THE DETERMINATION OF MOTIVATION TYPES AND PRONUNCIATION LEARNING STRATEGIES EMPLOYED BY TURKISH AND IRANIAN ENGLISH TEACHER TRAINEES

TÜRK VE İRANLI İNGİLİZCE ÖĞRETMEN ADAYLARININ KULLANDIKLARI TELAFFUZ ÖĞRENME STRATEJİLERİ VE MOTİVASYON TÜRLERİNİN BELİRLENMESİ

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This is to certify that we have read this dissertation, entitled "The Determination of Motivation Types and Pronunciation Learning Strategies Employed by Turkish and Iranian English Teacher Trainees", and that in our opinion it is fully adequate, in the scope and quality, as a dissertation for the Degree of Doctor of Philosophy in the Program of English Language Teaching.

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Türk ve İranlı İngilizce Öğretmen Adaylarının Kullandıkları Telaffuz Öğrenme Stratejileri ve Motivasyon Türlerinin Belirlenmesi

"Ahmad MORADI"

ÖZET

Bu çalışmada Türk ve İranlı İngilizce öğretmen adaylarının motivasyon tipleri ve telaffuz öğrenme stratejileri arasındaki ilişkiyi incelenmiştir. Çalışmadaki katılımcılar 478 İngilizce öğretmen adayından (Erkek: 113, 23.6%; Kadın, 365, 76.4%) (Türk Erkek: 50, 25.3%; Kadın148, 74.7%; İranlı Erkek: 67, 22.5%; Kadın: 217, 77.5%) oluşmaktadır. Sarıçoban & Moradi (2011) tarafından geliştirilen Motivasyon Tipleri Ölçeği (MTÖ), Deci ve Ryan'ın (1985) öz-belirleme teorisi esas alınarak, katılımcıların motivasyon tipleri tercihlerini belirlemek amacıyla ve İngilizce öğretmen adaylarının kullandığı telaffuz öğrenme stratejilerini ortaya çıkarmak amacıyla, Oxford (1990-1999) ve Peterson (2000) temel alınarak, Calka (2011) tarafından oluşturulan Telaffuz Öğrenme Stratejileri Ölçeği (TÖSÖ) kullanılmıştır. Çalışmanın bulguları Türk ve İranlı İngilizce öğretmen adaylarının hem içsel (M=76.37) hem de dışsal motivasyona (M=35.93) sahip öğrenciler olmakla beraber çoğunlukla içsel motivasyonu (M=76.37, Turkey: M=73.90, Iran: M=78.12) tercih ettiklerini ortaya koymuştur. Bulgular ayrıca Motivasyon Tipleri arasında istatistiksel olarak önemli bir ilişki olduğunu da göstermiştir. Farklı regülasyonlar arasında düzenli bir desen de saptanmıştır. Otonom bütünleşik, belirlenmiş, ve hatta daha az kontrollü iç yansımalı regülasyonlar içsel regülasyon ile olumlu anlamda ilişkili çıkmıştır. Yüksek kontrollü dışsal regülasyon ve amotivasyon özerk yönelimi (içsel, bütünleşik, tanımlı) ve daha az kontrollü içten regülasyonlarla negatif olarak ilişkili çıkmıştır. Bunların yanısıra Türk ve İranlı öğrencilerin hepsinin telaffuz öğrenme stratejileri kullandıkları; fakat en çok da bilişötesi (M=43.67, Turkey: M=42.41, Iran: M=44.56), bilişsel (M=84.94, Turkey: M=90.29, Iran: M=82.87), ve hafıza (M=44.76, Turkey: M=46.44, Iran: M=43.57) stratejilerinden faydalandıkları ortaya çıkmıştır. Ayrıca telaffuz öğrenme stratejileri arasında önemli oranda olumlu korelasyonlara da rastlanmıştır.

Motivasyon Tipleri (MT) ve Telaffuz Öğrenme Stratejileri (TÖS) arasındaki ilişkinin sonuçları göstermiştir ki yüksek seviyede motive olan öğrenciler daha az motive olan öğrencilere kıyasla çok daha çeşitli telaffuz öğrenme stratejileri kullanıyor. Özerk olarak motive olan öğrenciler (içsel, bütünleşik, ve tanımlı öğrenciler) kontrollü öğrencilerden daha fazla oranda tüm telaffuz öğrenme stratejilerini kullanmış, ve daha az içten güdümlü öğrenciler diğer yüksek seviyede kontrollü dışsal regülasyonlu arkadaşlarına oranla daha fazla telaffuz öğrenme stratejilerini kullanmıştır. Buna ek olarak, amotivasyonun gösterdiği gibi, dışsal

regülasyon da tüm TÖS çeşitleri ile olumsuz bir ilişki göstermiştir. Bunun yanında, özerk regülasyonlar (içsel, dışsal, ve tanımlı regülasyonlar) ve hatta kontrollü içten güdümlü regülasyonlar akademik telaffuz başarısı (ATB) ile olumlu bir ilişki sergilemiştir. Dahası, yüksek kontrollü dışsal regülasyon ve amotivasyonun ATB ile aralarında önemli kuvvette olumsuz bir korelasyon kaysayısı bulunmuştur. Öte yandan, tüm telaffuz öğrenme strateji tipleri ile öğrencilerin ATB'leri arasında olumlu korelasyon katsayısı da bulunmaktadır.

Bağımsız-Grup t-Testi göstermiştir ki katılımcıların MT ve TÖS kullanımı cinsiyet, uyruk, bir NESC'de ikamet ediyor olma, ve (yüksek, orta ve düşük) akademik telaffuz başarısı açılarından önemli oranda farklılık sergilemiş, fakat bir NESC'de ikamet süresi yönünden bir farklılık arz etmemiştir. *ANOVA* sonuçlarına göre yüksek, orta ve düşük başarılı öğrenciler arasında farklı motivasyon tipleri ve telaffuz öğrenme stratejileri kullanımı ile ilgili olarak önemli bir farklılık gözlemlenmiştir. *Çoklu Regresyon* sonuçları da özerk yönelim ve içsel motivasyonun İngilizce öğretmen adaylarının telaffuz başarısının en kuvvetli yordayıcıları olduğunu ortaya çıkarmıştır. ATB düzeyini en yüksek oranda yordayan faktörün bilişötesi stratejiler olmasıyla birlikte bilişötesi, hafıza ve bilişsel stratejiler de katılımcıların ATB düzeyinin önemli yordayıcılarından olmuştur. Araştırmanın bulgularının temelinde özerk yönelimli (içsel, bütünleşik ve tanımlı) regülasyonların ve hatta daha az kontrollü içten güdümlü regülasyonun İngilizce öğretmen adaylarının ATB seviyesi üzerinde olumlu bir etkisi olduğu, fakat yüksek kontrollü dışsal regülasyon ve amotivasyonun ATB üzerinde olumsuz bir etkiye sahip olduğu bulunmuştur. Öğrenciler daha yüksek özerklik sahibi oldukça (öz-düzenleyici) telaffuz başarıları da o oranda artmıştır. Çalışmanın sonuçları MT ve TÖS değişkenlerinin akademik telaffuz başarısındaki etkinin öneminin altını çizmiştir. Bu bulgular öğretmen eğitimi programlarında yer alan okul, öğretmen, okutman, ve müfredat geliştiricilere ikinci dil öğrenenlerin dil öğrenme motivasyonunu arttırması ve programlarını onlara telaffuz öğrenme stratejileriyle alıştırma yapma farkındalığı kazandırarak tasarlaması ve uygulaması ve gerçek hayatta yetenek ve becerilerinden yararlanmalarını sağlama yolunda ışık tutacaktır.

Anahtar kelimeler: motivasyon tipleri, telaffuz öğrenme stratejileri, akademik telaffuz başarısı, öz-belirleyicilik, öz-düzenleme, özerk öğrenme, öğretmen eğitimi

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The Determination of Motivation Types and Pronunciation Learning Strategies Employed by Turkish and Iranian English Teacher Trainees

"Ahmad MORADI"

ABSTRACT

The present research study investigated the relationship between motivation types (MTs) and pronunciation learning strategies (PLSs) among Turkish and Iranian prospective English teachers. A total of 478 English teacher students (Male: 113, 23.6%; Female, 365, 76.4%) (Turkish Male: 50, 25.3%; Female148, 74.7%; Iranian Male: 67, 22.5%; Female: 217, 77.5%) participated in the study. Motivation Types Scale (MTS) developed by Sarıçoban & Moradi (2011), on the basis of Deci & Ryan's (1985) self-determination theory, was adopted and revised to foreign language pronunciation learning to determine the participants' pronunciation motivation type preferences. Pronunciation Learning Strategies Scale (PLSS) developed by Calka (2011), on the basis of Oxford (1990-1999) and Peterson (2000), was used to find out pronunciation learning strategies employed by the English teacher students. The findings of the study revealed that Turkish and Iranian English prospective teachers were both intrinsically (M=76.37) and extrinsically (M=35.93) motivated learners, but most often they preferred intrinsic motivation (M=76.37, Turkey: M=73.90, Iran: M=78.12). The findings also indicated a statistically significant relationship between MTs. There was an ordered pattern between different regulations. Autonomous integrated, identified, and even less controlled introjected regulation were strong positively correlated to intrinsic regulation. High controlled external regulation and amotivation were negatively correlated to autonomous oriented (intrinsic, integrated, identified) regulations and less controlled introjected regulation. It was also found that Turkish and Iranian students used all types of pronunciation learning strategies but most frequently they employed metacognitive (M=43.67, Turkey: M=42.41, Iran: M=44.56), cognitive (M=84.94, Turkey: M=90.29, Iran: M=82.87), and memory (M=44.76, Turkey: M=46.44, Iran: M=43.57) strategies. There were also significant positive inter-correlations between different types of pronunciation learning strategies.

The results of the relationship between MTs and PLSs revealed that highly motivated leaners used various pronunciation learning strategies extremely more than less motivated learners. Autonomous motivated learners (intrinsic, integrated, and identified learners) used all types of pronunciation learning strategies more than controlled learners, and less controlled introjected learners used pronunciation learning strategies more than other counterparts with highly controlled external regulation. In addition, external regulation the

same as amotivation was negatively correlated to all types of PLSs. It was also found that autonomous regulations (intrinsic, integrated, and identified regulations), and even controlled introjected regulation were positively correlated to academic pronunciation achievement (APA). Moreover, high controlled external regulation and amotivation had significant strong negative correlation coefficient with APA. There were also significant positive correlation coefficients between all types of pronunciation learning strategies and students' APA.

The results of *Independent-Samples t-Test* showed that the participants' MTs and use of PLSs significantly differed in terms of gender, nationality, being resident in a native English speaking country (NESC), and (high, moderate, and low) academic pronunciation achievement (APA), however, there were no differences in terms of length of resident in a NESC. The results of *ANOVA test* revealed that there were significant differences between high, moderate, and low achievers in term of different motivation types and use of pronunciation learning strategies. The results of *Multiple Regression* also revealed that autonomous orientation and intrinsic motivation were the strongest predictors of the English teacher students' pronunciation achievement. Use of metacognitive, memory and cognitive strategies were also significant predictors of the participants 'APA level, with the metacognitive strategies recording the strongest power of prediction for APA level. On the basis of the findings of the research study it was found that autonomous oriented (intrinsic, integrated, and identified) regulations, even less controlled introjected regulation, and use of all types of PLSs had significant positive effect on the English teacher trainees' APA level, but high controlled external regulation and amotivation had negative impact of APA level. The more the students were autonomous regulated (self-regulated) and the more they used PLSs the more their pronunciation achievement extremely increased and vice versa. The results of the study highlighted the impact of MTs and PLSs variables on academic pronunciation achievement. These findings can help schools, teachers, instructors, material developers in teacher education programs devise and implement their programs in a way that arouse L2 learners' pronunciation motivation for L2 pronunciation learning and provide them with opportunities to get aware of the practice of using pronunciation learning strategies and to utilize their abilities and skills in real life.

Keywords: motivation types, pronunciation learning strategies, academic pronunciation achievement, self-determination, self-regulation, autonomous learning, teacher education

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DECLARATION OF ETHICAL CONDUCT

I declare that I have prepared this dissertation in accordance with the dissertation writing rules, regulations, and conventions of the Graduate School of Educational Sciences of Hacettepe University, and thereby I would like to announce that:

- All of information and documents, both in Turkey and in Iran, have been obtained on the basis of academic rules,
- All visual and written information and results have been presented according to the rules of scientific standards,
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- No distortion has been done regarding the data set, and
- Any part of the dissertation has not been presented as any other thesis study at this or any other university.

Sincerely

Ahmad MORADI

Signature: ....

ACKNOLEGEMENTS

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LIST OF ABBREVIATIONS

AffS: Affective Strategies

AM: Amotivation

ANOVA: Analysis of Variance

APA: Academic Pronunciation Achievement

Auto: Autonomous

BPNT: Basic Psychological Needs Theory

CET: Cognitive Evaluation Theory

CogS: Cognitive Strategies

ComS: Compensation Strategies

Cont: Controlled

COT: Causality Orientation Theory

EFL: English as a Foreign Language

ELT: English Language Teaching

EM: Extrinsic Motivation

ESL: English as a Second Language

ETS: English Teacher Students

Exte.R: External Regulation

FL: Foreign Language

GCT: Goal Content Theory

Iden.R: Identified Regulation

IL: Interlanguage

IM: Intrinsic Motivation

Inte.R: Integrated Regulation

Intr.R: Intrinsic Regulation

Intro.R: Introjected Regulation

LAD: Language Acquisition Devise

LLM: Language Learning Motivation

LSSs: Language Learning Strategies

MemS: Memory Strategies

MetaS: Metacognitive Strategies

MTs: Motivation Types

MTS: Motivation Types Scale

NESC: Native English Speaking Country

OIT: Organismic Integration Theory

Orien:	Orientation
PL:	Pronunciation Learning
PLOC:	Perceived Locus of Causality
PLSs:	Pronunciation Learning Strategies
PLSS:	Pronunciation Learning Strategies Scale
SDT:	Self-Determination Theory
SLA:	Second Language Acquisition
SMTs:	Survey of Motivation Types
SoS:	Social Strategies
SPLS:	Survey of Pronunciation Learning Strategies
SMTs	Survey of Motivation Types

1. INTRODUCTION

This chapter presents the organization of the dissertation. First, it provides a brief account of the research study. Second, it puts forward the problems and purposes of the study. Third, it states the importance of the study and explains why the research study is significant. Forth, it indicates the research questions and limitations to the study. Fifth, it offers the definition of key terms used in the research study. Finally, it explains how the dissertation was organized.

1.1. Introduction

Research into second language acquisition (SLA) has shown that L2 learners differ largely in their final attainment and this may be attributed to a plethora of factors that exert influence on L2 achievement including individual differences such as gender, age, aptitude, affective and cognitive factors, motivational factors, attitude, learning styles and use of learning strategies (Rubin, 1975; Oxford, 1990, 2003; Ellis, 1994; Dörnyei 2005, 2014a, 2014b, 2014c). While researchers are mostly in the belief that a myriad of factors lead to L2 learners' ultimate attainment; however, they often make a distinction between English second language(ESL) learning and English as a foreign language (EFL) learning (e.g. Freed, 1995; Huebner, 1995). In the former, language is used as a means of communication, plays an institutional and social role in the society, and some degree of competence or proficiency in the language is needed for survival. For example, in countries like United States of America, England, Australia, etc., English is used as a second language. But, in the latter, English language is learned out of its social and environmental contexts where it is not the usual medium of interaction for the majority of the population, as a foreign language or a Lingua Franca, and competence or proficiency is not needed for survival purposes. Countries like China, Iran, Iraq, Japan, Korea, Russia, Turkey, and most of European countries are in the second category. Consequently, L2 learning in these two settings, ESL and EFL, may appear quite different both in terms of subject matter and methodology.

In an ESL situation, there is a need to use English in an authentic setting for a communicative purpose. Such environment provides and promotes opportunities for language use and therefore encourages or generates use of language learning strategies (Green & Oxford, 1995). In other words, an ESL context fits perfectly with what Krashen (1985) would term as a context for language acquisition. In contrast, an EFL setting is where English is learned just in a classroom for a limited period of

time each week where L2 learners "must develop not just proficiency in the target language, but also must learn new content information through the medium of a new language in which their proficiency is still developing" (Chamot, 2014: p.78), while there is no immediate purpose for using English for communicative functions. Such context, like in China, Iran, France, Italy, Japan, Russia, Turkey, and all EFL settings, for language learning does not encourage or generate language learning strategy use (Green & Oxford, 1995).

In such a context, L2 learners "must find ways to deal with the challenge of learning both language and content simultaneously". This is possible if only the L2 learners be autonomous active agents and be able to "regulate their own learning through a variety of procedures that are more likely to meet this challenge successfully". That is, L2 education, in EFL contexts, should focus on generating self-regulated learning. Generally, self-regulated learning is defined as "learners' efforts to direct their own learning by setting goals, planning how to achieve them, monitoring the learning task, using learning strategies to solve problems, and evaluating their own performance" (Chamot, 2014: p.78). Taking this description into consideration, we find L2 learners' self-regulation a multivariate process including autonomy (Cotterall, 2008; Benson, 2011), learning strategies (Oxford, 2011; Cohen, 2011; Griffiths, 2013; Chamot, 2013), metacognition (Anderson, 2008; Chamot, 2009; Vandergrift & Goh, 2012), motivation (Dörnyei & Ushioda, 2011; Deci & Ryan, 2013, 2014, 2015; Ryan & Deci, 2006), and self-management (Rubin, 2001, 2005), self-determination (Deci & Ryan, 1996, 2012, 2013, 2013b, 2014a, 2015; Ryan & Deci, 2006; Ryan et al, 2012). To develop a self-regulated context of learning requires autonomy, intensive motivation, and strategic learning. It is, therefore, very urgent and meaningful to investigate motivation types and learning strategies employed by EFL students to know more how the two factors interact while the L2 learners are developing their proficiency in foreign language pronunciation.

The offset of motivation and strategic learning goes back to the early 1970s in which, researchers in EFL settings were following a teacher-centered perspective, and have been trying to find out teaching methods, classroom techniques, and instructional materials that will promote better language instruction. However, in spite of all these efforts there has been a growing concern that learners have not progressed as much as it was anticipated. As a result, they shifted their attention to learner-centered perspective and paid considerable attention to individual

differences in language learning such as gender, age, social status, motivation, attitude, aptitude, culture, learning styles, intelligences, and strategic learning etc.

This shift of the focal point has led to an increase in the number of studies carried out regarding learner characteristics in ESL and EFL settings. Motivation and Language Learning Strategies (LLS) have been the most popular factors researchers have focused on. However, motivation and LLSs have not been investigated on their own. Some other variables that affect them such as age, gender, nationality, achievement, career orientation, national origin, aptitude, personality, learning styles, etc. have also been taken into consideration while doing research in order to reveal whether there is any relationship between motivation, use of LLSs and the variables.

1.2.   Background to the Study

In second and foreign language (L2) learning settings, in literature, it is more established among language specialists that language learners' motivation and their investment of time and effort to use learning strategies play a significant role in improving foreign language acquisition, especially near-native-like pronunciation (Purcell & Suter, 1980; Smit, 2002; Cohen & Macaro, 2007; Brown, 2008; Celce-Murcia et al., 2010; Demirezen, 2010; Moyer, 2007, 2014; Sardegna, Lee, & Kusey, 2014; Szyska, 2015). In this respect, Rubin (1975) considers language learners' aptitude, motivation, and strategy use as significant factors in achieving success and ultimate attainment in foreign language acquisition. She is in the belief that successful language learners use varieties of L2 learning strategies. She, nevertheless, emphasizes that even though aptitude is seen as a mostly static trait, motivation and use of learning strategies are two important factors that are dynamic and highly subject to change.

There is a general agreement and unity among researchers that L2 learners who are more motivated are interested in applying a large number of learning strategies and using these strategies more frequently. Oxford and Nyikos (1989) in US, Mochizuki (1999) and Wharton (2000) in Asia in different contexts of ESL and EFL, for example, in large-scale studies among university students, found that highly motivated learners applied all six categories of strategies significantly more often than did less motivated learners. Okada, Oxford, and Abo (1996), in a research study among 36 learners of Japanese and 36 learners of Spanish found that there is very strong relationships between metacognitive/cognitive/social strategy use and

several motivational aspects in both language groups. In a large-scale study among 800 Iranian and Turkish EFL learners, Moradi (2011) also found that highly motivated L2 learners used a wide range of cognitive strategies more frequently than did less motivated L2 learners. While such results were conducted by a number of studies, as Okada et al. (1996) puts forth, it is questionable whether motivation activates strategy use or, conversely, strategy use results in better language performance, which in turn increases motivation and thus leads to increased strategy use.

Learning strategies have been mostly studied from two psychological and sociocultural perspectives. In the psychological perspective, the language learning strategies have been defined as being "specific plans, actions, behaviors, steps, or techniques that individual learners use, with some degree of consciousness, to improve their progress in developing skills in a second or foreign language". Such strategies are said to "facilitate the internalization, storage, retrieval, or use of the new language and are tools for greater learner autonomy" (Oxford 1999: p. 518). In Oxford's definition of L2 learning strategies, we encounter with four important properties of learning: internalization, storage, retrieval, and use of the new language, that directly or indirectly affect learning process. Internalization and storage are two properties that directly facilitate learning and deal with input. Retrieval and use of the language deal with output and indirectly foster further L2 learning. The indirect properties have learners discern whether their L2 speech or writing is comprehensible to others and whether they need to improve their L2 to have a better speech or writing, and if not they have the opportunity to go a step back, elicit input and negotiate meanings. In fact, what both of the direct and indirect properties share is intake. Whereas, direct properties facilitate the way in which input delivers into intake, indirect properties deal with output and the way in which intake delivers into outcome. "A given strategy, then, is useful only when the strategy addresses the L2 task at hand and when the learner employs the strategy effectively and links it to other relevant strategies" (Cohen & Macaro, 2007: p. 48). Oxford (2003) also addresses "relatedness" as another property to the usefulness of a single strategy, that a strategy must be relevant to L2 learner's learning styles and personality type; otherwise, it will not work.

A given strategy, therefore, is useful if the following conditions are present: (1) the strategy relates well to the L2 task at hand; (2) the student employs the strategy

effectively and links it with other relevant strategies; and (3) the strategy coordinates with student's general learning style preferences and personality to one degree or another (Oxford, 2003: p. 274). To sum up, a single strategy will not be useful except (1) to be relevant to individual's styles, (2) to be relevant to the task at hand, (3) to be employed effectively, and (4) to be used in harmony with other relevant strategies.

Noticing the keywords applied in describing the usefulness of a single strategy, one thing that receives significant importance is the learner himself. That is, from psychological perspective an individual himself acts as a fundamental unit, sets goals, plans for self, decides to act, adapts self to environment, equips self to be successful, and finally acts as an active agent in his or her own learning. In other words, the effectiveness of a single strategy to a large extent depends on language learner and the way in which he acts and applies the strategy. The other significant point is that the usefulness of a single strategy depends on the combination of other strategies in which it is used. From this point of view, there should be a meaningful relationship between different language learning strategies.

Contrary to psychological perspective, the fundamental starting unit for sociocultural perspective is with society and its culture, not the individual. The fundamental process in the sociocultural perspective is growing mediation of social to individual; in addition, L2 learner strategy has been defined in several different ways. The most general definition is "a learner's socially mediated plan or action to meet a goal, which is related directly or indirectly to L2 learning" (Cohen & Macaro, 2007: p. 48). Through such mediated plan, L2 learners need significant others' help to be competent enough act independently. In other words, L2 learners to get into regulation first should be trained to receive a level of autonomy. This is, strategic learning requires strategic education.

Psychological and sociocultural perspectives both confirm the significant role of language learning strategies in second and foreign language learning. Whereas, the psychological perspective emphasizes the role of L2 learner, the sociocultural perspective focuses on the role of significant others via education. Whether from a psychological perspective or sociocultural perspective, in general, strategies serve to make learning process easier, faster, and more enjoyable; however, there are also cases that strategies can be more tedious, more complex, and slower. In other

words, a single strategy if in one side is seen as facilitating, on the other side is viewed as disturbing, debilitating, and destroying.

On the positive side, strategies provide L2 learners situations "to develop more knowledge of themselves and of language learning" and "make learning for them more satisfying and enriching" (Cohen & Macaro, 2007: p. 39). Use of strategies for L2 learners, at the positive side, may first be perceived as difficult and challenging since they require more effort and take more time for task completion. But then when the strategic learning leads to greater achievement and success on the task, the L2 learners find learning strategies more enjoyable and facilitative. On the more negative side, decontextualized use of learning strategies can provide a deliberating situation in learning. Put it simple, when learning strategies are not used in harmony with other strategies or the relevant task at hand they can provide a disturbing, destroying, and deliberating situation in learning process. That is, use of learning strategies requires a meaningful combination of relevant strategies rather than to use a given strategy in isolation. Decontextualized use of strategies, then, can provide an unsatisfying situation and lead to slowing down the learning process. For example, applying L1 phonological equivalents in L2 can act as self-defense and as a negative strategy use (Cohen & Macaro, 2007).

Research in learning strategies follows two different general insights regarding the nature and use of strategies. First, it is believed that "strategies need to be specific, small, and most likely combined with other strategies for completing a given task"; second, there is a controversy that "strategies need to be kept at a global, flexible, and general level". In spite of such different views, however, it is largely accepted that use of strategies and their effectiveness "depend on the learners, the learning task, and the environment" (Cohen & Macaro, 2007: p. 43). Strategy use, if properly applied, is believed to enhance L2 learners' performance in language learning; make learning easier, faster, and more satisfying and enjoyable, provide L2 learners to be autonomous, self-regulated, self-managed, and independent, and contribute to pronunciation improvement (Zimmerman, 1998; Schunk & Zimmerman, 1998; Zimmerman, 2000, 2001; Zimmerman & Schunk, 2001; Ingels, 2011; He, 2011; Sardegna, 2012).

Following the view that learners are at the center of their learning and that success in strategic learning to a large extent depends on the learner himself, L2 education, then, needs to focus on developing self-regulated learning since it involves learning

strategies (Dörnyei, 2005; Cohen & Macaro, 2007; Oxford & Schramm, 2007; Oxford, 2011; Cohen, 2011; Chamot, 2013; Griffiths, 2013), self-management (Rubin, 2001, 2005), metacognition (Anderson, 2008; Chamot, 2009; Vandergrift & Goh, 2012; Brown & Lee, 2015), motivation (Dörnyei & Ushioda, 2011), and autonomy (Cotterall, 2008; Benson, 2011; Brown & Lee, 2015). The belief is that rather than merely focusing on strategies, education should train self-regulated learners. Self-regulated L2 learners are more motivated and put their own effort to "direct their own learning by setting goals, planning how to achieve them, monitoring the learning task, using learning strategies to solve problems, and evaluating their own performance" (Chamot, 2014: p.78).

On the basis of the fact that self-regulated L2 learners are more motivated and use L2 learning strategies more effectively, researchers were more interested in exploring relationships between L2 motivation, and use of varieties of L2 learner strategies. In descriptive studies, motivation has been often mentioned to have a strongest relationship to L2 learner strategy use (Oxford & Nyikos, 1989; Ku, 1995; Okada, Oxford, and Abo, 1995; Wharton, 2000). Greater strategy use at high school, university, and adult levels was linked with motivation to use the L2 outside of the class (Oxford, Park-Oh, and Sumrall, 1993; Oxford & Ehrman, 1995) and with other types of motivation (Schmidt, Boraie, and Kassabgy, 1996). In these particular studies, however, it could not be discerned whether high motivation led to high strategy use or vice versa. The likelihood is that these factors are truly interactive.

Motivation has also been claimed in research and theories to be a crucial factor in influencing the achievement or proficiency level of second language learning and acquisition. The extent to which second and foreign language learners are flexible, adaptable, openness, and desire to be socially integrated in the target culture guarantees their success in second and foreign language learning or acquisition (Guiora, 1972). In this respect, Schumann (1986) differentiates two types of successful motivation in his acculturation model: integrative motivation, a desire to be socially integrated in the target culture, and assimilated motivation, a desire on the part of the learner to become an indistinguishable member of the target speech community. He is in the believe that "instrumental motivation", comparing to integrated motivation, "does not contribute to successful acculturation", this is contrary to what Lukmani (1972) and McCullagh (2005) in line with other researches argue that individuals' motivation intensity as well as motivation types or directions

is important. Put it differently, "one with extraordinarily high instrument motivation may well achieve a better pronunciation than someone with integrative motivation that is quite positive but less intensive" (Celce-Murcia, et al, 2010: p.21).

The intensity of motivation may best be defined in self-determination theory. If motivation is "intensity" and "direction" of effort (McCullagh, 2005) that language learners apply in acquiring a near native-like pronunciation, the intensity refers to how, while the direction refers to what. On the basis of SDT, in one hand, L2 learners to be successful need to be motivated and display motivational intensity. On the other hand, "motivation may occur intrinsically but it is more likely that extrinsic motivation precedes this". In fact, "persistence and determination are [two] important characteristics for success in learning a language" (Yang et al, 2009: p. 91). What signifies here is that motivation is an ongoing process which depends largely on individuals' level of self-determination and persistence in doing an activity. This is what may be well be explained through autonomous and controlled motivation, in which motivation intensity, and direction, especially in foreign language context, can be truly defined.

Autonomous motivated learners are self-regulated in improving their pronunciation and achieving a native-like accent. When language learners are autonomously motivated, rather than undergoing pressure to feel, they encounter volition or self-endorsement of their behaviors. This position, concerning the cause of its drives and control, is in opposite direction of controlled motivated language learners of English whose actions are a function of external contingencies of reward or punishment, external regulation, or is done because of some introjected factors such as ego-involvements, prestige, avoidance of shame, contingent self-esteem and so forth (Deci & Ryan, 2008). From the point of view that acquiring a near native-like pronunciation, in literature, is characterized as laborious and strenuous, it sounds that language L2 learners' use of PLSs varies widely in the amount of, combination of, and type of pronunciation learning strategies. It is also supposed that autonomous motivated learners, comparing to controlled motivated ones, to use ample and extensive amount of various learning strategies to improve their pronunciation.

1.3. Statement of the Problem

Pronunciation is one of the most crucial features of foreign language learning that acts as a fundamental problem, which L2 learners deal with, especially when near

native-like pronunciation is required. Lack of paying attention to pronunciation learning can cause L2 learners to avoid communicating in English, experience social isolation, and rank pronunciation learning as one of the most difficult aspects in acquiring English. In EFL settings like Iran and Turkey, lack of having good pronunciation may lead to failure in spoken communication (Demirezen, 2005, 2010; Arslan, 2013; Low, 2015).

From the point of view that L2 learners should be considered as active agents in their own learning, the way they learn and attack phonological problems, regarding foreign language near-native-like pronunciation learning, are largely linked to their motivation type, motivation intensity, and use of pronunciation learning strategies. It is also an ingrained belief among scholars (e.g. Selinker, 1972, 2006; Krashen, 1982b; Klein, 1986; Sims, 1989; Ellis, 1999; Han, 2009) that L2 learners' lack of appropriate motivation and incorrect use of learning strategies can cause plenty of interlanguage phonological errors and lead to fossilization. In addition, studies (Klein, 1986; Sims, 1989; Kambon, 2005, etc.) assert that providing autonomous motivation, it is possible to help L2 learners overcome interlanguage phonological obstacles and fossilized errors. While this is the case, pronunciation motivation and use of pronunciation learning strategies in EFL settings, especially in Turkey and Iran, has not yet received any significant attention, and great number of students have many difficulties in pronunciation. When speaking English, they have problems either making themselves understood or understanding others. The L2 learners' lack of competent pronunciation performance may cause loss of their self-confidence in social interactions (Demirezen, 2005), which "negatively affects estimations of a speaker's credibility and abilities" (Gilakjani, 2012, p. 119) and results in failure in spoken communication (Low, 2015).

The current problem, then, is the determination of pronunciation motivation types (MTs) and pronunciation learning strategies (PLSs) employed by Turkish and Iranian English teacher trainees. In EFL contexts, especially Turkey and Iran, while research needs to pay more attention on self-regulated learning, pronunciation motivation, and strategic pronunciation learning (Oxford, 1990, 1999; Cotterall, 2000; Hsiao & Oxford, 2002; Oxford, 2011), there is a great gap regarding the determination of pronunciation motivation, use of pronunciation learning strategies, and how the variables interact when near-native-like English pronunciation learning is required.

Numerous studies around the world have heightened the significant role of general language learning strategies (e.g., Naimen et al., 1978; Rivers, 1979, Oxford, 1990), identifying and classifying learning strategies specifically in foreign language pronunciation learning (Peterson, 2000; Derwing & Rossiter, 2002; Vitanova & Miller, 2002; Osburne, 2003; Eckstein, 2007; Bukowski, 2004; Pawlak, 2006, 2008; Varasarin, 2007; Berkil, 2008; Wrembel, 2008; Pawlak, 2010; Haslam, 2010; Calka, 2011), effectiveness of strategic pronunciation instruction (e.g., Dickerson, 1987, 1994, 2000; Ingels, 2011; Sardegna, 2009, 2011; Varasarin, 2007), and use of pronunciation learning strategies (Rasekhi, 2009; Robins, 2010; Hismanoglu, 2012; Chang, 2012; Akyol, 2013; Rokoszewska, 2012; Mahmood Mohammad, 2014; Szyska, 2015; Erbay et al, 2016); however, there is not even a single research study to reveal the significant role of foreign language pronunciation motivation and how L2 learners' pronunciation motivation and pronunciation learning strategies interact acquiring near-native-like foreign language pronunciation.

