the negative sort is addressed separately. In the summary concluding this section, I will interpret the two alternatives of factor 3 as newly discovered subjectivities, focusing more on the positive alternative of the two.

5.4.1 Factor values for factor 3

As seen in table 10, factor 3 is very mixed when AT is considered. Of the more strongly ranked items, 70% indicate AT, but of the 2 and -2 valued items only 50%. For the most part, the intolerance-indicating items seem to be connected to the characteristics of texts and tasks, and all but one of them (6 out of 7) are designed to indicate a reaction of submission (in contrast to denial), either on a phenomenological or operational level. The tolerance-indicating items are mostly connected to the learner's own skills, perceptions and ways of acting.

Table 10. Factor scores for factor 3. Both the Z- and Q-score are shown, as well as the subvariable and psychological response-type that the items are designed to touch. Reversed items marked with N.

Item	Z-scores	Q-scores	Subvariable	response
35 Preferring familiar theme and content	2.128	4	Amb	PS
11 Having control over own success in reading N	1.831	4	Loc	PD
14 Recognizing and disregarding irrelevant sections N	1.596	3	Str	PS
29 Global reading approach N	1.189	3	Str	OD
25 Random reading style N	1.126	3	Str	OS
16 Understanding how complicated texts can be N	1.064	2	Amb	PD
8 Avoiding ambiguous reading	1.002	2	Int	OS
15 Less likely to complete ambiguous tasks	0.829	2	Amb	OS
12 Having control over own anxiety N	0.532	2	Str	OD
36 Easy reading would get boring N	0.532	2	Amb	PS
31 Feeling more anxiety than interest	-0.705	-2	Anx	PS
30 Comparing unknown words to familiar words N	-0.767	-2	Str	OS
24 Reading independently vs under a guidance N	-0.767	-2	Aut	PD
13 Feeling positive about open tasks N	-0.767	-2	Aut	OS
22 Similar opinions on text use in studying English	-0.829	-2	Aut	OD
5 Knowing the type of the text and the reasons	-1.424	-3	Str	PS
23 Reading authentic books voluntarily N	-1.534	-3	Int	PS
34 Reading several texts at once N	-1.596	-3	Amb	OD
4 Cheating with authentic reading	-1.596	-4	Int	OD
19 Leaving problems unsolved without help	-2.128	-4	Loc	OS

Distinguishing statements for factor 3 are presented in table 11. These include item 6 "It is too arbitrary to try to conclude the meaning of an unknown word from the co-text.", and the reversed item 19 "If I face a problem with a text and there's nobody to help me, I tend to leave it unsolved." Unlike with other factors, the former statement relating to standpoint on a reading strategy is not considered having any importance. The latter, then, which has been designed to indicate internal locus of control, is very strongly disagreed with.

Table 11. Distinguishing statements for factor 3. Both the Z- and Q-score are shown. (P < .05 ; Asterisk (*) indicates significance at P < .01)

Factors	1		2		3		4		5	
Item	Q	Z	Q	Z	Q	Z	Q	Z	Q	Z
6 Using the co-text with unknown words	-2	-1.07	-2	-1.06	0	0.12*	-4	-1.64	-3	-1.37
19 Leaving problems unsolved without help	-3	-1.41	0	0.13	-4	-2.13	-2	-0.88	-2	-0.91

5.4.2 "Familiar theme motivates to read."

The supporters of factor 3 include participants 20, 31 and the negative 12. In this section, I will go through the existing comments to the factor's characterizing statements with Q-score values (-)4 and (-)3. Also participants 19 and 9 have the highest support to this factor although not on a statistically significant level. Their comments can, nevertheless, be used in order to get more tools for the interpretation and to explain some potential nuances of the behavioral profile that will be based on factor 3. In addition, I will describe separately the motivations of participant 12, who has a statistically significant support for the negative alternative of factor 3.

The most characterizing statement for factor 3 is item 19, which was very strongly disagreed with and which has a Z-score of -2.128. Comments in examples 44 and 45 reflect determination and resourcefulness when confronting problems.

19. If I face a problem with a text and there's nobody to help me, I tend to leave it unsolved.

44) Because I disagree, I would solve the problem (sort 31)
45) Because if I face a problem I try to solve it instead of giving up e.g. with the help of Internet. (sort 20)

Item 35 has an equally high Z-score of 2.128. Comments in examples 46 and 47 reflect satisfaction with familiarity, and logically a lack of curiosity towards new and different. However, this does not necessarily mean that the participants supporting this factor are passive and indifferent to their EFL learning or reading English, or that they like familiarity because it is easier, quite the contrary. In example 47, the participant explains that it is motivating to read about a familiar theme.

35. In reading in English in particular, a familiar theme and content are always more convenient than those I know nothing about.

46) Familiar topic is more pleasant than unfamiliar (sort 31)
47) Because familiar theme motivates to read. (sort 20)

The reversed item 11 (In the end it is me who controls my own success in reading.) has a Z-score of 1.831. The comments simply agree with the statement and provide no additional information.

Next important items all have a Z-score of (-)1.596. These include the negatively ranked items 4 and 34 (It is OK for me to read several texts at once comparing them, or a same text from different angles. I would not try to finish one section at a time before moving on to the next.), as well as the positively ranked item 14 (When reading, I usually recognize what is relevant and what is not, and do not care to put effort in finding out what the irrelevant parts mean in detail.). Only the first one of these, concerning cheating with authentic reading, received comments. The comment in example 48 reflects determination to manage without cheating, an understanding about the task becoming useless if some external help was used, and a conception about learners having a responsibility for playing by the rules. The viewpoint is rather theoretical or even universal instead of merely personal. What is more, the participant must be quite passionate about the issue as she has rank-ordered it as the most characterizing.

4. If I had to read an authentic book for school, I could see myself reading the same book in Finnish, seeing a film that is based on the book, or googling a summary to help me.

   48) Then you wouldn't learn anything. The task would in that case be useless. (sort 19)

Next comes the reversed item 23 concerning voluntary reading, which has a Z-score of -1.534. The comment in example 49 reflects a strong lack of intrinsic motivation for voluntary extensive reading. Using of the word *more* might indicate that the participant finds herself enough burdened with English reading under the English courses, and that she is not interested in investing more time and effort, which additional reading would require.

23. I would like to read more authentic English books and/or I already read lots of them.

   49) I don't want to read more (sort 31)

Item 5 concerning uncertain expectations has a Z-score of -1.424. In the comment in example 50, the participant indicates AT and appears to have confidence in her own abilities to cope with tasks that, at first, seem ambiguous. This comment holds an assurance that reading is not considered something feared and serious among the supporters of this factor.

5. It is anxious provoking if I have to start reading without knowing what kind of text is coming or the reason for reading it.

    50) That's not a problem because you get knowledge of the text as soon as you start to read (sort 20)

The reversed item 29 has a Z-score of 1.189, which is already quite low. The comment in example 51, however, reflects a global reading style rather explicitly, and conveniently confirms that the item is understood the way it was supposed to.

29. When reading, I focus on understanding in wider a sense than on a word and grammatical level: what the text is roughly about and which issues are related to each other.

    51) Because understanding the plot is more important than understanding distinct words. (sort 20)

As mentioned at the beginning of this section, participants 19 and 9 are statistically not significant supporters of factor 3. Nevertheless, their comments to the fairly non-significant items 21 and 18, presented below, can stand as examples of the nature of attitudes potentially taken in this group. In example 52, the participant reflects a need for a controlled collection of materials designed for explicit teaching, and as the item is ranked the highest in the participant's Q sort, her AT is likely to be very low. In example 53, the participant reflects inner locus of control and a lack of dependence on the teacher.

21. Eventually it's more useful for me to read many short texts that are designed for teaching English, than to read some arbitrary collection of more complex texts.

    52) I don't learn anything from random difficult texts (sort 19)

18. Even though the teacher had an important role in learning English, learning to read in English is mostly up to the learner.

    53) Because the teacher only supports and in the end you learn by yourself (sort 9)

In addition, the four comments by participant 12 describe the characteristics of the negative alternative of factor 3, which is not necessarily only an opposite view of the positive factor but has nuances of its own. Below, the statements that were ranked in the extremes, i.e. 4 and -4, are presented with their accompanying comments. In example 54, the comment indicates a lack of AT on a phenomenological level. Example 55 reflects the same perception, interestingly, also on a general and almost theoretical level, although the item was designed to address real life behavior in practice. Examples 56

and 57 are, as well, very general although they describe the participants choice of strategies and preference for easy reading.

32. It is no use claiming that texts do not have right interpretations or questions do not have right answers, since they almost always do.

> 54) I believe that everything has an interpretation. What it is, is probably not just clear for everyone. (sort 12)

28. It is uncomfortable if I should work with a text in a new way, so I do the normal thing anyway or find some other way to sail through (e.g. ask the right answers from a friend).

> 55) I rather do familiar and safe things. (sort 12)

6. It is too arbitrary to try to conclude the meaning of an unknown word from the co-text.

> 56) Cannot do, too difficult (sort 12)

36. It would be boring and wearing if reading was always easy.

> 57) Not at all, it would be mostly nice. (sort 12)

5.4.3 Summary of types 3 and 3N

Factor 3 can be interpreted as two alternative wholes, of which the positively supported alternative is considered the main subjectivity, and the negatively supported version, grounding on the Q sort of participant 12, remains a sub-subjectivity of minor importance. In this section, I will discuss the third discovered subjectivity, *The more and less self-assured self-developers*. I will start by addressing the main type 3 and only at the end of this section summarize the alternative type 3N.

According to the quantitative analysis, factor 3 appears to reflect AT with some aspects of ambiguity intolerance. The comments and a further investigation of the statistical data cast light on these aspects.