1.4. Purpose of the Study

The purpose of this study was to investigate the relationship between Turkish and Iranian English prospective teachers' motivation type preferences and use of pronunciation learning strategies with respect to the teacher students' English pronunciation learning, and various factors that might influence their motivation type preferences and use of pronunciation strategies. The factors focused on here include gender, nationality, being resident in an English speaking country, length of being resident, and pronunciation achievement (high, moderate, and low).

The present research has also aimed to provide educational settings, foreign language teachers, instructors, curriculum developers with significant role of pronunciation motivation and strategic pronunciation learning, the relationship between MTs and PLSs, and how the variables can affect the L2 learners' success in academic pronunciation achievement. The results of the research is hoped to provide empirical evidence to highlight the relationship between prospective English teachers' motivation type preferences and use of pronunciation learning strategies and the targeted factors, and further provide implications for pedagogical practice.

1.5. Significance of the Study

During the years of study I found that pronunciation has been one of the most neglected parts of foreign language learning, especially in EFL contexts like Turkey and Iran. While for prospective English teachers accurate pronunciation plays a

significant role in supporting both their overall communicative skills and striving for a perfect modeling for their students, there is a great lack of attention to pronunciation learning.

The urgent need for this study arises from observation of the fact that in teacher education, especially during the educational practices of student teachers of English language, prospective English teachers receive important courses with respect to phonetics and phonology; however, it is widely seen that the students are not successful in acquiring near-native-like pronunication and mostly have problems in pronunciation. The breakdown or lack of success in acquiring good pronunciation may be as a result of many various factors like age, aptitude, personality, inappropriate attitude, as well as lack of enough motivation, and ineffective use of pronunciation learning strategies. These problems can act as main threats in future education.

Achieving a near native-like pronunciation for foreign language learners takes a long time, demands for hard-working, and even then some of them may not be able to acquire success. Without sufficient motivation, achieving long-term goals will be something like impossible, even with regard to language learners with the most remarkable abilities, especially when a high near native-like proficiency is the matter.

Turkish, Azeri, and English are fundamentally different languages. Both Azeri and Turkish are syllable-timed languages, and English is a stressed-timed language. Because of the significant basic difference, there is no surprise that there should be lots of difficulties Azeri and Turkish foreign language learners of English deal with. Demirezen (2010) and Liu (2011), for example, state that negative L1 transfer (as an incorrect strategy use) is one of main factors that affect Turkish students' success in acquiring the pronunciation of English. Lots of Turkish foreign language learners of English have both segmental and suprasegmental difficulties (Fraser, 2000; Demirezen, 2008b), and the same problem goes with Iranian Azeri students. Problems as such can be as a result of lack of appropriate motivation and incorrect use of pronunciation learning strategies. Demirezen (2005a) stresses that having good pronunciation is a challenging job that requires for more attempt and exposure; otherwise, L2 learners are likely to ignore learning its aspects.

L2 learners to get rid of their pronunciation hardships in forms of articulation errors need underlying energizing force and correct use of pronunciation learning strategies to self-monitor their pronunciation errors (Jenkins, 1998; Acton, 1991; Brown, 1991, Demirezen, 2010). An effort or attempt on side of language learners requires their level of self-determination, motivation intensity, and knowledge of using pronunciation learning strategies. L2 learners' lack of appropriate motivation and incorrect use of pronunciation learning strategies can cause lots of interlanguage fossilized errors (e.g. Selinker, 1972, 2006; Klein, 1986; Sims, 1989; Ellis, 1999; Han, 2009).

To sum up, relying on what Demirezen (2005a, 2008a), Brown (2008), Goodwin (2014), and Nunan (2015) among others signify it comes that motivation and pronunciation learning strategies can act as a better help for language learners, especially prospective English teachers, to overcome their interlanguage phonological obstacles.

1.6. Research Questions

The research presented in this dissertation is supposed to focuses on the relationship between prospective foreign language teachers' motivation types in learning pronunciation and strategies employed by them to master this aspect of the target language; accordingly, it covers the following research questions:

1. What are the types of motivation preferred by Turkish and Iranian English Teacher Training Candidates?

2. What are the pronunciation learning strategies employed by Turkish and Iranian English Teacher Training candidates?

3. Is there any statistically significant correlation between
   a) pronunciation learning strategies and motivational types
   b) motivation types and achievement in pronunciation
   c) pronunciation learning strategies and achievement in pronunciation

4. Is there any statistically significant difference between pronunciation learning strategies and motivational types in terms of
   a) gender,
   b) nationality,
   c) being in an English speaking country (USA, England, Canada, New

Zealand),

  d) length of residence in the native speaking country,

  e) pronunciation achievement (high, moderate, and low).

5. How well do pronunciation learning strategies and motivation types predict success in pronunciation?

1.7. Limitations of the Study

The research study restricted to 478 participants from Turkish (N=198) and Iranian (N=280) prospective English teachers. Moreover, I'm not sure whether the prospective teachers have passed a successful course with respect to phonetics and phonology, or will their overall proficiency score be representative of their actual pronunciation skill.

Another limitation that may affect the study is the administration of the survey of PLSs and survey of MTs. The surveys administered immediately following a regular class time. It is possible that effective influences such as class fatigue, anxiety, stress and so forth will affect the reliability of student scores. Furthermore, students at the same time completed the survey of background information.

It also remarkable to note that the questionnaires such as the SMTs and SPLS are one-shot motivation and strategy surveys that merely capture a moment in time of a student's motivation types and use of pronunciation learning strategies. That is, pronunciation development occurs over years of work, and current measures of motivation types and use of strategies may not account for level of motivation or strategies that learners once found helpful.

The other limitation will be that the SPLS and SMTs are a type of quantitative self-report instrument, which are restricted just to items cited in the surveys, it is likely that student responses will be only best guesses about their use of pronunciation strategy and motivation types. It may be helpful for participants to be become familiar with the items on the SMTs and SPLS in advance of its administration so that they can better estimate their strategy use and motivation types.

1.8. Organization of the Study

The present research involves five chapters. Chapter one covers the overall dissertation, referring mainly to the background information of the study, statement of the problem, purpose and objectives of the study, the significance of the study, research questions, limitations, and the definition of the basic terms used in the

study. Chapter two highlights the review of related literature, theoretical background to the variables to be measured, conceptual development of motivation, overlap between different theories of motivation, self-determination theory, nature of motivation in self-determination theory, motivation types in self-determination theory, motivation continuum in self-determination theory, taxonomy of motivation in self-determination theory, achievement and motivation, definition of learning strategies, theoretical background of learning strategies, development of pronunciation learning strategies, pronunciation learning strategies, pronunciation learning strategies and achievement, and factors affecting L2 learners' motivation and use of learning strategies. Chapter three illustrates the methodology of the research, research design and instrumentation, population and sampling, procedures of data collection and data analysis, and ethical considerations. Chapter four offers the results, summary of results, and discussion of the findings in the sequence of the research questions raised in the current chapter of the dissertation. Finally, chapter five provides a brief summary of the research, i.e., research findings, pedagogical implications of the study along with suggestions and recommendation for the curriculum development, teacher education, and further research.

1.9.   Definitions of the Terms

Glossaries of the key terms that appear in the dissertation are given below. These terms belong to motivation on the basis of self-determination theory, its domain and subcomponents, pronunciation learning strategies, and pronunciation in EFL and ELT setting.

Self-Determination Theory (SDT): is a macro theory of motivation which explains how L2 learners behave effectively in different contexts.

Motivation: motivation means to move to do something.

Intrinsic Motivation (IM): intrinsic motivation attributes to doing of an activity for itself.

Extrinsic Motivation (EM): extrinsic motivation is doing something to get something else.

Amotivation (AM): amotivation is lack of intention and desire to do an action.

Autonomous Orientation: autonomous motivation involves types of regulation in which language learners are autonomous in improving their pronunciation.

Controlled Orientation: controlled oriented language learners of English undergo pressure to feel, think or behave.

Integrated Regulation: integration occurs when identified regulations have been fully assimilated to the self.

Identified Regulation: this is a type of autonomous regulation in extrinsic motivation.

Introjected Regulation: introjection is a type of internal regulation that people perform with feeling of pressure in order to avoid guilt or anxiety etc.

External Regulation: external regulation is performed to satisfy an external demand.

Near-Native-like Pronunciation: it is a level of accent and speech which is closer to the natives' pronunciation and accent.

Strategy: the specific behaviors or thoughts learners use to enhance their language learning.

Pronunciation Learning Strategies (PLSs): strategies that are classified with respect to specific sub-skill of language, pronunciation.

Memory Strategy: the strategies enable learners to learn and retrieve information in an orderly string.

Cognitive Strategy: the strategies enable the learner to manipulate the language material in direct ways, e.g., through reasoning, analysis, note-taking, and etc.
Compensation Strategy: the strategies help the learner make up for missing knowledge.

Metacognitive Strategy: the strategies are used for "managing the learning process overall such as identifying one's own learning style preferences etc.

Affective Strategy: the strategies help the learner identify his mood and anxiety level, talking about feelings, etc.

Social Strategy: the strategies help the learner work with others and understand the target culture as well as the language.

Suprasegmental/Prosody: elements of stress, rhythm, and intonation of native speech. This feature of language deals mostly with connected speech.

2. LITERATURE REVIEW

2.1. Introduction

This chapter provides background information on motivation types viewed as an effort that an individual foreign language learner needs to do an activity, and pronunciation learning strategies employed by the learner to overcome his/her learning difficulties with respect to achieving success in foreign language pronunciation. This review on related literature is presented in four main parts. The first part presents theoretical and conceptual development of motivation types, the controversy over the definition and perception of the concept of motivation as well as motivation types, different approaches to understanding motivation, different types of regulations, orientations, and studies carried out to investigate the role of motivation types in second and foreign language learning and achievement. The second part demonstrates the theoretical and conceptual development of the concept of language learning strategies, the definition, structure, nature, and various types of pronunciation learning strategies related to SLA, language learning strategies and achievement, studies carried out to investigate the role of pronunciation learning strategies in achieving success in foreign language pronunciation learning, The third part presents how theoretically and conceptually motivation types and language learning strategies do interplay and provide foreign language learners' success in foreign language pronunciation learning, demonstrates some main empirical studies carried out on the relationship between motivation types and language learning strategies and success in foreign language acquisition, and role of motivation and use of pronunciation learning strategies on interlanguage. The last part of the literature review presents some factors like: gender, nationality, being resident in native English speaking countries affecting L2 learners' motivation types and use of learning strategies and gives an overall conclusion of whatever has been discussed through the chapter.

2.2. Motivation

It is a deeply ingrained belief among most scholars that motivation has a compelling role in individuals' learning. However, despite this symbolic role, motivation has received a multifaceted and complex concept. On the one hand, there is an admirable number of different educational, social, cognitive, and psychological disciplines and theories to arrive at a reasonable understanding of its different facets. On the other hand, the concept of motivation involves sociological,

neurobiological, and physiological explanations (e.g. sociolinguistic, psycholinguistic, and neurolinguistics). In addition, different disciplines have something to contribute for understanding the language motivation (LLM) within a formal educational setting. However, the main problem going on LLM is not the lack of theories but rather the plethora of theories and models which resulted in less of agreement on the side of its conceptual definition (Ellis, 1985, Oxford & Shearin, 1994; Dörnyei, 1996, 1998, 2001, 2005; Dörnyei & Schmidt, 2001).

2.2.1. Conceptual Definition of Motivation

During the last 20th century, the view of language learning motivation has received much more changes, going from a biological based drive perspective to a behavioral mechanistic perspective, to a cognitive meditational perspective, and then to constructivist perspective (Eccles et al, 1998); while every perspective has something to contribute for understanding the language learning motivation. From a behaviorist perspective, for instance, "motivation is quite simply the anticipation of reward" (Brown, 2014: p. 8), trying to understand "what moved a resting organism into a state of activity" (Weiner, 1990: p. 617). In cognitive perspective, motivation emphasizes "the individual's decisions", and is perceived as "a built-in unconscious striving towards more complex and differentiated development of the individual's mental structures" (Oxford & Shearin, 1994: p. 23). A constructive view of motivation, however, "places prime emphasis on social context as well as individual person's choices" (Brown, 2014: p. 8). Motivation, in constructivist point of view, is also derived as much from individual's interaction with others as it is the person's self-determination (Dörnyei & Uphioda, 2011).

The wax and wane in theoretical approaches towards language learning motivation, in one hand, let LLM receive a broad conceptual scope to understand L2 motivation, on the hand, result in lots of confusion in its definition and there is no agreement on the side of components that compose its scope and the roles that the components play regarding L2 learners' social, situational, cultural, and individual differences. McDonough (1981:143) simulates it much more like "a general cover term…. [Dustbin]… to include a number of possibly distinct concepts, each of which may have different origins and different effects and require different classroom treatment". Similarly, Dörnyei (2001: p.7) simulate it to "no more than an obsolete umbrella that hosts a wide range of concepts that do not have much in common".

Despite its complex facet, most scholars agree on the point of view that motivation contributes and hands over a source of energy that is responsible for "the choice of a particular action," "the persistence with it," and "the effort expended on it" (Dörnyei's (2001b: p. 8). In addition, it is a process rather than a product; provides direction to action, involves physical or mental activity, is volitional, and needs to be sustained to achieve short- and long-term goals (Pintrich & Shunk, 2002).

Research on L2 motivation, in fact, has led to hotly contested debates that aim to overcome the growing gap between L2 motivation theories and the myriad of new concepts in mainstream motivational psychology that are enriched by a varied background of contributions, each of which show new directions and possibilities to further understand how motivation in foreign language learning works (Crookes & Schmidt, 1991; Dörnyei, 1994a; Dörnyei, 1994b; Gardner & Tembley, 1994; Oxford & Shearin, 1994; Oxford & Shearin, 1996). Most of these proposals have looked for theoretical flaws and inconsistencies that not only make research in the field grow and reflect on itself, but also lead to more questions than answers. However, what should be taken in consideration is that motivation is not such a simple term to be explained through a single linear approach, rather it evolves dynamic interactions with social context or of the complexities of interacting cognitive and emotional processes and systems functioning within and between individuals at any point in time (Larsen-Freeman & Cameron, 2008a; Dörnyei, 2009b). This dynamic conception requires a new approach to examining motivated behavioral regulations from a multivariate social, psychological, cognitive and even a neurological perspective, Figure 2.1.
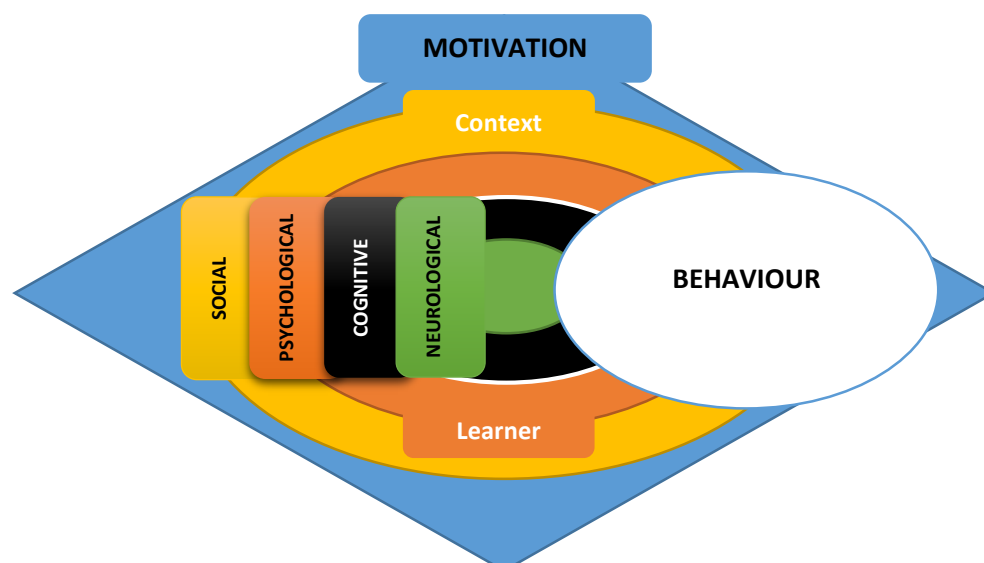
Figure 2.1. Multivariate Perspectives in Motivation

2.2.2. Cognitive Background of Motivation

It was in sixties, the concept of motivation was scrutinized in cognitive psychology. In the cognitive framework, motivation was perceived as "a built-in unconscious striving towards more complex and differentiated development of the individual's mental structures" (Oxford & Shearin, 1994: p. 23). As Brown (2007) asserts "while rewards are very much a part of the whole picture [in the behavioral perspective], the difference lies in the sources of the motivation and the power of self-reward [in cognitive psychology]" (p. 85). With the advance of the cognitive approaches, in fact, the field of motivation paved a way to become more relevant to educational psychologists and the individual got compelling role in his or her own decision making; and accordingly this cognitive shift led to too much concentration on the individual's role in his or her own behaviour (Weiner, 1994).
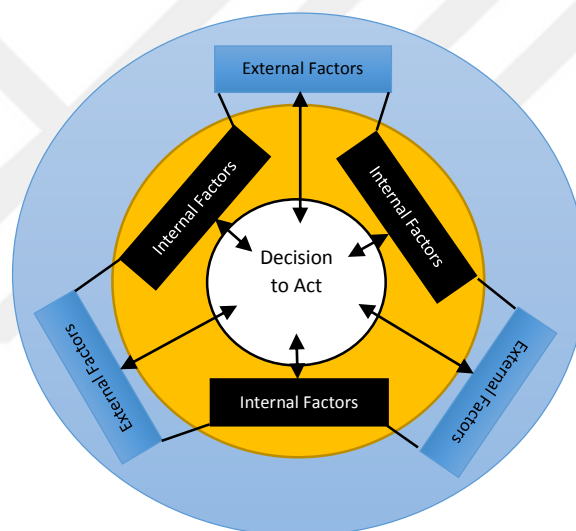
Figure 2.2. Motivation in a Cognitive Model

In other words, in the cognitive psychology, as represented in Figure 2.2, motivation places much more attention on the language learner's decisions, "the choices people make as to what experiences or goals they will approach or avoid, and the degree of effort they will exert in that respect" (Keller, 1983: p. 389) and "the factor that is of central importance is that of choice; that is, people have choice over the way in which they behave and, therefore, have control over their action" (Williams & Burden, 2000: p. 119). According to the school of thought, before an individual to decide to do an activity, he needs to be aware of its possible outcomes; and this enables him to set goals for himself, and he then decides to behave in certain ways in order to achieve these goals. As a result, in the cognitive psychology, motivation deals much more with why and what; why an individual decides to behave in certain

way, what factors influence the choices he makes, and what amount of effort he puts to achieve these goals (Williams & Burden, 2000).

In the cognitive framework, motivational theories can be studied into two categories. In the first phase, the concept of motivation is illustrated with three main different theories: Maslow (1970) hierarchy of need theory, Hunt's (1971) self-control theory, and Ausubel's (1972) drive theory. In the second phase, however, the concept of motivation is illustrated with three other fundamental theories of: Deci and Ryan's (1985) self-determination theory, Locke and Latham's (1990) goal-setting theory, and Weiner's (1992) attribution theory. It is notable to put forth that the theories in the second phase were mostly developed to expand and rectify Gardner's socio-educational model.

The hierarchy theory of need, as it is presented in Figure 2.3, describes a system of needs within every individual that drive them to higher and higher attainment. Of key importance in this theory is that an individual cannot move to higher needs until the lower foundations of the pyramid have been satisfied. "For an activity in an [ordinary] classroom to be considered motivating, then, it needs to be outstanding, striking, innovative, or inspirational. Even familiar classroom procedures, if they fulfill lower-order needs, can pave the way to meeting higher-order needs" (Brown, 2007: p. 87).
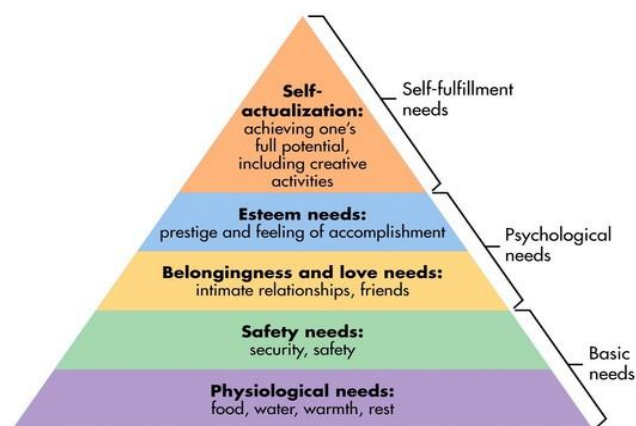
Figure 2.3. Maslow's Hierarchy of Needs (Maslow 1970)

According to self-control theory, rather than reacting to others, individuals decide for themselves what to feel, what to think or to do. In the theory, motivation is higher to the extent to which people make their own decisions and choices, "whether they are in short term or long term contexts". On the basis of the theory, when language learners have opportunities to decide on what to do or what not to do, "they are fulfilling the need for autonomy"; contrary to this position, "when the learners get

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things shoved down their throats, motivation can wane, because those learners have to yield to others wishes and commands" (Brown, 2007: p. 87).

In the drive theory, motivation stems from basic innate drives such as exploration, manipulation, stimulation, ego-enhancement, knowledge, and activity. Of its importance is to notify that the drives do not act as reinforces in behavioral psychology, "but as innate predispositions, compelling us, as it were, to probe the unknown; to control our environment; to be positively active; to be receptive to mental, or physical stimulation; to yearn for answers to questions; and to build our own self-esteem" (Brown, 2007: p.86). The weak point of the theory is that it is not mentioned how motivation in language classroom is the fulfillment of these underlying drives.

Along with the cognitive revolution, especially in the first phase, the other school of thought, social constructivism, was also used to conceptualize language learning motivation. Motivation in the social constructivism is viewed a social phenomenon as well as individual personal choices (Williams & Burden, 2000; Brown, 2007, 2014). That is, motivation is subject to social and contextual influences, including the whole culture, context, and the social situations as well as significant other people and the individual's interactions with these people. According to this framework, what makes a language learner motivated to learn a foreign language will differ from person to person; however, of its importance is to put forth that even though individuals act differently but "these unique acts are always carried out within a cultural and social milieu and cannot be completely separated from that context". Maslow's (1972) hierarchy need theory, in some way, can be viewed in this category "in that ultimate attainment of goals is partly due to factors involving community, belonging, and social status" (Brown, 2007: p. 87). Motivation, in constructivist point of view, is also derived as much from individual's interaction with others as it is the person's self-determination (Dörnyei & Uphioda, 2011).

With the advent of social and cultural milieu, social psychologist seriously scrutinized social and cultural influences on L2 learning motivation (Dornyei, 2003). This interest in social and cultural view paved ways into the appearance of a number of models that emphasized the affective aspect of language learning including Krashen's (1981) monitor model, Gardner's (1985) socioeducational model, and Schumann's (1986) acculturation model. Among these models, the socioeducational model was the most influential model of motivation in previous

century. However, despite its breakthrough acknowledging, it was seriously criticized from a large number of scholars (e.g. Dörnyei, 1990, 1994; Crookes & Schmidt, 1991; Oxford & Shearin, 1994; Oxford, 1996; Schmidt et al, 1996; Belmechri & Hummel, 1998; and, Brown, 2007, 2014). Most criticism was raised against the concept of integrative motivation and its definition. Dörnyei (2003), for example, mentions that the integrative motivation in mainstream motivational psychology has no parallel. Moreover, different scholars interpret the type of motivation in contradictory ways (e.g. Shaw, 1981; Krashen, 1981; McGroarty, 2001, Dornyei, 2001; Lamb, 2004; Chen, Warden, & Chang, 2005; Keblawi, 2006). It can be noted as well that the instrumental motivation was not assigned a status that is congruent with its weight.

With such a criticism toward the concept of motivation in the framework of socioeducational model, LLM researchers focused on expanding and rectifying the model of motivation rather than degrading or eliminating it (Dornyei, 1990, 1996; Oxford & Shearin, 1994; Oxford, 1996); and the second phase of cognitive revolution, in fact, was extended into the educational field for a better understanding of L2 motivation (e.g. Noels et al., 2000; Noels et al., 2001), as such we can call for self-determination theory, goal-setting theory, and attribution theory.

Self-determination theory, which was developed by Deci and Ryan's (1985), is seen as an influential theory to illustrate the concept of motivation. It comprises the construct of self-regulation, self-determination, and self-motivation (Deci, 1980; Deci & Ryan, 1985; Deci & Ryan, 1991; Deci & Ryan, 2002). According to the theory, "to be self-determining means to experience a sense of choice in initiating and regulating one's own actions." (Deci, Connell, & Ryan, 1989: p. 580). That is, rather than focusing on how people (e.g. teachers in the classroom) can motivate others, the focus should be on "how people can create the conditions within which others can motivate themselves" (Deci, Connell, & Ryan, 1989: p. 580). In addition, it explains how basic psychological needs support L2 learners' motivation (Deci et al, 2015; Deci & Ryan, 2014a, 2014b; Ryan & Deci, 2013; Deci & Ryan, 2012; Ryan, 2009; Niemiec & Ryan, 2009), Table 2.4.

Self-determination theory has become a compulsory focus for the discussion of foreign language teaching and learning, since the concept of self-regulation in SDT matches well with several of the central pedagogical preoccupations in L2, such as learner creativeness, centeredness, involvement, strategy training, strategic

learning, and critical thinking skills development (Brookes & Grundy, 1988; Dam, 1988; Dickinson, 1987; Dickinson & Wenden, 1995; Holec, 1981; Little, 1991).
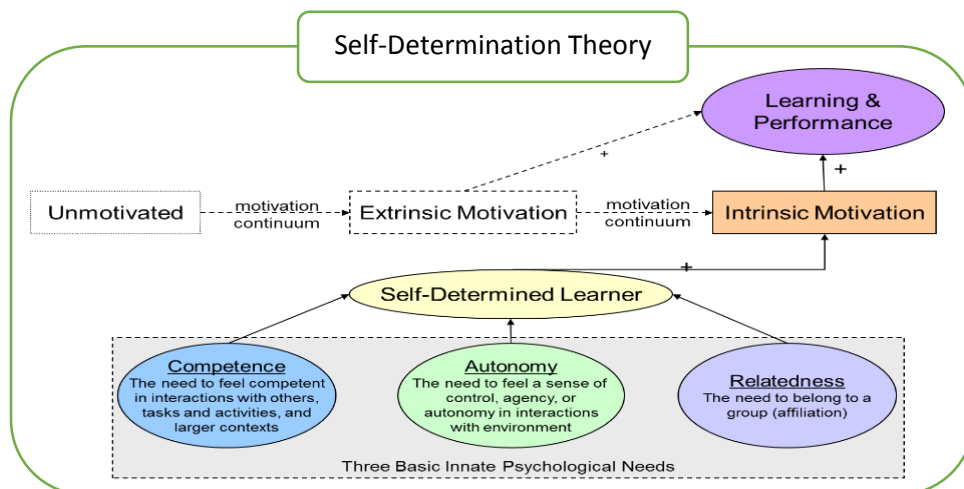
Figure 2.4. Demonstrates Self-Determination Theory of Motivation

The second theory applied in cognitive revelation was goal theories. Originally, the concept of goal has replaced that of need which was introduced by Maslow's hierarchy of needs (Dornyei, 2001). According to this theory, as represented in Figures 2.5, an individual's performance is closely related to his or her accepted goals to the extent that goals are self-set, the individual are involved in the goals, and the goals are challenging, clear, attainable, and measurable. In fact, goals motivate individuals since they energize, give directions, provide challenges, and have individuals think outdoors.
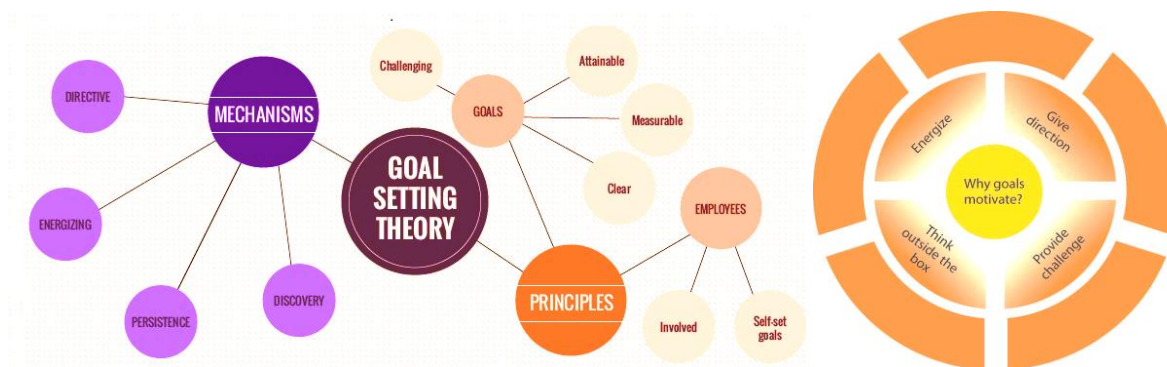
Figure 2.5. Mechanisms and Principles of Goal-Setting Theory

The other influential theory, in cognitive revolution, was attribution theory, which was principally evolved by Weiner (1992) and later applied by Williams & Burden (1999, 2001). "The theory does not look at the experiences that people undergo but at how they are perceived by people themselves" (Williams & Burden, 1997: p.104). As represented in Figure 2.6, the theory hypothesizes that the reasons to which

individuals attribute their past successes or failures shape to a great extent their motivational disposition (Dornyei, 2001). Research implementing aspects of the attribution theory has been limited despite its recognized importance, Dornyei (2003) points out, because it does not easily render itself to quantitative research.

		Internal		External	
		Controllable	Uncontrollable	Controllable	Uncontrollable
Stability	Stable	– Long-term effort	– Aptitude	– Instructor bias/ favoritism	– Ease/difficulty of school or course requirements
	Unstable	– Skills/knowledge – Temporary or situational effort on exam	– Health on day of exam – Mood	– Help from friends/ instructor	– Chance

Figure 2.6. Demonstrates the Process of Attribute Theory

2.2.2.1. Overlap between Different Theories of Motivation

The long history of research on L2 motivation shed more light on the development of many motivation theories, so that every theory has something specific to contribute for understanding of the language learning motivation. However, tremendous of the theories have also increased some attempts and some researchers have emphasized the fact that these theories overlap and render motivation too much a complex phenomenon. Having look at motivation as a complex phenomenon, self-determination theory, which involves nearly all positive characteristics of other motivation theories, Figure 2.7, has been viewed as the best present theory to explain foreign language learning motivation. In this part, I will try to explain the overlap between language learning motivation theories, and how the self-determination theory receives superiority to other theories to draw a comprehensive picture of L2 motivation.
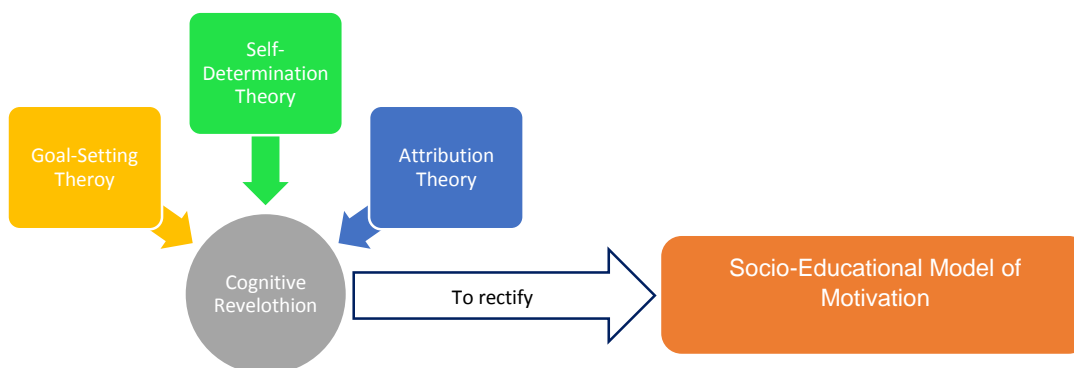
Figure 2.7. Cognitive Revolution Theories to Rectify Socio-Educational Model

The first similarity is drawn between the types of motivation, integrative and instrumental motivation from the socioeducational model, and the intrinsic and

extrinsic motivation from the self-determination model of theory, "with some researchers seeing no difference between them" (e.g. Soh, 1987 cited in Keblawi, 2006: pp. 41). The instrumental and extrinsic motives involve behavior that is driven by forces external to the individual. Still, however, the differences between the integrative and the intrinsic are more evident than those between the extrinsic and the instrumental. Schmidt et al., (1996) is in the belief that even though we suppose that "the extrinsic-intrinsic distinction is similar to the instrumental-integrative distinction, but it is not identical and both instrumental and integrative motivation[s] are properly seen as subtypes of extrinsic motivation, since both are concerned with goals or outcomes" (p. 6). They, in addition, clarify this dichotomy illustrating a situation as an example, imagine the case that "a learner wants to master a language in order to interact with native speakers of that language but nevertheless does not actually enjoy studying the language, an activity for which he or she has only an extrinsic, goal-oriented motivation. We can equally imagine learners with instrumental motivation, for example, to satisfy a language requirement, who do enjoy studying and learning the language , as well as learners with no clear reasons for studying a language who find language learning interesting" (p.6). As Brown (2007, 2014) signifies, integrative and instrumental orientations, and intrinsic and extrinsic motivations are largely two different issues. Whereas, the former is "a dichotomy and refers only to context of learning." The latter is "a continuum of possibilities of intensity of feeling or drive, ranging from deep internal, self-generated rewards to strong, externally administered rewards from beyond oneself" (Brown, 2007: p.88).

The second similarity is that "the goal-setting theory and attribution theory have much in common as the main constructs in the two theories that can be easily linked. It is possible to see that the constructs of intrinsic and extrinsic motivation in the self-determination theory correlate with constructs of task goals and ability goals in the goal-orientation theory respectively. Both intrinsic motivation and task goals relate to deeper and more durable learning; whereas, extrinsic motivation and ability goals tend to yield less profound learning" (Keblawi, 2006: pp. 41-42).

Goal-setting theory, Figure 2.8, has also linked to self-determination theory from the point of view that commitment and autonomy involve nearly the same constructs so that both constructs have much properties in common. On the basis of both the theories, commitment can be best describes "if the individual is convinced of the

importance and attainability of the goals", and autonomous learners are those "who are convinced of the significance of their actions" (Keblawi, 2006: pp. 42).
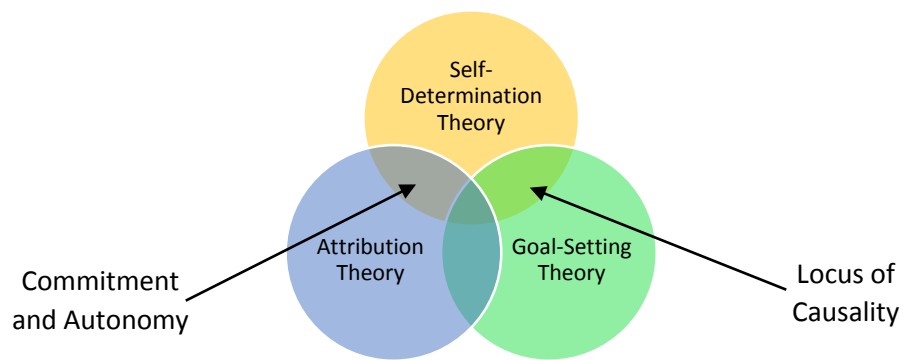
Figure 2.8. Overlap between Different Theories in Cognitive Revolution

The attribution theory is also seen much similar to self-determination theory on the basis of the fact that self-determined L2 learners' behaviors are self-regulated and they mostly attribute the locus of causality to themselves rather than others. According to SDT, individuals regarding their level of regulation perceive the locus of causality (Deci et al., 1991). The more their behavior is autonomous oriented the more have control on their own behavior and attribute reasons to the self.

Self-determination theory, then, in the present research study, is considered as the ideal theory to explain the dynamic nature and concept of L2 motivation.

2.2.3. Self-determination Theory

Self-determination theory (SDT) is a perspective to human motivation and traits that employs traditional empirical methods while using an organismic meta-theory of human motivation which persists the traditions of humanistic and existential theories of human functioning; underlines the importance of humans' progressed inherent resources for personal development, well-being, behavioral self-regulation, self-motivation, and optimal functioning (Ryan, Kuhl, & Deci, 1997; Ryan & Deci, 2000; 2001, 2002, 2004); and has been proposed as a theoretical rationale for an improved general understanding of how human motivation works (Markland, Ryan, Tobin, & Rollnick, 2005; Vansteenkiste & Sheldon, 2006).

The SDT focuses on "types, rather than just amount, of motivation, paying particular attention to autonomous motivation, controlled motivation, and amotivation as predictors of performance, relational, and well-being outcomes" (Deci and Ryan, 2008: p. 182) and focuses especially on "volitional or self-determined behavior and

the social and cultural conditions that promote it"(Ryan, 2009: p.1) and also addresses "the social conditions that enhance versus diminish these types of motivation, proposing and finding that the degrees to which basic psychological needs for autonomy, competence, and relatedness are supported versus thwarted affect both the type and strength of motivation"(Deci and Ryan, 2008: p. 182).

The theory has a multivariate behavioral, cognitive, and social constructive and holistic view toward learning motivation. It is defined as an "organismic psychology" which assumes that people are active organisms with inherent and deeply evolved tendencies toward psychological growth and development (Deci et al, 2015; Deci & Ryan, 2014b; Ryan & Deci, 2013; Ryan, 1995, 2009). Its arena is to delve into one's innate psychological needs and inherent growth tendencies that are the basis for his/her self-regulation, self-motivation, and personality integration, as well as for the conditions that facilitate, foster or improve those positive processes (Harter, 1978; White, 1963; Baumeister & Leary, 1995; Reis, 1994; de Charms, 1968; Deci, 1975; de Charms, 1984; Ryan & Deci, 2000).
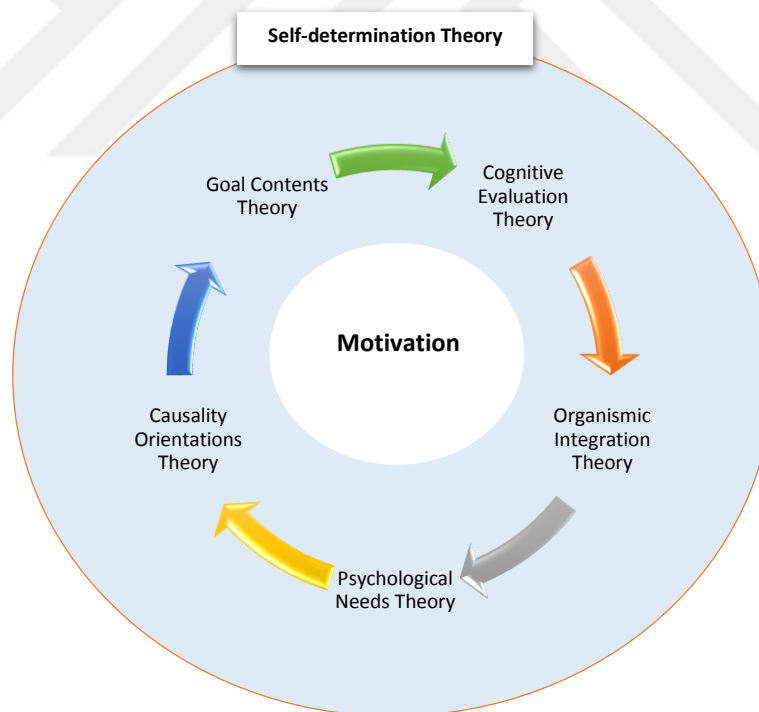
Figure 2.9. Sub-theories of Self-determination Theory

The SDT, as demonstrated in Figure 2.9, has been developed through a set of five sub-theories and assumptions which together comprise the theory's formal framework (Ryan, 2009). Here I briefly list and define each of these sub-theories as an introduction to speak about the different types of motivation and regulations in SDT.

The first sub-theory which is called cognitive evaluation theory (CET) concerns how "social contexts and interpersonal interaction either facilitate or undermine intrinsic motivation" (Ryan, 2009: p.1). The sub-theory, in fact, specifies factors that explain variability in intrinsic motivation. The second sub-theory is Organismic Integration Theory (OIT) which refers to the process of internalization of various extrinsic motives. Here the focus is on the continuum of internalization, extending from external regulation, to introjection (for example, engaging in behaviors to avoid guilt or feel approval), to identification, to integration. The third sub-theory is basic psychological needs theory (BPNT) which elaborates the concept of basic psychological needs by connecting them directly with being a successful language learner (Ryan, 2009). It maintains that, Figure 2.10, the needs for competence, relatedness, and autonomy are basic and universal. It focus on concepts resulting from the degree to which the needs have been satisfied versus thwarted. The sub-theory deals with both intrinsic and extrinsic motivations.
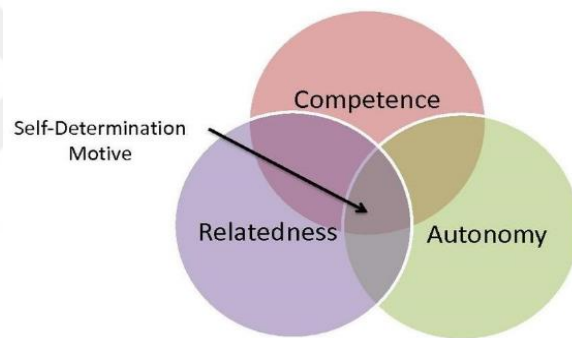
Figure 2.10. Three Innate Psychological Needs Comprise the SDT of Motivation

Causality orientations theory (COT) is the other sub-theory of SDT which describes individual differences in how organisms orient to different aspects of the environment in regulating behavior (Ryan, 2009), and how they attribute the locus of causality to self or others. Finally, the fifth sub-theory is called goal contents theory (GCT) which states the extent to which a goal tend to enhance a need satisfaction (Ryan, 2009).

On the basis of the sub-theories, the SDT proposes that all behaviors can be described as lying along a continuum of relative autonomy (or self-determination), reflecting the extent to which a person endorses and is committed to what they are doing. The theory, then, focuses on autonomy support as a crucial determinant of optimal motivation and positive outcomes, and the autonomy is the need to perceive

oneself as the source of one's behavior (Deci & Ryan, 2002). The level of self-determination, self-motivation, and self-regulation, within SDT, is assessed by considering the degree to which a person's behavior is experienced as autonomous and volitional versus controlled and coerced. Different level or degree of autonomy can lead to various level of self-regulations and different type of motivations. In the following sections, I will discuss the nature of motivation, different motivation types and different regulations in SDT on the basis of the five mentioned sub-theories of SDT.

2.2.3.1. Nature of Motivation in Self-Determination Theory

Motivation, on the basis of SDT, "concerns energy, direction, persistence and equifinality – all aspects of activation and intention" (Ryan & Deci, 2000: p.71). According to the theory of motivation, people can be motivated if they find an activity valuable or if there is a strong external intimidation. They can be engaged to do an activity "by an abiding interest or by a bribe". They can act from a sense of personal obligation and responsibility to be superior or "from fear of being punished" (p. 71). In fact, SDT distinguishes two opposite cases. On the one hand, there are the cases that people attend in an activity because of internal reasons (for the activity itself); on the other hand, there are situations that people do an activity because of external reasons (for something out of the activity) or to control external pressure. It provides a criteria for people to make a sense of their own behavior or others and also makes it easy to distinguish whether people's motivation is inherent and authentic, or externally controlled (de-Charms, 1968; Heider, 1958; Ryan & Connell, & Deci, 1989). When motivation is authentic, it is derived from internal need, internal values, and internal goals; as a result, people are self-regulated, self-dependent, have their own control on their own behavior, and doing the action they find themselves more satisfied. However, when motivation is externally controlled, needs, values, and goals are out of person and out of activity, people have no control on their own, and it is the external factors that control their behavior; as a result, people in this type of motivation are dependent on external regulations rather than self-regulation, Figure 2.11. However, of its importance to note here is that whether motivation evolved internally or externally it has no stable form and is possible to change. The main reason may be because of the fact that people's needs, values, and goals as a result of external and internal factors are in change permanently.
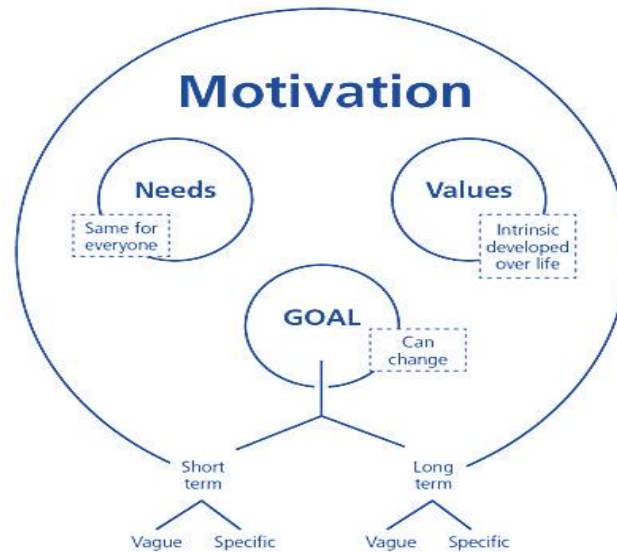
Figure 2.11. Presents Underlying Features in Motivation

Such a diverse changing position provides opportunities for people to have different motivation at any given time. Put it simply, there is neither a stable nor a single form of motivation. With the idea of that motivation is dynamic and has no single position, SDT introduces several types of motivation, while each of the distinct types of motivation has its own specific reasons for learning, performance, personal experience, and well-being (Ryan & Deci, 2000).

An individual's behavior can be intrinsically motivated, extrinsically motivated or amotivated. In the former, people are self-motivated and autonomous. They do the activity for inherent satisfaction. In the later, behaviors can get in a continuum from externally controlled motivation to internally autonomous motivation, and the activity is done for separable outcomes. In the last form, however, there is no motivation and behavior is nonintentional. Having a brief look at motivation types the first question that comes up in mind is how people take in an externally derived motivation type, how they carry them out while in extrinsic motivation one side is autonomous and the other side is controlled, how types of motivation influence people's behavior, persistence, and well-being, and how motivation receives a dynamic position. To find out appropriate answers to such questions requires to have a brief look at the way in which different regulations are formed by different sub-theories in SDT.

Perhaps one of the most important sub-theories, in SDT, is organismic integration theory (OIT) which follows the assumption that individuals have an innate desire and tendency to internalize and integrate. "Internalization refers to people's "taking in" a value or regulation, and integration refers to the further transformation of that

regulation into their own so that, subsequently, it will emanate from their sense of self" (Ryan & Deci, 2000: p. 71). Individual's natural tendency to integrate and internalize, however, can be both internally as an inner organization and externally with significant others. For example, second language learners who do a phonology activity because they personally grasp its values for their chosen career the same as, the learners who do the activity as a respect to significant others (e.g. teacher), both are externally motivated, but the reasons for internalizing and integrating are more different. While the behavior in the former is somehow internal, in the later it is external. As a result, the sub-theory focuses on organism's level of internalization and integration in extrinsic motivation. These different levels of internalization and integration, then, lead to different levels of regulations in extrinsic motivation. The regulations on a continuum range from external regulation, to introjected regulation, to identified regulation, and to integrated regulation; whereas, one side of the continuum is controlled motivated and the other side is autonomously motivated.

The other four sub-theories (CET, BPBT, GCT, and COT) in SDT together explain the process of internalization and integration. While CET introduces that social and external factors (e.g. teachers, tangible rewards, materials, curriculum, feedbacks, optimal challenges, freedom for self-direction, etc.) may facilitate and enable the integration tendency, or undermine this fundamental process of human nature; BPBT explain how the social contexts and interpersonal interactions if, allow to organisms a greater feeling of competence, relatedness and autonomy (Deci and Ryan, 1985) can facilitate their inherent tendency but if, they conduce toward an external perceived locus of causality and undermine their creativity level can hinder learners' inherent tendency toward the activity. On the other hand, GCT makes it clear the extent to which goal of doing the activity tends to enhance a need satisfaction. Put it simple, it focuses on the degree to which a certain goal reflects one's personal interest, in contrast to goals which the person feels obliged to follow mainly because of social pressures (Ryan, 2009).

The last sub-theory (COT), however, studies individual differences in their tendency to internalize and integrate. The sub-theory, Figure 2.12, introduces three general orientations: autonomous orientation, controlled orientation, and impersonal orientation. The orientations study "people's implicit and explicit understanding of the nature of causation of behavior" (Deci and Ryan, 1985: p. 111). If people, for example, perceive themselves as the origin of the behavior, they have an internal

31

perceived locus of causality, and they are autonomous oriented. If they believe they are engaging in behavior to achieve rewards, or because of external constraints they have an external perceived locus of causality so they are controlled oriented (Deci, 1975). Otherwise, they are amotivated and their behavior is nonintentional, and impersonal oriented.
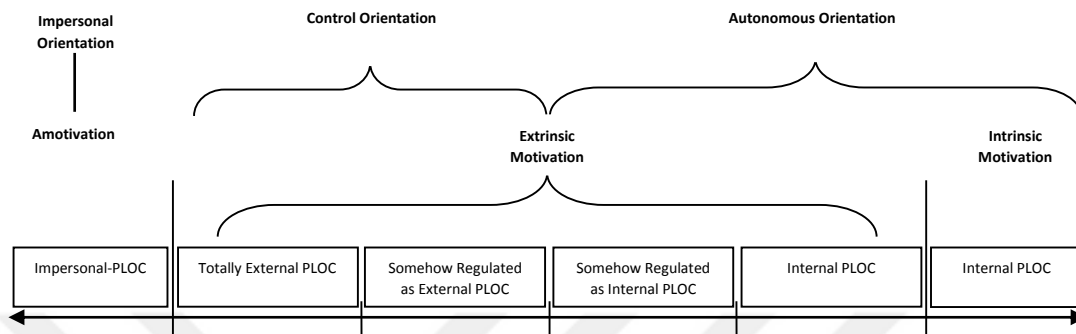
Figure 2.12. Types of Orientations in SDT

Autonomous orientation which involves intrinsic regulation and two forms of extrinsic motivation (identified regulation and integrated regulation), as Deci and Ryan (1985) define, refers to "a high degree of experienced choice with respect to the initiation and regulation of one's own behavior" (p.111). People with these regulations feel themselves independent, out of any need to be controlled, and have a generalized inclination toward internal perceived locus of causality. They are "initiators of their work, interpret their existing situations as more autonomy promoting, and organize their actions on the basis of personal goals and interests rather than controls and constrains" (Deci and Ryan, 1985: p. 112). However, the significant point is that the level of self-determination, self-regulation, and autonomy in integrated regulation is more than identified regulation, and nearly the same as intrinsic regulation. The main difference between integrated regulation and intrinsic regulation is that while in the former the activity is performed for a separable outcome, in the later, the activity is done for the activity itself and inherent satisfaction.

Contrary to autonomous orientation, Individuals with controlled orientation are so much poor in autonomy, perceive a less amount of personal choice in situations, and are not initiator of their own works; instead, they see their actions as responses to pressure from others' expectations or from introjected pressures (Meissner, 1988; Perls, 1973; Ryan & Connell, 1989). With this type of orientation, organism's behavior is, in fact, controlled either full externally or somewhat externally. When L2

learners are externally regulated, external factors control their behavior, and when they are introjected regulated their behavior is controlled by the fear of being failed, shame, anxious, or to be proud of having something. An example for the externally controlled behaviors can be a student who says, I learn English pronunciation since it is a required course, or because my teacher force me to learn English pronunciation. But, when a second language learner says that I learn English pronunciation not to feel shamed among other students, or to find a high prestige job. This shows that the students themselves, as demonstrated in Figure 2.13, control their behaviors to get in a better situation. They are in an attempt to change their present situation. Compared to controlled external learners, controlled introjected learners have more chance to be autonomous over times. External regulated learners, in fact, do not have a clear prototype or a model of what they are doing. Social context and significant others (e.g. parents, teachers, curriculum) provide them a model. The significant point of view here is that, though, controlled oriented learners' behaviors are problematic but providing a meaningful context it is possible for them to experience a level of autonomy in action if external factors (e.g. teachers, material, curriculum, etc.) facilitate their integration and internalization (Ryan and Deci, 2000: p. 73). Providing L2 learners to move a step forward from controlled learning towards autonomous learning, they will find themselves more open and interested in self-initiation and self-regulation (de Charms, 1968; Ryan & Connell, 1989; Ryan & Deci, 2000).
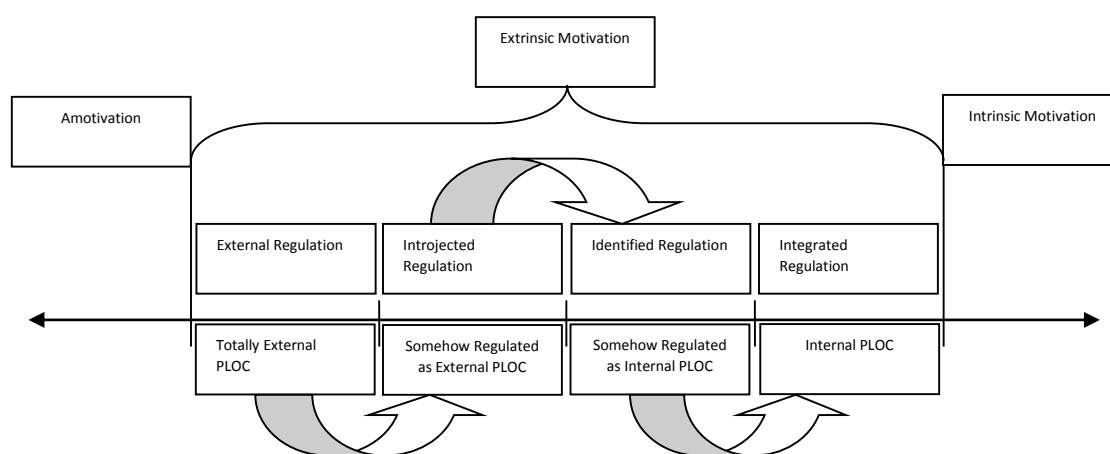
Figure 2.13. Process of Regulation and Integration in SDT

Impersonal orientation is the third orientation in SDT which refers to nonintentional behaviors that are out of the organism's control. Deci and Ryan (1985) state that impersonal oriented L2 learners find themselves unable to control and regulate their behavior in a way that lead them to reliable and desired outcomes. They see

themselves as incompetent and unable to master situations. An example of this can be "I think learning English pronunciation is more difficult and impossible for me". This type of L2 learners not only has often depressive feelings about their current situations but also has strong anxiety to enter new situations. L2 learners with controlled external regulation and impersonal orientation have mostly interlanguage errors, especially with respect to phonology.

In the continuum of extrinsic motivation, external regulation is so much close to amotivation, and integrated regulation is so much close to intrinsic motivation. Introjected and identified regulations, however, interrelate between external and integrated regulations, Figure 2.14. From external regulation to integrated regulation, the level of controlled regulation decreases and the amount of self-determination increases; accordingly, the regulations receive properties of self. Put it simply, they get more internalized and integrated in individual's personal beliefs and values.
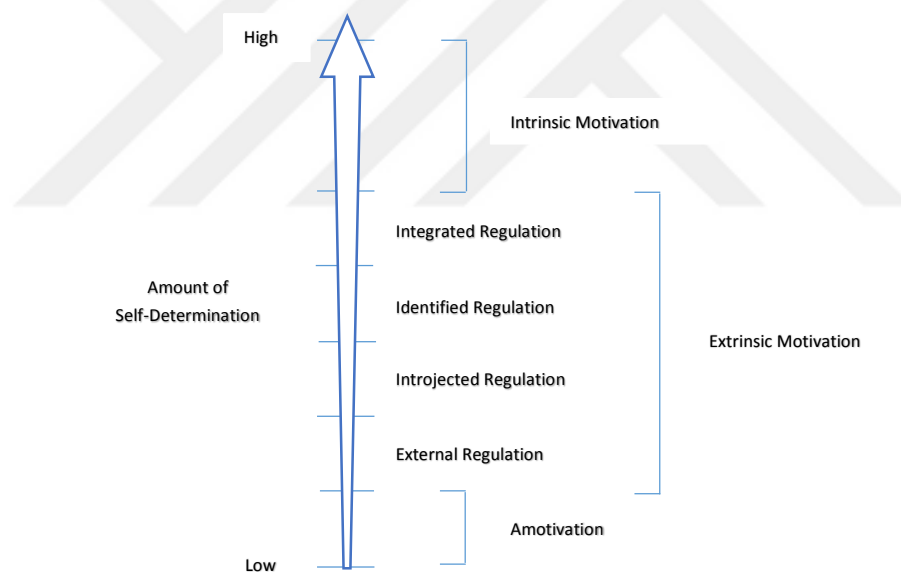
Figure 2.14. Amount of Self-determination and Motivation Intensity

Of its significant importance is to indicate that an individual's motivation neither in its type nor in its intensity is stable but rather dynamic. It is dynamic since its state is possible to change depending on numerous internal and external factors. These factors can act to enhance or diminish types and intensity of motivation. Research in SDT has demonstrated that while some factors tend to enhance autonomous motivation, some other external factors diminish feelings of autonomy thereby inducing a shift from autonomous to controlled motivation or even to amotivation.

2.2.3.2. Taxonomy of Motivation in Self-Determination Theory

As far as taxonomy of motivation in second and foreign language learning is considered, self-determination theory is found as a comprehensible one to study L2 learners' motivation types. On the basis of Deci & Ryan's (1985) classification, Moradi (2011) has designed a motivation inventory relevant to L2 learning. In the present study, Moradi's (2011) inventory was adopted and revised relevant to foreign language pronunciation learning. In this part of the literature review, I tried to explain shortly how the motivation pronunciation inventory was composed on the basis of self-determination theory.

L2 learners' motivation in Deci & Ryan's classification, as represented in Figure 2.15, gets into three category from intrinsic motivation, to extrinsic motivation, and to amotivation. In the category, if motivation is present, it gets divided into two separate types: intrinsic motivation and extrinsic motivation; if not, it is namely called amotivation. Extrinsic motivation, in addition, according to L2 learners' level of determination (from others' determination to self-determination) is divided into four types of regulations: external, introjected, identified and integrated. In general, if motivation is present, self-determination theory introduces five types of regulations: Intrinsic, integrated, identified, introjected and external regulations. Intrinsic, integrated, and identified regulations are called autonomous motivation, and introjected and external regulations are called controlled motivation.
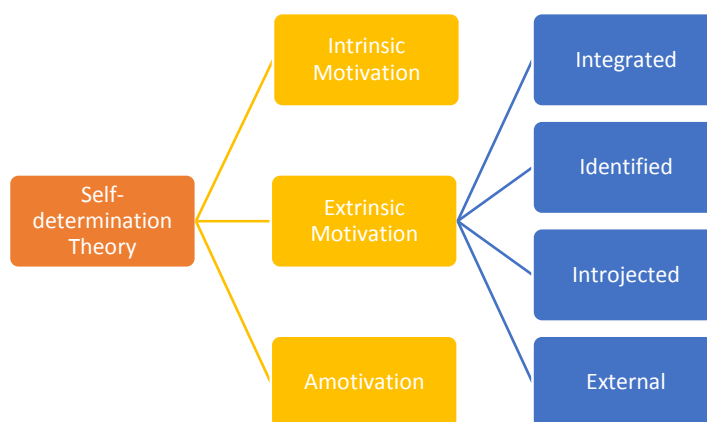
Figure 2.15. Motivation Types and Regulations

2.2.3.2.1. Intrinsic Motivation

Perhaps there is no single phenomenon to describe L2 learners' positive potential nature as well as intrinsic motivation. Its construct describes the natural inclination toward assimilation, mastery, and spontaneous interest, inherent satisfaction, competence, enjoyment, pleasure, and autonomy and looks for "novelty and

challenges, to extend and exercise one's capacities, to explore, and to learn" (Ryan & Deci, 2000: p. 59-60). Figure 2.16 represents some key features of intrinsic motivation.
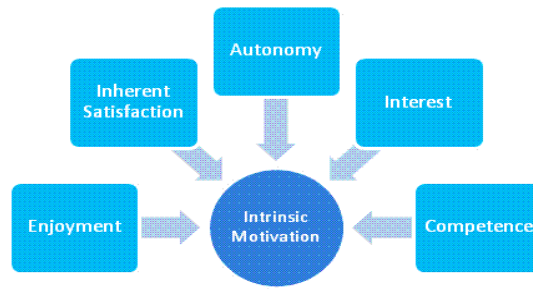
Figure 2.16. Underlying Factors in Intrinsic Motivation

Autonomy, competency, and relatedness as the three fundamental psychological explain the variability in intrinsic motivation (de Charms, 1968; Fisher, 1978; Ryan, 1982; Deci & Ryan, 1985; Ryan, 1995; Ryan & Deci, 2000). In the framework, it is believed that social environments can enhance or hinder intrinsic motivation by supporting versus stopping people's innate psychological needs. Intrinsic motivated students have their own self-setting goals; are fully self-determined, self-dependent, self-regulated, and competent; and find themselves more responsible to accomplish the activity. In Moradi's (2011) motivation inventory, as represented in Table 2.1, the three fundamental psychological needs are identified as the main criteria to explain the variability in intrinsic motivation.

Tables 2.1. Classification of Autonomous Intrinsic Motivation Type designed by Moradi (2011) on the basis of Deci and Ryan's (1985) SDT

Intrinsic Regulation – Autonomous Oriented Motivation	
Categories of Motivation Source	Source of Motivation
A. Knowledge and Competency the pleasure of knowing new things and doing an activity for the feelings associated with:	1. Natural tendency for assimilation, 2. Developing New Knowledge, 3. Satisfying Curiosity, 4. Exploring new ideas.
B. Stimulation and Relatedness the pleasure sensed when doing the task for its relatedness and sensation simulated by performing a task such as:	5. Aesthetic appreciation, 6. Fun and excitement, 7. Spontaneous Interest, 8. Inherent Satisfaction.
C. Accomplishment and Autonomy the pleasure refers to the sensations related to:	9. Self-confidence, 10. Responsibility about one's ability, ideas, beliefs to do even too difficult activities, 11. Attempting to master a task, 12. Attempting to achieve a goal.

According the basic psychological needs, then, intrinsically motivated L2 learners enjoy the feelings of acquiring knowledge about the second language community and their way of life, the feelings associated with satisfying curiosity, exploring new ideas, natural inclination for assimilation, and developing knowledge, inherent satisfaction, sensation related to attempting to master a task or achieve a goal, sensation simulated by performing a task such as authentic appreciation, self-confidence and responsibility about one's ability, ideas, beliefs to do even too difficult activities.

Considering such a definition, intrinsic regulation in SDT can be studies though three general categories of motivation sources as: (1) knowledge and competency, the pleasure of knowing new things and doing an activity for the feelings associated with: natural tendency for assimilation, developing new knowledge, satisfying curiosity, and exploring new ideas; (2) stimulation and relatedness, the pleasure sensed when doing the task for its relatedness and sensation simulated by performing a task such as: aesthetic appreciation, fun and excitement, spontaneous interest, and inherent satisfaction; (3) accomplishment and autonomy, the pleasure that refers to the sensations related to self-confidence, responsibility about one's ability, ideas, beliefs to do even too difficult activities, attempting to master a task, and attempting to achieve a goal. Examples of this type of regulation can be as follows:

Intrinsic Motivation-Knowledge and Competency
1. I can honestly say that I really put my best effort into trying to learn everything about English pronunciation.
2. I have a strong desire to find and learn all aspects of English pronunciation.
3. I enjoy the feeling of acquiring knowledge about the second language pronunciation as much as possible.
4. I really want to sound like a native speaker when I speak English.

Intrinsic Motivation-Stimulation and Relatedness
1. I think learning English pronunciation is fun for me.
2. English pronunciation is my favorite subject, I feel happy whenever I practice English pronunciation.
3. I really enjoy speaking English with good pronunciation.
4. I really love to listen to native speakers of English.
5. I study English pronunciation since it often makes me happy.

6. Listening to someone who is speaking English with good pronunciation makes me feel satisfied.
7. The more I listen to native speakers of English the more I like English pronunciation.

Intrinsic Motivation-Accomplishment and Autonomy

1. I study English pronunciation since pronunciation learning often gives me a feeling of success.
2. I learn English pronunciation for the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.
3. Learning English pronunciation is a hard work, but I enjoy doing hard work.
4. Learning English pronunciation is a difficult challenge that I love to take.
5. I believe if I have good pronunciation, I will be more confident in English speaking.
6. I plan to continue studying English pronunciation for as long as possible.
7. I get satisfied of doing exercise to sound like native speakers of English even it is a difficult job.

It is critical to remember, however, that people will be intrinsically motivated only for activities that hold intrinsic interest for them, activities that have the appeal of novelty, challenge, or creative value. For activities that do not hold such appeal, the principles of CET do not apply, because the activities will not be experienced as intrinsically motivated to begin with. To understand the motivation for those activities, we need to look more deeply into the nature and dynamics of extrinsic motivation.

2.2.3.2.2. Extrinsic Motivation

Although intrinsic motivation is an important type of motivation, it is not the only type or even the only type of self-determined motivation. Extrinsic motivation is a construct that pertains whenever an activity is done in order to attain some separable outcome. It is engaging in an activity in order to achieve some instrumental end, such as earning a reward or avoiding a punishment. It contrasts with intrinsic motivation, which refers to doing an activity simply for the activity itself, rather than its instrumental value. However, unlike some perspectives that view extrinsically motivated behavior as invariantly non-autonomous, SDT proposes that "extrinsic motivation can vary greatly in the degree to which it is autonomous" (Ryan & Deci, 2000: p. 60).