The dominant side of the subjectivity, i.e., the considerable AT, ranges wide. Most of all, it is connected to the beliefs and theoretical understandings of learner's roles, agency and control in her EFL learning and reading success, as well as to the practical behaviors, such as the employed skills and capacities, the determination, and the resource-

fulness, which reflect those beliefs and understandings. For instance, problems that are confronted in the disliked, complex EFL reading never remain unsolved due to a lack of help. Holding this type of internal control over the learning process has been associated with AT also by Pascal (1973). Furthermore, the reading style employed in type 3 appears to be global, i.e., participants are not eager to find out every detail. This is associated with AT by, for instance, Ely (1989), Griffiths (2003) and Nishino (2007). What is more, AT is seen in the emotional attitude typical for this group, as all in all, EFL reading is seen as a rather relaxed activity which someone just starts doing without much preparing. This complements the conclusions by Ehrman and Oxford (1990), who suggest that, among other psychologically inflexible patterns of behavior, conscious planning characterizes the learning style of a personality type that is typically intolerant of ambiguity.

The minor aspect of this group, being the discovered intolerance of ambiguity, seems to be connected to the characteristics of texts, tasks and contexts in the concrete world. It concerns strategies for coping with confronted ambiguity and the emotional reactions it brings, and results most often in avoidance behavior. In their reading, type 3 learners definitely prefer familiarity and control. This is, however, likely to be due to the fact that familiar and controlled reading is nicer and more motivating for the learners than ambiguous reading, and it, therefore, more easily results in learning. Familiarity and simplicity are not, thus, valued because of their easiness and tendency to make minimum demands: a reading with familiar theme can also be challenging, and what is more, too easy reading would be considered boring. Instead, it appears to be important for the learners to be able to focus on the linguistic issues and feel that the language skills in particular develop. Additionally, the existing flexibility of the learners' behavior, e.g., being able to start reading although having no idea of the topic or the reasons for reading, is also connected to aspects that specifically link to the linguistic side of EFL reading. All in all, additional ambiguity in learning materials and methods is considered unnecessary and uncomfortable.

Although learners in this group are willing to develop and confront challenges, and although their interest towards difficult reading dominates anxiety, they do no engage in voluntary extensive reading. The motivation in the group is not oriented towards EFL reading activities or towards experiencing ambiguous stimuli in particular. Instead, in a

safe learning environment providing controlled activities, the learners know how to per-form, be successful, and develop their skills, which is considered motivating per se. This involves taking up controllable challenges instead of satisfying with completing easy tasks, and includes recognizing the learner's responsibility. Indeed, if proper rules apply in the reality of the EFL classroom, also the learners are strict in obeying their own responsibilities, which is seen, for instance, in the strong refusal of cheating with EFL reading activities.

Despite the minor tendencies for intolerance, behavior type 3 reflects quite careless and involved approach to EFL reading. Reading in safe and controlled settings is associated with personal development, which draws together attitudes and behaviors closely relat-ed to personal identity and self-image. This bears a resemblance to the autonomous mo-tivation described by Deci and Ryan (2000). It must, however, be noted that the orienta-tion only refers to the type, not the intensity, of motivation, and if compared to the sub-jectivity type 1, for instance, the motivation in type 3 is definitely lower. The learners do tolerate, accept, and deal with ambiguity, but they definitely do not seek or enjoy it for the sake of challenging themselves. In fact, if, hypothetically, the concept of AT was restricted to mere acceptance at the more tolerant end of the continuum, type 3 learners would be described as having a rather high and complete AT. This would, of course, contradict with the definitions of Budner (1962) and McLain (1993), which extend the range of AT over acceptance towards attraction.

Another version of type 3 is defined by participant 12. In this sub-subjectivity, the viewpoint towards EFL reading is, compared to type 3, much more distant, de-personalized, more externally controlled, and less autonomous. Ambiguity is considered more theoretically intolerable, as, e.g., no unclear explanations are allowed from the teacher and everything is supposed to have a right interpretation. The fixed theoretical viewpoint on texts also affects behavioral patterns. As reading is perceived as a rather serious activity in which there are right answers, and the naturally ambiguous nature of language is not accepted, it appears very difficult, which provokes anxiety and results in avoidance behavior and cheating. Furthermore, as texts are expected to have precise interpretations, guessing a meaning of a word on the basis of the co-text is experienced

as too difficult and quite random. This is why familiarity and easiness are appreciated in EFL reading tasks. Unsurprisingly, also the intrinsic motivation in type 3N is low.

The ways of reading typically employed in type 3N, however, appear flexible: there is no need to be overtly organized or to only focus on one text at a time, and the formal clarity of the task does not effect on its completion. What is more, the flow of reading is not preferably interrupted for checking words, which is a behavior also found in the conclusions by, e.g., Griffiths (2003) and Nishino (2007), who associated the style of approach to AT. There is also some evidence of attraction for ambiguity, as familiar themes are not always preferred and the learners would rather read random difficult texts than orderly schoolbook texts. This orientation of preference is in Pascal's (1973) results connected to AT. Perhaps reading as an activity could be liked, but the prior experiences, the external restrictions and expectations, or the school settings and procedures associated with EFL reading do not encourage type 3N learners to start considering it as a self-determined process of personal development. As a result, they have a shortage of autonomy and motivation.

5.5 Type 4 - The highly conscious self-developers

Factor 4 explains 5% of the total variation between the Q sorts. At a first glance, the two participants supporting the factor on a statistically significant level, 2 and 21, have very dissimilar viewpoints on the topic. However, when their views are combined and interpreted in the light of the two types of data, a newly discovered subjectivity can be described. In this section, I will present the factor values, the participant motives, and the subjectivity summary concerning Factor 4.

5.5.1 Factor values for factor 4

Behavioral types 3 and 4 are similar in various ways. They both have a strong preference for familiar theme and content in EFL reading, are mildly negative about open tasks, and do not engage in voluntary extensive reading. Both of the groups do tolerate ambiguity, but they definitely do not seek or enjoy it.

Factor scores for factor 4 are presented in table 12. Similarly to factor 3, factor 4 is very mixed when AT is considered, but on the other way around. Of the more strongly ranked items 70% indicate ambiguity intolerance, but of the 2 and -2 valued items only 40%. The 7 items indicating ambiguity intolerance involve 4 items on the level of phenomenological submission, which refer to anxiety over neutral or positive feelings, 2 items on the level of operative submission, i.e., avoiding ambiguous activities, and 1 item on the level of operative denial, i.e., strategic actions connected to ambiguous reading. Phenomenological denial is not represented in the intolerance-indicating items. What is more, operative submission is also represented in the less significant statements reflecting AT (4 items) and thus reflecting real life acceptance or even approaching, which puts the aspect in the focus of the mixed nature of factor 4.

Table 12. Factor scores for Factor 4. Both the Z- and Q-score are shown, as well as the subvariable and psychological response-type that the items are designed to touch. Reversed items marked with N.

Item	Z-scores	Q-scores	Subvariable	response
15 Less likely to complete ambiguous tasks	1.975	4	Amb	OS
35 Preferring familiar theme and content	1.845	4	Amb	PS
4 Cheating with authentic reading	1.559	3	Int	OD
7 Missing the joy of reading in a foreign language N	1.507	3	Int	PD
20 Interpreting with too few cues	1.221	3	Anx	PS
27 Getting an easier text or a different task	1.221	2	Loc	OD
18 Learning to read in English up to the learner N	0.754	2	Loc	OS
28 Feeling uncomfortable with reading a text in a new	0.754	2	Anx	OD
31 Feeling more anxiety than interest	0.754	2	Anx	PS
14 Recognizing and disregarding irrelevant sections N	0.676 2	2	Str	PS
19 Leaving problems unsolved without help	-0.884	-2	Loc	OS
32 Texts must have correct interpretations	-0.961	-2	Amb	PD
13 Feeling positive about open tasks N	-1.091	-2	Aut	OS
21 Reading a designed collection of short texts	-1.091	-2	Amb	OS
26 Being clear about what is being read	-1.144	-2	Str	PD
8 Avoiding ambiguous reading	-1.169	-3	Int	OS
25 Random reading style N	-1.221	-3	Str	OS
23 Reading authentic books voluntarily N	-1.299	-3	Int	PS
36 Easy reading would get boring N	-1.351	-4	Amb	PS
6 Using the co-text with unknown words	-1.637	-4	Str	PD

Distinguishing statements for factor 4 are presented in table 13. Unlike the other factors, factor 4 indicates a very strong agreement with item 15 "The kind of reading task in which I clearly know what to do and how to do it will more likely be done." which is designed to indicate avoidance behavior when faced with ambiguous tasks. Another distinguishing statement for factor 4 is item 26 "When reading, one should the entire time be clear about what is being read instead of only at the end of the reading thinking about the main points that were understood.", which is, contrary to other factors, disagreed with. The item is designed to indicate how global or local a process reading is perceived.

Table 13. Distinguishing statements for factor 4. Both the Z- and Q-score are shown. (P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Factors	1		2		3		4		5	
Item	Q	Z	Q	Z	Q	Z	Q	Z	Q	Z
15 Less likely to complete ambiguous tasks	0	0.28	1	0.54	2	0.83	4	1.97	1	0.46
26 Being clear about what is being read	1	0.52	4	1.47	1	0.36	-2	-1.14	0	0.00

5.5.2 "Every detail doesn't matter."

The two supporting sorts for factor 4 were 2 and 21. They do not have any of the extremes in common but they both stand as valid examples of someone in this statistical group and their comments will, thus, be presented in detail. Participant 10 also had the highest but statistically non-significant support for factor 4, which is why I will also present one illustrative comment from that sort.

The most characterizing statement of factor 4 is item 15 with a Z-score of 1.975. The comment in example 58 reflects preference of clearly defined and organized tasks, and perhaps a dislike of not being sure what to do.

15. The kind of reading task in which I clearly know what to do and how to do it will more likely be done.

58) They are nicer. (sort 21)

The next characteristic statement of factor 4 is item 35 with a Z-score of 1.845. In example 59, the participant shows preference for familiarity, because it makes the text

easier to understand, which points towards ambiguity intolerance. However, although the participant is after familiarity and rather rejects complexity, according to the comment, she aims for a global understanding, which usually associates with AT.

> 35. In reading in English in particular, a familiar theme and content are always more convenient than those I know nothing about.

> > 59) When the theme is familiar it is easier to understand what the text is after and what its plot is. (sort 2)

The reversed item 6 (It is too arbitrary to try to conclude the meaning of an unknown word from the co-text.) with a Z-score of -1.637 remained without comments despite its high rank in the composite sort of factor 4, which indicates a lack of consensus in the group. Next comes item 4 with a Z-score of 1.559. The comment in example 60 interestingly reveals the motive for accepting cheating: the external aids are used as a help for completing a task, not as a way of avoiding it.