According to SDT, there are four types of regulation in extrinsic motivation: external, introjected, identified and integrated, which set orderly from high controlled to high autonomous. For example, L2 learners who do a phonological task because they

personally grasp its value for their chosen career are extrinsically motivated, as are those who do the phonological activity only because they are adhering to their teachers' control. Both examples involve instrumentalities rather than enjoyment of the work itself, yet the former case of extrinsic motivation entails personal endorsement and a feeling of choice, whereas the latter involves compliance with an external regulation. Both represent intentional behavior, but they vary in their relative autonomy. Tables 2.2 and 2.3 represents source of motivation in different extrinsic regulation types.

Table 2.2. Classification of Autonomous Extrinsic Motivation Types designed by Moradi (2011) on the basis of Deci and Ryan's (1985-2008) SDT

Integrated Regulation	Source of Motivation
A. Congruence to the self	*To find the activity suitable for oneself; fitting together*
B. Awareness to the self	*Aware of its importance*
C. Synthesis to the self	*Synthesized the activity to the self*
Identified Regulation	Source of Motivation
A. Conscious Valuing of activity, Personal importance (Self-endorsement of goals)	*Aware of what is right and wrong, and what is important, think how something is important.*

Table 2.3. Classification of Controlled Extrinsic Motivation Types designed by Moradi (2011) on the basis of Deci and Ryan's (1985) SDT

Introjected Regulation	Source of Motivation
A. Self-control,	*Ability to remain calm and not show your emotions even though you are feeling angry, excited, etc.*
B. Ego-involvement,	*The need for the self to be known,* *to be accepted and approved by the others,* *to performs an action in order to enhance or* *maintain self-esteem and the feeling of worth*
C. Internal rewards and punishments	*Feeling of pressure in order to avoid guilt or anxiety.*
External Regulation	Source of Motivation
A. Compliance,	*Willing to do what other people want, to satisfy an external demand*
B. External rewards and punishments	*To obtain an externally imposed reward contingency*

2.2.3.2.2.1. Integrated Regulation

Integration occurs when regulations have been fully assimilated to the self. In this type of regulation, although, the outcome of activity refers to something or somebody outside of the activity itself, but the activity is largely internalized and

integrated with the person. Integrated regulation shares many qualities with intrinsic regulation, being the most autonomous, self-regulated, self-directed, and self-determined. However, they are still extrinsic because the learner's behavior is done for its presumed instrumental value which separates the behavior from the outcome, even though it is volitional and valued by the self. Congruence, awareness, and synthesis with self are the three relevant regulatory processes of this form of regulation in extrinsic motivation. Examples of this type of regulation can be as follows:

1. I learn English pronunciation because it is what I am supposed to learn.
2. I try to learn English pronunciation because English is a worldwide trend.
3. I try to learn English pronunciation because without good pronunciation one cannot be successful in communication skills such as listening and speaking.
4. Learning English pronunciation is one of the most important aspects of English as an international language so it is a must for me to learn it.
5. I learn English pronunciation since it is a must for language teachers to get familiar with all aspects of English pronunciation.
6. As an ELT student, sounding like a native English speaker is VERY important to me.
7. I learn English pronunciation because English is a global language.
8. I learn English because it's the skill that every English teacher must be required.
9. It is extremely important for me to learn English pronunciation since I need it for my job.
10. I pay attention to learn English pronunciation well because I want to spend time in an English speaking country.

2.2.3.2.2.2. Identified Regulation

This type of regulation is a kind of autonomous regulation in extrinsic motivation. Here the learner's behavior is not the same as integrated regulation in which behavior is fully internalized and integrated. The level of assimilation is to extent that the L2 learner has identified the significant role of an activity. In fact, to the extent that the L2 learner is aware of the role that the activity can play in his/her learning

keeps the ways achieving it. He thinks that the only way of achieving the goal is doing the activity. For instance, an L2 learner who memorizes phonologic rules because he sees it as relevant to good pronunciation and speaking has identified with the value of this learning activity. Personal importance, self-endorsement of goals, and conscious valuing of an activity are the relevant regulatory processes of this form of regulation in extrinsic motivation. Examples of this type of regulation can be as follows:

1. I pay attention to English pronunciation because I think it is essential for my personal development.
2. I pay attention to my English pronunciation because it can help me to make friends with foreigners.
3. I pay more attention to my English pronunciation because this way I can help my English students to learn English pronunciation better.
4. I learn English pronunciation because it can help me to understand western culture better.
5. I learn English pronunciation because it can help me to make friends with foreigners easily.
6. I think increasing my English proficiency in pronunciation will have financial benefits for me.
7. Studying English pronunciation is important to me because I want to travel to the language-speaking country someday.
8. If I learn English pronunciation better, I will be able to get a job easily.
9. I learn English pronunciation because I choose to be the kind of person who can speak a second language well.
10. Being able to speak English with good pronunciation will add to my social status.

2.2.3.2.2.3.   Introjected Regulation

Introjection is a type of controlled regulation that is still quite controlling because people perform such actions with the feeling of pressure in order to avoid guilt or anxiety or to attain ego-enhancements or pride. In contrast to identified regulation in which an L2 learner is aware of the importance of an activity and does it for his self-endorsement of goal, like learning segmental and prosodic features of language to improve his/her pronunciation skill, in introjected regulation the L2 learner dose the activity for prestigious or to avoid from being ashamed, guilty, or anxiety. Put it

simple, introjection represents regulation by conditional self-esteem. In other words, the person tries to satisfy his/her own ability and deserves to be liked or respected by others. It associates with high internal pressure and the behavior is somewhat external and not quite self-determined (Ryan, 1982; Nicholls, 1984; Ryan & Connell, 1989; Vallerand, 1997; Abu Bakar et al, 2010). Self-control, ego-involvement, and internal rewards and punishments are three relevant regulatory processes in this form regulation in extrinsic motivation. Examples of this type of regulation can be as follows:

1. I'm going to learn English pronunciation to prevent myself from feeling guilty.
2. I try to learn English pronunciation not to feel anxious when I speak English in class.
3. I learn English pronunciation because I would feel guilty if I didn't know how to speak with correct pronunciation.
4. Being able to speak English with good pronunciation makes me feel a sense of superiority.
5. I try to learn good pronunciation because others will respect me more if I know how to speak English well.
6. I learn English pronunciation in order to get a more prestigious job later on.
7. I will feel proud if I can speak English well with good pronunciation.
8. I study English pronunciation because my students will respect me more if I speak English well.
9. I study English pronunciation to show others that I am an intelligent person.
10. I learn English pronunciation in order to show that my pronunciation is better than the other students.

2.2.3.2.2.4.   External Regulation

External regulation represents the most controlled and the least self-determined form of extrinsic motivation. An external regulated behavior has a complete external perceived locus of causality. Such behaviors are performed "to satisfy an external demand or obtain an externally imposed reward contingency" (Ryan and Deci, 2000: p. 61). L2 Learners do their activities for tangible rewards and the behaviors are controlled by significant others, such as parents, teachers, etc. External rewards

have significant roles in this form behavior. Compliance, and external rewards and punishments are the most important relevant regulatory processes of this form of regulation in extrinsic motivation. Examples of this type of regulation can be as follows:

1. I am learning English pronunciation because I have the impression that it is expected of me.
2. I learn English pronunciation because it's a required course.
3. I learn English pronunciation because I need to pass the course.
4. I learn English pronunciation to satisfy my teachers' expectations.
5. I learn English pronunciation because I won't be employed if my pronunciation is awful.
6. I learn English pronunciation in order to have a better salary later on.
7. I learn English pronunciation because I can get a better score from my teacher.
8. I learn English pronunciation because I will be failed if I don't.
9. I learn English pronunciation mainly because of my teacher.
10. The main reason I am learning English pronunciation is that my supervisors want me to improve my English.

2.2.3.2.3. Amotivation

When language learners are not motivated, in fact, they are amotivated. They have no intention to do an activity. Amotivated L2 learners see no relations between the outcome of the activity and their present goals. According to the self-concordance model of self-determination theory, people engage in activities to the extent that their goal presents them. In fact, doing that activity for an amotivated student is meaningless. As a result, the learner expects to quit the activity as soon as possible since it is impersonal.

Table 2.4. Classification of Amotivation designed by Moradi (2011) on the basis of Deci and Ryan's (1985) SDT

Amotivation	Source of Motivation
A. Perceived Non contingency	*not valuing an activity*
B. Low perceived competence	*not feeling competent to do it*
C. Non-relevance	*not believing it will yield a desired outcome*
D. Non-intentionality	*no intrinsic or extrinsic reasons for performing an activity at all*

According to SDT, as represented in Table 2.4, L2 learners' lack of motivation source can be (1) perceived non-contingency (not valuing an activity), (2) low perceived competence (not feeling competent to do it), (3) non-relevance (not believing it will yield a desired outcome), and (4) non-intentionality (neither intrinsic nor extrinsic reasons for performing an activity at all) (Deci, 1975; Ryan, 1995; Deci & Ryan, 2000; Abu Bakar et al., 2010). Lots of interlanguage phonological errors can be as a result of L2 learners' amotivation. Examples of foreign language pronunciation learning amotivation can be as follows:

1. I don't like to do any extra work on English pronunciation.
2. The more I learn English pronunciation, the more I hate it.
3. I find learning English pronunciation is boring.
4. Learning English pronunciation will never satisfy me.
5. There is no need to focus on learning English pronunciation.
6. I feel I am not able to learn English pronunciation.
7. Learning to speak English with correct pronunciation is really difficult for me.
8. I will never be able to speak English with a good pronunciation.
9. Learning good pronunciation is NOT as important as learning grammar and vocabulary.
10. English pronunciation has no practical relevance to my future.
11. I would rather spend my time on subjects other than English pronunciation.
12. It is not important for me to learn English pronunciation.

2.2.3.3. ACHIEVEMENT AND MOTIVATION TYPES

Three decades of research in self-determination theory (SDT) indicates that when motivation acts as underlying regulatory, and effort rather than externally controlled is self-driven, self-determined, self-regulated, and autonomous, goal achievement is more likely to happen (e.g. Simons, Van der Linden, & Duffy, 2000; Zimmerman, 2002; Deci & Ryan, 1985b, 2002, 2008; Nota, Soresi, & Zimmerman, 2004; Sundre & Kitsantas, 2004; Muraven et al., 2008; Deci & Ryan, 2008; Legault, Green-Demers, & Eadie, 2009). They are in the belief that autonomous motivated learners are truly self-regulated and that results in their success in learning, problem solving, and academic achievement in general (e.g. Deci & Ryan, 2008; Legault, Green-Demers, & Eadie, 2009). When this is the case, L2 learners will be easily able to

overcome their interlanguage obstacles, especially when a near-native-like pronunciation is required.

Reasons for learning a second language can be classified to the degree to which L2 learners freely choose to learn, are self-determined, and put their effort on learning (Noels, 2001a). Such a case requires a level of motivation in which L2 learners' behaviors are autonomous. When L2 learners are autonomous motivated, they have sense of lower stress and higher well-being (Ryan, 1982; Ryan & Connell, 1989; Vallerand, 1997; Weinstein & Ryan, 2011), seek experiencing choice, feeling of initiation, creative learning, engagement (e.g. Chirkov & Ryan, 2001; Roth, Assor, Kanat-Maymon, & Kaplan, 2007), more rewarding socialization and relationships (Knee, Lonsbary, Canevello, & Patrick, 2005; Niemiec et al., 2006), and high energy and vitality (Ryan & Frederick, 1997), among other positive outcomes that result in successful achievement. L2 learners' autonomous motivation, whether intrinsic or extrinsic, largely depends on the way in which they approach and feel innate psychological needs (autonomy, competence, and relatedness) regarding L2 learning. These universal psychological L2 needs by the help of social contexts in which L2 learners participate are supported or thwarted; so that if supported, leads to autonomous L2 learning and success, if thwarted, results in hindering learning and failure. L2 learners' experience of competency, relatedness, and autonomy, as represented in Figure 2.17, foster volition, motivation, and engagement, and that in turn result in high creativity, persistence, and enhanced performance (Black & Deci, 2000; Deci & Ryan, 2002; Reeve & Jang, 2006).
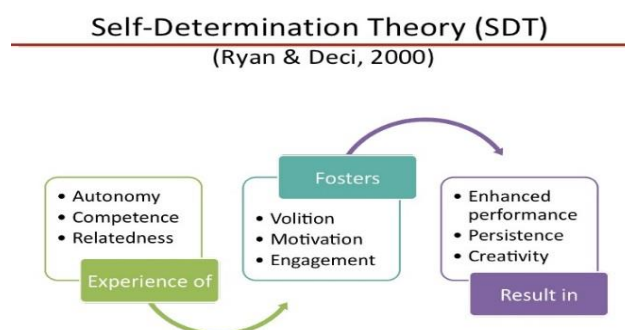
Figure 2.17. How Psychological Needs Lead to Success and Achievement

On the basis of SDT, when L2 learners are intrinsically motivated they naturally experience the L2 psychological needs, as a result, they do an activity for the feeling of satisfaction. However, when the L2 learners are extrinsically motivated, it is external factors that provide a meaningful situation for L2 learners to experience the

L2 universal needs. When this is the case, if external factors (teachers, materials, curriculum, etc.) do not support L2 learners with L2 psychological needs, there is no doubt that rather than facilitating L2 learning they will cause lots of interlanguage obstacles (Deci & Ryan, 2002; Ryan, Deci, Grolnick, & LaGuardia, 2006; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005; Mohammadi et al., 2010).

Numerous research studies support the idea that students with intrinsic motivation and autonomous extrinsic motivation (integrated and identified regulations) are more interested in persisting when they experience a challenge, and are successful learners (e.g. Ryan and Connell, 1989; Vallerand & Bissonnette, 1992; Noels et al., 1999; Boyd, 2002; Deci et al, 2004; Wei Zhaomin, 2006; Cokley, Bernard, Cunningham, & Motoike, 2001; Johnson, Beebe, Mortimer, & Snyder, 1998; Deci & Ryan, 1985; Gottfried, 1985; Mitchell, 1992; Vallerand et al., 1993; Goldberg & Cornell, 1998).

Regarding foreign language pronunciation learning, language learners' motivation is introduced as a better predictor of acquiring near-native-like pronunciation (Lukmani, 1972; Schumanne, 1975; Celce-Murcia & Goodwin, 1991; Graham, 1994; Gillette, 1994; Pennington, 1994; Celce-Murcia, Brinton & Goodwin, 1996; Miller, 1999, 2000; Marinova- Todd et al., 2000; Miller & Rollnick 2002; Moyer, 2007; Celce-Murcia et al, 2010). They are in the belief that both motivation intensity and motivation type can be considered as the main predictor of acquiring good pronunciation (Celce-Murcia et al, 2010). Unfortunately, in literature, there is not even a single study to show how intrinsic motivation and different regulations in extrinsic motivation affect success in foreign language pronunciation learning.

2.3. Pronunciation Learning Strategies

From the point of view that acquiring a near-native-like pronunciation is a hard job that requires more attempts and challenges on the side L2 learners, especially prospective English teachers who are going to act as a modeling for their students, use of pronunciation learning strategies can help the students overcome their interlanguage phonological obstacles. In addition, raising L2 learners' consciousness to use of PLSs can help them move ahead as autonomous learners inside and outside classroom.

2.3.1. Conceptual Definitions of Learning Strategies

Though pronunciation learning strategies as specific skill learning are brand-new; but during the last three decades, with regard to language learning strategies different definitions have been emerged. The seminal definition of language learning strategies was developed by Rubin (1975), as "the techniques or devices which a learner may use to acquire knowledge" (p. 43). Since then many similar definitions have been postulated, although some disagreement and confusions still remains as problems over terms.

Ellis (1994) outlines some of the problems with defining learning strategies as follows: while some scholars distinguish strategies into "language learning strategies" and "skill learning strategies" (e.g. O'Malley and Chamot 1990), some others consider strategies as "mental" or "behavioral" (O'Malley & Chamot's, 1990; Chamot & Kupper, 1989), "conscious" or "unconscious" (e.g., Seliger, 1984; Stern, 1975), and "direct" and "indirect" (Oxford,1990).

Despite the problems going on with conceptual definition of learning strategies, researchers generally agree that strategies are much more conscious, intentional, and purposeful. In fact, a review of the many proposed definitions of learning strategies suggests many more agreements than disagreement. Ellis (1994), for example, in his analysis of learning strategies applies a wide number of terms. He asserts that learning strategies can be viewed as mental, behavioral, direct, indirect, conscious, etc. Unfortunately, regarding pronunciation learning strategies there is not specific definition. Following Oxford's (1990) definition that "learning strategies are steps taken by students to enhance their own learning" (p. 1), pronunciation learning strategies can be considered as specific actions and tactics taken by L2 learners to make their pronunciation learning easier, enjoyable, faster, and more effective. Taking this definition as criteria, we continue with theoretical background of learning strategies.

2.3.2. Theoretical Background of Learning Strategies

Research into learning strategies started in the 1960s with the development of cognitive psychology. In the cognitive theory, language learners are seen as active agents need to be initiator of their own learning. Put it simply, learning is seen as an active, dynamic, and constructivist process in which learners set goals, make decisions, plans, select and organize information, relate it to prior knowledge, recognize, absorb, and maintain what is considered important, use the information

properly, and what they have learnt reflect on the outcomes of their own learning efforts (Shuell, 1986; Gagné et al., 1993; Chamot and O'Malley, 1994). Due to such complex and elaborate set of mental processes draw in language acquisition, L2 learning has been considered as an intricate cognitive skill. Rubin (1975) is the belief that these complex cognitive processes can be recognized and explained through good language learners by examining their use of language learning strategies.

With the advent of cognitive revolution, the school of thought put forth the idea that every individual as an active organism thinks, makes decision and learns. In fact, "[cognitivists] are interested in the mental processes that are involved in learning" (Williams and Burden, 2001: p. 13). In the school, Bruner (1960, 1966) was the first figure who postulates that rather than the acquisition of factual information, the development of conceptual understanding and of cognitive skills and strategies is a central aim of education. In other words, key to transferring what is learned from one situation to another is "to learn how to learn" (Bruner, 1960: p.4). That is, if learning is what happens on the side of learners, what they need to learn is to be self-dependent, self-creative, and self-initiator of their own work, and to do so, they need to learn how to learn and to learn how to deal with general and specific problems with regard to their own learning.

Cognitivists differentiate the process of strategic learning into three functions in memory: working memory, short term memory, and long term memory. Working memory is the memory in which information is selected, encoded, retrieved, processed, decoded, and manipulated language from long-term memory. Short-term memory is used to remember information that is relatively unimportant (i.e. to retain more than a few moments or is easily forgotten). Long-term memory is used to store information derived from personal experience and education, it is the memory that information in the nodes of the brain as meaning or ideas keeps for a long time.

Cognitivists assert that after processing information in working memory through specific strategies, most information is stored in long-term memory via declarative memory or procedural memory. There is a long distance between declarative memory and procedural memory. On the basis of cognitive theories, each of the subdivisions in long-term memory requires specific learning strategies. However, Oxford (1990) believes that only memory, cognitive, and compensation strategies describe the strategies that directly occur in brain, she further asserts there are

some other strategies that do not occur in the brain. Instead, they are acted as behaviors to help learning or using of a L2. These strategies, that indirectly facilitate L2 learning, are metacognitive strategies, affective strategies, and social strategies. If learning a language involves communicating with other people, it requires not only suitable cognitive skills but also social and communicative skills. That is, indirect learning strategies the same as direct strategies play significant role in language learning and language use.

While direct strategies have only rooted in cognitive theories of learning, the indirect strategies have stemmed into other different perspectives such as the theory of social interactionism (Vygostky, 1960, 1962, 1978), the theory of humanistic perspective (Stevick, 1976), metacognitive theory (Flavell, 1979), and theory of communicative competence (Canale and Swain, 1980).

Social interactionists are in the belief that interaction is at the center of everything and learning occurs at first through interactions with others and then the individual himself/herself (Williams and Burden 1997). Accordingly, they argue that an understanding of the functions of the human mind is not in itself sufficient to define what happens when we learn something. People mostly learn through interaction with others. In fact, social interactions provide a dynamic nature of an interplay between teachers, learners, tasks, meaningful learning environment, in which learners using social strategies get familiar with the role that the strategies can play in their own learning.

The humanists assert that people communicate through their thoughts, feelings, attitudes, manner, mood, emotions, motivation, self-confidence, level of anxiety and so forth. In fact, they are in the belief that learners' effective factors are at the center of their learning development since all the factors determine the proportion of language learners' input and intake, and accordingly influence their output. Ellis (1994) notifies that "learners' affective factors are obviously of crucial importance in accounting for individual differences in learning outcomes. Whereas learners' beliefs about language learning are likely to be fairly stable, their affective states tend to be volatile, affecting not only overall progress but responses to particular learning activities on a day-by-day and even moment-by-moment basis." (p. 483). Negative factors like anxiety, inhibition, shyness, concerns, fear of taking a risk, and apprehension prevent efficient processing of the language input; and on the contrary, the positive effective factors like high motivation, self-confidence, self-

belief, creativity, positive attitude, logical risk-taking promote the efficiency of the process of learning. Using effective strategies, then, will minimize learners' negative emotions and improve their positive emotions to find a meaningful situation to learn better.

Metacognitive theory was proposed by Flavell (1979) with this idea that learners need to be able to control their own cognitive processes (Borkowski et al., 1987; Brown, 1987; Sternberg, 1986a, 1986b), and to "figure out how to do a particular task or set of tasks, and then making sure that the task or set of tasks are done correctly" (Sternberg, 1986b, p. 24). Such a talent requires knowledge of cognition, including metacognitive awareness with respect to declarative, procedural, and conditional knowledge (Brown, 1987; Jacobs & Paris, 1987). In other words, on the basis of the theory, L2 learners should know "about" a task, "how" to do the task, and "why" and "when" to do the task. Sternberg asserts that the ability to appropriately assign cognitive resources is central to intelligence and requires metacognitive strategies.

To conclude, in this part we studied different theories involved in learning strategies and how they influence L2 learning, and we found that learning strategies are rooted into various perspectives from theory of cognitive, to theory of social interactionism, to the theory of humanistic perspective, and to the theory of metacognition. In the next section of the present chapter, I will delve into how pronunciation learning strategies develop and how the pronunciation strategies influence L2 learning.

2.3.3. Background to Foreign Language Pronunciation Learning

During the history of foreign language learning, there has been different perspectives toward foreign language pronunciation. In grammar translation and reading methods, for example, there was no room for pronunciation learning and it was viewed as an irrelevant skill. With the advent of direct and audio-lingual, and situational language teaching methods pronunciation learning got significant role in foreign language learning; however, there were still some problems going on. In the direct method, for instance, the methodology for pronunciation learning and teaching was so much primitive. Teachers were mostly native speakers of English, pronunciation was taught inductively, corrections were done through modeling, and there were no explicit teaching to rise L2 learners' awareness with regard to English native speakers' pronunciation features.

In the audio-lingual method, in 1945, there was a great emphasis on habit formation and the traditional notions of pronunciation, drills, minimal pairs, short decontextualized conversations, memorization, and imitations (Celce Murcia and Goodwin 1991: p.136) and pronunciation learning was mostly considered as a modeling through habit formation like a parrot. Situational language teaching method also adopted the same methodology as the audio-lingual view of the pronunciation teaching and learning (Richards and Rodgers, 2007). Through these methods, pronunciation instruction initially focused on accurate production of isolated sounds and only segmental features (Jones, 1997; Morley, 1991; Pennington & Richards, 1986). First, phonological rules and then modeling and correction were applied. Habit formation was at the center of education, and L2 learners mostly practiced pronunciation via drills, repetition, imitation, and memorization (Morley, 1991; Celce-Murcia, Brinton, & Goodwin, 1996).

Unfortunately, during the years of 1960s to the late 1970s, several reasons as such critical period hypothesis, habit formation, and Krashen's input hypothesis somehow lead to diminish the importance of pronunciation learning. On the basis of the critical period hypothesis, cognitivists asserted that learning a foreign language pronunciation after puberty if not impossible is somehow difficult. Put it simple, adult L2 learners could not attain native-like pronunciation (Celce-Murcia et al., 1996; Jones, 1997). Krashen, on the basis of his input hypothesis alleged that pronunciation could not be taught overtly since it is a skill that acquired naturally before the age of five (Jones, 1997). And finally, for the reason that repetition, memorization, and drills left no meaningful context for real and effective communication, habit formation received too much criticism. These arguments exclude the value of pronunciation in L2 classrooms, and accordingly pronunciation to a great extent received less attention in language teaching and learning. It was thought that native-like pronunciation could not be totally taught or learned anyway, and the cognitive code approach de-emphasized pronunciation in favor of grammar and vocabulary.

Pronunciation programs, during that time, were "viewed as meaningless non-communicative drill-and-exercise gambits" (Morley, 1991: p. 485-6). In many L2 programs, the teaching of pronunciation was thrown out because many studies found "that little relationship exists between teaching pronunciation in the classroom and attained proficiency in pronunciation; the strongest factors found to affect

pronunciation (i.e. native language and motivation) seem to have little to do with classroom activities" (Suter, 1976: p. 233-53, Purcell & Suter, 1980: p. 271-87). The main reason may relied on the fact that that time pronunciation learning was emphasized on habit formation, rote memorization, drills, minimal pairs, decontextualized practices, and having native-like perfect pronouncing. There was no strategic learning, no attention on learner autonomy, and no learner-center education. However, with the appearance of communicative approach to foreign language teaching, the role of pronunciation learning has largely changed.

Later, in the 1980s, with the advent of the communicative approach there has been a shift from a cramped focus on linguistic competencies to a more extensive focus on communicative competencies, in which linguistic competencies such as pronunciation, grammar, vocabulary, etc. remain essential elements even as one of several critical competencies, and pronunciation learning has received its significant importance (Canale & Swain, 1980). Pronunciation learning became important since both empirical and anecdotal evidence indicated that there is a threshold level of pronunciation for nonnative speakers of English; if they fall below this threshold level, they will have oral communicative problems no matter how excellent and extensive their control of English grammar and vocabulary might be. Such a revolution paved a way for foreign language education to focus on segmental and suprasemental features (e.g., Celce-Murcia et al., 1996; Chela-Flores, 2001; Munro & Derwing, 1997; Hahn, 2004; Pickering, 2001), also learner autonomy has received much attention (Oxford, 2003, 2011).

Foreign language education found that autonomous learners take responsibility for their own learning (Holec, 1981; Dickinson, 1987; Allwright, 1990; Cotterall, 2000; Oxford, 1999, 2003, 2011), have their own ability and willingness (Littlewood, 1996), plan and execute learning activities, and monitor and evaluate their own learning process (Cotterall, 2000), find opportunities to engage with language, and take steps to improve the particular areas of difficulty (Little, 1999), able to perform a given task independently, with situational flexibility ,conscious intention, and reflection (Oxford, 1999). Numerous researchers in the area of language learner autonomy also identified learning strategies as relevant or even crucial (e.g. Oxford, 1990, Wenden, 1991; Dickinson, 1992; Dam 1995; Cotterall, 1995a, 1995b; Littlewood, 1996; Dam, 1999; Little, 2000; Benson 2001; Cohen, 2011; Oxford, 2011; Chamot, 2013; Griffiths, 2013;Little, Ridley & Ushioda, 2003). Now, they are in the belief that L2

learners rather than relying heavily on external factors should learn to be active agent and responsible on their own learning.

In this changing context, it is not surprising that the roles of pronunciation teachers and learners have gradually changed over time, and education in pronunciation focused on strategic teaching and learning. In fact, learning how to learn has been considered as the main goal for foreign language education. Cohen (1998) asserts that the initial goal for language teachers is to make learners familiar with various strategies so that they can consciously choose and facilitate their learning process. In the same tenet, Oxford (1990) indicates that "learners need to learn how to learn, and teachers need to learn how to facilitate the process…conscious skill in self-directed learning and strategy use must be sharpened through training" (p. 201). The assertions together focus on learner-centered strategic instruction and autonomous strategic learning.

As the study of language learning strategies became more popular, research began to focus more and more on the use of language learning strategies with regards to specific language skills like reading, writing, speaking, and listening (Barnett, 1988; Oxford, 1990; Anderson, 1991; Everson & Kuriya, 1998; Vidal, 2002). However, as popular as language learning strategy research has been for over thirty years, surprisingly few studies have examined the pronunciation learning strategies (Peterson, 2000; Derwing & Rossiter, 2002; Eckstein, 2007; Osburne, 2003; and Vitanova & Miller, 2002, Calka, 2011). Thus the remainder of this chapter will focus on how pronunciation learning strategies developed.

2.3.4. Development of Pronunciation Learning Strategies

Unfortunately, in contrast to significant attention given to autonomous learning, and the role that pronunciation learning plays in L2 learners' communicative competence, there is not a specific room in literature to study pronunciation learning strategies, and how these strategies affect L2 learners' success in their near-native like foreign language pronunciation learning. While there has been cited ample research with respect to general language learning strategies, pronunciation learning strategies have been studied by limited studies (Naimen et al., 1978; Rivers 1979; Drozdzial-Szelest, 1997; Vitanova & Miller, 2002; Derwing & Rossiter, 2002; Osborne, 2003; Pawlak, 2006, 2008; Wrembel, 2008; Berkil, 2008; Haslam, 2010), and only few of studies resulted in classifications of PLSs (Peterson, 2000; Eckstein, 2007; Pawlak, 2010; Calka, 2011). In the following section, a summary of the

identifications, clarifications and classifications from Naiman et al. 1978; Rivers 1979; O'Malley et al. 1985; Peterson, 2000; Vitanova & Miller, 2002; Derwing & Rossiter, 2002; Osborne, 2003; Eckstein, 2007; and Calka, 2011 will be mentioned.

Naiman et al. (1978), Rivers (1979), and O'Malley et al. (1985) are the first figures, in literature, who delved into pronunciation learning strategies. Naiman et al. (1978) with 34 different interviews tried to conduct how good language learners achieve success in target language pronunciation. From their study a number of strategies and tactics, the same as what Rivers (1979) reported from her sixth experience of foreign language learning, emerged; but because of lack of analysis and clarity applying them to language education was somehow difficult. In the same line, O'Malley et al. (1985) asked 70 high-school students to report the strategies that they had usually used in improving their pronunciation; unfortunately, the results of the study were not clearly reported, as a result, made it so difficult to be used for pronunciation learning strategies.

Table 2.5. Peterson's (2000) Categorization of Pronunciation Learning Strategies Based on Oxford's (1990) Strategy Types

Oxford's Strategy Types	Pronunciation Learning Strategies
Memory strategy	• Representing sounds in memory.
Cognitive strategy	• Practicing naturalistically. • Formally practicing with sounds. • Analyzing the sound system.
Compensation strategy	• Using proximal articulations.
Metacognitive strategy	• Finding out about TL pronunciation. • Setting goals and objectives. • Planning for a language task. • Self evaluating.
Affective strategy	• Using humor to lower anxiety.
Social strategy	• Asking for help. • Cooperating with peers.

Peterson (2000), on the basis of Oxford's (1990) learning strategy taxonomy, performed an investigation to distinguish pronunciation learning strategies that successful language learners used to achieve a near native-like pronunciation. Her investigation resulted in a wide number of particular pronunciation learning

strategies and tactics than what had been previously documented in literature, by Naiman et al. (1978), Rivers (1979), and O'Malley et al. (1985). She identified 12 basic pronunciation learning strategies as follow: representing sounds in memory, practicing naturalistically, formal practice with sounds, analyzing the sound system, using proximal articulations, finding out about the target language pronunciation, setting goals and objectives, planning for a language task, self-evaluation, using humor to lower anxiety, asking for help, cooperating with peers, representing sounds in memory. These twelve strategies were followed by 43 tactics. Table 2.5 represents Peterson's pronunciation learning strategies involves in her taxonomy.

Vitanova and Miller (2002), in their research study, identified self-correction of poor pronunciation and active listening to native pronunciation as two main pronunciation strategies that foreign language learners use to acquire good pronunciation. Their studies also restricted to small number of strategies that makes it difficult to study learners' strategic learning from a multivariate perspectives.

Derwing and Rossiter (2002) identified 11 pronunciation strategies such as: self-repetition, paraphrasing, increasing and describing volume, using a slow rate of speech, writing and spelling difficult words, using pantomime, calming down, avoiding difficult sounds, asking for help from native speakers, using clear speech, and monitoring articulatory gestures. Osburne (2003) also introduced eight pronunciation strategies categories such as: focus on individual syllables; focus on sounds below the syllable-level; global articulatory gesture; local articulatory gesture or single sound; focus on individual words; focus on prosodic structure; focus on memory or imitation; and focus on paralanguage.

Eckstein (2007), on the basis of Kolb's (1984) experiential learning cycle and his pronunciation acquisition construct, proposed a new inventory for pronunciation strategies. He introduced 28 pronunciation strategies with this belief that his taxonomy facilitates automaticity in pronunciation learning and acts as an assistant for language learners to acquire a near native-like pronunciation. This taxonomy is different from other taxonomies of strategies in that it is not based on Oxford's (1990) work but on Kolb's (1984) learning construct.