> 4. If I had to read an authentic book for school, I could see myself reading the same book in Finnish, seeing a film that is based on the book, or googling a summary to help me.

> > 60) Background information helps. (sort 21)

Item 7 has a Z-score of 1.507. In the comment in example 61, school book English is described as constrained, grammar based, and stress provoking compared to real life everyday use of English. In the comment, it is noteworthy that, instead of describing the *joy* of reading English outside school books, which was designed to be the main point of the item, the participant concentrates on describing the greater *usefulness* that everyday use has to learning grammar and vocabulary in contrast to textbook English. As was the case in previous factors, also here the motivational orientation appears to be other than intrinsic, but all in all the participants acknowledge that reading merely school books is not enough.

> 7. If you read English only from school books you will miss most of the joy of reading in a foreign language.

> > 61) As the English learned from school books is mostly based on certain themes, one cannot learn all the vocabulary of everyday language. School book English is also mostly based on grammar. In everyday use grammar is learned faster and one doesn't have to feel stressed because of it. (sort 2)

The reversed item 36 has a Z-score of -1.351. The item is designed to address viewpoints on easy reading, but the participant in example 62 interestingly comments on reading that is too difficult. What is more, if *boring* is considered something unstimulating, monotonous and numbing, the participant seems to convey the attitude that, if reading is perceived too difficult, there is barely anything that can be done for completing the task. Thus, difficult reading makes one passive and results into giving up.

36. It would be boring and wearing if reading was always easy.

 62) Reading is boring if you cannot understand what you read. (sort 21)

At this point, there are many items that rank high in the factor's composite sort remain without comments. Instead, the rest of the existing comments refer to items that on average have very low values and, thus, indicate a lack of consensus in the group. These comments will, nevertheless, give information about the viewpoints more or less shared in this group. Item 8 has a Z-score of -1.169. The comment in example 63 underlines that complex texts should not be avoided because they can be used to aid learning e.g. vocabulary. This is quite interesting, as the item was designed to address actual avoidance behavior due to a lack of intrinsic motivation, not instrumental or learning-centered orientation or theoretical perceptions about the role of difficult texts.

8. I avoid reading if I know that a text is difficult to comprehend, it has multiple interpretations or it is about a topic I know nothing about.

 63) I want to learn different words and themes and reading a new text helps this. At the same time one also learns new things with different languages (and new words). (sort 2)

Item 26 has a Z-score of -1.144. In example 64, the comment merely reflects a global reading style.

26. When reading, one should the entire time be clear about what is being read instead of only at the end of the reading thinking about the main points that were understood.

 64) Every detail doesn't matter. (sort 21)

Finally, the reversed item 17 has a Z-score of only -0.831. It is the most controversial item in the list of statements for Factor 4, as, astonishingly, sort 2 ranked it as -4 whereas sort 10 placed it in the other extreme with a Q-score of +4. However, according to comments 65 and 66, they both seem to aim for a global understanding of the text as a

whole, despite the extremely different ways of ranking the item; only their reading strategies differ.

> 17. If I face an unknown word I'd rather not use a glossary, ask a friend, etc., because that interrupts reading. I just guess the meaning or muddle forward instead.

65) I want to know what the word means because it can affect the whole content of the text, especially if there are lots of unfamiliar words. (sort 2)
66) I lose concentration if I don't continue reading (sort 10)

5.5.3 Summary of type 4

Similarly to type 3 presented in the previous section, type 4 is also characterized by preferring familiarity and rejecting voluntary EFL reading. Type 4 is also a mixed case, but at the first glance more towards ambiguity intolerance. In this section, I will discuss the characterizing aspects of the fourth newly discovered subjectivity, *The highly conscious self-developers*.

Although statistically the learners in this group would appear more intolerant of ambiguity than the opposite, the reality might not be that simple. The first aspect changing the initial impression is derived from the theoretical definition of AT by Budner (1962), who describes four different dimensions of the psychological construct and stand as an important basis for this study. To be precise, interestingly, in the data of type 4, the phenomenological denial level of psychological response is not represented in any of the intolerance-indicating items. Thus, the learners are not at all likely to engage in stiff black-and-white thinking. Quite the reverse, the learners' mental theories about ambiguous EFL reading seem to be rather neutral or even positive: learner's agency in learning is theoretically recognized, right answers are not always needed, reading more than school books is at least theoretically recommended and considered useful, and every detail in a text does not matter.

The second aspect relates to inconsistencies in the learners' thinking and behavior. In the data concerning type 4, there is lots of evidence that the reading style of the learners is global, and that the immediate aim of reading is to achieve an understanding of the whole, even though the learners clearly *try* to be almost too consistent with and con-

scious about the reading process. Of these behaviors, the global orientation is associated with AT by, for instance, Griffiths (2003), whereas a strong need to be organized with reading associates with ambiguity intolerance in the conclusions of, for instance, Ehrman and Oxford (1990). In addition, type 4 shows both avoidance behavior and approaching ambiguous activities, and it is a bit mixed inside the group what to do with unknown words: some want to learn and understand them then and there, whereas some prefer maintaining the flow of reading. All in all, although the learners are aware of the skills and components needed for reading, as well as about the role of reading in EFL learning, they do not appear to be very autonomous. As Deci and Ryan (2000: 68) suggest, perhaps perceived external restrictions, rewards and pressure intensively promotes the learners a sense of external control, which reduces their internal self-determination.

In type 4, AT is realized in theoretical acceptance and understanding of the naturally ambiguous nature of an EFL reading process. The existing intolerance of ambiguity, then again, is most often realized in taking actions to reduce ambiguity from the complex EFL reading activities, as well as in experiencing negative emotions, such as anxiety and a lack of enjoyment. Generally, the emotions of anxiety outweigh interest when regarding difficult EFL reading. The learners like organized and easy tasks, dislike too difficult reading, and become anxious when interpreting with too few cues.

Type 4 learners recognize that difficult texts have their place in learning and, at least theoretically, should not be avoided. Similarly to type 3, familiar theme is preferred because it is easier to focus on the linguistic issues. The overall focus seems to be on completing tasks and using them in developing personal language skills. This is also supported by the fact that cheating with authentic reading is accepted, but the view is profoundly different from that of factor 2: googling a summary is not considered a method for *avoiding* doing the task but as a resource for *completing* it. All things considered, learners in this group are not very enthusiastic or ambitious, but rather practical. EFL reading is perceived as another external school activity in which one has to succeed sufficiently well, and the existing motivation for engaging in any activity seems to be connected to the process of internally motivated but externally guided personal development. Voluntary extensive reading is probably rejected because it requires too much effort in comparison to the available amount and orientation of motivation.

5.6 Type 5 - The dependent but promising

Factor 5 explains 4% of the total variation between the 36 Q sorts collected for this study. It has only one defining sort, participant 11, and it generally got very low scores from other sorts. In this section, I will present the small but resilient final subjectivity, covering the statistical data, the participant motives, and the concluding summary relating to it.

5.6.1 Factor values for factor 5

The factor scores for factor 5 are presented in table 14. 80% of the statements are those that reflect AT. However, among the characterizing statements, the anxiety-indicating items 31 and 28 are ranked high, as well as the intolerance-indicating items 5 and 16.

Table 14. Factor scores for Factor 5. Both the Z- and Q-score are shown, as well as the subvariable and psychological response-type that the items are designed to touch. Reversed items marked with N.

Item	Z-scores	Q-scores	Subvariable	response
31 Feeling more anxiety than interest	1.826	4	Anx	PS
36 Easy reading would get boring N	1.826	4	Amb	PS
25 Random reading style N	1.369	3	Str	OS
28 Feeling uncomfortable with reading a text in a new	1.369	3	Anx	OD
30 Comparing unknown words to familiar words N	1.369	3	Str	OD
12 Having control over own anxiety N	0.913	2	Str	OD
13 Feeling positive about open tasks N	0.913	2	Aut	OS
17 Not interrupting the flow of reading N	0.913	2	Str	OD
5 Knowing the type of the text and the reasons	0.913	2	Str	PS
33 Accepting unclear translations from the teacher N	0.913	2	Amb	PD
4 Cheating with authentic reading	-0.913	-2	Int	OD
19 Leaving problems unsolved without help	-0.913	-2	Loc	OS
3 Reading techniques and organized reading	-0.913	-2	Str	PD
10 Feeling uncomfortable with skipping over sections	-0.913	-2	Str	PS
8 Avoiding ambiguous reading	-0.913	-2	Int	OS
16 Understanding how complicated texts can be N	-1.369	-3	Amb	PD
6 Using the co-text with unknown words	-1.369	-3	Str	PD
35 Preferring familiar theme and content	-1.369	-3	Amb	PS
22 Similar opinions on text use in studying English	-1.826	-4	Aut	OD
21 Reading a designed collection of short texts	-1.826	-4	Amb	OS

The distinguishing items for factor 5 are presented in table 15. As can be seen in the table, factor 5 expresses a very strong agreement with the reversed item 36 "It would be boring and wearing if reading was always easy." as well as a strong disagreement with item 35 "In reading in English in particular, a familiar theme and content are always more convenient than those I know nothing about." These items are focused on the effects that ambiguity, or lack of it, has on a participant's emotional state. In addition, factor 5 has a zero score on the reversed item 23 "I would like to read more authentic English books and/or I already read lots of them.", whereas other factors were clearly for or against it. This item, for factor 5 considered irrelevant, is designed to reflect a participant's intrinsic motivation.

Table 15. Distinguishing statements for Factor 5. Both the Z- and Q-score are shown. (P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Factors	1		2		3		4		5	
Item	Q	Z	Q	Z	Q	Z	Q	Z	Q	Z
36 Easy reading would get boring N	2	0.86	-3	-1.28	2	0.53	-4	-1.35	4	1.83
23 Reading authentic books voluntarily N	2	1.13	-4	-2.28	-3	-1.53	-3	-1.30	0	0.00
35 Preferring familiar theme and content	0	0.24	0	0.04	4	2.13	4	1.84	-3	*-1.37

5.6.2 "It wouldn't be interesting."

The only defining sort for factor 5 was sort number 11. The participant justified her rankings on the both extremes, which, by default, were also the most characteristic statements in the factor's composite sort. These are items 31, 36, 21 and 22. The Q-scores of these items is (-)4 and the Z-scores (-)1.826.

A majority of the comments for this factor are associated with interest. Comment in example 67 highlights how anxiety, being the hypothetical opposite of interest, is most of all perceived as frustration derived from too difficult reading. This could imply that, in contrast to difficult reading, easy reading would be the preferred alternative. However, example 68 shows how reading that is easy is also considered uninteresting. It could be assumed that the lack of interest caused by a lack of challenges would also result in frustration rather than mere anxiety. Additionally, in example 69, the participant prefers more random reading due to its tendency to be more interesting than a controlled collec-

tion of texts. This is quite intriguing. In the other factors discussed previously in this chapter, the learners were likely to bring the aspect of usefulness into statements that were designed to mirror joy and interest. Here, however, the participant's behavior is the opposite, as she comments on the uninteresting content of specific texts although the statement is designed to address the usefulness of a specifically focused reading.

31. Reading a difficult text in English is more anxiety provoking than interesting.

67) Because I easily get frustrated if I don't understand. (sort 11)

36. It would be boring and wearing if reading was always easy.

68) It wouldn't be interesting. (sort 11)

21. Eventually it's more useful for me to read many short texts that are designed for teaching English, than to read some arbitrary collection of more complex texts.

69) Because texts designed for learning don't have interesting things. (sort 11)

Item 22, ranked as one of the extreme statements in factor 5, was considered very irrelevant in all of the other factors. The item was perhaps perceived very abstract and distant by the vast majority of respondents, who could relate better to more concrete statements. The only supporting participant of Factor 5, however, felt a very strong disagreement with the statement. The comment in example 70 casts light on this view, as the participant declares that everyone learns differently.

22. It would be better if everyone were on the same opinion on how texts should be read and how reading should be used in studying English.

70) People learn differently, let everyone learn on they own way. (sort 11)

5.6.3 Summary of type 5

The fifth type reflects strong AT, but the viewpoint in type 5 is utterly dissimilar from that of type 1. As can be seen in section 5.2.3, type 1 is most of all characterized by autonomous orientation to EFL reading, which is, despite the observable AT, absent in the subjectivity type 5. In this section, I will discuss the fifth and final newly discovered subjectivity, *The dependent but promising*.

Type 5 is characterized by two main features. Firstly, learners in this group seem to *expect* but not to *experience* curiosity towards EFL reading. It appears that type 5 has a high AT, which often ranges over acceptance to attraction, complementing the theoretical descriptions by Budner (1962) and McLain (1993). Too much familiarity and simplicity are disliked and considered boring, and texts designed for learning are not considered enough interesting. However, if the ultimate complicity of a text or a situation exceeds the capacity of the individual, the existing AT is typically numbed; too high level of difficulty in EFL reading results in frustration and helplessness, which easily lead to a lack of interest. Consequently, for type 5, potentially interesting EFL reading comes in a very narrow range, and reading outside the borders evokes anxiety. Fortunately, according to the data, type 5 is characterized by having control over personal experiences of anxiety (item 12), which is associated with AT directly by Norton (1975) and via affective strategies by Ehrman and Oxford (1990), for instance. This capacity is probably the reason for why, in type 5, experiencing anxiety is, on the whole, still considered a better alternative than being bored. Secondly, type 5 is strongly aware of the fact that everyone learns differently, and that texts could be used in various ways in studying English. There is, thus, a theoretical and abstract understanding of the variety of learning styles. Abstract thinking has been connected to AT by, for instance, Pascal (1973).

However, although type 5 appears to be self-confident and reflective, it neither conveys a strong recognition of a learner's personal agency in EFL learning nor expresses a strong motivation towards EFL reading. This mirrors a requirement for the teacher to facilitate the variability and flexibility that EFL reading lacks in type 5 learner perceptions; although the behavior type appears to be easily bored if EFL texts are too deliberate or their level of difficulty is wrong, the learners might become better motivated and engaged if they were provided comprehensible, fresh, and authentic reading that could be carried out in self-modified and flexible manner. What is more, Type 5 takes no stand on voluntary extensive reading and does not consider either the joy of reading or the characteristics of independent reading relevant, but would not be likely to refuse authentic books or other texts if they were provided and recommended in class. It must, however, be noted that this evident need for teacher facilitation does not resemble the viewpoint of the more ambiguity intolerant group in Pascal's (1973) study, in which it

was typical for the less tolerant learners to prefer teacher-centered lectures over more autonomy-promoting instructional methods. On the contrary, type 5 learners seem to prefer ambiguity and lack of constraints although they do not have the self-determination to actually engage in an autonomous learning process in real life.

6 DISCUSSION

A Q Methodological study is based on a functional discourse collected from existing knowledge regarding a certain phenomenon. This discourse is collected and restructured according to the Q procedures in order to provide material for the production of new knowledge. Q procedures require contribution of a relevant group of respondents with a variety of viewpoints concerning the studied phenomenon. As a result, the respondents' viewpoints are combined in clusters, which represent naturally emerging and informative *subjectivities*, or different ways for experiencing the studied phenomenon.

In the present thesis, the material on which the subjectivities build was profoundly controlled on the basis of two different contextual factors, being EFL reading and association with AT. On a more detailed level, the material was additionally attuned by certain subvariables discovered in research literature, as well as definite characteristics derived from the theoretical descriptions of the concept of AT. The viewpoints of 36 upper secondary school students were collected and analyzed according to the Q procedures, and eventually, five major subjectivities emerged for interpretation. These subjectivities both accumulate knowledge about AT and allow drawing conclusions about how it is actually realized among the target population and in the target context. They also answer to the underlying motive for conducting this study, which is becoming more knowledgeable about AT, the personality variable which is essentially needed in facing difficult linguistic input and which so often associates with learner success. The new knowledge would, according to the central objective of this study, result in practical implications that support EFL learning. In this chapter, I will discuss the newly discovered subjectivity types together, reflect them on the face of the theory behind this study, and address their generalizability. I will also present insights concerning the theoretical knowledge surrounding AT, as well as suggest some practical implications that the drawn conclusions denote for teaching EFL reading.

According to the observations made concerning the results of this study, the discovered subjectivity types seem to be separated by their stands regarding two separate aspects of AT. These can be referred to as 1) self-determination, and 2) ambiguity tolerant mental set. To illustrate, firstly, type 1 is characterized by a very powerful sense of personal agency, including both the capacity for and the belief of having control over the EFL learning and reading processes. These aspects reflect the concepts of learner autonomy (Benson 2011: 58) and locus of control (White 1999: 452) discussed in section 2.2.4. The sense of agency is complemented by the strong motivation evident in the group: in type 1, the motivation can have integrative or even instrumental nuances, but it, nevertheless, associates strongly with the learner's internal rewards and control, personal value, or self-image, which makes it *autonomous* in orientation (Deci and Ryan 2000: 73). The combination of autonomy and motivation results, for instance, in a complete absence of avoidance behavior with respect to ambiguous EFL reading, as well as valuing the process of personal growth and the development of language proficiency. All in all, the self-determination in the group is very high. Secondly, both the reported behavioral patterns, such as learning and reading strategies, as well as the conveyed attitudes indicate a strong AT on a theoretical level, which resembles an ambiguity tolerant mental set. Logically, type 1, recognized as representing as complete and illustrative real life AT as possible (see section 5.2.3), represents the positive extremes regarding both of the two aspects of AT. Beyond the complete type 1, the rest of the subjectivities are distinguished by their characteristic shortcomings regarding the two aspects.

Subjectivity type 3 (discussed in section 5.4.3) also conveys an ambiguity tolerant mental set; EFL reading is considered a rather relaxed activity, challenges are accepted and perceived as useful, and the approach to reading is globally-oriented, for instance. This covers the first half of the complete AT. The self-determination factor is, however, lacking. A sense of personal agency is conveyed both on a theoretical and practical level, but the motivation is, despite its self-determined orientation, rather weak. The learners in this group convey a preference for familiarity and a need for being able to focus on linguistic issues instead of other types of problem solving, which potentially implies that their behavior and preferences are at least partially shaped by the perceived external restrictions and rewards in the EFL learning environment. According to Deci and Ryan (2000: 68), this type of effect would be more than likely.

A similar effect is even more evident in type 4 (see section 5.5.3). Type 4 learners clearly possess an ambiguity tolerant mental set, a capacity for skilled abstract thinking, and a theoretical and aware acceptance of ambiguity. However, they appear to be excessively conscious of the external control regarding EFL tasks and their completion, as well as learning the "right" contents when developing their language skills, which both reduces their autonomous behavior and draws their motivational orientation from intrinsic and autonomous towards instrumental and externally controlled. It even stiffens their reading style even though they theoretically try to aim for a global understanding. The behavior that seems to point towards intolerance of ambiguity is, thus, not caused by low AT but by shortages in self-determination, which influences the orientation and intensity of motivation. All in all, it appears that an ambiguity tolerant mental set is not enough for a complete AT, but it requires a successfully developed and maintained self-determination, which is, according to these conclusions, largely influenced by the characteristics of the learning environment.

Type 5 (discussed in 5.6.3) is also characterized by ambiguity tolerant mental set and abstract thinking. In addition, type 5 learners are fueled by interest and they dislike too simple and deliberate tasks, which gives them a great potential for wide-ranging AT. However, the type severely lacks real life self-determination, including both the autonomous motivational orientation and the practical aspect of learner autonomy. As a result, in the absence of personal engagement and personally valuing the sense of development, type 5 lacks motivation and capacity to autonomously control the learning process. This makes type 5 learners quite dependent for external assistance although the experienced EFL learning environment does not really seem to meet the individual needs of the learners. However, if, in their EFL reading, the level of difficulty, the themes, the tasks, and the methods of instruction did match the rather narrow preferences of type 5 learners, they would most likely reflect complete AT ranging far towards attraction, similarly to type 1. This, again, highlights the role of the EFL learning environment.