Pawlak (2010) argued that pronunciation learning strategies give learners an idea of how target language pronunciation works and enable them to perform better in spontaneous speech. He attempted to develop a valid and reliable tool which could

be utilized to measure the use of pronunciation learning strategies. To this end, he constructed a classification of four groups of pronunciation learning strategies, in which he adopted pre-existing typologies of language learning strategies as references.

And finally, on the basis of Oxford (1990) and Peterson (2000), Calka (2011) composed a valid and reliable taxonomy to measure use of pronunciation learning strategies. She studied pronunciation learning strategies into direct (memory, cognitive, and compensation) and indirect (metacognitive, affective, and social) strategies. These six general strategies involve 18 specific strategies followed by 64 tactics. Table 2.6 demonstrates her pronunciation learning strategy types.

Table 2.6. Calka's (2011) Categorization of Pronunciation Learning Strategies on the Basis of Oxford's (1990) and Peterson's (2000)

Oxford's (1990) Language Learning Strategies	Peterson's (2000) Pronunciation Learning Strategies	Calka's (2011) Pronunciation Learning Strategies
Memory strategy	• Representing sounds in memory	• Representing sounds in memory • Reviewing well • Employing action • Rote learning
Cognitive strategy	• Practicing naturalistically • Formally practicing with sounds • Analyzing the sound system	• Practicing pronunciation, • Receiving and sending messages on pronunciation, • Analyzing and reasoning, • Creating structure for input and output
Compensation strategy	• Using proximal articulations	• Guessing intelligently • Overcoming limitations in pronunciation
Metacognitive strategy	• Finding out about TL pronunciation • Setting goals and objectives • Planning for a language task • Self-evaluating	• Centering one's learning • Arranging and planning one's learning • Evaluating one's learning
Affective strategy	• Using humor to lower anxiety	• Reducing your anxiety • Encouraging yourself • Taking one's emotional temperature
Social strategy	• Asking for help • Cooperating with peers	• Asking questions • Cooperating with others • Emphasizing with Others

To conclude, Eckstein's taxonomy differs a lot from general strategy classifications designed by other researchers, which makes it difficult to make comparisons or references between them. Also Eckstein's taxonomy could be subsumed with memory and affective strategies. Pawlak's taxonomy is limited only to metacognitive, cognitive, affective, and social strategies. His taxonomy, as Chang (2012) puts forth, "is not presented in its entirety" and moreover, it "is considered tentative and open to be modified" (p. 22). Both Peterson's and Calka's taxonomies were composed on the basis of Oxford's (1990) taxonomy, which is more well-known and comprehensive to investigate learning strategies. However, Calka's classification includes six other more specific sub-strategies relevant to foreign language pronunciation learning context. As a result, in the present study, Calka's (2011) taxonomy is seen much more valid, reliable, and comprehensive to study L2 learners' use of pronunciation learning strategies (Rokoszewska, 2012; Chang, 2012; Szyszka, 2015; Erbay et al, 2016).

2.3.4.1. Taxonomy of Pronunciation Learning Strategies

In the present research study, the taxonomy that applied to measure English prospective teachers' use of pronunciation learning strategies was adopted from Calka (2011). In the taxonomy, as represented in Figure 2.18, there are memory, cognitive, compensation, metacognitive, affective, and social strategies. Below each of the six pronunciation learning strategies is introduced in details.
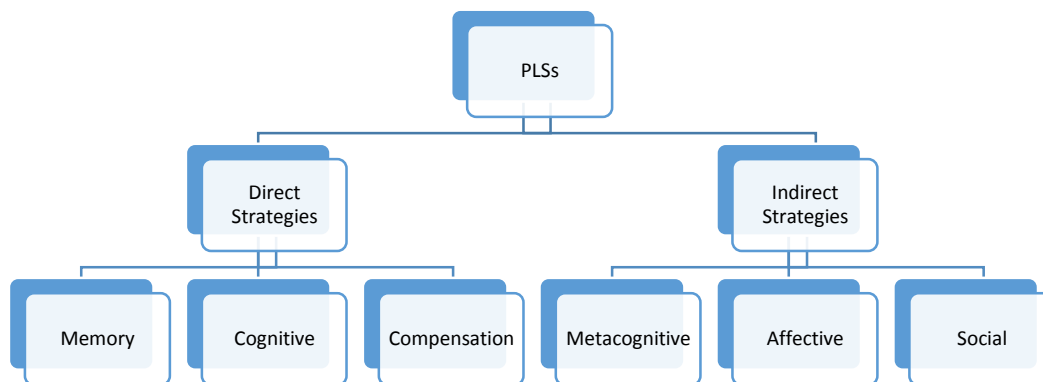
Figure 2.18. Direct and Indirect Pronunciation Learning Strategy Type

2.3.4.1.1. Memory Strategies

Memory strategies "enable a learner to learn and retrieve information in an orderly string". The strategies are also said to "help the learner link one L2 item or concept with another but do not necessarily involve deep understanding" (Oxford, 2003:

p.13). They have been shown to relate to L2 proficiency (Oxford & Ehrman, 1995; Kato, 1996). However, it is also essential to keep into considerations that the memory strategies "do not always positively relate to L2 proficiency" (Oxford, 2003: p.13) if the strategies were not used correctly can also lead to lots of interlanguage phonological errors.

The pronunciation memory strategies, in the taxonomy, are representing sounds in memory; reviewing well, employing action, and rote learning are the main memory strategies in pronunciation learning. The strategies include 13 tactics represented in Table 2.7. They are grouping, making up songs, rhymes, sentences, etc., to memorize pronunciation, making visual, auditory, and visual-auditory associations, and using phonetic symbols or one's own code, regular revisions of the pronunciation of new words, using mechanical techniques, e.g., using flash cards, making notes: creating posters, vocabulary lists with transcription, highlighting, etc., repeating a word (aloud or silently) several times over, listening to a recorded list of words several times over to memorize their pronunciation. Examples of the memory strategies can be as follows:

Tables 2.7. Classification of Memory PLSs Adopted from Calka (2011)

Direct PLS – Memory Strategies		
Memory strategies	Tactics (questionnaire item)	item
A. Representing sounds in memory	1. Grouping (3)	3
	2. Making up songs, rhymes, sentences, etc. to memorize pronunciation (11)	11
	3. Making associations:	
	a) visual	
	– associating the pronunciation of a word with the place where one has seen its transcription (7)	7
	– associating sounds with mental or actual pictures (2)	2
	– visualizing the transcription of a given word (6)	6
	b) auditory	
	- associating the pronunciation of a word or sound with words or sounds existing in other languages or nature (1)	1
	c) visual-auditory	
	- associating the pronunciation of a word or sound with a situation in which one has heard it (8)	8
	4. Using phonetic symbols or one's own code (5)	5
B. Reviewing well	1.Regular revisions of the pronunciation of new words (12)	12
C. Employing action	1. Using mechanical techniques, e.g. using flash cards (13)	13
	2. Making notes: creating posters, vocabulary lists with transcription, highlighting, etc. (4)	4
D. Rote learning	1. Repeating a word (aloud or silently) several times over (9)	9
	2. Listening to a recorded list of words several times over to memorize their pronunciation (10)	10

1. In order to memorize the pronunciation of a given word I try to associate it with the pronunciation of a different word (in another language I know) or with some sounds (e.g. animals sounds, sounds of machines, devices).

2. I memorize the pronunciation of a given word by associating it with an image or a picture (in mind or in actual drawing).

3. I group words that sound similar in order to memorize their pronunciation.

4. I use visual aids to memorize the pronunciation of new words (e.g. posters with transcription of new words, and marking phonetic symbols with various colors).

5. In order to memorize the pronunciation of a given word I use phonetic symbols or my own code to write down its pronunciation.

6. I memorize the pronunciation of a given word by visualizing its transcription.

7. I memorize the pronunciation of new words by remembering the location of their transcription on the page, board etc.

8. I memorize the pronunciation of new words when I associate them with a situation in which I have heard them.

9. I repeat a word several times over (aloud or in my mouth) to memorize its pronunciation.

10. I record words whose pronunciation I want to memorize and listen to the recording several times over.

11. I memorize the pronunciation of a given word by putting it in a context (a sentence, a story, a rhyme, etc.).

12. I review the pronunciation of recently learnt words regularly.

13. I use flash cards which I put from 'I want to learn' pile to 'I haven't learnt' pile.

2.3.4.1.2. Cognitive Strategies

Cognitive strategies "enable the learner to manipulate the language material in direct ways, e.g., through reasoning, analysis, note-taking, summarizing, synthesizing, outlining, reorganizing information to develop stronger schemas (knowledge structures), practicing in naturalistic settings, and practicing structures and sounds formally" (Oxford, 2003: p.12). The pronunciation cognitive strategies,

in the taxonomy, as represented in Table 2.8, are practicing pronunciation, receiving and sending messages on pronunciation, analyzing and reasoning, creating structure for input and output. They include 25 tactics as follow: formally practicing with sounds, practicing naturalistically with a clear communicative aim, using resources, reasoning deductively: forming and using pronunciation rules and testing hypotheses, analyzing contrastively, taking notes: using phonetic symbols or one's own code to write down the pronunciation of new words, noting down pronunciation rules and information on phonetics and phonology. Cognitive strategies were reported to be significantly related to L2 proficiency (e.g. Kato, 1996; Ku, 1995; Oxford & Ehrman, 1995; Oxford, Judd, and Giesen, 1998; Park, 1994). Examples of the cognitive strategies can be as follows:

1. I practice pronunciation by repeating sounds, words, sentences, etc., several times in the same way or in different ways (changing speed, dividing words into syllables, etc.).
2. I repeat sounds, words, sentences, etc., after English speakers.
3. I repeat sounds, words, sentences, etc., simultaneously with English speakers.
4. I repeat sounds, words, sentences, etc., simultaneously with English speakers, imitating their gestures and facial expressions.
5. I listen to the radio and/ or watch TV in English.
6. I speak to foreigners in English.
7. I imitate mouth movements made by English speakers.
8. I observe the movements of articulators in the mirror when speaking English.
9. I do exercises recommended by speech therapists in order to make my tongue, lips and jaw more flexible.
10. Before I say something aloud, I practice saying a given word, sentence, etc., in my mind.
11. I practice my pronunciation by speaking to myself in English.
12. I practice my pronunciation by reciting texts and/ or acting out dialogues.
13. I practice reading aloud, paying particular attention to my pronunciation.
14. I practice whispering to focus on the feeling of articulation.
15. I look up the pronunciation of unknown words in a dictionary.
16. I search for information on phonetics and phonology in books, on the internet.
17. I try to identify and use pronunciation rules.

Tables 2.8. Classification of Cognitive PLSs Adopted from Calka (2011)

Direct PLS – Cognitive Strategies		
Cognitive strategies	Tactics (questionnaire item)	item
A. Practising pronunciation	1. Formally practising with sounds	
	a) phonetic drills (14)	14
	b) repeating after target language (TL) speakers (15)	15
	c) repeating simultaneously with TL speakers (16)	16
	d) repeating simultaneously with TL speakers, imitating their voice, gestures, etc. (17)	17
	e) imitating mouth movements made by TL speakers (20)	20
	f) listening to recordings to identify the pronunciation of new words (practising perception) (34)	34
	g) reciting and/or acting out dialogues (25)	25
	h) reading aloud paying attention to pronunciation (26)	26
	i) whispering in order to "feel" articulation better (27)	27
	j) exercising speech organs (22)	22
	k) observing speech organs in the mirror when speaking the TL (21)	21
	l) talking to oneself in the TL (24)	24
	m) rehearsing (23)	23
	n) completing various phonetic exercises (32)	32
	o) doing transcription exercises (33)	33
	2. Practising naturalistically with a clear communicative aim	
	a) using media (18)	18
	b) speaking with foreigners in the TL (19)	19
B. Receiving and sending messages on pronunciation	1. Using resources	
	a) checking the pronunciation of new words in dictionaries (28)	28
	b) looking for information on phonetics and phonology in books and in the Internet (29)	29
C. Analyzing and reasoning	1. Reasoning deductively: forming and using pronunciation rules and testing hypotheses (30)	30
	2. Analyzing contrastively	
	a) comparing TL sounds with sounds existing in other languages (31)	31
	b) imitating TL native speakers speaking the learner's mother tongue in order to feel the differences between the languages (36)	36
	c) analyzing mistakes made by TL native speakers while speaking the learner's mother tongue (37)	37
D. Creating structure for input and output	1. Taking notes	
	a) using phonetic symbols or one's own code to write down the pronunciation of new words (33)	33
	b) noting down pronunciation rules and information on phonetics and phonology (35)	35

18. I analyze the differences between English pronunciation and the pronunciation of other languages.

19. I complete various phonetic exercises which I find in course-books, computer programs and on internet sites.

20. I use phonetic symbols.

21. I listen to recordings several times in order to identify the pronunciation of unknown words (perception practice).

22. I make notes on interesting phonetic problems.

23. I imitate native speakers of English, speaking Persian / Azeri / Turkish in order to feel the difference between the two languages better.

24. I pay attention to pronunciation errors made by native speakers of English speaking Persian / Azeri / Turkish.

2.3.4.1.3. Compensation Strategies

Compensatory strategies "help the learner make up for missing knowledge". The strategies can be "guessing from the context in listening and reading; using synonyms and "talking around" the missing word to aid speaking and writing; and strictly for speaking, using gestures or pause words" (Oxford, 2003: pp. 13-14). The strategies also found significantly related to L2 proficiency (e.g. Oxford, 1990, 1999; Oxford & Ehrman, 1995; Little, 1999). The pronunciation compensation strategies, in the taxonomy, as represented in Table 2.9, are four tactics including guessing intelligently and overcoming limitations in pronunciation learning, using the pronunciation of new words (e.g., on the basis of spelling), using L1 pronunciation if the word in the TL and L1 is spelled in a similar way, using proximal articulation, and voiding words whose pronunciation one does not know. Examples of the compensation strategies can be as follows:

Tables 2.9. Classification of Compensation PLSs Adopted from Calka (2011)

Direct PLS – Compensation Strategies		
Compensation strategies	Tactics (questionnaire item)	item
A. Guessing intelligently	1. Guessing the pronunciation of new words (e.g., on the basis of spelling) (38)	38
B. Overcoming limitations in pronunciation	1. Using L1 pronunciation if the word in the TL and L1 is spelled in a similar way (40)	40
	2. Using proximal articulation (41)	41
	3. Avoiding words whose pronunciation one does not know (39)	39

1. If I do not know how to pronounce a given word, I guess its pronunciation.
2. If I do not know how to pronounce a given word, I avoid using it.
3. If I do not know how to pronounce a given word and its spelling is similar to a Persian / Azeri word, I use Persian / Azeri pronunciation hoping that I will be understood.
4. If I cannot produce a given English sound, I produce a sound as similar to it as possible.

2.3.4.1.4. Metacognitive Strategies

Metacognitive strategies employed for organizing and evaluating of the learning process. These strategies can be "identifying one's own learning style preferences and needs, planning for an L2 task, gathering and organizing materials, arranging a study space and a schedule, monitoring mistakes, and evaluating task success, and

evaluating the success of any type of learning strategy" (Oxford, 2003; p. 12). Metacognitive strategies, Purpura (1999), reported to have "a significant, positive, direct effect on cognitive strategy use, providing clear evidence that metacognitive strategy use has an executive function over cognitive strategy use in task completion" (p. 61). It is also found that use of metacognitive strategies among EFL learners, especially in Turkey and South African countries, leads to significant L2 proficiency (Dreyer & Oxford, 1996; Oxford, Judd, & Giesen, 1998).

The metacognitive pronunciation learning strategies, in the taxonomy, as represented in Table 2.10, are centering one's learning, arranging and planning one's learning, and evaluating one's learning including 11 tactics: revising theoretical knowledge on phonetics before doing a pronunciation task, paying attention to pronunciation (in general directed attention), concentrating on a given phonetic feature (selective attention), searching for information on pronunciation learning, organizing learning, setting short-term and long-term goals, planning for a language task, seeking practice opportunities, planning pronunciation learning (selecting materials, exercises, strategies, etc, self-monitoring, self-evaluation (recording oneself to evaluate one's pronunciation). Examples of the metacognitive strategies can be as follows:

Tables 2.10. Classification of Metacognitive PLSs Adopted from Calka (2011)

Indirect PLS – Metacognitive Strategies		
Metacognitive strategies	Tactics (questionnaire item)	item
A. Centering one's learning	1. Revising theoretical knowledge on phonetics before doing a pronunciation task (47)	47
	2. Paying attention to pronunciation	
	a) in general (directed attention) (43)	43
	b) concentrating on a given phonetic feature (selective attention) (44)	44
B. Arranging and planning one's learning	1. Searching for information on pronunciation learning (45)	45
	2. Organizing learning (46)	46
	3. Setting short- and long-term goals (49)	49
	4. Planning for a language task (50)	50
	5. Seeking practice opportunities (42)	42
	6. Planning pronunciation learning (selecting materials, exercises, strategies, etc.) (48)	48
C. Evaluating one's learning	1. Self-monitoring (51)	51
	2. Self-evaluation (recording oneself to evaluate one's pronunciation) (52)	52

1. I try to find as many different ways of practicing my pronunciation as I can.
2. I pay attention to pronunciation when someone is speaking English.
3. I choose a phonetic problem (e.g. a given sound, word stress, intonation, etc.) and pay attention to it when someone is speaking English.

4. I try to find out how to improve my pronunciation.

5. I care for appropriate learning conditions so that my work on pronunciation is as efficient as possible.

6. Before practicing a given pronunciation feature I revise appropriate theoretical knowledge.

7. I plan pronunciation learning – I set the time of learning, select materials, strategies, etc.

8. I have clear goals for improving my pronunciation.

9. When I prepare a talk in English, I look up the pronunciation of new words in a dictionary and practice their pronunciation.

10. I notice my pronunciation problems and I try to overcome them.

11. I evaluate my progress in pronunciation by recording myself and comparing my pronunciation to the pronunciation of native speakers.

2.3.4.1.5. Affective Strategies

Affective strategies are used to identify and manage one's mood, emotions, anxiety, and attitudes and also to talk about feelings, to reward oneself for good performance, and to use deep breathing or positive self-talk (Oxford, 2003). The strategies are also reported to have significant relation with L2 learners' proficiency (e.g. Oxford & Ehrman, 1995; Dreyer and Oxford, 1996). However, a negative link between the effective strategies and L2 proficiency reported among some EFL learner (Mullins, 1992). Oxford (2003) argues that it might be because of the fact that "as some students progress toward proficiency, they no longer need affective strategies as much as before". She further asserts that "learners' use of cognitive, metacognitive, and social strategies is [largely] related to greater L2 proficiency and self-efficacy, [and] over time there might be less need for affective strategies as learners progress to higher proficiency"(p.14). The affective pronunciation learning strategies, in the taxonomy, as demonstrated in Table 2.11, are reducing your anxiety, encouraging yourself, making one's emotional temperature including 8 tactics like: using relaxation techniques, e.g., breathing, laughter, and music, encouraging oneself to work on one's pronunciation, encouraging oneself to speak in the TL, rewarding oneself for success or effort put in pronunciation learning, Listening to one's body, having a sense of humor about one's mispronunciations, analyzing one's feelings connected with pronunciation learning, discussing feelings with others. Examples of the affective strategies can be as follows:

1. I try to relax whenever I feel afraid of reading aloud or speaking in English.

2. I encourage myself to speak English even when I am afraid that my pronunciation is not good.

3. I encourage myself to work on pronunciation even when I think that something is too difficult for me or when I do not feel like learning.

Tables 2.11. Classification of Affective PLSs Adopted from Calka (2011)

Indirect PLS – Affective Strategies		
Affective strategies	Tactics (questionnaire item)	item
A. Reducing your anxiety	1.Using relaxation techniques, e.g., breathing, laughter, and music (53)	53
B. Encouraging yourself	1. Encouraging oneself to work on one's pronunciation (55)	55
	2. Encouraging oneself to speak in the TL (54)	54
	3. Rewarding oneself for success or effort put in pronunciation learning (56)	56
C. Taking one's emotional temperature	1. Listening to one's body (57)	57
	2. Having a sense of humour about one's mispronunciations (58)	58
	3. Analysing one's feelings connected with pronunciation learning (59)	59
	4. Discussing feelings with others (60)	60

4. I give myself a reward or treat when I have worked hard on pronunciation.

5. I notice if I am tense or nervous when I am learning English pronunciation or speaking English and I try to relax.

6. I use a sense of humor about my mispronunciations.

7. I analyze my feelings connected with learning pronunciation.

8. I talk to someone else about how I feel when I am learning pronunciation.

2.3.4.1.6. Social Strategies

Social strategies, as indirect strategies, focuses on social interactions and "help learners work with others and understand the target culture as well as the language" (e.g., asking questions to get verification, asking for clarification of a confusing point, asking for help in doing a language task, talking with a native-speaking conversation partner, and exploring cultural and social norms) (Oxford, 2003: p.13-14). The strategies also reported to have significant association with L2 learning proficiency (Oxford & Ehrman, 1995; Dreyer & Oxford, 1996). The social pronunciation learning strategies, in the taxonomy, as represented in Table 2.12, are asking questions, cooperating with others including 4 tactics like: asking for help, asking for correction, cooperating with peers and/ or advanced users of the TL, and peer tutoring. Examples of the social strategies can be as follows:

1. I ask English speakers to correct my pronunciation when I speak.

2. I ask others for help if I do not know how to pronounce a given sound or word.

3. I learn pronunciation with other students, friends.
4. I help others in learning pronunciation.

Tables 2.12. Classification of Social PLSs Adopted from Calka (2011)

Indirect PLS – Social Strategies		
Social Strategies	Tactics (questionnaire item)	item
A. Asking questions	1. Asking for help (62)	62
	2. Asking for correction (61)	61
B. Cooperating with others	1. Cooperating with peers and/ or advanced users of the TL (63)	63
	2. Peer tutoring (64)	64

In this section, I talked about Calka's taxonomy of pronunciation learning strategies, and I introduced the items used in the inventory to measure the prospective English teachers' use of strategies with respect to foreign language pronunciation leaning. In the following part, I will try to cover how strategic pronunciation learning can lead to success in good pronunciation and achievement.

2.3.5. Achievement and Language Learning Strategies

It is extremely investigated and reported by various scholars that learning strategies play a significant role in making language learning more efficient and effective (Wenden and Rubin, 1987; O'Malley & Chamot, 1990; Oxford, 1990; Chamot & O'Malley, 1994). These studies along with a myriad of others (e.g. Rubin, 1975; Naiman, Fröhlich, Stern, & Todesco, 1978; Wenden & Rubin, 1987; Weinstein, Goetz, & Alexander, 1988; Ehrman, and Oxford, 1989; Cohen, 1990; O'Malley & Chamot, 1990; Pressley & Associates, 1990; Oxford, 1990; Nunan, 1991; Oxford, 1993; Green & Oxford, 1995; Oxford, 1996b; Park, 1997; Chamot, Barnhart, El-Dinary & Robbins, 1999; Bruen, 2001; Lee, 2003; Griffiths, 2003; Anderson, 2005; Khalil, 2005; Fuping, 2006; Shmais, 2003 Hong, 2006; Yang, 2007; Magogwe & Oliver, 2007; Ya-Ling, 2008; Deneme, 2008; Rahimi *et at.*, 2008; Khamkhien, 2010; Moradi, 2011; Moradi & Sarıçoban, 2012) have also reported that use of learning strategies result in a positive effect on students' proficiency and achievement in foreign language learning. In light of such remarkable association between use of learning strategies and positive learning outcomes, it is not surprising that students who frequently employ learning strategies enjoy a high level of self-efficacy, that is, a perception of being effective as learners (Zimmerman & Pons, 1986; Bandura, 1997; Chamot & Kupper, 1989; Oxford, 1999).

From cognitive perspective, learners' cognition comprises the process of attention (Grabe, 1986); enable the learners to manipulate the language material in direct

ways (Oxford, 1999, 2003); activate learners' critical thinking (Halpern, 1997; Nickerson, Perkins, & Smith, 1985), organize information in memory (Pressley & Associates, 1990; Anderson, 1995; Craik & Lockhart, 1972); and leads to the learners' achievement (Kato, 1996; Ku, 1995; Oxford and Ehrman, 1995; Oxford, Judd, & Giesen, 1998; and Park, 1994). In addition, from a constructivist point of view, "the development of conceptual understanding and of cognitive skills and strategies is a central aim of education, rather than the acquisition of factual information" (William and Burden 2000: p.24). Use of learning strategies can enable students to become more independent, autonomous, lifelong learners (Allwright, 1990; Little, 1991). Foreign language education, then, should increase L2 learners' consciousness about learning strategies and how to use the strategies effectively (e.g. Nyikos & Oxford, 1993; Oxford & Leavers, 1996).

Various empirical research studies resulted in significant relationship between use of learning strategies and achievement (e.g. Zimmerman & Pons, 1986; Pressley & Associates, 1990), and that the students who use learning strategies largely enjoy their self-efficacy (Zimmerman & Pons, 1986). It is also mentioned by a number of scholars (e.g. Naiman, Fröhlich, Stern, & Todesco, 1975; Rubin, 1975, Oxford, 2003) that successful language learners are those students who consistently use a large amount of various learning strategies. Nunan (1991), for instance, in a research study found that successful language learners, comparing to the less effective L2 learners, used a large amount of learning strategies. He, in addition, asserted that more effective learners had greater ability to reflect on and articulated their own language learning processes. Park (1997) also reported positive significant relationship between LLSs and proficiency. Additionally, in his study, cognitive and social strategies were more predictive of scores than other strategies.

2.3.5.1. Pronunciation Learning Strategies and Success in Pronunciation

During the last three decades, there has been a myriad of research investigating the effects of learning strategies use on language learners' success in L2 learning. Unfortunately, while there is a growing number of empirical research studies with regard to general language learning strategies, there is few number of studies regrading pronunciation learning strategies. In addition, the studies were conducted in so much limited ways. In this respect, there is a single study (Rasekhi, 2009) conducted among Iranian students, and four studies (Berkil, 2008; Hişmanoglu, 2012; Akyol, 2013; Erbay et al, 2016) conducted among Turkish students.

Berkil (2008) conducted a comprehensive investigation among 40 Turkish EFL learners with regard to use of pronunciation learning strategies. The results of the study revealed no significant relationship between pronunciation learning strategy use and pronunciation ability. The study further suggested that the use of all types of pronunciation learning strategies in concert with one another would increase their effectiveness upon learners' second and foreign language learning ability.

Rasekhi (2009) in an investigation among 46 Iranian EFL learners with different first language background examined L2 learners' strategy use and their pronunciation needs. The findings revealed that most of the learners need prosodic features of pronunciation more than segmental. They mostly preferred to use strategies like paraphrasing, asking a native speaker, and using media (TV and radio). The L2 learners stated their willingness to take pronunciation classes if they were offered.

Hişmanoglu (2012b) in an investigation of pronunciation learning strategies among 38 advanced EFL learner in Turkey found that metacognitive strategies were the most frequently used strategies; whereas, social strategies were the least amount of strategies applied by advanced learners of English. The results of the research study also revealed that there was a significant difference between successful and unsuccessful advanced L2 learners of English in terms of two metacognitive and affective strategies with regard to pronunciation learning.

Akyol (2013) conducted a research among 82 Turkish EFL learners in English language teaching department at a university in Turkey. The overall findings of this study consistent with previous studies conducted in different conditions (Ellis and Sinclair 1989; O'maley and Chamot 1991; Peterson 2000; Berkil's 2008) suggest that all students use each type of pronunciation learning strategies. However, the results provide a different view towards pronunciation strategy use. The study revealed that students used all kind of pronunciation learning strategies as reported: memory strategies (M=2.94), affective strategies (M=2.89), compensation strategies (M=2.88), metacognitive strategies (M=2.88) and lastly cognitive strategy (M=2.85).

Erbay et al (2016), using Calka's Taxonomy of PLSs, conducted a research among 56 Turkish EFL learners in Karadeniz Technical University to find out the strategies employed by L2 learners to learn foreign language pronunciation. Their findings

revealed that the L2 learners most frequently used cognitive, metacognitive and memory strategies, and less frequently used social, compensation and affective.

Rokoszewska (2012) investigated the influence of pronunciation learning strategies on mastering English vowels among 66 first-year students of an English department who completed their pronunciation course without any strategy-based instruction. He conducted that the first-year students of the English department use PLSs rather occasionally. They mostly used more of the indirect strategies such as metacognitive, affective, and social strategies. With respect to direct strategies, students mostly used cognitive strategies, whereas in the group of indirect strategies, they largely applied metacognitive strategies.

Mahmood Mohammad (2014) conducted an investigation to study the use of pronunciation learning strategies among 40 last-year EFL university L2 learners. The results of the investigation showed that the L2 learners seem to use all pronunciation learning strategies but in different degrees. Input/practice strategy seemed to be very much used because it ranked among the first ten strategies according to the students' choice. Adapting these strategies with Calka's taxonomy of pronunciation learning strategies it is somehow possible to say that the L2 learners mostly used direct strategies like cognitive and memory strategies more than other types of strategies.

Abu Radwan (2011) conducted a research to investigate the use of language learning strategies among 128 EFL students. The results of the study revealed that the students used metacognitive strategies significantly more than any other category of strategies, with memory strategies ranking last on students' preference scale. Moreover, more proficient students used more cognitive, metacognitive and affective strategies than less proficient students. It was also found that use of cognitive strategies was the only predictor that distinguished between students with high GPAs and those with low GPAs. Finally, he conclude that the EFL cultural setting may be a factor that determines the type of strategies preferred by learners.

2.4.   Motivation Types and Language Learning Strategies

Central issue to language learning motivation, in SDT, and language learning strategies is self-regulation and autonomous learning. L2 learners who are self-regulated put their own effort to "direct their own learning by setting goals, planning how to achieve them, monitoring the learning task, using learning strategies to solve

problems, and evaluating their own performance" (Chamot, 2014: p.78). Self-regulation, then, involves self-management (Rubin, 2001, 2005); learning strategies (Cohen, 2011; Oxford, 2011; Chamot, 2013; Griffiths, 2013), metacognition (Anderson, 2008; Chamot, 2009; Vandergrift & Goh, 2012), motivation (Dörnyei & Ushioda, 2011), and autonomy (Cotterall, 2008; Benson, 2011). From the point of view that motivation and learning strategies share such crucial property, there should be meaningful relationships between L2 learners' motivation types, in SDT, and language learning strategies. In addition, motivation is stated to be an essential element of strategic behavior and a forefront of use of strategies (e.g. Weinstein, C et al., 1988). These assertions together lead scholars to scrutinize more about the relations between motivation and learning strategies.

Ehrman and Oxford (1989), for example, discovered that career choice had a major effect on language learning strategy use; a finding which, they suggestd, may be the result of underlying motivation. Later on, so many other studies have identified the significant relations between L2 learners' motivation and their use of language learning strategies (e.g. Oxford, 1990; Oxford & Nyikos, 1993; Ellis, 1994; Wen & Wang, 2004; Vandergrift, 2005; Dornyei & Csizer, 2005). They asserted that highly motivated learners use more proper and relevant strategies than those less motivated learners, both L2 motivation and strategy use are closely related to the learners' goal of language learning, and provides a meaning situation to facilitate their success in foreign language learning (Oxford, 1990; Oxford & Nyikos, 1993; Ellis, 1994; MacIntyre & Noels, 1996; Okada, Oxford, & Abo, 1996; Mochizuki, 1999; Wharton, 2000; Schmidt and Watanabe, 2001; Wen & Wang, 2004; Luo, Jian & Wang, 2004; Park, 2005; Dornyei & Csizer, 2005; Ge, 2006; Xu, 2012; Khodashenas et al, 2013).
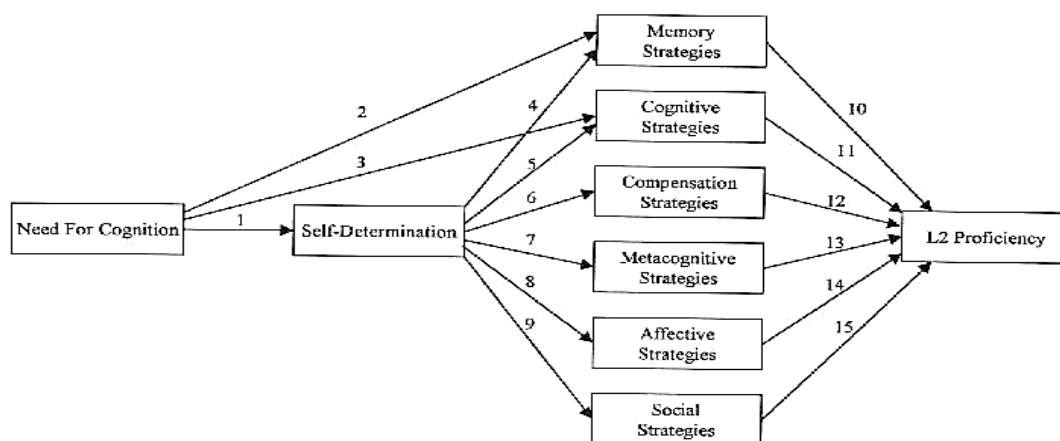
Figure 2.19. Cognition and Motivation Affects Use of Learning Strategies

As represented in Figure 2.19, there is a general consensus among researchers that L2 learners who are more motivated tend to use a wider range of learner strategies and to use these strategies more frequently. In the following section, I will present some significant current research studies regarding types of motivation and use of learning strategies.