The two groups most intolerant of ambiguity are the de-personalized and avoidant type 3N (see section 5.4.3) and the consistently ambiguity intolerant type 2 (discussed in section 5.3.3). Despite the differences between the two, as well as the sporadic existence

of a few reading strategies or preferences that have been associated with AT, both of the groups lack an ambiguity tolerant mental set. That is to say, the theoretical acceptance of ambiguity is missing. Although the self-determination with respect to EFL reading is evidently lacking in the groups, resulting into avoidance behavior and disliking reading, it is more importantly the absence of the theoretical AT that makes the two groups profoundly intolerant of ambiguity. Developing the learners' self-determination and motivation with, for instance, social and environmental factors would potentially promote their engagement with ambiguous EFL tasks and, thus, also practice their cognitive style, but it is not likely to straightforwardly increase their level of AT.

The discussion above implies an interesting aspect of the concept of AT. It appears that the self-determination, which includes a central role of the sense of personal development, capacity for autonomy, and autonomous motivational orientation (see Deci and Ryan 2000), is strongly connected to that part of AT which exceeds mere tolerance and ranges over to attraction, resulting in approach behavior, lack of avoidance behavior, and enjoying ambiguity. This type of complete and strong self-determination is the core aspect that separates type 1 from the other subjectivities and promotes the behavioral patterns characteristic to a type 1 learner. The process of learning is similarly oriented also in subjectivity types 3, 4, and 5, but the composites of self-determination are weaker or partially missing in those groups, which is why the real life behavior becomes different. The ambiguity tolerant mental set seems to be, then again, the primary requisite for AT in that part of the continuum that ranges no further than to acceptance. This type of thinking can be seen in types 3, 4, and 5, which, despite the imperfect self-determination and a lack of approach behavior, appear to *tolerate* ambiguity rather well. It is intriguing that, if the definition of AT was to differ from that of Budner's (1962) and McLain's (1993), and the range of AT was to extend from aversion only to acceptance and no further, subjectivity types 3, 4, and 5 would also reflect quite completely ambiguity tolerant subjective real life thinking. According to the observations and interpretations conducted in this study, it is not at all self-evident that the range of AT really extends beyond acceptance, which was the consensus in the research literature (see section 3.1.2). Instead, the part of AT that exceeds acceptance could well be explained by some other learner variable.

The hypothesized twofold nature of AT is illustrated in figure 2. The figure is not intended to imply that AT only ranges to acceptance and that the exceeding part of the continuum answers to self-determination in particular, but instead, it illustrates a rough comparison of what seems to be the differences in the natures of the two components of AT as represented in the results of the present thesis.

Ambiguity tolerant mental set

- a cognitive style
- a characteristic way of thinking and perceiving
- more permanent and difficult to modify
- relates to personality

Self-Determination

- a motivational variable
- affects characteristic ways of acting
- developed and maintained more in interaction with the environment
- relates to personal values

Intolerance
Negative stand
Aversion and anxiety
Avoidance

Tolerance
Neutral stand
Acceptance
Coping

Tolerance +
Positive stand
Attraction
Approach

Figure 2. The twofold nature of ambiguity tolerance-intolerance continuum.

Moreover, in the data, several learners did elaborate how they welcome challenges, approach ambiguous activities, would be bored is reading was always easy, and consider difficult EFL reading more interesting than anxiety provoking. Ambiguity, thus, can carry a positive impact, as it can make an EFL task interesting. What is more, according to the learner perceptions, ambiguity often tends to be naturally connected to and expected in EFL challenges that result in personal development, which makes ambiguous tasks attractive for a learner with autonomous motivation. This is likely to be connected to the motivational aspect of self-determination, not mere tolerance of ambiguity; the extent to which an already ambiguity tolerant learner becomes motivated by challenges perceived as useful is more likely to be due to her self-determination than to her attraction for ambiguity. These two sources of motivation can, of course, overlap and coexist

in the target population. Nevertheless, even approach behavior and enjoying complexity might be initiated by a variable other than AT, which is, in research literature, labeled either as a trait of personality (e.g. Larsen-Freeman and Long 1991: 191) or a cognitive style (e.g. Chapelle and Roberts 1986), but hardly as a motivational variable.

Nevertheless, throughout the continuum, according to the results, the level of operation of AT clearly covers theoretical perceptions, beliefs, attitudes and emotions, as well as real life actions and engaging in certain patterns of behavior. This is in accordance with the conclusions drawn in the theoretical background section 3.1.2, as well as with Budner's (1962) statements about the phenomenological and operational levels of AT, discussed in section 3.1.1. According to Budner, intolerance of ambiguity can, with variance, be realized by rigid mental theories about the world, emotions of anxiety and discomfort, operations towards the target of ambiguity, and avoidance behavior. There are, however, some observable trends in the ways the four categories of responses to threat seem to be balanced on the tolerance-intolerance continuum. The reactions and counter-reactions of *submission*, including positive and negative affective changes, as well as approach and avoidance behavior, are more evident in the extreme ends of the continuum. In contrast, the medial part of the continuum around the mere acceptance is relatively more characterized by counter-reactions of *denial*, including flexible mental theories and understandings, as well as skilled coping with the ambiguity. All in all, the theoretical and practical levels of operation appear to be deeply intertwined.

The results of the present study also generally support the notion that AT is a situation specific personality variable (see section 3.1.2 of this thesis). Particularly the more tolerant learners highlight the international status and importance of the English language when motivating their AT-indicating choices with respect to learning materials or strategies that rely on the target language. This would almost certainly be different if the context was some other school subject or some other language. Additionally, the autonomous motivational orientation reinforces the situation specificity, as the definite personal goals and values regarding individual development with respect to learning English collaborate with AT precisely in this context. EFL speaking, for instance, could easily have less personal importance than EFL reading, which would lessen the engagement with the process and the willingness to face ambiguity. Unfortunately, all the

evidence for situational specificity of AT is, in the results of this study, associated with an unfixed, motivational aspect of the concept. This leaves room for hypothesizing that, if the concept of AT was to exclude motivational influence, the core variable reflecting a definite cognitive style might hold stability that exceeds situational specificity.

Besides the observations concerning the characteristics of the theoretical concept of AT, the interest in the present thesis has been focused on a group of learners. It is possible that the patterns of behavior discovered among the participants of this study also give generalizable information about the target population, being Finnish upper secondary school students. This is particularly probable with the motivational aspect. In this study, the motivational orientation for the majority of the students is far from literally external or instrumental. In contrast, the motive for engaging in EFL reading, regardless of the personal likes and dislikes, as well as the strength of motivation, derives from the value of personal development. Learning the language, improving oneself and employing self-control often appear to be connected to the learners' self-concepts, and, for instance, reading authentic books can be considered valuable and internally rewarding due to personal appreciations, not because it helps achieving something external, and not because it also can be enjoyed even though the pleasure was not the original motive. Considering the target-oriented nature of the upper secondary school education, which culminates in the matriculation exams and which has a considerable role in gaining admittance to tertiary education, it seems logical and appropriate to approach any learning with respect to personal development. What is more, as the environment calls for mature and self-determined patterns of behavior, the expected value of any activity is easily recognized even though there was an original motivation to engage in EFL reading for the love of reading.

A learning environment with too much external control and too few possibilities to work with materials and instructional methods that fit one's personal needs can, however, also weaken the self-determination, as seemed to be the case not only with subjectivity type 4, but also with types 3 and 5. Developing and supporting the learners' autonomy and motivation, thus, call for practical actions. In section 2.2.4 of this thesis, it was described how both autonomy and beneficial motivation are developed particularly with a help of social support, and through obeying the innate psychological needs (Deci and

Ryan 2000: 68). In addition to the absence of extensive external control, the practice of EFL learning should, thus, be characterized by security for promoting a sense of *relatedness*, proficiency-focused feedback and tasks that are at an appropriate level of difficulty for supporting a sense of *competence*, and encouraging individual choices and acknowledging personal emotions for developing *autonomy*. To exemplify, among the subjectivities discovered in the present study, type 5 learners would profit from all of these, as their typical characteristics involved an impression of separateness, disappointment with the levels of difficulty in reading offered, and a need for personal choices, as the offered text types and topics did not correspond with the preferences of the learners. With a well-developed self-determination, type 5 would merge with type 1, gaining an AT that ranges towards attraction and the behavioral patterns related to it.

As motivation seems to be the primary requisite for AT that exceeds mere acceptance, and as learner autonomy seems to be the primary requisite for the advantageous motivation, developing the learners' autonomy appears to be a beneficial and well-motivated strategy to support EFL learning. Dörnyei (2001: 104) lists several crucial strategies for autonomy-supporting teaching practice, which consists of two components. The first one, being increased learner involvement in organizing the learning process, involves allowing choices, giving genuine authority, promoting student contributions and peer teaching, encouraging project work, and using self-assessment (Dörnyei 2001: 104-105). The second one, being a change in the teacher's role, involves a facilitating style in teaching, in which the teacher views herself as a helper and an instructional designer rather than instructor (ibid: 107). What is more, according to Benson (2011: 124), fostering autonomy in FL classrooms entails both creating opportunities for learner control and enabling learners to take advantage of those opportunities. Furthermore, as autonomy and the lack of dependence develop through an ability to participate in social interaction (Benson 2011: 16), the learning environment should, in addition to independence, also promote interdependence, collaboration and social skills. According to Benson (2011: 124), the different areas of practice in fostering autonomy include several approaches, from technology-based to classroom-based, which are, however, too extensive to address here in any more detail. All in all, the aforementioned implications could be applied in various ways and to various extents into the EFL classroom, and it often lands on the EFL teacher to recognize and respect the individual needs of her students.

According to the details of the twofold model of AT illustrated in figure 2, the personality-related side, or the mental set connected to AT, is more difficult to modify than the motivational aspect. However, through developing the learner's motivation, removing unnecessary complexity from EFL reading activities, and promoting her strategic awareness and metacognitive control, she could be more able to engage in EFL reading activities initially perceived as too ambiguous. Consequently, frequent exposure to and experiences of reasonably challenging EFL reading could develop the learner's acceptance of uncertainty, and the increasing language proficiency could develop her cognitive styles in general. All in all, despite the definite aim of developing the learners' cognitive AT, the practices seem to rely on motivational strategies. What is more, at least according to the results of the present study, which reflect the state of affairs among the two groups of respondents addressed, literal intolerance of ambiguity in the context of EFL reading does not seem to be a severe problem. As discussed, only subjectivity types 2 and 3N do not seem to *tolerate* ambiguity, and together they involve only 4 participants, which is relatively few with respect to the respondent group of 36 students.

This study has illustrated the complex nature and the numerous intertwined connections of AT, a variable that is needed in FL reading and that, when employed, can facilitate FL learning. The study exemplifies the ways AT is reflected in real life behavioral choices and styles of approach, in likes and dislikes, and in understandings, mental reasoning, and sets of mind. As we now have an understanding of how AT is realized in the existing subjectivities of upper secondary school students in the context of EFL reading, the study has filled its purpose. Furthermore, the study suggests that, if the behavior patterns relating to ambiguity tolerance or intolerance are recognized and their underlying origins and processes of development in the cognitive styles or self-determination are acknowledged, AT could be supported and promoted in learners in order to provide them with skills and styles of approach that allow them to successfully operate EFL reading. In addition, the study increases awareness of a learner variable that is, quite ironically, rather ambiguous itself.

7 CONCLUSION

The aim of the present thesis has been to explore different subjectivities among upper secondary school learners of English, with respect to AT, and in the context of EFL reading. The interest was directed towards different variables that could potentially distinguish the borders of any uprising patterns of behavior and thought: ambiguity tolerance and intolerance, the four psychological response-types for threat, as well as the subvariables that were associated with AT in research literature: learning and reading styles and strategies, learner autonomy and inner locus of control, intrinsic motivation, and FL learning and reading anxiety. The underlying goal was to become more knowledgeable about AT in order to be able to apply any emerging practical implications into teaching of EFL reading. Q Methodology was an ideal methodological approach for the research question and setting of this study. The data collection instrument was designed and balanced on the basis of the literature review. After addressing 36 upper secondary school students and following the Q Methodological analysis, five statistically validated factors were detected and selected for further analysis and interpretation. When interpreted, these five subjectivity types, as well as an additional sub-subjectivity, appeared to differ not only on the basis of their AT, by on the basis of their self-determination. The similarities and differences between the subjectivity types resulted in several conclusions that together met the challenge identified in the research question.

The foremost conclusion in the discussion was that, conceptually, AT appears to comprise of two components, of which the first one, resembling a cognitive style, ranges only to ambiguity acceptance, and the second one, resembling a motivational variable, exceeds it towards attraction. Besides the observations made about the range of the concept, AT reconstructed in this study reproduces the aspects that were associated with it in the research literature. All of the anticipated AT-related subvariables were found to be relevant for the emergence of the subjectivities. In addition, the level of operation did cover both mental understandings and practical actions throughout the ambiguity tolerance-intolerance continuum, and at least the motivational aspect of AT was proved to have situational specificity.

Additional conclusions drawn on the basis of the analysis make certain propositions. Firstly, although the group of respondents was moderate, it clearly conveys the impression that low AT resembling a personality variable does not appear to be a problem in the target population. That is to say, EFL learners in upper secondary school are likely to tolerate ambiguity rather well. Secondly, the part of the AT that would be likely to profit from being acknowledged in teaching practices is the motivational aspect. Influencing the learners' AT-related behavioral patterns, that is, for instance, diminishing their avoidance behavior and encouraging engaging with EFL reading, could best be supported by promoting the development of their sense of and capacity for autonomy, as well as the quality and quantity of their motivation. This can be carried out by, for instance, acknowledging the learners' innate psychological needs in EFL teaching (Deci and Ryan 2000: 68), promoting learner involvement and clarifying the teacher's role (Dörnyei 2001: 104), and including collaboration as a part of the learning process (Benson 2011: 16). These elements in EFL teaching can develop the learners' autonomy and promote a sense of personal process, which will increase the perceived value of the learning activities and, consequently, support the learners' autonomous motivation. What is more, as motivated learners are more likely to engage in EFL reading activities, their proficiency is likely to grow and they will get more accustomed to the nature of the foreign language, which will almost certainly increase their AT at least in this specific context.

On one hand, this study successfully allowed the emergence of natural patterns of thought and behavior. The uprising patterns discovered from the data were not pretty; they were unbalanced, bipolar, and supported by participants who did not seem to agree with each other in real life despite the statistical similarity. The participants responded in unexpected ways to statements that were designed to address joy or emotional attraction, by focusing on usefulness and practical value, and described difficult EFL reading as boring. The patterns were, however, unrestricted in the sense that the learners could themselves give meaning to the statements, rank-order them in a subjective and relative manner, and elaborate their choices. There were no ready-made categories awaiting the respondents, and the existing hypothetical variables and types of items were camouflaged in the set of statements. The respondents experienced a sense of freedom, and the final map resembling their individual estimations became as representative as possible.

What is more, as factor analysis cannot be fudged, the emerging groups cannot but be realistic.

On the other hand, although the method indicates trends, it does not give very detailed, practical or easily applicable information. This means that, now after conducting this study, having an individual learner complete the Q sorting does not self-evidently allow for labeling her as a member of subjectivity type 1 and declaring that she will, *thus*, never avoid ambiguous tasks, for instance. It is worth remembering that the subjectivities are not clear-cut, and that their main role is not to categorize persons but to provide information about the viewpoints that exist on the whole, accumulating knowledge of AT. The new knowledge can only subsequently help clarifying the best methods of acknowledging and addressing different types of learners in the reality of teaching EFL reading.

This thesis has served as a pioneering example of a study that combines the complex construct of AT with the intriguing Q Methodology. Never before has AT been used in learner profiling as an umbrella concept for variables that help describing learners' perceptions. To a large extent due to the characteristics of the research setting, the study proves to be successful with respect to the scope prearranged for this study, but it also raises various questions that should be addressed in further research.

The first suggestions for future study concerning AT in the context of EFL reading concern the practical execution of the study. Primarily, it could be a point of interest to employ a similar research setting with a different but equally relevant respondent group, or a differently collected concourse resulting into a different Q set. Replication would, naturally, further define the conclusions made in this experimental study with a limited scope. This would be particularly valuable to the conclusions concerning the theoretical nature of the range of AT, as well as the comparatively slight presence of literal ambiguity intolerance in the target population. In addition, with respect to the methodological choice, a study with a similar objective could well employ the think-aloud protocol. The think-aloud protocol has already been successfully applied in studies on, for instance, FL reading strategies (Hosenfeld 1984) and successful FL readers' mental actions (Schramm 2008), and it could, therefore, also reveal natural patterns of thought

and behavior with respect to AT in the context of EFL reading. Direct interviews or more structured questionnaires, in contrast, would not be likely to give adequate data due to the abstract nature of AT and the objective of discovering naturally emerging viewpoints; instead, they would almost certainly change the nature and focus of the study, and perhaps result in merely measuring levels of AT or correlating variables with each other, which do not resemble the goals of the present study.

The sequential suggestions for future study concern the coverage of the study; there are some important variables that could be acknowledged in future study in order to get more detailed and reliable knowledge about the aspects of AT. The most relevant proposal is addressing the readers' proficiency levels in combination with the emerging clusters of subjectivity. Despite there are studies that address the relationship between AT and language achievement, it cannot be straightforwardly assumed that, for instance, learners supporting subjectivity type 1 of the present study would have a higher proficiency levels than those supporting type 2. In other words, without taking a stand on causality, it can be stated that AT is, fundamentally, considered a personality variable and a cognitive style, and there must be variation to such an extent that it cannot be accounted for mere FL proficiency. Controlling the proficiency levels of the learners would, thus, help specifying which aspects of AT bear a relation to FL proficiency and which exist regardless of it. Consequently, it would be interesting to conduct a corresponding study with a group of respondents that represent only a narrow level of proficiency, which could be accomplished by picking out the group of participants on the basis of, for instance, their success in the TOEFL reading comprehension subtest. Proficiency levels, similarly to variables such as age and gender, could also be used in conducting comparative studies.

In addition to the replicative and expansionary suggestions, also the precise viewpoint and conclusions of the present thesis could be studied further. For instance, it could be extremely informative to conduct a longitudinal study with an underlying objective of empirically testing the foremost conclusions of the present study. This could be carried out by first designing a definite program including various concrete teaching practices and materials targeted for developing EFL learners' self-determination, then employing the program in a controlled manner, to a controlled group of learners, and in an appro-

priate time frame, and finally investigating the emerging effects in the learner subjectivities concerning AT in the context of EFL reading. When reflecting on the subjectivity types discovered in the present thesis, one could assume that, for instance, the general development of the learners' self-determination would merge types of viewpoints that were initially separate, and thus standardize the target group, but the details, as well as the development of the average AT in the group, remain to discover.

Research on AT as a learner variable is far from exhaustive. This study has contributed to the quest of accumulating knowledge of the complex and intriguing phenomenon. Hopefully, the future will make AT more acknowledged as an important contributor in EFL learning and reading.

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Appendix 1. **The Q set statements**

Randomly given item numbers (1-36)
Responses to threat (groups I-IV)
Relation to subvariables (AMB, INT, ANX, AUT, LOC, STR)
Reversed items (marked with an asterisk *)

I <u>Phenomenological Denial (PD)</u>
Repression and denial (vs. acceptance). The reality is altered in one's own perceptions and feelings; the world is seen black and white.

3 The more organized reading is the better. Reading techniques are worth using. STR
6 It is too arbitrary to try to conclude the meaning of an unknown word from the co-text. STR
7 * If you read English only from school books you will miss most of the joy of reading in a foreign language. INT
11 * In the end it is me who controls my own success in reading. LOC
16 * If you think that a sentence can only mean one thing you just do not understand how complicated texts can be. AMB
24 * Reading and interpreting a text independently is more effective than working under a teacher's guidance. AUT
26 When reading, one should the entire time be clear about what is being read instead of only at the end of the reading thinking about the main points that were understood. STR
32 It is no use claiming that texts do not have right interpretations or questions do not have right answers, since they almost always do. AMB
33 * I am not troubled even if the teacher could not say exactly how something is translated into Finnish. AMB

II <u>Phenomenological Submission (PS)</u>
Anxiety and discomfort (vs. acceptance/ attraction). The reality cannot be altered even in perceptions, which affects one's emotional state.