Chang (2005) conducted a research to study the relationship between motivation types and language learning strategies among a total of 307 EFL learners in Taiwan. The findings of the study showed that both intrinsic motivation and identified motivation significantly correlated with all of the four strategies. Besides, cognitive strategies were found to be correlated to five motivation types, which revealed that cognitive strategies might be a crucial element for learners with both intrinsic and extrinsic motivation, and it may in turn contribute to learners' SLA.

A research study conducted by Ziahosseini and Salehi (2008) in Iran among EFL learners reveled that there was not meaningful correlations between extrinsic motivation and use of language learning strategies. They reported that Iranian EFL learners were intrinsically motivated. They also found that there was not necessarily a significant relationship between the degree of motivation and choice of language learning strategies.

Bonney et al. (2008) found that identified intrinsic motivation and integrative motivation both were found to be significantly correlated with strategy use. They concluded that either intrinsic motivation or integrative motivation can serve as initial predictor of strategy use. In line with this study, Ushioda (2008) found that intrinsically motivated learners are likely to display much higher levels of involvement in learning, and use a wider range of problem solving strategies.

Moradi (2011) among 800 EFL learners found that autonomous motivated learners used more strategies than controlled motivated learners, so that in a continuum from high external regulation to high autonomous intrinsic regulation, L2 learners' use of learning cognitive learning strategies largely increased.

Nikoopour et al (2012) conducting an investigation among 72 EFL learners in Iran found that intrinsic regulation was significantly related to cognitive and metacognitive strategies, integrated regulation was negatively correlated with memory and affective language learning strategies, and introjected motivation was negatively correlated with cognitive strategies. Moreover, it was found that Iranian

L2 learners were mostly intrinsically motivated, and used metacognitive strategies more frequently than other types of strategies.

Chang (2012) among 163 university found that among the six categories of strategies, metacognitive and cognitive strategies were found to have higher correlations with motivation, while compensation strategies had lower correlations. The frequency of strategy use had a highly significant and positive correlation with motivation.

Unfortunately, while there is an ample amount of research studies conducted with regard to motivation and general language learning strategies, there is not even a single research to reveal how motivation types and pronunciation learning strategies interrelate when acquiring a near-native-like pronunciation is the matter, which is one of the main purposes of the present research.

2.4.1. Role Motivation and Pronunciation Learning Strategies on Interlanguage

Interlanguage is a separate linguistic system that develops by an L2 learner and links to both L1 and L2. A central characteristic of any interlanguage is fossilization, in which the process of interlanguage stops developing, permanently or temporarily. While young learners, especially children in early years of puberty before the age of five, have the ability to revise and re-engage the Language Acquisition Device (LAD) and automatically avoid fossilized errors, adults' L2 learning is at the risk of fossilization. Selinker (1972), the American linguist who first introduced the term "interlanguage" (IL), asserts that adults acquiring a second language rather than using a LAD benefit from a latent psychological structure. He is in the belief that "certain items, rules, or subsystems that are not fully congruent with the target language can become a permanent part of the learner's interlanguage, resistant to further instruction or explanation" (Selinker 1974, pp 118-119). There is no doubt that such obstacles, if not taken into consideration, can inhibit L2 learners' overall proficiency in the target language, especially interlanguage phonology, and cause fossilization.

The source of interlanguage errors is defined as a result of negative L1 transfer (interference), learning strategies, communication strategies, overgeneralization of target language phonology rules (Selinker, 1972), "age, lack of desire to acculturate, communicative pressure, lack of learning opportunity, the nature of the feedback on learner's use of L2" (Ellis, 1994, p. 354), motivation, self-confidence, anxiety, input

(lack of access to comprehensible input or sociolinguistic norms), affective domain (Krashen, 1982b; Klein, 1986; Ellis, 1999; Selinker, 2006; Han, 2009). The other source of errors can be categorized as learners' own defensive approach to learning materials, strong identity to L1 and negative view towards L2 identity and L2 culture; lack of need for native-like ability in target language; lack of access to authentic materials and native-speech community, being beyond the sensitive period of interlanguage phonology, lack of attempt to communicate with native speakers of the target language, lack of attempt to use technology and listen to native speakers, etc. At the center of the sources of interlanguage errors, especially interlanguage phonological errors, is the role of motivation and use of learning strategies, and even L2 motivation can be considered as primary one. Klein (1986) and Kambon (2005) view lack of appropriate motivation as a major factor leads to stabilization in interlanguage and fossilized errors.

On the basis of the nature of motivation in self-determination theory, L2 learners are active agents in their own learning and overcoming interlanguage obstacles to the extent to which their behavior and contribution in an activity is self-determined. Accordingly, L2 learners' behaviors can be characterized from high controlled motivation to high autonomous motivation. L2 learners with autonomous motivation (intrinsic, integrated, and identified regulations) have self-determined goals, positive attitude towards target language, sense of self-confidence, lack of anxiety or low level of anxiety, self-determined use of learning strategies, sense of self-regulation, and sense of autonomous learning. Contrary to this position, L2 learners with controlled motivation (introjected and external regulations) are mostly other-regulated, have low level of self-confidence, high level of anxiety, negative attitude towards target language, and mostly use learning strategies as a result of others-determination rather than self-determination. In fact, in the second situation, the extent to which external factors such as teachers, peers, curriculum, and materials contribute to the development of interlanguage, learning context will be considered as a result of controlled extrinsic motivation. In this position, contrary to autonomous intrinsic motivation and autonomous extrinsic motivation, students mostly prefer relying on others' help. In other words, rather than learn how to fish they prefer others fish for them. L2 learners with such characteristics like immigrants may try to learn a target language just to function or perform daily tasks. They have less or no desire to lose their L1 identity and such motivation may result in a competency so

much far from near-native-like pronunciation, like pidginized speech and accordingly lead to fossilized errors (Yokochi, 2003).

According to SDT, then, both intrinsic and extrinsic motivations can result in the development of L2 learners' interlanguage, if the nature of motivation receives a level of autonomy rather than control. From the point of view that the nature of motivation is dynamic and feasible to change it is possible to help L2 learners a step towards autonomous motivation. When students are autonomously motivated they feel high level of self-esteem and self-confidence and low level of anxiety, as a result, they find themselves as active agents in their own learning. In other words, they surf the reasons of learning in self.

Krashen (1982b: p.24), on the basis of his affective filter hypothesis, asserts that "people with certain personalities and certain motivations perform better in second language acquisition, and also that certain situations are more conducive to second language acquisition". He, in addition, adds that "low-anxiety situations are more conducive to language acquisition than high-anxiety situations, and that people with high self-confidence and self-esteem acquire faster than those without these characteristics". This assertion implies that Krashen (1982b) also views motivation along with L2 learners' sense of self-esteem, self-dependent and anxiety as significant factor on their interlanguage development. In addition, his affirmation confirms that L2 learners with autonomous motivation do better and faster than counterparts with controlled motivation.

There is no doubt that if L2 learners are not able to articulate the phonological features of target language speech well enough to be understood, communication is at risk and may very well break down. In this part, I will try to posit how L2 learners' autonomous motivation (intrinsic, integrated, and identified regulations) as an underlying energizing force and use of correct strategies can affect other factors of fossilization in interlanguage continuum; however, since the focus of the present research is on pronunciation motivation and use of pronunciation learning strategies, I will just try to cover errors regarding interlanguage phonology.

Central to interlanguage phonology is use of interference strategy, in which L2 learners regarding foreign accent such as stress, rhyme, intonation and even speech sounds try to benefit more from their first language. This incorrect use of L1 phonological properties in L2 can be as a result of lack of L2 knowledge, lack of

access to L2 community, lack of motivation to learn and get closer to target language norms, highly dependent in L1 identity, being beyond sensitive periods for phonology acquisition (Van Patten, 1985; Han, 2004).

The other problem regarding interlanguage phonology can be use of avoidance strategy, in which L2 learners avoid using some phonological features that are more different from their first language. Avoidance can also be as a result of small details in some phonological features of both languages, where students are not competent enough to distinguish the significant difference, accordingly, they avoid using the features of the target language. Imagine the case that Turkish and Iranian L2 learners most often prefer using /s/ instead of /θ/. This problem can be as a results of lack of ability to distinguish the difference between these two sounds, lack of attempt to articulate correct form of /θ/ sound since producing /θ/ for Turkish and Iranian L2 learners is more difficult, because of atrophy of nerves and muscles necessary for articulation of the consonant sound, and lack of enough motivation to learn its correct form of articulation.

Turkish and Iranian EFL students have serious problems regarding interlanguage phonology. Some phonological problems are the same both among Turkish and Iranian students, like articulating /θ/, /ð/, /w/, /ŋ/, /æ/, /ə/, /e/, /ɔ/ etc. It is often heard that Turkish and Iranian students say "*Thank* [sænk] *you*" or "[tænk] you]" instead of "*Thank* [θæŋk] *you*", "They [dei] are" instead of "They [ðei] are", and "Very [vɛri] well ['vɛl]" instead of "Very ['vɛri] well [wɛl]", etc. In some cases they react differently, Turkish students mostly add /shwa/ after /s/, and Iranian students add /i/ before /s/, like in school. While Turkish students mostly articulate /səkul/, Iranian students mostly say /iskul/. There are some minimal pairs that Turkish students may have no problem but Iranian students more often have difficulties, like producing short /ɪ/ and long /i/, i.e. seat and sit, eat and it, heat and hit, sheep and ship etc. When such phonological errors are repeatedly made and eventually stay stable in the incorrect manner, phonological fossilization occurs. Demirezen (2010) is in the belief that arousing students' motivation and applying minimal pairs contrast can be considered as beneficial strategy use to cure these types of pronunciation mistakes.

One other main factor that may influence the development of interlanguage phonology is lack of authentic input and L2 learning anxiety. The role of learning context (i.e. the teacher, materials, curriculum, learning tasks etc.) is to create a degree of autonomous extrinsic motivation (if intrinsic motivation is not present) by

providing authentic texts, comprehensive input and detracting from L2 learners' level of anxiety. "Affective factors" in fact "determine the effort a student makes in and out of the classroom to obtain input and to use the language for communicative purposes" (Schulz, 1991 p. 18). According to Krashen's (1982b: p. 25) affective filter hypothesis, when L2 learners are not autonomously motivated they are other-dependent, have a high level of anxiety, and find themselves in "tense situations" that a state of defensive filter goes up keeping the input from getting in or out. In such situation, in fact, a kind of "mental block" appears, which can cause phonological freezing in interlanguage continuum. What Krashen's (1982) affective filter hypothesis insists is that "the more we do to lower the filter, i.e., the more our classes are low-anxiety, the better off our students will be" (p. 25). On the basis of such allegation, comprehensive input is necessary but it is not sufficient. What L2 learners need is comprehensible input, a low level of filter, a low level of anxiety so that they can focus on the message and not on the form. Providing such situations can contribute to the development of interlanguage phonology. However, the significant point here is that if pedagogy only expects teachers to provide an environment with low level of anxiety, it may bring a situation that L2 learners apply affective domain as a defensive strategy in language learning. Such situation can cause uses of ineffective strategies for language learning and communication. Kambon (2005) is in the belief that "the extent to which extrinsic motivational factors have an effect upon the affective domain and the developing interlanguage of the student, positively or negatively, can be attributed to the strength of intrinsic motivational factors such as beliefs of self-confidence, goals, purposes, expectations and learning strategies" (pp. 4-5).

Schulz (1991) asserts that "the speakers of a pidgin language fossilize at a relatively early stage of interlanguage development because they receive insufficient input and lack the motivation" (p. 19-20). This may especially be the case with L2 learners in and out of classroom learning situations and may result in an underdeveloped interlanguage, especially in cases in which excessive communication strategies are allowed in the learning situation. In such situations, "students may find themselves at a loss for words due to their imperfect knowledge of the target language" phonology or communication. Since the students are not familiar with appropriate L2 phonology features, communication strategies and use of the strategies to communicate, errors from the heavy communication demands can result in damage

in interlanguage phonology and communication development. When communication demands are out of L2 learners' potential abilities, they rely on using incorrect "strategies like approximation, word coinage, circumlocution, translation, language switch, appeals for assistance, and mime, or else abandon their message altogether or choose to avoid the topic" (Tarone 1978, 1980, p 429). Using such incorrect strategies can extremely attribute to L2 learners' lack of self-confidence, lack of self-esteem, and lack of autonomous motivation. Such students with lack of autonomous motivation have no specific goal for learning, are not present, though, physically they are seen in classroom, are waiting for teacher or others fish for them rather than learn how to fish; accordingly, these students waiting for the teacher to finish the utterance rather than learn how to produce the utterance. When such situations form, the process of development in interlanguage break down, and this stabilization may lead to fossilized errors.

Lack of attention to communication demands and target language phonological features can also create situations with lower standards of L2 norm, in which L2 learners may feel that it is not so important if they use their L1 sounds and other communication or phonological features. When this is the case, a kind of "classroom dialect" or "group dialect" is in progress which is closer to standards of L1 norm rather than the standards of L2 norm (Plann 1976). "The role of the [autonomous] extrinsic motivation", in such cases, "is to raise the standards to which the learner aspires. When this is not done, it leads to a terminal profile in learner interlanguage" (Kambon, 2005: p.5). Dulay, et al (1982) assert that "the positive affective makeup of the learner is the most important factor in allowing for approximation to any second language norm or set of norms" (p. 72). This assertion implies that the degree to which L2 learners have autonomous intrinsic motivation and the extent to which learning context (i.e. the teacher, materials, curriculum, learning tasks, peers, etc.) provides autonomous extrinsic motivation in L2 learners will be helpful for interlanguage development and will provide opportunities for L2 learners to improve their phonology accuracy, fluency, and proficiency in the L2.

Schumann's (1986) acculturation model also explains how social and cultural distance between L2 learner and target language community can facilitate of hinder the development of interlanguage phonology. L2 learners' positive psychological distance can act as a help to facilitate the process of interlanguage development if learning context provides opportunities for the L2 learners to have a level of

autonomous motivation and ego permeability regarding the task at hand and if the L2 learners neither encounter cultural shock nor culture stress (Schulz 1991). Learners with high autonomous motivation to learn the language for certain purposes and to achieve certain goals were found to be far more successful developers of their interlanguage. Further, intrinsic motivational factors such as high expectations of individual effort in learning the language as well as high motivation to develop useful strategies to learn the language were found to be important predictors of interlanguage development. Thus intrinsic motivation includes the learner's own previously established goals and sense of self-efficacy or one's judgment of how well one can execute courses of action required to deal with prospective situations (Oxford and Shearin, 1994).

2.5. Factors Affecting Learner's Motivation Types and Use of Strategies

It is an ingrained belief among scholars that motivation and use of language learning strategies have significant role in L2 learners' success in acquiring the target language. However, beside such an ingrained belief it is also reported by numerous researchers that there are so many factors to influence the L2 learner's motivation and use of learning strategies. From the main important factors, below, I will just make a review of some empirical studies dealing with the influence of variables such as gender, being resident and length of resident in native English speaking countries, and nationality on motivation types and the use of language learning strategies.

2.5.1. Gender

It is generally believed that inborn gender differences carries some linguistic differences. As such we can call females learn to speak earlier than males (Zhuanglin,1989), and females learn an L2 better and faster than males, and females are better than males both in second and first language acquisition etc. (Larsen-Freeman & Long, 1991). Following this ingrained belief, there might be significant differences between male and female with regard to L2 learners' motivation and use of learning strategies; however, studies show that gender difference in L2 motivation and language learning strategies is a much more complex phenomenon. Most studies which have investigated the relationship between gender and L2 motivation as well as the relationship between gender and strategy use have come to mixed conclusions.

While some studies reported gender difference regarding the use of language strategies in the case of that female L2 learners mostly used more memory strategies (e.g. Oxford & Nyikos, 1989; Green & Oxford, 1995; Khalil, 2005; Kavasoğlu, 2009), more cognitive strategies (e.g. Moradi, 2011; Mochizuki, 1999), more compensation strategies (e.g. Oxford & Ehrman, 1995; Mochizuki, 1999), more metacognitive strategies (e.g. Green & Oxford, 1995; Dreyer and Oxford,1996; Mochizuki, 1999; Khalil, 2005; Kavasoğlu, 2009), more affective strategies (e.g. Green & Oxford, 1995; Mochizuki, 1999; Hong-Nam & Leavell, 2007; Zeynali, 2012), more social strategies (e.g. Ehrman & Oxford, 1989; Oxford & Nyikos, 1989; Green & Oxford, 1995; Dreyer & Oxford,1996; Mochizuki, 1999; Kavasoğlu, 2009; Zeynali, 2012), more conversational, interactional, and input strategies (e.g. Politzer, 1983; Oxford & Nyikos, 1989), and more learning strategies of all six types (e.g. Peacock & Ho, 2003; Oktay, 2009) than their male counterparts; some other investigations (e.g. Tercanlioğlu, 2004; Aydoğan & Akbarov, 2014; Abu Radwan, 2011; Park & Brian, 2011) reported that male L2 learners used more learning strategies than their female counterparts. Also, some other studies (e.g. Ehrman & Oxford, 1990, Bedell, 1993; Hashim & Sahil, 1994; Wharton, 2000; Griffith, 2003a; Shmais, 2003; Nisbet, Tindall, & Arroyo, 2005) could not find any gender differences.

Regarding the notion of gender differences in motivation, Russilo and Arias (2004) report that they found significant difference between male and female in extrinsic motivation. The results revealed that female were more extrinsically motivated than male; however, they could not find gender differences in intrinsic motivation. In another study conducted by Anderman and Anderman (1999) findings showed that female show a greater intrinsic motivation, while male show a greater degree of extrinsic motivation.

Kaylani (1996) conducting a research study among Jordanian EFL students found that male students in Jordan tended to be more integratively motivated while females were instrumentally motivated. On the opposite side of this study, Mori & Gobel's (2006) and Ghazvini & Khajehpour (2011) in different studies reported that female learners were more integratively motivated while the male learners were more instrumentally motivated.

With respect to motivation intensity, it was reported that female L2 learners are superior. Williams, Burden, & Lanvers (2002), Sung & Padilla's (1998), Dörnyei et

al.'s (2006), and Ghazvini & Khajehpour's (2011), for example, found that females had a higher level of L2 motivation than males.

In a research conducted by Polat (2011) among Kurdish learners of English in Turkey, contrary to above mentioned studies, it was found that the male participants scored significantly higher on two motivational regulations, identification and integrated regulations. The results of the study revealed that the male participants were autonomous learners then female.

The contradictory results reported in literature with regard to gender differences in motivation types and use of strategies may best be defined through social environmental factors rather than mainly neurobiological differences. Some researchers used the learner's immediate learning and social environment to explain these differences. Kobayashi (2002), for example, explained that Japanese female learners' high motivation in learning English was affected by Japanese society. Ryan (2009) confirming the social factor identified by Kobabyashi (2002) asserts that female Japanese learners are positive in learning English due to the belief that using English to express themselves they feel more freedom than using Japanese since a Japanese language is a feminine language. Williams et al. (2002) and Dörnyei et al. (2006) also in different research studies explained motivational gender differences as a result of social and societal factors rather than neurobiological differences. The researchers explained that the male learners scored lower than the females on the motivation toward learning French was due to the general societal perception that French was seen as a feminine language.

2.5.2. Nationality

Politzer & McGroarty (1985) and O'Malley (1987) conducted two different research with the aim of investigating nationality differences regarding the use of learning strategies and success in foreign language learning. Politzer & McGroarty (1985) found that Asian good language learners comparing to Hispanic students used fewer strategies. Hispanic good language learners were reported to use various strategy categories more frequently than Asian counterparts. O'Malley (1987) also reported the lack of success of Asian students to the persistence of familiar strategies. Bedell and Oxford (1996) among 353 Chinese EFL university students found that compensation strategies were the most frequently strategies used by the L2 learners. The researchers also reported that even when Chines students studied English in Taiwan and US they mostly relied on compensation strategies.

Griffiths & Parr (2000) conducted a nationality-related research study among EFL learners from different countries. The results of their study showed that European students used language learning strategies significantly more often than other L2 learners from other nationalities. It was also reported that 15 European students were also working at a significantly higher level than the counterparts from other nationalities.

Later, Griffiths (2003a) in another research study which involved a total of 348 students aged 14-64, examining the effect of age, course level, nationality, and gender on the use of LLSs found that neither age nor gender was significantly related to strategy use, she did find differences according to nationality.

Moradi (2011) and Moradi & Sarıçoban (2012) conducted an investigation among 800 Iranian and Turkish EFL university learners with the aim of determining relationship between motivation types and use of cognitive strategies. The results of their study revealed that there was significant nationality differences. Although, both Iranian and Turkish L2 learners' were positively autonomous motivated and used variety of cognitive strategies, but Iranian students' motivation and use of learning strategies were significantly reported more than Turkish counterparts. It was reported that the significant difference might be as a result of nationality as well as societal differences.

2.5.3. Being Resident in Native English Speaking Countries

Residency in native speaking countries as a situational and environmental factor can affect motivation level and use of strategies. Researchers have mostly stated that the development of learning strategies (e.g. Norton & Toohey, 2001; Gao, 2006) and motivation (e.g. Dörnyei & Csizér, 2005; Deci, & Ryan, 2012b; Deci, Ryan, & Guay, 2013b; Dörnyei, MacIntyre, & Henry, 2014b; Deci, & Ryan, 2014b) are largely influenced as a result of social and environmental contexts. From this perspective, motivation and "strategies are linked both to specific cognitive activities and also to social communities in which they occur" (Cohen & Macaro, 2007: p.76).

Opportunity to use target language in its natural context is considered as one of main factors to contribute to good pronunciation in foreign language (Brown, 2008; Rogerson-Revell, 2011). Being in native-speaking countries will provide opportunities for L2 learners to be in exposure of target language in real situations and to feel a need to converse with native speakers of the language (Purcell and

Suter, 1980). Moyer (2004) is in the belief that having direct interaction with native speakers of a target language can play a significant role in developing the sound system of the target language in L2 learners. That is, being in a native speaking country, having exposed to the target language in an authentic context, and seeking to communicate with native speakers of the target language can contribute to a higher level of L2 pronunciation attainment.

2.6. Conclusion

This chapter provided background information on motivation, and use of pronunciation learning strategies, different approaches and theories associated with these constructs. As seen, ample evidence is available indicating that both motivation and use of learning strategies have effect on L2 learners' success in L2 learning if L2 learners follow autonomous oriented motivation and use a correct combination of pronunciation learning strategies. However, there has been a big gap in conducting research to explore the relationship between pronunciation motivation and use of pronunciation learning strategies on one hand, and their effect on L2 learners' overall academic pronunciation achievement, on the other hand. In this respect, most of research mainly focus on L2 learners' general language motivation and use of general language learning strategies, and unfortunately, there is no evidence regarding pronunciation motivation, especially on the basis of self-determination theory, and there is so much less evidence regarding pronunciation learning strategies as specific sub-skill strategy. This may be attributed to the fact that pronunciation learning, especially in Turkey and Iran, has not received so much attention yet, and that education has not focused on learner autonomy. In addition, motivation on the basis of self-determination theory, in ELT, has received so much less attention and there is a big gap.

Despite the fact that L2 learners' lack of pronunciation motivation and incorrect use of pronunciation learning strategies can cause so much interlanguage phonological errors, there is not so much attention to the fields of study. L2 motivation, especially extrinsic motivation on the basis of self-determination theory, has received a general attention. While extrinsic motivational factors paly significant role in facilitating foreign language learning context, there is a great lack of evidence to modify and clarify "how", "where", and "when" extrinsic motivation can be effective or ineffective. This may be attributed to the fact that the research on L2 motivation has not received a comprehensive picture of motivation in self-determination theory, and how sub-

theories of self-determination theory compose its underlying foundation. L2 motivation on the basis of self-determination theory is more effective if it receives a level of autonomy rather than control. Controlling factors, then, if do not provide L2 learners to go towards autonomous oriented motivation, not only they will not help L2 learners facilitate their learning process but also they will cause lots of interlanguage obstacles.

It was also argued that L2 learners' use of learning strategies can provide a meaningful situation for the learners to handle their learning process and enjoy their learning. It is believed that education should help L2 learners develop proper knowledge about learning strategies. This can encourage L2 learners to be aware of their existing strategies and the choice of strategies they can make with new tasks and activities.   However, it is remarkable to indicate that L2 learners need to be aware of the fact that strategic learning has a crucial role in their learning process, and that a single strategy will not be effective if it is not used in combination of other relevant correct strategies, if it is not relevant to the task at hand, and if it is not relevant to their learning styles.

One of main problems that language education deals with is that self-determination theory has not applied carefully to foreign language education yet. Despite the fact that self-determination theory has such a powerful potential to explain the nature of L2 motivation, foreign language education, especially English language field, has not received its importance and in this respect, there is a big gap in L2 motivation. Most of studies in L2 motivation have been focused on integrative and instrumental motivation, and motivation on the basis of self-determination theory has received so much less attention. If there is a study, it is so much limited. Regarding foreign language pronunciation learning motivation, especially in Turkey and Iran, there is not even a single research study. This may because of the fact that research in the field is not familiar with the potential role of self-determination theory.

To conclude, the author, to fill in the gap, attempted to scrutinize L2 motivation from different perspectives, and tried to draw a comprehensive picture of self-determination theory and its sub-theories in L2 education. Meanwhile, the author tried to show how L2 motivation on the basis of different sub-theories of SDT can facilitate or hinder the development of interlanguage phonology. In addition, in L2 literature, there was not even a single pronunciation motivation inventory, the author attempted to design a valid, liable, and comprehensive pronunciation motivation

inventory, on the basis of SDT, while all phonological features of L2 pronunciation learning have been considered. The author also attempted to shed light on the view that how both types of intrinsic and extrinsic motivation are interrelated and how they can play crucial role in L2 learners' success in foreign language pronunciation learning, how extrinsic motivation, which is at the center of education, in a continuum from high controlled regulation to high autonomous regulation can detract or improve L2 learners' success in learning a near-native-like pronunciation, how education can play a crucial role to keep L2 learners' authentic intrinsic pronunciation motivation and improve it rather than detract, how pronunciation motivation types and use of pronunciation learning strategies can be interrelated and have positive impact on each other, and finally how lack of appropriate pronunciation motivation both in types and intensity and incorrect use of pronunciation learning strategies can cause interlanguage phonological obstacles and fossilized errors.

3. METHODOLOGY

3.1. Introduction

Research methodology is "the general approach that the researcher takes in carrying out the research project" (p. 14), a systematic process of collecting, analyzing, and interpreting data in order to clarify and better understand a study (Leedy & Ormrod, 2001), and defining the objective, managing the data, and communicating the findings occur within established frameworks and in accordance with existing guidelines. As a result, this chapter presents the overall design and methodology of the present research study in details and describes the procedures included in the study. It gives more information on how the research was designed. Furthermore, it provides information about participants and population of the study, how sampling was done, context and setting, materials and instruments utilized in data collection, data collection procedures and statistical procedures used in analyzing data. Finally, it explains how ethical considerations were met during data collection process, and what kinds of limitation the research study was encountered with.

3.2. Research Design

The research study is designed on the basis of a descriptive quantitative correlational research design. A descriptive research is a procedure for collecting, analyzing quantitative of the research process within a single study, to understand a research problem more completely. It involves the collection of data so that information can be quantified and subjected to statistical treatment in order to support or refute "alternate knowledge claims" (Creswell, 2003, p. 153), in which information is collected without changing the environment and manipulating the context. In other words, it is aimed at describing the distribution of variables under investigation regardless of existing cause and effect relationship among the variables or other hypotheses (Mackey & Gass, 2005).

In terms of methodology, the survey procedures were utilized and quantitative data collection instruments like questionnaires were employed during the data collection process. Hence the study could be considered as a quantitative research. Moreover, in order to support and verify the findings of the quantitative data, the participants were asked to answer one open-ended questionnaire regarding of their perception

of pronunciation learning strategies; however, only few students answered the question. It should be noted that this open-ended question was used only to provide a partial support to the findings of the quantitative data analysis and they by no means denote the qualitative research design in the same complexity as used in a qualitative research design.

The study could also be considered as correlational research in the sense that it measured the possible relations between motivation types, different types of regulation, pronunciation learning strategies, and academic pronunciation achievement. The study employed both explanatory and prediction design through correlation and regression analysis to measure the predictive power of independent variables on the participants' academic pronunciation achievement score. The purpose was to determine which of the variables covariate positively or negatively with each other in relation to prospective English teachers' academic pronunciation achievement and to what extent they contribute to the prediction of academic achievement. According to Neuman (1997), in this type of research method design having a large sample size and random samples are significantly very important so that the results can be generalized to the larger population. It is also crucial when interpreting research reports to make sure the results are valid and reliable (Neuman, 1997); as a result, the study was aimed to involve a large-scale of participants, and before the main study a pilot study was conducted to find a reasonable reliability and validity for the MTs questionnaire.

3.3. Population and Sampling

The purpose of the study was to determine motivation types and pronunciation learning strategies employed by Turkish and Iranian prospective English teachers and how these independent variables in EFL contexts predict the L2 learners' success in pronunciation. Therefore, every prospective English teacher studying English as a foreign language in Iranian and Turkish universities and has passed phonetics and phonology courses was considered as a potential participant to attend in the study. To do so, the researcher decided to choose the prospective English teachers population from Hacettepe University in Turkey and Islamic Azad Tabriz University in Iran as the sampling participants for the present research study; however, since we needed the teacher students' academic pronunciation

achievement, as a result, only junior and senior students were allowed to attend in the study.

There were two groups of participants attended in the research study. The first group involved a population of 80 English teacher students (N: 80) participated in a pilot study from Islamic Azad Tabriz University in Iran. The second group included a population of 478 ELT students (M: 113, 23.6%, F: 365, 76.4%) both from Iran and Turkey attended in the main study. The ELT students were junior (N: 271, 56.7%) and senior (N: 207, 43.3%) teacher students. The participants were reached directly during the second semester of the 2015-2016 academic year (in autumn) at the ELT departments of Hacettepe and Tabriz Universities.

Before giving the feedback form, the participants were orally informed about the purposes of the present study and the number of questionnaires and items: the MTs questionnaire with 70 items, PLSs questionnaire with 64 items, and the demographic information (see Appendixies A, B, C). In order to avoid any inconvenience they were asked to complete the questionnaires voluntarily and they were also assured to leave the survey anytime they felt unable to continue with. To participate in the research study, the teacher students were free and there was no obligation; however, any teacher student who was interested in taking part in the study firstly was required to fill out the consent form (see Appendix D) and sign it.

Demographic information involved the participants' gender, age, nationality, being resident in one of native English speaking countries, the length of being resident, the age of starting learning English, grade, academic achievement score in phonetics and phonology; however, only gender, nationality, being resident, and length of being resident factors were analyzed as individual factors assumed to influence the participants' motivation and use of pronunciation learning strategies, and academic success in foreign language pronunciation learning.

There were 113 male (23.6%)(50 from Turkey and 63 from Iran) and 365 female (76.4%)(148 from Turkey and 217 from Iran) prospective English teachers participated in the study. As represented in Tables 3.1 both in Turkey and Iran the samples based on gender variable were dominated by female. This revealed the

fact that neither in Turkey and nor in Iran the teaching of English language as a profession was favored by males, though, the ELT classes were mixed-gender.

Table 3.1. Descriptive Statistics for Demographic Gender Variable

Variable			Frequency	Percent
Gender	Male	Overall	113	23.6
		Iran	63	22.5
		Turkey	50	25.3
	Female	Overall	365	76.4
		Iran	217	77.5
		Turkey	148	74.7
Total			478	100

That, in EFL settings, females more frequently prefer to study English or to work as English language teachers can be because of social, cultural, economic, political, and even linguistic reasons. Regarding social and linguistic points of view, for instance, English is a kind of feminine language. For more illustration, while Iran is a country in which people speak in different languages, e.g. Persian (43.8%), Azeri (26%), Arab (9.6%), Kurd (7%), Lur (6%), Turk (2%), Baloch (2%), Qashgai & Kazakhs (1%), Tats, Talysh, Armanian, etc (1%); however, females, especially educated ones, mostly prefer speaking in Persian rather than in their first language. The significant reason to explain this phenomena may be the fact that Persian is national language which may carries a level of prestige, especially between youth, and that Persian language comparing to other languages in Iran is more feminine.

Table 3.2. Descriptive Statistics for Demographic Nationality Variable

Variables		Frequency	Percent
Nationality	Iranian	280	58.6
	Turkish	198	41.4
Total		478	100

In the present study, as represented in Table 3.2, ELT students from two different nationalities (Iranian, N: 280, 58.6%, Turkish, N: 198, 41.4%) with different social, educational, and cultural background participated; however, regarding years of study only students with third and fourth grade (Junior, N: 271, 56.7%, Senior, N: 207, 43.3%)(Iranian junior, N: 160, 57,1%; senior, N: 120, 42.9%)(Turkish junior, N: 111, 56.1%; senior, N: 87, 43.9%) were allowed to attend in the study since just ELT students with these grades had passed their phonetics and phonology courses.

The other two social demographic factors investigated in the dissertation among Turkish and Iranian students were being resident and the length of being resident in native English speaking countries. It was aimed to know whether these factors influence English teacher students' motivation and use of learning strategies regarding their foreign language pronunciation learning. To do so the participants were asked to report their length of resident in any of native English speaking countries: US., England, Canada, and New Zealand. Table 3.3 represents the participants' being resident and length of being resident in native English speaking countries.

Table 3.3. Descriptive Statistics for Length of Being Resident in NESC

Variables		Frequency	Percent
Length of Residency	Between "1-6" months	17	3.6
	Between "7-12" months	13	2.7
Participants have been to NESC.		30	6.3
Participants have never been to NESC.		448	93.7
Total		478	100

As represented in Table 3.3, from 478 English teacher students only 6.3% has been to native English speaking countries. This reveals the fact that the fewest number of the participants of the study had the opportunity to be to any native English speaking country.

The results of starting age of English revealed that the English teacher students (Turkish, N: 178, 87.9%, and Iranian N: 154, 55%) most frequently started learning English as a foreign language between the years of 6-12, during the ages of puberty; however, the surprising point is that 17.9% (N=50) of Iranian ELT students started learning English after seventeen.

3.4. Data Collection Instruments

Three instruments were used to collect the required data for this research study: demographic information, MTs inventory, and PLSs inventory. First, the English teacher students' social demographic information such as gender, age, country, nationality, length of residence in native speaking countries, grade (junior and senior), and the year of starting English was obtained via demographic information inventory. The aim was to investigate whether there was any gender, nationality,

and being resident and length of being resident differences among the participants regarding their MTs and PLSs. The students' academic achievement scores in the phonetics and phonology courses (APA) were received from education departments. It was aimed to investigate how MTs and use of PLSs predict the students' success in foreign language pronunciation learning. Table 3.4 represents the participants' APA level (High: A1-A3); Moderate: B1-B3; Low: C1-C3).

Table 3.4 Descriptive Statistics for Academic Pronunciation Achievement

Variables			APA Level		Frequency	Percent
Pronunciation	Overall	High	A1-A3	100-85	293	61.3
Achievement		Moderate	B1-B3	84-70	138	28.9
		Low	C1-C3	69-55	47	9.8
	Iran	High	A1-A3	100-85	198	70.7
		Moderate	B1-B3	84-70	67	23.9
		Low	C1-C3	69-55	15	5.4
	Turkey	High	A1-A3	100-85	95	48.0
		Moderate	B1-B3	84-70	71	35.9
		Low	C1-C3	69-55	32	16.2
Total					478	100

Second, leaners' motivation types were measured in accordance with Sarıçoban & Moradi's (2011) motivational inventory, which has been designed on the basis of Deci & Ryan's (1985-2008) self-determination theory. It is notable to put forth that the items in Sarıçoban & Moradi's (2011) motivational inventory has been revised and adapted to foreign language pronunciation learning by the help of Prof. Dr. Mehmet Demirezen. In the motivation scale, there are six types of survey questions, but the six parts can be grouped into three categories: intrinsic motivation, extrinsic motivation, and amotivation. Extrinsic motivation involves four regulations: external, introjected, identified, integrated regulations. Identified and integrated regulations along with intrinsic regulation compose autonomous orientation; whereas, introjected and external regulations construct controlled orientation. Tables 3.5 to 3.6 demonstrates motivational types' scales and items on the basis of self-determination theory.

In the motivation inventory, intrinsic regulation investigates the participants' source of motivation in three categories as: (1) knowledge and competency with 4 items; (2) stimulation and relatedness with 7 items; (3) accomplishment and autonomy with

7 items. The intrinsic regulation in general involves 18 items and the items measure the English teacher students' intrinsic motivation source through a five-point Likert responses scale (ranging from 1=strongly disagree to 5=strongly agree). The distribution of the items in motivation questionnaire is represented in Table. 3.5.

Tables 3.5. Distribution of Intrinsic Regulated Motivation Items in Motivation Inventory

Total No. of Items = 18	
Categories of Motivation Source	Items
A. Knowledge and Competency	30, 11, 38, 7
B. Stimulation and Relatedness	56, 60, 59, 41, 24, 53, 36
C. Accomplishment and Autonomy	31, 44, 5, 37, 40, 62, 68

In motivation inventory, extrinsic motivation involves 40 items (rages from integrated regulation=10 items, to identified regulation=10 items, to introjected regulation=10 items, to external regulation=10 items. The distribution of the extrinsic items in motivation questionnaire is represented in Table. 3.6.

Table 3.6. Distribution of Extrinsic Motivational Items in Motivation Inventory

Total No. of Items = 40		
Types of Regulation	Source of Regulation	Items
Integrated Regulation	Congruence to the self, Awareness to the self, Synthesis to the self.	22, 45, 46, 61, 28, 1, 13, 12, 57, 33
Identified Regulation	Conscious Valuing of activity, Personal importance, Self-endorsement of goals.	32, 34, 35, 21, 20, 43, 66, 54, 55, 3
Introjected Regulation	Self-control, Ego-involvement, Internal rewards and punishments	52, 47, 19, 2, 48, 25, 49, 39, 42, 26
External Regulation	Compliance, External rewards and punishments	6, 23, 16, 29, 18, 15, 14, 17, 27, 67

In motivation inventory, the last category is amotivation scale in which there are 12 items with regard to English teacher students' level of perceived non-contingency (not valuing an activity), low perceived competence (not feeling competent to do it), non-relevance (not believing it will yield a desired outcome), and non-intentionality (no intrinsic or extrinsic reasons for performing an activity at all). The distribution of the amotivation items in motivation questionnaire is represented in Table. 3.7.

Table 3.7. Distribution of Amotivational Items in Motivation Inventory

	Total No. of Items = 12	
	Source of Lack of Motivation	Items
A.	Perceived non-contingency	8, 69, 10, 63
B.	Low perceived competence	9, 65, 50
C.	Non-relevance	4, 51
D.	Non-intentionality	70, 64, 58

The motivation questionnaire in general involves 70 items and the items measured the English teacher students' motivation sources through a five-point Likert responses scale (ranging from 1=strongly disagree to 5=strongly agree). Tables 3.8 demonstrates an example of motivation inventory.

Table 3.8. Examples of SMTs Items and Five-Likert measurements Style

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I really enjoy speaking English with good pronunciation.	1	2	3	4	5
I really love to listen to native speakers of English.	1	2	3	4	5
I study English pronunciation since it often makes me happy.	1	2	3	4	5

Third, the English teacher students' use of PLSs was measured in a different questionnaire adopted from Calka's (2011) PLSs inventory, which has been designed on the basis of Oxford (1990) and Peterson (2000). In the Strategic Pronunciation Learning Scale, there are six types of survey questions, which can be fall in two general categories of direct and indirect learning strategies. Direct pronunciation learning strategies involve memory, cognitive, and compensation strategies; whereas, indirect strategies include metacognitive, affective, and social strategies. The pronunciation strategies inventory has been used by some scholars (Rokoszewska, 2012; Chang, 2012; Szyszka, 2015; Erbay et al, 2016) and they all reported a reliable internal constancy above .70. Tables' 3.9 and 3.10 represents the PLSs and distribution of related items in the PLSs inventory.

As demonstrated in Table 3.9, PLSs inventory regarding direct strategies involves three general strategies: (1) memory strategies with the total of 13 items (representing sounds in memory with 8 items, reviewing well with 1 item, employing action with 2 items, and rote learning with 2 items), (2) cognitive strategies with the total of 25 items (practicing pronunciation with 17 items, receiving and sending

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messages on pronunciation with 2 items, analyzing and reasoning with 4 items, and creating structure for input and output with 2 items), and compensation strategies with the total of 4 items (guessing intelligently with 1 item, overcoming limitations in pronunciation with 3 items).

Table 3.9. Distribution of Direct PLSs Items

Strategies	Items
Memory	
A. Representing sounds in memory	3, 11, 7, 2, 6, 1, 8, 5
B. Reviewing well	12
C. Employing action	13, 4
D. Rote learning	9, 10
Cognitive Strategies	
A. Practicing pronunciation	14, 15, 16, 17, 20, 34, 25, 26, 27, 22, 21, 24, 23, 32, 33, 18, 19
B. Receiving and sending messages on pronunciation	28, 29
C. Analyzing and reasoning	30, 31, 36, 37
D. Creating structure for input and output	33, 35
Compensation strategies	
A. Guessing intelligently	38
B. Overcoming limitations in pronunciation	40, 41, 39

Table 3.10. Distribution of Indirect PLSs Items

Strategies	Items
Metacognitive	
A. Centering one's learning	47, 43, 44
B. Arranging and planning one's learning	45, 46, 49, 50, 42, 48
C. Evaluating one's learning	51, 52
Affective Strategies	
A. Reducing your anxiety	53
B. Encouraging yourself	55, 54, 56
C. Taking one's emotional temperature	57, 58, 59, 60
Social Strategies	
A. Asking questions	62, 61
B. Cooperating with others	63, 64

As represented in Table 3.10, the other three strategies in PLSs inventory are metacognitive strategies with the total of 11 items (centering one's learning with 3 items, arranging and planning one's learning with 6 items, and evaluating one's

learning with 2 items, affective strategies with the total of 8 items (reducing your anxiety with 1 item, encouraging yourself with 3 items, and taking one's emotional temperature with 4 items), and social strategies with the total of 4 items (asking questions with 2 items, and cooperating with others with 2 items).

The PLSs questionnaire in general involves a total of 65 items. 64 items measured the English teacher students' use of PLSs through a five-point Likert responses scale (ranging from 1 = never or almost never to 5 = always or almost always. The last item was an open-ended question and referred to other tactics used by the respondents. Tables 3.11 demonstrates an example of PLSs inventory.

Table 3.11. Examples of SPLSs Items and Five-Likert Scale

Statements	Never	Rarely	Sometimes	Usually	Always
I listen to the radio and/ or watch TV in English.	1	2	3	4	5
I speak to foreigners in English.	1	2	3	4	5
I imitate mouth movements made by English speakers.	1	2	3	4	5

3.5. Validity and Reliability of the Tools

The instruments implemented in the present study include a questionnaire on MTs and a questionnaire on PLSs. The reliability and validity of the present instruments used in the study have been established by previous research studies. However, since motivation inventory, in this study, revised and adapted to foreign language pronunciation learning, as a result, its internal consistency reliability has been studies again in a pilot study among 80 English teacher students in ELT department in Tabriz University. The participants of the study were asked to fill in the questionnaire on motivation types. To obtain more reliable results, the participants were chosen randomly. The internal consistency reliability of this instrument in the pilot study was measured by means of Cronbach Alpha. The obtained reliability for the MTs inventory, as represented in Table 3.12, was so much reliable equal to 0.87.

Table 3.12. Cronbach's Alpha Coefficient for Motivation Types in Pilot Test

	N	MTs	INTR	INTE	IDEN	INTRO	EXTE	AM
α	80	.87	.92	.89	.81	.84	.90	.86

The internal consistency reliability of this instrument in the pilot study the same as Moradi (2011), Moradi & Sarıçoban (2012) was so much reliable above 0.70.

Meanwhile, the internal consistency reliability of the instrument by different scholars (e.g. Tajeddini, 2015; Saeidi, 2015; and Turabi, 2015; etc.) in the field in Iran and Turkey has been studied, verified, and reported above 0.80

Table 3.13. Cronbach's Alpha Coefficient for Motivation Types by Different Scholars

	N	MTs	INTR	INTE	IDEN	INTRO	EXTE	AM
Moradi (2011)	898	.87	.89	.77	.80	.73	.71	.80
Moradi & Sarıçoban (2012)	898	.87	.89	.77	.80	.73	.71	.80
Moradi (2015)	80	.87	.92	.89	.81	.84	.90	.86
Tajeddini (2015)	45	.90	.88	.88	.85	.87	.91	.88
Turabi (2015)	57	.92	.90	.90	.88	.91	.90	.89
Saeidi (2015)	64	.89	.90	.87	.89	.88	.90	.89

The validity of the motivation instrument was also examined through the pilot study. To do so, an exploratory factor analysis was calculated to study the factor structure of the pronunciation motivation questionnaire items. On the basis of factor analysis results, some items with no discriminative power were deleted and the final questionnaire with a total of 70 items for formal study was reorganized. Table 3.14 demonstrates the results of exploratory factor analysis for items of pronunciation motivation types. The results of a promax ($K=4$) with eigenvalue above 1.00 (2.97, 2.91, 2.37, 2.31, 2.17, and 2.01, respectively) with a total variance explained of 83.72% (16.52%, 16.21%, 14.68%, 12.84%, 12.09% and 11.17%, respectively), in exploratory factor analysis with principal component test, revealed 6 factors as follows: factor one = intrinsic regulation, factor two = integrated regulation, factor three = identified regulation, factor four = introjected regulation, factor five = external regulation, and factor six = amotivation.

As represented in Table 3.14, in factor one items loaded highly, ranging from .509 to .781, with the Cronbach's alpha reliability coefficient equal to .92. In factor two, items loaded highly, ranging from .537 to .670, with the Cronbach's alpha reliability coefficient equal to .89. In factor three, items loaded highly, ranging from .520 to .813, with the Cronbach's alpha reliability coefficient equal to .81. In factor four, items loaded highly, ranging from .635 to .811, with the Cronbach's alpha reliability coefficient equal to .84. In factor five, items loaded highly, ranging from .524 to .837, with the Cronbach's alpha reliability coefficient equal to .90. In factor six, items

loaded highly, ranging from .500 to .687, with the Cronbach's alpha reliability coefficient equal to .86.

Table 3.14. Matrix for Factor Analysis of Motivation Scale in Pilot Test

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1	.671	.655	.767	.807	.700	.515
2	.571	.670	.804	.771	.798	.567
3	.672	.537	.813	.847	.837	.631
4	.535	.614	.520	.787	.795	.652
5	.509	.596	.785	.774	.673	.612
6	.691	.593	.770	.740	.704	.511
7	.644	.655	.795	.763	.652	.348
8	.781	.597	.811	.807	.646	.500
9	.660	.580	.622	.811	.524	.687
10	.655	.670	.760	.635	.633	.522
11	.583					.596
12	.636					.577
13	.648					
14	.671					
15	.615					
16	.566					
17	.648					
18	.630					
Eigenvalue	2.97	2.91	2.37	2.31	2.17	2.01
Factor Variance	16.52	16.21	14.68	12.84	12.09	11.17
Total Variance	16.52	32.74	47.61	60.45	72.54	83.72

Extraction Method: *Principal Component Analysis*

Rotation Method: *Promax with Kaiser Normalization*

The second instrument implemented in the present study as a questionnaire on PLSs was composed by Calka (2011) on the basis of Oxford's (1990) and Peterson's (2000) classifications (see the Appendixes C & D). The questionnaire investigated 18 strategies and 64 tactics. The reliability of this instrument in the previous studies (Rokoszewska, 2012; Chang, 2012; Szyszka, 2015; Erbay et al, 2016) was reported above 0.70.

The internal consistency reliability of the instruments (MTs and PLSs) for the present study (formal study) among Overall 478 Turkish and Iranian English teacher students, among 198 Turkish teacher students, and among 280 Iranian teacher students are given below in Table 3.15. The Chronbach's Alpha Coefficient for all

the group categories in the study was above .70, which indicated a satisfactory measures of the data.

Table 3.15. Represents the Internal Consistency Reliability of the Instruments

Instruments	Categories	Number of Items	Chronbach's α		
			Overall	in Iran	in Turkey
Motivation Types		70	.86	.86	.87
	Intrinsic	18	.92	.93	.90
	Extrinsic	40	.86	.88	.85
	Integrated	10	.75	.72	.80
	Identified	10	.82	.82	.82
	Introjected	10	.78	.82	.80
	External	10	.92	.91	.96
	Amotivation	12	.85	.86	.84
Pronunciation Learning Strategies		64	.94	.92	.96
	Memory	13	.80	.79	.88
	Cognitive	25	.89	.80	.95
	Compensation	4	.73	.70	.79
	Metacognitive	11	.90	.91	.89
	Affective	8	.71	.71	.75
	Social	4	.78	.77	.79

3.6. Data Collection and Analysis Procedures

Before starting data collection, necessary approval was obtained from the institute of educational sciences and the ELT department of the faculty of foreign languages at Hacettepe University in Ankara/Turkey, and at the same way necessary permission was obtained from the ministry of sciences, research and technology in Iran, and the institute of educational sciences and the ELT department of the faculty of foreign languages at Tabriz University in Tabriz/Iran. All the data were collected from the prospective English teachers at the ELT departments of Hacettepe and Islamic Azad Tabriz Universities, and data collection began in October 2015 and completed in December both in Turkey and Iran.

After preparing and codifying the data, the SPSS version 23.0 was employed to analyze the collected data for the quantitative part. In this study four different groups of quantitative variables were investigated. The socio-demographic factors (such as gender, nationality, being resident, and length of being resident at NESC), motivation types (including intrinsic regulation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation),

pronunciation learning strategies along with its six subscales(memory, cognitive, compensation, metacognitive, affective, and social strategies), and English teacher students' academic achievement scores in phonetics and phonology as academic pronunciation achievement (APA). In the study, the first three groups of variables (such as MTs, PLSs, and socio-demographic factors) were considered as independent variables, and the participants' academic pronunciation achievement was only dependent variable. The participants' total mean scores in phonetic and phonology courses in teacher education programs were considered as academic pronunciation achievement (APA). The printed documents of the prospective English teachers' scores in phonetics and phonology courses as part of their academic pronunciation success were obtained from the departments of English language teaching both at Hacettepe and at Islamic Azad Tabriz Universities. Throughout the study, therefore, the terms academic pronunciation achievement and APA were used interchangeably as the quantitative representation of the accomplishment of pronunciation learning.

On the basis of the fact that dependent variables can be changed into independent variables through categorization (Pallant, 2010). The English teacher students regarding their APA were categorized into three groups of high, moderate, and low achievers. Based on the scoring manual of the Institute of Educational Sciences, scores ranging from A1 to A3 was considered as high, scores from B1 to B3 as moderate, and scores from C1 to below C1 as low. This provided further opportunities to measure the possible differences between groups with respect to MTs and PLSs.

Descriptive statistics such as mean (M), standard deviation (SD), frequency (F), and percentage (P) were calculated to explain English teacher students' level of APA, MTs, and PLS. Although, normality of data distribution and sample size are not so important to carry out parametric data analysis in the current literature (Norman, 2010), all preliminary analyses were conducted to ensure the normality of data distribution and solve linearity problems, if there was any. A Shapiro-Wilk's test (p>.05) (Shapiro & Wilk, 1965; Razali & Wah, 2011) and visual inspection of their histograms, normal Q-Q plots, and box plots showed that the pronunciation scores were approximately normally distributed. A Leven's test verified the equality of

variances in the samples (homogeneity of variances) (p>.05) Martin & Bridgman, 2012). The data distribution was normal, so parametric tests were used to analyze the quantitative data. Inferential statistics and related statistic tests were used to analyze the quantitative data. *Pearson Product-moment Correlation Coefficient test* was used to study the relationships between motivation types, motivation types and pronunciation learning strategies, motivation types and APA, pronunciation learning strategies and APA. *Independent-samples t-test* was used to explore gender, nationality, being resident to NESC, and length of being resident differences in motivation types, and pronunciation learning strategies. *One-way ANOVA test* was used to explore and explain potential differences among high, moderate, and low achievers regarding the English teacher students' MTs and use of PLSs. Finally, *Multiple Stepwise-Method Regression Analysis* was used to study how motivation types, motivation orientations, and pronunciation learning strategies predict the participants' APA level. The qualitative data were also codified and categorized based on PLSs' profile.

3.7. Ethical Considerations

Adequate care and attempt was given to safeguard the subjects and the universities privacy and rights throughout the research procedures and the participants were assured that their responses to the questionnaires would be kept as confidential and no individual personal identity or his/her profiles were to be identified and given away in data analysis, results and discussion sections of the study.

Besides, they were adequately ascertained that no parts of their profiles would otherwise be included in any publications based on the research without their prior permission and only group data were be reported. As mentioned earlier in this study, the participants in the study were strictly voluntary. Therefore, the subjects were assured that there were no anticipated risks regarding their academic and personal performance and positions and that they would leave the research at any time they deemed it necessary.

4. FINDINGS AND DISCUSSION

4.1. Introduction

This chapter offers the statistical findings of the dissertation. First, the results of exploratory statistics for the profiles of the dominant motivation types of the English teacher students were illustrated to provide answer to research question number one. Second, the results of exploratory statistics for the profiles of the dominant pronunciation learning strategies employed by the participants were illustrated to provide answer to research question number two. Third, correlation coefficient analyses were studied to find out whether there were any significant correlations between: (a) motivation types, (b) pronunciation learning strategies, (c) motivation types and uses of pronunciation learning strategies, (d) motivation types and the English teacher students' APA, and (e) pronunciation learning strategies and the participants' APA. Fourth, the participants' motivation types and uses of pronunciation learning strategies in terms of gender, nationality, being resident in native English speaking countries (USA, England, Canada, New Zealand), length of being resident, and APA (high, moderate, and low) differences were studied. Fifth, the analyses were calculated to show how well pronunciation learning strategies and motivation types predict success in APA. Sixth, the results of exploratory statistics for the qualitative data were offered to investigate any self-report extra PLSs employed by the participants. Seventh, a summary of basic findings were reported. And finally, the findings of the study were discussed.

4.2. Means and Standard Deviations for Motivation Types

Research question 1: What are the types of motivation preferred by Turkish and Iranian English Teacher Training Candidates?

Motivation if present, on the basis of SDT, involves two general types of intrinsic and extrinsic. Extrinsic motivation, moreover, is divided into four different types of regulation: integrated, identified, introjected, and external. However, if motivation is not present, in SDT, it is namely called amotivation. To verify motivation preferences among the Turkish, Iranian, and Overall prospective English teachers, I computed *Descriptive Statistic Analysis* for mean (M) and standard deviation (SD).

As represented in Table 4.1 and Chart 4.1, regarding pronunciation learning, the Turkish, Iranian, and Overall prospective English teachers preferred all regulation

types; accordingly, they were both intrinsically and extrinsically motivated and mostly preferred intrinsic motivation. Their mean scores in intrinsic motivation was 76.37 with SD=9.41 (Turkey: N=198, M=73.90, SD=6.27; Iran: N=280, M=78.12, SD=9.79 respectively); however, their mean in extrinsic motivation was 35.93 with SD=6.65 (Turkey: N=198, M=39.38, SD=6.20; Iran: N=280, M=35.51, SD=6.88 respectively). Among different types of regulation in extrinsic motivation, they preferred three types of regulation in order of integrated regulation N= 488, M=41.38, SD=4.81 (Turkey: N=198, M=41.57, SD=4.61; Iran: N=280, M=41.24, SD=4.95 respectively); identified regulation N= 488, M=40.44, SD=6.13 (Turkey: N=198, M=41.28, SD=4.84; Iran: N=280, M=39.85, SD=6.84 respectively); and introjected regulation N= 488, M=39.76, SD=6.13(Turkey: N=198, M=39.65, SD=5.10; Iran: N=280, M=39.85, SD=6.77 respectively). In extrinsic motivation, external regulation N= 488, M=22.14, SD=9.54 (Turkey: N=198, M=23.02, SD=10.27; Iran: N=280, M=21.52, SD=8.96 respectively) was the least preferred regulation type.

Table 4.1. Results of Descriptive Statistic for Motivation Types

Variables	Overall N=478		In Iran N=280		In Turkey N=198	
	Mean	SD	Mean	SD	Mean	SD
IM	76.37	9.41	78.12	9.79	73.90	8.27
EM	35.93	6.65	35.51	6.88	39.38	6.20
Inte. R.	41.38	4.81	41.24	4.95	41.57	4.61
Iden. R.	40.44	6.13	39.85	6.84	41.28	4.84
Intro. R.	39.76	6.13	39.85	6.77	39.65	5.10
Exte. R.	22.14	9.54	21.52	8.96	23.02	10.26
AM	19.06	5.94	19.16	6.40	18.92	5.23
Auto. M	52.73	6.78	53.07	7.19	52.25	5.90
Cont. M	30.95	7.83	30.68	7.86	31.33	7.68

The results of Descriptive Statistic Test revealed that the English teacher students mostly preferred autonomous oriented motivation N= 488, M=52.73, SD=6.78 (Turkey: N=198, M=52.25, SD=5.90; Iran: N=280, M=53.07, SD=7.19 respectively) rather than controlled oriented motivation N= 488, M=30.95, SD=7.83 (Turkey: N=198, M=31.33, SD=7.57; Iran: N=280, M=3.68, SD=7.86 respectively). The English teacher students' level of amotivation was very low N= 488, M=19.06, SD=5.94 (Turkey: N=198, M=18.92, SD=5.23; Iran: N=280, M=19.16, SD=6.40

respectively). The findings of the study showed that Turkish and Iranian English teacher students were mostly motivated and they most often preferred different autonomous oriented regulations to learn English pronunciation. The students' mean scores in external regulation (M=22.14, SD=9.54) and amotivation (M=19.06, SD=5.94) was very low.

Figure 4.1. Motivation Type Preferences
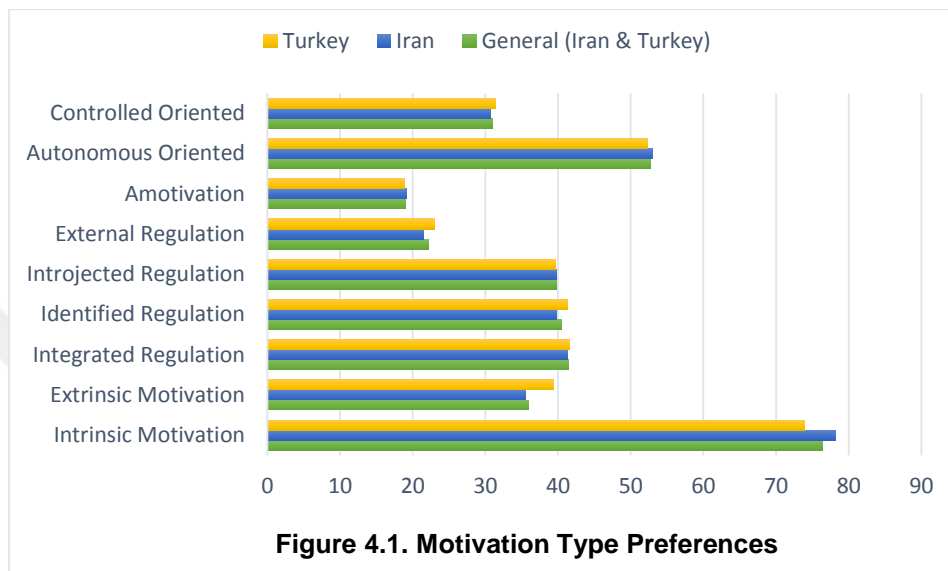
4.3. Means and Standard Deviations for Pronunciation Learning Strategies

Research question 2: What are the pronunciation learning strategies employed by Turkish and Iranian English Teacher Training candidates?

There are six categories of pronunciation learning strategies (PLSs). To verify PLSs employed by the prospective English teachers, I computed *Descriptive Statistic Analysis* for mean (M) and standard deviation (SD). The results of the study, regarding the participants' use of PLSs, represented in Table 4.2 and Chart 4.2.

Table 4.2. Results of Descriptive Statistic Analysis for Use of PLSs

Variables	Overall		In Iran		In Turkey	
	N=478		N=280		N=198	
	Mean (M)	SD	Mean (M)	SD	Mean (M)	SD
Mem.	44.76	8.66	43.57	7.47	46.44	9.88
Cog.	84.94	12.21	82.87	11.96	90.29	18.03
Com.	14.76	3.76	13.49	3.76	16.56	2.94
Meta.	43.67	7.65	44.56	7.63	42.41	7.51
Aff.	28.02	4.77	27.28	4.92	29.06	4.31
So.	16.42	2.90	16.32	2.87	16.56	2.94

As Table 4.2 demonstrates, the English teacher students most frequently employed cognitive strategies N= 488, M=84.94, SD=12.21 (Turkey: N=198, M=90.29, SD=18.03; Iran: N=280, M=82.87, SD=11.96 respectively), followed by memory strategies N= 488, M=44.76, SD=8.66 (Turkey: N=198, M=46.44, SD=9.88; Iran: N=280, M=43.57, SD=7.47 respectively), and metacognitive strategies N= 488, M=43.67, SD=7.65 (Turkey: N=198, M=42.41, SD=7.51; Iran: N=280, M=44.56, SD=7.63 respectively). The least frequently used strategies were affective strategies N= 488, M=28.02, SD=4.77 (Turkey: N=198, M=29.06, SD=4.34; Iran: N=280, M=27.28, SD=4.92 respectively), social strategies N= 488, M=16.42, SD=2.90 (Turkey: N=198, M=16.56, SD=2.94; Iran: N=280, M=16.32, SD=2.87 respectively), and compensation strategies N= 488, M=14.76, SD=3.76 (Turkey: N=198, M=16.56, SD=7.51; Iran: N=280, M=13.49, SD=3.76 respectively).

Figure 4.2. Use of Pronunciation Learning Strategies
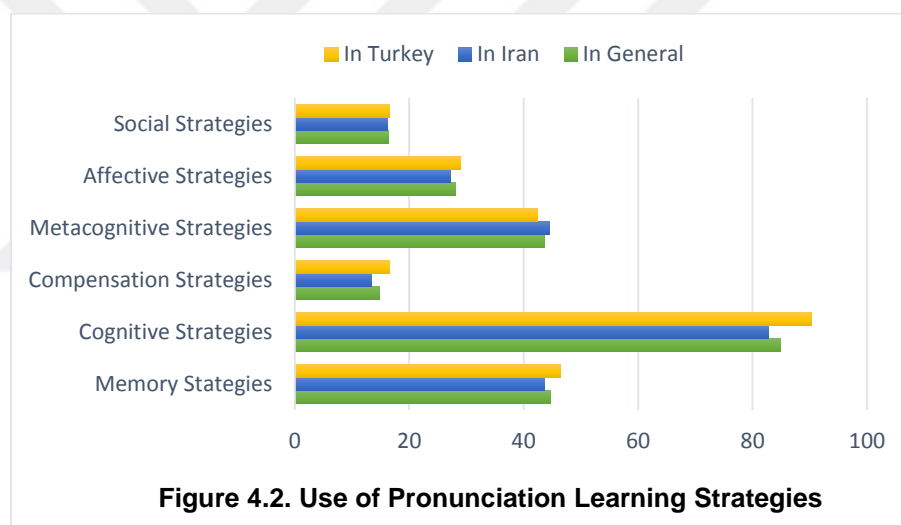
To conclude, the results of the study revealed that the participants of the study learning English pronunciation used all types of pronunciation learning strategies. The most frequently used strategies were cognitive strategies followed by metacognitive and memory strategies, and the least frequently used strategies were compensation strategies followed by affective and social strategies.

4.4. Relationship between Motivation Types, Pronunciation Learning Strategies, and Academic Pronunciation Achievement

Question 3: Is there any statistically significant correlation between: a) pronunciation learning strategies and motivational types, b) motivation types and achievement in

pronunciation, c) pronunciation learning strategies and achievement in pronunciation?

4.4.1. Relationship between Motivation Types

A *Pearson product-moment Correlation Coefficient* was performed to explore the relationship between different motivation types among overall students: IM. (M=76.37), InteR (M=41.38), IdenR (M=40.44), IntroR (M=39.76), ExteR (M=22.14), and AM (M=19.06). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.3, revealed that there were significant strong correlations between different motivation types. IM was strong positively correlated to InteR. r (478)= .73, p < .01, to IdenR. r (478)= .47, p < .01, to IntroR r (478)= .49, p < .01, and strong negatively correlated to ExteR r (478) = -.48, p < .01 and to AM r (478) = -.65, p < .01. InteR was strong positively correlated to IdenR r (478) = .60, p < .01, to Intro. R. r (478) = .58, p < .01, and strong negatively correlated to ExteR r (478) = -.27, p < .01, and to AM r (478) = -.54, p < .01. IdenR was strong positively correlated to IntroR r (478) = .90, p < .01, and negatively correlated to ExteR r (478) = -.18, p < .05, and to AM r (478) = -.29, p < .01. IntroR was negatively correlated to ExteR r (478) = -.11, p < .05, and to AM r (478) = -.28, p < .01. ExteR was strong positively correlated to AM r (478) = .62, p < .01.

To conclude, there were strong positive correlations between different regulations (IdenR, InteR, and IM) in autonomous oriented motivation, and negative correlations between controlled oriented regulations (ExteR and IntroR). The highest level of motivation (IM) was negatively correlated to the lowest level of motivation (ExteR) r (478) = -.48, p < .01, and to AM r (478) = -.65, p < .01. The lowest level of motivation was positively correlated to AM r (478) = .62, p < .01.