5 It is anxiety provoking if I have to start reading without knowing what kind of text is coming or the reason for reading it. STR
9 It feels uncomfortable if I have to read something in English independently without instructions and/or guidance. AUT
10 It feels uncomfortable if, in the middle of reading, I am forced to skip over some sections so that I have no time to clarify everything. STR
14 * When reading, I usually recognize what is relevant and what is not, and do not care to put effort in finding out what the irrelevant parts mean in detail. STR
20 Trying to interpret on the basis of too few clues is anxiety provoking. ANX
23 * I would like to read more authentic English books and/or I already read lots of them. INT
31 Reading a difficult text in English is more anxiety provoking than interesting. ANX
35 In reading in English in particular, a familiar theme and content are always more convenient than those I know nothing about. AMB
36 * It would be boring and wearing if reading was always easy. AMB

III <u>Operative Denial (OD)</u>
Destructive or reconstructive behavior (vs. coping with the threat). The natural or social objects of the reality are altered.
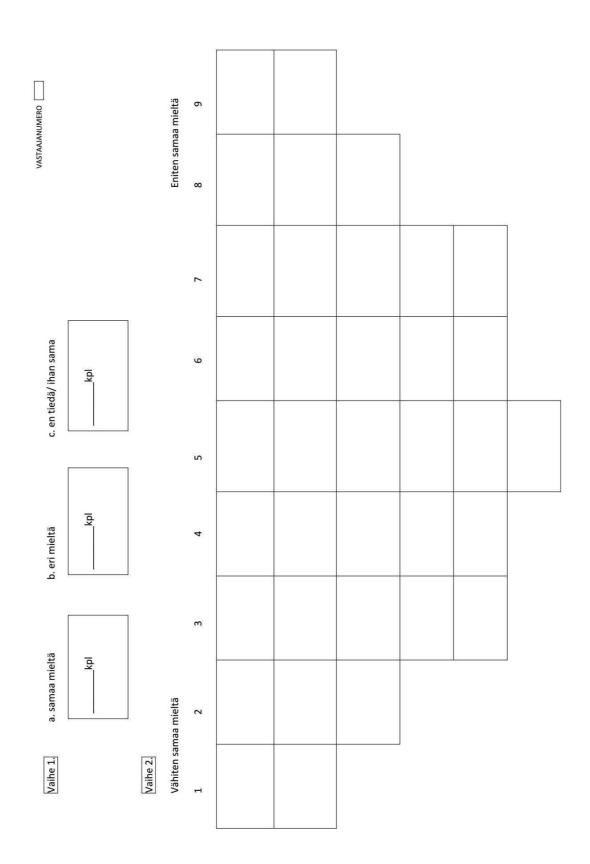

4 If I had to read an authentic book for school, I could see myself reading the same book in Finnish, seeing a film based on it, or googling a summary to help me. INT
12 * When a reading task or a text makes me anxious, I can control my feelings so that I can continue working (e.g. by calming myself, focusing on positive thoughts). STR
17 * If I face an unknown word, I'd rather not use a glossary, ask a friend, etc., because that interrupts reading. I just guess the meaning or muddle forward instead. STR
22 It would be better if everyone were on the same opinion on how texts should be read and how reading should be used in studying English. AUT
27 Sometimes you just can't understand what you read, and in these situations it's not helpful if you are advised to e.g. use strategies, but you should get an easier text or a different task. LOC
28 It feels uncomfortable if I should work with a text in a new way, so I do the normal thing anyway or find some other way to sail through (e.g. ask the right answers from a friend). ANX
29 * When reading, I focus on understanding the texts in wider sense than on a word and grammatical level: what the text is roughly about and which issues are related to each other. STR
30 * If I face an unknown word, I rather compare it to familiar English words than similar type of Finnish words. STR
34 * It is OK for me to read several texts at once comparing them, or a same text from different angles. I would not try to finish one section at a time before moving on to the next. AMB

IV <u>Operative Submission (OS)</u>
Avoidance (vs. seeking) behavior. The natural or social objects of the reality cannot be altered and, thus, they are avoided.

1 I wouldn't care to put the effort in finding out what an unidentified word means if I don't have an English-Finnish dictionary but only an explanation in English. STR
2 I avoid starting to read because I know that it cause anxiety and be awful. ANX
8 I avoid reading if I know that a text is difficult to comprehend, it has multiple interpretations or it is about a topic I know nothing about. INT
13 * Teachers who give open tasks give me a great opportunity for inventiveness and make me think about my own way of seeing things. AUT
15 The kind of reading task, in which I clearly know what to do and how to do it, will more likely be done. AMB
18 * Although the teacher had an important role in learning English, learning to read in English is mostly up to the learner. LOC
19 If I face a problem with a text and there's nobody to help me, I tend to leave it unsolved. LOC
21 Eventually, it's more useful to read many short texts that are designed for teaching English, than to read some arbitrary collection of more complex texts. AMB
25 * Organized reading is not for me. I can conclude myself how to read, and I can create connections between things without a stiff model and instructions. STR

Appendix 2. **The answer sheet**

VASTAAJANUMERO

Vaihe 1.

a. samaa mieltä   b. eri mieltä   c. en tiedä/ ihan sama

_____ kpl   _____ kpl   _____ kpl

Vaihe 2.

Vähiten samaa mieltä   Eniten samaa mieltä

1 2 3 4 5 6 7 8 9

Appendix 3. **The instruction sheet**

Ohjeet tutkimukseen vastaamiseen

❖ Tämä tutkimus koskee erilaisia tapoja suhtautua englanninkielisten tekstien lukemiseen. Olen kiinnostunut sinun asenteestasi, kokemuksistasi ja käsityksistäsi. Koska yritän selvittää miten englanninkielellä lukeminen todella koetaan, kyselyyn ei ole oikeita tai vääriä vastauksia!

❖ Edessäsi on pieni korttipakka. Korttipakassa on väitteitä, jotka koskevat **lukemista englannin kielellä**. Tarkoituksenasi on järjestää kortit sen mukaan mitä mieltä niistä olet. Kysymys kuuluu: ”Missä määrin olet samaa mieltä seuraavien väitteiden kanssa?” Kortit on numeroitu satunnaisesti (1-36). Numerot eivät liity väitteiden arvoihin, joten ne voi jättää järjestelyvaiheessa huomioimatta.

❖ Edessäsi on myös vastauslomake. Vastauslomakkeessa on kaksi erillistä osiota. Ole hyvä ja lue kunkin vaiheen ohjeet ennen kuin aloitat vastaamisen.

Vaihe 1.

Lue huolellisesti läpi korttien väitteet yksi kerrallaan. Jaa **samalla** lukemasi kortit kolmeen pinoon:

    a. olet väitteen kanssa enimmäkseen samaa mieltä
    b. olet väitteen kanssa enimmäkseen eri mieltä
    c. et osaa päättää, asia on sinusta yhdentekevä tai se ei koske sinua.

Vastauslomakkeessa on pinoille paikat, ole hyvä ja käytä niitä. Kun olet jakanut kortit, laske jokaisessa pinossa olevat kortit ja **kirjoita niiden lukumäärä** vastauslomakkeeseen vastaavan pinon paikalle.

Vaihe 2.

❖ Ota **a-pino** käteesi ja levitä kortit eteesi. Lue kortit uudestaan ja valitse niistä kaksi korttia, joiden kanssa olet kaikkein **eniten** samaa mieltä tai jotka sopivat sinuun parhaiten. Aseta kortit vastauslomakkeen kartalle numeron **9** alle. Sillä ei ole merkitystä mikä kortti on ylimpänä ja voit milloin tahansa muutella korttien paikkoja.

❖ Valitse sitten ne kolme korttia, joiden kanssa olet seuraavaksi eniten samaa mieltä ja aseta ne kartalle numeron 8 alle. Aseta sitten loputkin a-pinon kortit kartalle sen mukaan kuinka paljon olet väitteiden kanssa samaa mieltä.

❖ Ota sitten käteesi **b-pino** ja toimi samoin kartan toisessa päässä, aloittaen niistä kahdesta kortista, joiden kanssa olet kaikkein **vähiten** samaa mieltä. Aseta lopuksi paikoilleen myös **c-pinon** kortit.

❖ Huomioi, että **kaikki** kortit täytyy asettaa kartalle vaikka se olisi vaikeaa. Jokaisessa laatikossa saa olla vain yksi kortti ja tyhjiä laatikoita ei saa jäädä.

❖ Kun olet saanut kaikki kortit paikoilleen, katso karttaa vielä kokonaisuutena. Voit muuttaa korttien paikkaa sen mukaan mitä mieltä niistä olet, jotta lopullinen kokonaisuus vastaisi mielipidettäsi mahdollisimman hyvin.

❖ Kun olet valmis, **kirjoita vielä kunkin kortin takana oleva numero (1-36) vastauslomakkeen kartalle** siihen laatikkoon, johon asetit kortin. Tarkista, että lopulta jokaisessa laatikossa on yksi numero.

❖ Kommentoi:

a. Miksi olet kaikista **eniten** samaa mieltä niiden kahden väitteen kanssa, jotka asetit karttaan numeron 9 alle?

KORTIN NUMERO [＿＿] :

KORTIN NUMERO [＿＿] :

b. Miksi olet kaikista **vähiten** samaa mieltä niiden kahden väitteen kanssa, jotka asetit karttaan numeron 1 alle?

KORTIN NUMERO [＿＿] :

KORTIN NUMERO [＿＿] :

c. Muita kommentteja kyselyyn vastaamisesta tai kyselyn aiheesta?

Kiitoksia vastauksistasi!

Maijastiina Mäntysaari (maijastiina.m.mantysaari@student .jyu.fi)
Tutkielman ohjaaja: Katja Mäntylä (katja.mantyla@jyu.fi)

Appendix 4. **The Q set statement cards in Finnish**

(The item numbers displayed here were printed at the back of each card.)

On ihan turha väittää, ettei teksteille muka ole oikeaa tulkintatapaa tai kysymyksille oikeaa vastausta, koska lähes aina kuitenkin on. 32

Minua ei haittaa vaikkei opettaja osaisi sanoa täsmälleen miten jokin suomennetaan. 33

Jos ajattelee, että jokin lause voi tarkoittaa vain yhtä asiaa, ei vain ymmärrä kuinka monimutkaisia tekstit voivat olla. 16

Jos lukee englantia vain koulukirjoista, missaa suurimman osan vieraalla kielellä lukemisen ilosta. 7

Lukiessa tulee olla koko ajan selvillä siitä mitä lukee sen sijaan, että lopussa miettisi, että mitkäs pääkohdat tästä nyt ymmärsinkään. 26

Tekstin lukeminen ja tulkitseminen itsenäisesti on tehokkaampaa kuin opettajajohtoinen työskentely. 24

On liian satunnaista yrittää päätellä pelkän muun tekstin perusteella mitä jokin tuntematon sana tarkoittaa. 6

Loppujen lopuksi hallitsen ihan itse sitä miten hyvin menestyn lukemisessa. 11

Mitä järjestelmällisemmin lukee, sen parempi. Lukutekniikoita kannattaa noudattaa. 3

Etenkin englanniksi lukiessa tuttu aihepiiri ja tekstin sisältö on aina miellyttävämpi kuin sellainen, josta en tiedä mitään. 35

Haluaisin lukea enemmän oikeita englanninkielisiä kirjoja ja/tai luen niitä jo tosi paljon. 23

Minusta on ahdistavaa yrittää tehdä tulkinta jostain lauseesta jos siihen on liian vähän vihjeitä. 20

Minusta tuntuu epämukavalta jos kesken lukemisen on pakko hypätä yli jotain kohtia niin, ettei ehdi selvittää kaikkea. 10

Minusta on epämukavaa joutua lukemaan englanninkielistä tekstiä itsenäisesti ilman ohjeita ja/tai ohjausta. 9

Vaikean tekstin lukeminen englanniksi on enemmän ahdistavaa kuin mielenkiintoista. 31

Tunnistan lukiessani mikä on tärkeää ja mikä ei, enkä jaksa nähdä vaivaa epäolennaisten kohtien tarkkaan selvittämiseen. 14

Olisi tylsää ja puuduttavaa jos lukeminen olisi aina pelkästään helppoa. 36

On ahdistavaa, jos pitää ryhtyä lukemaan jotain ilman että tietää millainen teksti on tulossa tai mitä varten se luetaan. 5

Olisi parempi jos kaikki ajattelisivat samalla tavalla siitä miten tekstejä pitäisi käydä läpi ja miten lukemista pitäisi käyttää englannin opiskelussa. 22

Minusta on epämukavaa jos tekstille pitää tehdä jotain uudenlaista, joten teen silti tutulla tavalla tai keksin jonkin muun keinon luovia läpi (esim. kyselen kaverilta vastauksia). 28

Minusta on OK lukea montaa tekstiä yhtä aikaa vertaillen tai samaa tekstiä monelta kantilta. En yritä työstää yhtä osa-aluetta kerrallaan valmiiksi ennen kuin siirryn seuraavaan. 34

Jos en tunnista jotain sanaa, vertaan sitä mielessäni mieluummin tuttuihin englanninkielen sanoihin kuin samankaltaisiin suomenkielen sanoihin. 30

Jos kouluun pitäisi lukea englanninkielinen kirja, voisin kuvitella lukaisevani saman kirjan suomeksi, katsovani kirjasta tehdyn elokuvan tai googlettavani netistä tiivistelmän avukseni. 4

Jos kohtaan uuden sanan lukiessani, en mielelläni katso sanastosta, kysy kaverilta tms., koska se keskeyttää lukemisen. Sen sijaan arvaan tai rämmin vain eteenpäin. 17

Joskus ei vaan tajua lukemaansa, eikä siinä yhtään auta, että joku neuvoo käyttämään strategioita tms., vaan silloin pitäisi saada helpompaa luettavaa tai erilainen tehtävä. 27

Kun tehtävä tai teksti saa minut ahdistumaan, osaan käsitellä tunteitani niin, että pystyn silti jatkamaan ihan hyvin (esim. rauhoitan itseni, keskityn ajattelemaan mukavia). 12

Lukiessa keskityn ymmärtämään laajemmin kuin sanojen ja kieliopin tasolla: mistä tekstissä on suurin piirtein kyse ja mitkä asiat liittyvät toisiinsa. 29

Loppujen lopuksi on enemmän hyötyä siitä, että luen kasan lyhyitä ja opetukseen suunniteltuja tekstejä, kuin siitä, että lukisin joitain satunnaisia ja monimutkaisia tekstejä. 21

Sellainen luetunymmärtämistehtävä tulee paljon todennäköisemmin tehtyä, jossa tietää selvästi mitä pitää tehdä ja miten se tehdään. 15

Opettajat, jotka antavat avoimia tehtäviä antavat hienon mahdollisuuden oma-aloitteisuuteen ja saavat minut hyvällä tavalla miettimään omaa tapaani nähdä asiat. 13

Välttelen lukemista jos tiedän, että teksti on vaikeaa, monitulkintaista tai ihan vieraasta aiheesta. 8

Välttelen usein lukemisen aloittamista, koska tiedän, että lukeminen saattaa olla ahdistavaa ja tuskallista. 2

Jos kohtaan ongelman tekstin kanssa eikä kukaan ole auttamassa, niin jätän helposti koko homman ratkaisematta. 19

Järjestelmällinen lukeminen ei ole minua varten. Osaan päätellä itse miten luen parhaiten ja saan luetut asiat liittymään toisiinsa ilman jäykkää mallia ja ohjeiden noudattamista. 25

En jaksaisi selvittää mitä jokin tärkeä tuntematon sana tarkoittaa, jos saatavilla ei ole suomi-englanti sanakirjaa, vaan pelkkä selitys englanniksi. 1

Vaikka yleisesti englannin-opiskelussa opettajalla olisikin suurta merkitystä, niin lukemaan opitaan aikalailla itsenäisesti. 18

Appendix 5. **Correlation matrix between the 36 Q sorts**

SORT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	100																
2	33	100															
3	18	16	100														
4	65	48	38	100													
5	61	18	43	58	100												
6	54	17	18	57	61	100											
7	58	22	51	74	67	62	100										
8	66	34	36	58	49	57	58	100									
9	46	30	39	42	39	39	37	40	100								
10	19	21	-21	3	6	27	7	10	-2	100							
11	-7	12	30	21	2	21	25	20	23	5	100						
12	-18	12	-21	-21	-8	-27	-17	-22	-40	32	4	100					
13	-26	1	-21	-46	-23	-33	-48	-14	-4	-10	-12	2	100				
14	31	18	20	45	16	30	49	27	19	-4	2	-33	-26	100			
15	-41	-25	-48	-57	-42	-55	-70	-42	-36	-15	-12	33	44	-33	100		
16	45	31	16	59	23	55	54	30	33	15	15	-23	-43	40	-57	100	
17	58	15	36	65	54	68	77	54	40	4	25	-42	-36	58	-60	49	100
18	51	20	45	65	56	58	77	53	45	2	21	-41	-33	59	-64	43	79
19	29	36	20	30	21	37	27	15	26	33	-3	-40	-6	29	-50	13	51
20	30	23	21	37	21	29	19	32	45	1	2	-36	8	23	-33	1	27
21	1	36	14	-1	-4	-15	-17	-4	11	23	-4	21	16	10	12	7	-16
22	12	7	-14	-11	2	-12	-28	-10	-5	34	8	20	21	-26	7	-13	-21
23	58	37	29	71	62	67	77	67	29	26	24	-7	-32	32	-48	49	64
24	45	25	17	64	39	46	45	24	36	12	5	-11	-42	15	-57	61	33
25	1	28	-36	6	-26	-4	-30	-5	-14	30	-23	12	4	-2	-7	14	-29
26	48	42	26	54	23	35	62	34	37	23	20	-18	-33	52	-62	56	57
27	61	17	45	69	60	65	87	54	45	0	15	-41	-49	56	-75	58	85
28	58	32	26	73	45	64	74	58	44	20	34	-29	-43	41	-67	63	74
29	61	47	40	69	55	62	67	70	39	17	14	-14	-39	37	-63	67	61
30	64	27	37	73	63	54	56	57	62	1	17	-46	-33	29	-43	35	58
31	18	20	2	-6	5	10	-4	17	46	14	-5	-26	29	20	-20	4	12
32	34	11	-24	27	8	30	0	16	2	22	-4	12	-1	3	14	36	3
33	58	24	33	74	57	64	76	60	32	10	35	-17	-43	43	-51	63	73
34	45	2	13	55	35	58	64	28	26	1	15	-47	-55	49	-59	57	79
35	51	43	27	55	48	35	49	52	15	-11	40	3	3	35	-15	28	50
36	52	25	41	64	45	49	65	40	20	20	8	-10	-60	53	-50	58	57

SORT	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
18	100																		
19	40	100																	
20	28	42	100																
21	-5	2	-8	100															
22	-29	8	3	13	100														
23	62	20	20	-1	-11	100													
24	44	20	17	-5	15	44	100												
25	-21	1	25	7	31	-12	26	100											
26	55	42	35	5	-5	49	37	1	100										
27	79	45	31	-17	-33	68	45	-33	64	100									
28	65	38	28	-5	-14	73	55	-7	68	77	100								
29	52	27	24	10	-5	70	46	10	50	70	70	100							
30	60	28	57	1	2	56	49	-5	45	57	56	51	100						
31	22	28	46	29	15	3	15	17	23	14	16	18	21	100					
32	-11	-9	2	23	28	20	29	33	-15	-8	8	23	15	1	100				
33	71	21	4	-2	-12	76	50	-18	46	71	74	64	51	-11	30	100			
34	61	43	22	-29	-27	41	36	-5	60	73	71	52	52	-1	0	58	100		
35	46	9	3	4	11	48	27	-12	24	32	38	43	39	-4	26	57	23	100	
36	55	21	5	18	-24	53	45	7	52	61	55	66	42	8	18	55	54	31	100