Table 4.3. Correlations between Motivation Types among Overall Students

	N	M	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
IM	478	76.37	1					
Inte.R	478	41.38	.732**	1				
Iden.R	478	40.44	.478**	.602**	1			
Intro.R	478	39.76	.492**	.585**	.907**	1		
Exte.R	478	22.14	-.487**	-.277**	-.184*	-.113*	1	
AM	478	19.06	-.659**	-.540**	-.299**	-.289**	.625**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.4.1.1. Relationship between Motivation Types in Turkey

A *Pearson product-moment Correlation Coefficient* was also computed to explore the relationship between different motivation types among Turkish English teacher students: IM. (M=73.90), InteR (M=41.57), IdenR (M=41.28), IntroR (M=39.65), ExteR (M=23.02), and AM (M=18.92). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.4, showed that there were significant strong correlations between different motivation types. IM was strong positively correlated to InteR. r (198) = .67, p < .01, to IdenR. r (198) = .64, p < .01, to IntroR r (198) = .65, p < .01, and negatively correlated to ExteR r (198) = -.36, p < .01 and to AM r (198) = -.48, p < .01. InteR was strong positively correlated to IdenR r (198) = .76, p < .01, to Intro. R. r (198) = .75, p < .01, and negatively correlated to ExteR r (198) = -.15, p < .05, and to AM r (198) = -.38, p < .01. IdenR was strong positively correlated to IntroR r (198) = .71, p < .01, and negatively correlated to ExteR r (198) = -.22, p < .01, and to AM r (198) = -.35, p < .01. IntroR was negatively correlated to ExteR r (198) = -.30, p < .01, and to AM r (198) = -.38, p < .01. ExteR was strong positively correlated to AM r (198) = .53, p < .01.

To sum up, there were strong positive correlations between different regulations (IdenR, InteR, and IM) in autonomous oriented motivation, and negative correlations between controlled oriented regulations (ExteR and IntroR). The highest level of motivation (IM) was negatively correlated to the lowest level of motivation (ExteR) r (198) = -.36, p < .01, and to AM r (198) = -.48, p < .01. The lowest level of motivation was positively correlated to AM r (198) = .53, p < .01.

Table 4.4. Correlations between Motivation Types among Turkish Students

	N	M	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
IM	198	73.90	1					
Inte.R	198	41.57	.671**	1				
Iden.R	198	41.28	.641**	.765**	1			
Intro.R	198	39.65	.659**	.756**	.710**	1		
Exte.R	198	23.02	-.366**	-.156*	-.222**	-.309**	1	
AM	198	18.92	-.483**	-.389**	-.358**	-.387**	.537**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.4.1.2. Relationship between Motivation Types in Iran

A *Pearson product-moment Correlation Coefficient* was also performed to explore the relationship between different motivation types among Iranian English teacher students: IM. (M=78.12), InteR (M=41.24), IdenR (M=39.85), IntroR (M=39.85), ExteR (M=21.52), and AM (M=19.16). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.5, revealed that there were significant strong correlations between different motivation types. IM was strong positively correlated to InteR. r (280) = .82, p < .01, to IdenR. r (280) = .45, p < .01, to IntroR r (280) = .43, p < .01, and strong negatively correlated to ExteR r (280) = -.57, p < .01 and to AM r (280) = -.78, p < .01. InteR was strong positively correlated to IdenR r (280) = .53, p < .01, to Intro. R. r (280) = .50, p < .01, and negatively correlated to ExteR r (280) = -.37, p < .01, and to AM r (280) = -.62, p < .01. IdenR was strong positively correlated to IntroR r (280) = .99, p < .01, and negatively correlated to AM r (280) = -.29, p < .01. There was no significant correlation between IdenR and ExteR. IntroR was negatively correlated to AM r (280) = -.25, p < .01. There was no significant correlation between IntroR and ExteR. ExteR was strong positively correlated to AM r (280) = .70, p < .01. To sum up, there were strong positive correlations between different regulations (IdenR, InteR, and IM) in autonomous oriented motivation, but there was no significant correlation between controlled oriented regulations (ExteR and IntroR); meanwhile, there was no correlation between IdenR and ExteR. The highest level of motivation (IM) was strong negatively correlated to the lowest level of motivation (ExteR) r (280) = -.53, p < .01, and to (AM) r (280) = -.78, p < .01. The lowest level of motivation (external regulation) was strong positively correlated to AM r (280) = .70, p < .01.

Table 4.5. Correlations between Motivation Types among Iranian Students

	N	M	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
IM	280	78.12	1					
Inte.R	280	41.24	.825**	1				
Iden.R	280	39.85	.458**	.533**	1			
Intro.R	280	39.85	.430**	.506**	.993**	1		
Exte.R	280	21.52	-.573**	-.379**	-.25	-.004	1	
AM	280	19.16	-.787**	-.628**	-.290**	-.252**	.790**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.4.2. Relationship between Pronunciation Learning Strategies

A *Pearson product-moment Correlation Coefficient* was also performed to study the relationship between different pronunciation learning strategies among overall English teacher students: memory strategies (M=44.76), cognitive strategies (M=85.94), compensation strategies (M=14.76), metacognitive strategies (M=43.67), affective strategies (M=28.02), and social strategies (M=16.42). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.6, revealed that there were significant strong correlations between different pronunciation learning strategies. There were significant strong positive correlations between memory strategies and cognitive strategies, r (478) = .81, p < .01, and metacognitive strategies, r (478) = .42, p < .01, and affective strategies, r (478) = .39, p < .01, and social strategies, r (478) = .19, p < .01. There were significant strong positive correlations between cognitive strategies and compensation strategies, r (478) = .24, p < .01, and metacognitive strategies, r (478) = .66, p < .01, and affective strategies, r (478) = .52, p < .01, and social strategies, r (478) = .35, p < .01. There were significant positive correlations between compensation strategies and metacognitive strategies, r (478) = .34, p < .01, and affective strategies, r (478) = .18, p < .01, and social strategies, r (478) = .60, p < .01. There were significant strong positive correlations between metacognitive strategies and affective strategies, r (478) = .43, p < .01, and social strategies, r (478) = .59, p < .01. There were significant positive correlation between affective strategies and social strategies, r (478) = .24, p < .01. To sum up, all types of pronunciation learning strategies were significantly correlated to each other, except in one case. There was not significant correlation coefficient between memory strategies and compensation strategies.

Table 4.6. Correlations between PLSs among Overall Students

	N	M	Mem.	Cog.	Com.	Meta	Aff.	So.
Memory	478	44.76	1					
Cognitive	478	85.94	.816**	1				
Compensation	478	14.76	.021	.241**	1			
Metacognitive	478	43.67	.429**	.661**	.341**	1		
Affective	478	28.02	.394**	.524**	.187**	.430**	1	
Social	478	16.42	.197**	.357**	.600**	.591**	.240**	1

**. Correlation is significant at the 0.01 level (2-tailed).

4.4.2.1. Relationship between Pronunciation Learning Strategies in Turkey

A *Pearson product-moment Correlation Coefficient* was also performed to study the relationship between different pronunciation learning strategies among Turkish English teacher students: memory strategies (M=46.44), cognitive strategies (M=90.24), compensation strategies (M=16.56), metacognitive strategies (M=42.41), affective strategies (M=29.06), and social strategies (M=16.56). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.7, revealed that there were significant positive correlations between memory strategies and cognitive strategies, $r(198) = .80$, $p < .01$, compensation strategies, $r(198) = .12$, $p < .01$, and metacognitive strategies, $r(198) = .76$, $p < .01$, and affective strategies, $r(198) = .51$, $p < .01$, and social strategies, $r(198) = .12$, $p < .01$. There were significant positive correlations between cognitive strategies and compensation strategies, $r(198) = .13$, $p < .01$, and metacognitive strategies, $r(198) = .88$, $p < .01$, and affective strategies, $r(198) = .64$, $p < .01$, and social strategies, $r(198) = .13$, $p < .01$. There were significant positive correlations between compensation strategies and metacognitive strategies, $r(198) = .17$, $p < .01$, and social strategies, $r(198) = 1.000$, $p < .01$. There were significant strong positive correlations between metacognitive strategies and affective strategies, $r(198) = .64$, $p < .01$, and social strategies, $r(198) = .17$, $p < .01$. To sum up, all types of pronunciation learning strategies were significantly correlated to each other, except in two cases. There was not significant correlation coefficient between affective and social strategies, and affective and compensation strategies.

Table 4.7. Correlations between PLSs among Turkish Students

	N	M	Mem.	Cog.	Com.	Meta	Aff.	So.
Memory	198	46.44	1					
Cognitive	198	90.29	.806**	1				
Compensation	198	16.56	.127*	.138*	1			
Metacognitive	198	42.41	.762**	.885**	.171*	1		
Affective	198	29.06	.518**	.641**	-.020	.644**	1	
Social	198	16.56	.127*	.138*	1.000**	.171*	-.020	1

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

4.4.2.2. Relationship between Pronunciation Learning Strategies in Iran

A *Pearson product-moment Correlation Coefficient* was also performed to study the relationship between different pronunciation learning strategies among Iranian

English teacher students: memory strategies (M=43.57), cognitive strategies (M=82.87), compensation strategies (M=13.49), metacognitive strategies (M=44.56), affective strategies (M=27.28), and social strategies (M=16.32). Preliminary analysis were performed to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.8, revealed that there were significant strong positive correlations between memory strategies and cognitive strategies, r (280) = .82, $p < .01$, compensation strategies, r (280) = .18, $p < .01$, and metacognitive strategies, r (280) = .19, $p < .01$, and affective strategies, r (280) = .27, $p < .01$, and social strategies, r (280) = .25, $p < .01$. There were significant positive correlations between cognitive strategies and compensation strategies, r (280) = .19, $p < .01$, and metacognitive strategies, r (280) = .58, $p < .01$, and affective strategies, r (280) = .40, $p < .01$, and social strategies, r (280) = .61, $p < .01$. There were significant positive correlations between compensation strategies and metacognitive strategies, r (280) = .58, $p < .01$, compensation strategies, r (280) = .19, $p < .01$, and social strategies, r (280) = .44, $p < .01$. There were significant positive correlations between metacognitive strategies and affective strategies, r (280) = .36, $p < .01$, and social strategies, r (280) = .91, $p < .01$. To sum up, all types of pronunciation learning strategies were significantly correlated to each other. The findings of the study showed that comparing to Turkish students' use of pronunciation learning strategies Iranian English teacher students' use of pronunciation learning strategies in all cases were significantly correlated to each other.

Table 4.8. Correlations between PLSs among Iranian Students

	N	M	Mem.	Cog.	Com.	Meta	Aff.	So.
Memory	280	43.57	1					
Cognitive	280	82.87	.828**	1				
Compensation	280	13.49	.181**	.199**	1			
Metacognitive	280	44.56	.196**	.585**	.585**	1		
Affective	280	27.28	.273**	.408**	.197**	.360**	1	
Social	280	16.32	.259**	.612**	.442**	.910**	.401**	1

**. Correlation is significant at the 0.01 level (2-tailed).

4.4.3. Relationship between Motivation Types and PLSs

A *Pearson product-moment Correlation Coefficient* was also performed to explore the relationship between different motivation types: IM. (M=76.37), InteR (M=41.38), IdenR (M=40.44), IntroR (M=39.76), ExteR (M=22.14), and AM (M=19.06) and

pronunciation learning strategies: MemS (M=44.76), CogS (M=84.94), ComS (M=14.76), MetaS (M=43.67), AffS (M=28.02), and SoS (M=16.42) among overall Turkish and Iranian English teacher students. Preliminary analysis were conducted to ensure no volition of the assumptions of normality, linearity and homoscedasticity.

The results of the study, as represented in Table 4.9, revealed that there were significant strong correlations between different MTs and PLSs. Intrinsic motivation was positively correlated to MemS r (478)= .29, p < .01, to CogS r (478)= .43, p < .01, to ComS r (478)= .17, p < .01, to MetaS r (478)= .72, p < .01, to AffS r (478)= .37, p < .01, and to SoS r (478)= .40, p < .01. Integrated regulation was positively correlated to MemS r (478)= .31, p < .01, to CogS r (478)= .44, p < .01, to ComS r (478)= .32, p < .01, to MetaS r (478)= .62, p < .01, to AffS r (478)= .37, p < .01, and to SoS r (478)= .41, p < .01. Identified regulation was positively correlated to CogS r (478)= .27, p < .01, to ComS r (478)= .37, p < .01, to MetaS r (478)= .41, p < .01, to AffS r (478)= .47, p < .01, and to SoS r (478)= .21, p < .01. Introjected regulation was positively correlated to MemS r (478)= .12, p < .01, CogS r (478)= .28, p < .01, to ComS r (478)= .35, p < .01, to MetaS r (478)= .46, p < .01, to AffS r (478)= .46, p < .01, and to SoS r (478)= .24, p < .01. External regulation was negatively correlated to MemS r (478)= -.28, p < .01, to CogS r (478)= -.38, p < .01, to ComS r (478)= -.15, p < .01, to MetaS r (478)= -.49, p < .01, to AffS r (478)= -.19, p < .01, and to SoS r (478)= -.12, p < .01. Amotivation was negatively correlated to MemS r (478)= -.29, p < .01, to CogS r (478)= -.42, p < .01, to ComS r (478)= -.26, p < .01, to MetaS r (478)= -.59, p < .01, to AffS r (478)= -.27, p < .01, and to SoS r (478)= -.41, p < .01.

Table 4.9. Correlation between MTs and Pronunciation Learning Strategies (Overall)

	N	IM	InteR	IdenR	IntroR	ExteR	AM
Mem.S	478	.293**	.319**	.85	.123**	-.289**	-.298**
Cog.S	478	.437**	.444**	.277**	.286**	-.385**	-.422**
Com.S	478	.173**	.320**	.373**	.353**	-.153**	-.262**
Meta.S	478	.724**	.627**	.410**	.466**	-.493**	-.595**
Aff.S	478	.371**	.373**	.475**	.461**	-.196**	-.271**
So.S	478	.405**	.413**	.217**	.247**	-.257**	-.415**

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.10. Correlation between Orientations and PLSs (Overall)

	Memory	Cognitive	Compensation	Metacognitive	Affective	Social
Auto.	.260**	.443**	.342**	.674**	.481**	.393**
Cont.	-.187**	-.155**	.065	-.172**	.089	-.87

**. Correlation is significant at the 0.01 level (2-tailed).

To sum up, *Pearson product-moment Correlation Coefficient* was performed to explore the relationship between two motivation orientations (Auto.M and Cont.M) and use of PLSs. The results, as represented in Table 4.10, showed that AutoM was positively correlated to MemS r (478)= .26, p < .01, to CogS r (478)= .44, p < .01, to ComS r (478)= .34, p < .01, to MetaS r (478)= .67, p < .01, to AffS r (478)= .48, p < .01, and to SoS r (478)= .39, p < .01. Cont.M was negatively correlated to MemS r (478)= -.18, p < .01, to CogS r (478)= -.15, p < .01, to MetaS r (478)= -.17, p < .01.

4.4.3.1. Relationship between Motivation Types and PLSs in Turkey

A *Pearson product-moment Correlation Coefficient* was performed to explore the relationship between different motivation types: IM (M=73.90), InteR (M=41.57), IdenR (M=41.28), IntroR (M=39.65), ExteR (M=23.02), and AM (M=18.92) and pronunciation learning strategies: MemS (M=46.44), CogS (M=90.29), ComS (M=16.56), MetaS (M=42.41), AffS (M=29.06), and SoS (M=16.56) among Turkish prospective English teachers. Preliminary analysis were conducted to ensure no volition of the assumptions of normality, linearity and homoscedasticity.

Table 4.11. Correlations between MTs and PLSs in Turkey

	N	Intr.	Inte.	Iden.	Intro.	Exte.	Amo.
Memory	198	.468**	.459**	.445**	.585**	-.559**	-.533**
Cognitive	198	.620**	.496**	.535**	.619**	-.597**	-.582**
Compensation	198	.021	.107	.054	.186**	-.069	-.157*
Metacognitive	198	.673**	.557**	.571**	.687**	-.551**	-.583**
Affective	198	.511**	.427**	.443**	.475**	-.337**	-.342**
Social	198	.021	.107	.054	.186**	-.069	-.157*

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

The results of the study, as represented in Table 4.11, revealed that there were significant strong correlations between different Turkish MTs and PLSs. Intrinsic motivation was positively correlated to MemS r (198)= .46, p < .01, to CogS r (198)= .62, p < .01, to MetaS r (198)= .67, p < .01, to AffS r (198)= .51, p < .01. Integrated regulation was positively correlated to MemS r (198)= .45, p < .01, to CogS r (198)= .49, p < .01, to MetaS r (198)= .55, p < .01, to AffS r (198)= .42, p < .01. Identified regulation was positively correlated to MemS r (198)= .44, p < .01, to CogS r (198)= .53, p < .01, to MetaS r (198)= .57, p < .01, and to AffS r (198)= .44, p < .01. Introjected regulation was positively correlated to MemS r (198)= .58, p < .01, CogS r (198)= .61, p < .01, to ComS r (198)= .18, p < .01, to MetaS r (198)= .68, p < .01,

to AffS r (198)= .47, $p < .01$, and to SoS r (198)= .18, $p < .01$. External regulation was negatively correlated to MemS r (198)= -.55, $p < .01$, to CogS r (198)= -.59, $p < .01$, to MetaS r (198)= -.55, $p < .01$, and to AffS r (198)= -.33, $p < .01$. Amotivation was negatively correlated to MemS r (198)= -.53, $p < .01$, to CogS r (198)= -.58, $p < .01$, to ComS r (198)= -.15, $p < .05$, to MetaS r (198)= -.58, $p < .01$, to AffS r (198)= -.34, $p < .01$, and to SoS r (198)= -.15, $p < .05$.

Table 4.12. Correlation Orientations and Pronunciation Learning Strategies in Turkey

	Memory	Cognitive	Compensation	Metacognitive	Affective	Social
Auto.	.515**	.633**	.059	.689**	.527**	.054
Cont.	-.276**	-.298**	.024	-.217**	-.104	.024

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

To sum up, *Pearson product-moment Correlation Coefficient* was performed to explore the relationship between two motivation orientation (Auto.M and Cont.M) and use of PLSs. The results, as represented in Table 4.12, showed that Turkish autonomous motivation was strong positively correlated to MemS r (198)= .51, $p < .01$, to CogS r (198)= .63, $p < .01$, to MetaS r (198)= .68, $p < .01$, to AffS r (198)= .52, $p < .01$. Turkish controlled motivation was negatively correlated to MemS r (198)= -.27, $p < .01$, to CogS r (198)= -.29, $p < .01$, and to MetaS r (198)= -.21, $p < .01$.

4.4.3.2. Relationship between Motivation Types and PLSs in Iran

A *Pearson product-moment Correlation Coefficient* was performed to explore the relationship between different motivation types: IM. (M=78.12), InteR (M=41.24), IdenR (M=39.85), IntroR (M=39.85), ExteR (M=21.52), and AM (M=19.16) and pronunciation learning strategies: MemS (M=43.57), CogS (M=82.87), ComS (M=13.49), MetaS (M=44.56), AffS (M=27.28), and SoS (M=16.32) among overall Turkish and Iranian English teacher students. Preliminary analysis were conducted to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, as represented in Table 4.13, revealed that there were significant strong correlations between different Iranian MTs and PLSs. IM was positively correlated to MemS r (280)= .25, $p < .01$, to CogS r (280)= .46, $p < .01$, to ComS r (280)= .42, $p < .01$, to MetaS r (280)= .74, $p < .01$, to AffS r (280)= .38, $p < .01$, and to SoS r (280)= .67, $p < .01$. InteR was positively correlated to MemS r (280)= .20, $p < .01$, to CogS r (280)= .42, $p < .01$, to ComS r (280)= .45, $p < .01$, to

MetaS r (280)= .69, $p < .01$, to AffS r (280)= .34, $p < .01$, and to SoS r (280)= .61, $p < .01$. IdenR was positively correlated to MemS r (280)= -.17, $p < .01$, to ComS r (280)= .48, $p < .01$, to MetaS r (280)= .37, $p < .01$, to AffS r (280)= .47, $p < .01$, and to SoS r (280)= .30, $p < .01$. IntroR was positively correlated to MemS r (280)= -.18, $p < .01$, to ComS r (280)= .47, $p < .01$, to MetaS r (280)= .35, $p < .01$, to AffS r (280)= .47, $p < .01$, and to SoS r (280)= .28, $p < .01$. ExteR was negatively correlated to CogS r (280)= -.14, $p < .05$, to ComS r (280)= -.29, $p < .01$, to MetaS r (280)= -.44, $p < .01$, to AffS r (280)= -.13, $p < .05$, and to SoS r (280)= -.42, $p < .01$. AM was negatively correlated to MemS r (280)= -.13, $p < .05$, to CogS r (280)= -.33, $p < .01$, to ComS r (280)= -.32, $p < .01$, to MetaS r (280)= -.63, $p < .01$, to AffS r (280)= -.25, $p < .01$, and to SoS r (280)= -.57, $p < .01$.

Table 4.13. Correlation between MTs and Pronunciation Learning Strategies in Iran

	N	Intr.	Inte.	Iden.	Intro.	Exte.	Amo.
Memory	280	.254**	.205*	-177**	-.187**	-.039	-.136*
Cognitive	280	.467**	.429**	.082	.074	-.144*	-.331**
Compensation	280	.420**	.453**	.480**	.478**	-.291**	-.322**
Metacognitive	280	.747**	.691**	.373**	.359**	-.441**	-.630**
Affective	280	.387**	.344**	.477**	.473**	-.131*	-.250**
Social	280	.673**	.619**	.301**	.285**	-.420**	-.577**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

To sum up, Pearson product-moment correlation coefficient was performed to explore the relationship between two motivation orientation (Auto.M and Cont.M) and use of PLSs. The results as represented in Table 4.14 showed that Iranian autonomous motivation was positively correlated to MemS r (280)= .12, $p < .01$, to CogS r (280)= .39, $p < .01$, to ComS r (280)= .51, $p < .01$, to MetaS r (280)= .71, $p < .01$, to AffS r (280)= .47, $p < .01$, to SoS r (280)= .63, $p < .01$. Iranian controlled motivation was negatively correlated to MemS r (280)= .14, $p < .01$, to MetaS r (280)= -.13, $p < .05$, to SoS r (280)= .16, $p < .01$, and positively correlated to AffS r (280)= .18, $p < .01$.

Table 4.14. Correlation between Orientations and PLSs in Iran

	Memory	Cognitive	Compensation	Metacognitive	Affective	Social
Auto.	.126**	.391**	.519**	.716**	.472**	.631**
Cont.	-.143*	-.70	.050	-135*	.180**	-.163**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.4.4. Relationship between Motivation Types and APA

Pearson product-moment Correlation Coefficient was performed to explore the relationship between different motivation types and academic pronunciation achievement among Turkish, Iranian, and Overall English teacher students. Preliminary analysis were conducted to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study showed that there were strong significant correlations between all MTs and APA. Among Overall students: IM, with r (478)= .62, $p < .01$; InteR, with r (478)= .49, $p < .01$; IdenR, with r (478)= .24, $p < .01$; IntroR with r (478)= .32, $p < .01$ were positively correlated to APA, but ExteR with r (478)= -.56, $p < .01$; and AM with r (478)= -.59, $p < .01$ were negatively correlated to APA. Among Turkish students: IM, with r (198)= .49, $p < .01$; InteR, with r (198)= .41, $p < .01$; IdenR, with r (198)= .38, $p < .01$; IntroR with r (198)= .51, $p < .01$ were positively correlated to APA, but ExteR with r (198)= -.53, $p < .01$; and AM with r (198)= -.54, $p < .01$ were negatively correlated to APA. Among Iranian students: IM, with r (280)= .70, $p < .01$; InteR, with r (280)= .61, $p < .01$; IdenR, with r (280)= .24, $p < .01$; IntroR with r (280)= .21, $p < .01$ were positively correlated to APA, but ExteR with r (280)= -.50, $p < .01$; and AM with r (280)= -.70, $p < .01$ were negatively correlated to APA.

Table 4.15. Correlation between Motivation Types and Pronunciation Achievement

	N	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
APA (Overall)	478	.620**	.491**	.245**	.320**	-.567**	-.595**
APA (in Turkey)	198	.490**	.416**	.387**	.515**	-.637**	-.540**
APA (in Iran)	280	.702**	.611**	.240**	.217**	-.500**	-.704**

**. Correlation is significant at the 0.01 level (2-tailed).

To sum up, the Turkish, the Iranian, and the Overall English teacher students' motivation types, as represented in Table 4.15, were significantly correlated to their APA. The correlation coefficients fell into two main categories. On one side, in autonomous oriented motivation, the more the students' self-regulation and autonomy increased the more the correlation coefficients increased positively from IdenR, to InteR, and to IM. On the other side, in controlled oriented motivation, the more controlled orientation increased positively the more the correlation coefficients decreased negatively from IntroR to ExteR. IntroR was positively correlated to APA; however, ExteR was negatively correlated to APA. AM was also negatively

correlated to APA so that the more the students' AM increased the more their APA decreased.

4.4.5. Relationship between Pronunciation Learning Strategies and APA

Pearson product-moment Correlation Coefficient was also performed to explore the relationship between uses of different pronunciation learning strategies (PLSs): memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies and academic pronunciation achievement (APA) among Turkish, Iranian, and Overall prospective English teachers. Preliminary analysis were conducted to ensure no volition of the assumptions of normality, linearity and homoscedasticity. The results of the study, Table 4.16, revealed that there were strong significant positive correlations between all PLSs and APA. Among Overall students: MemS, with $r(478)= .42$, $p < .01$; CogS, with $r(478)= .49$, $p < .01$; ComS, with $r(478)= .14$, $p < .01$; MetaS, with $r(478)= .67$, $p < .01$; AffS, with $r(478)= .31$, $p < .01$; and SoS, with $r(478)= .39$, $p < .01$ were positively correlated to APA. Among Turkish students: MemS, with $r(198)= .64$, $p < .01$; CogS, with $r(198)= .69$, $p < .01$; ComS, with $r(198)= .23$, $p < .01$; MetaS, with $r(198)= .69$, $p < .01$; AffS, with $r(198)= .48$, $p < .01$; and SoS, with $r(198)= .23$, $p < .01$ were positively correlated to APA. Among Iranian students: MemS, with $r(280)= .30$, $p < .01$; CogS, with $r(280)= .44$, $p < .01$; ComS, with $r(280)= .31$, $p < .01$; MetaS, with $r(280)= .65$, $p < .01$; AffS, with $r(280)= .30$, $p < .01$; and SoS, with $r(280)= .59$, $p < .01$ were positively correlated to APA.

Table 4.16. Correlation between PLSs and Pronunciation Achievement

	N	Mem.S	Cog.S	Com.S	Meta.S	Aff.S	So.S
APA (Overall)	478	.427**	.491**	.140**	.673**	.311**	.394**
APA (in Turkey)	198	.644**	.690**	.233**	.693**	.481**	.233**
APA (in Iran)	280	.305**	.448**	.310**	.652**	.300**	.591**

**. Correlation is significant at the 0.01 level (2-tailed).

4.5. Factors Affecting Motivation Types and Pronunciation Learning Strategies

Research question 4: Is there any statistically significant difference between motivational types and pronunciation learning strategies in terms of *a*) gender, *b*) nationality, *c*) being resident in a native English speaking country (USA, England, Canada, New Zealand), *d*) length of being resident in the native speaking country, and *e*) pronunciation achievement (high, moderate, and low)?

4.5.1. Gender and Motivation Types

An *Independent-Samples t-Test* was conducted to compare the MTs scores for male (N=113) and female (N=365) among Overall participants of the study. The results of the Overall study revealed that there were significant differences in all MTs scores for males and females. The results of *descriptive statistics*, as represented in Table 4.17, showed that the highest mean scores for intrinsic motivation, integrated regulation, identified regulation, introjected regulation were found in males group but the highest mean scores for external regulation and amotivation were found in females group. Moreover, the results of the independent-samples t-test showed statistically significant differences between male and female groups in these MTs: $t(476)=2.61$, $p < 0.05$ for intrinsic motivation, $t(476)=3.09$, $p < 0.05$ for integrated regulation, $t(476)=3.54$, $p < 0.05$ for identified regulation, $t(476)=3.75$, $p < 0.05$ for introjected regulation, $t(476)=-3.78$, $p < 0.05$ for external regulation, $t(476)=-3.46$, $p < 0.05$ for amotivation.

Table 4.17. Results of *t-Test* for Gender and Motivation Types (Overall)

Variables			Group Statistics		Independent Samples t-Test		
Variables	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	Male	113	78.38	8.69	2.61	476	.009
	Female	365	75.75	9.55			
Inte.	Male	113	42.47	4.07	3.09	476	.002
	Female	365	41.05	4.97			
Iden.	Male	113	42.21	6.24	3.54	476	.000
	Female	365	39.89	6.00			
Intro	Male	113	41.63	6.31	3.75	476	.000
	Female	365	39.19	5.96			
Exte.	Male	113	19.30	9.03	-3.78	476	.000
	Female	365	23.02	9.54			
Amo.	Male	113	17.45	5.69	-3.46	476	.001
	Female	365	19.56	5.93			

The results of the Overall study showed that the overall male English teacher students were more autonomous motivated than the overall female students. Whereas the overall males were more autonomous oriented (self-regulated) learners, the overall females were more externally controlled oriented (other-regulated) leaners.

4.5.1.1. Gender and Motivation Types in Turkey

An *Independent-Samples t-Test* was conducted to compare the MTs scores for male (N=50) and female (N=148) among Turkish participants of the study. The results of *descriptive statistics*, as represented in Table 4.18, revealed that the highest mean scores for intrinsic motivation were found in males group. Regarding integrated regulation, identified regulation, introjected regulation both males and females groups received nearly the same mean scores. The highest mean scores for external regulation and amotivation were found in females group. However, the results of the independent-samples t-test showed statistically significant differences between male and female groups only in one type of MTs: $t(196)$=-2.30 , $p < 0.05$ for external regulation.

Table 4.18. Results of *t-Test* for Gender and Motivation Types in Turkey

Variables		Group Statistics			Independent Samples t-Test		
Variables	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	Male	50	74.02	7.82	.114	196	.909
	Female	148	73.86	8.45			
Inte.	Male	50	41.52	4.32	-.099	196	.922
	Female	148	41.59	4.71			
Iden.	Male	50	41.28	5.09	-.005	196	.996
	Female	148	41.28	4.78			
Intro	Male	50	39.96	5.11	.493	196	.622
	Female	148	39.54	5.11			
Exte.	Male	50	20.16	9.77	-2.30	196	.022
	Female	148	23.99	10.28			
Amo.	Male	50	18.00	5.05	-1.44	196	.149
	Female	148	19.23	5.27			

The results of the study also showed that although the highest mean scores for Turkish intrinsic motivation were observed in male group and the highest mean scores for Turkish amotivation were observed in females group, no significant differences were found between male and female groups in terms of Turkish intrinsic motivation and amotivation. Gender difference was found only in ExteR with females' superiority.

4.5.1.2. Gender and Motivation Types in Iran

An *Independent-Samples t-Test* was conducted to compare the MTs scores for male (N=63) and female (N=217) among Iranian participants of the study. The results of

the study revealed that there were significant differences in all MTs scores for males and females. The results of *descriptive statistics*, Table 4.19, revealed that the highest mean scores for intrinsic motivation, integrated regulation, identified regulation, introjected regulation were found in males group but the highest mean scores for external regulation and amotivation were found in females group. Moreover, the results of the independent-samples t-test showed statistically significant differences between male and female groups in these MTs: $t(278)=4.03$, $p < 0.05$ for intrinsic motivation; $t(278)=4.39$, $p < 0.05$ for integrated regulation; $t(278)=4.20$, $p < 0.05$ for identified regulation; $t(278)=4.27$, $p < 0.05$ for introjected regulation; $t(278)=-3.06$, $p < 0.05$ for external regulation; $t(278)=-3.13$, $p < 0.05$ for amotivation.

Table 4.19. Results of *t-Test* for Gender and Motivation Types in Iran

Variables		Group Statistics			Independent Samples t-Test		
Variables	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	Male	63	81.85	7.77	4.03	278	.000
	Female	217	77.03	10.06			
Inte.	Male	63	43.23	3.73	4.39	278	.000
	Female	217	40.66	5.12			
Iden.	Male	63	42.95	6.98	4.20	278	.000
	Female	217	38.95	6.55			
Intro	Male	63	42.96	6.88	4.27	278	.000
	Female	217	38.94	6.47			
Exte.	Male	63	18.61	8.42	-3.06	278	.003
	Female	217	22.36	8.95			
Amo.	Male	63	16.96	6.16	-3.136	278	.002
	Female	217	19.79	6.34			

The results of the study showed that Iranian male prospective English teachers were more autonomous motivated than Iranian female prospective teachers. Whereas the Iranian males were more self-regulated and autonomous oriented learners, the Iranian females were more externally controlled oriented leaners.

4.5.2. Gender and Pronunciation Learning Strategies

An *Independent-Samples t-Test* was conducted to compare the PLSs scores for male (N=113) and female (N=365) among overall participants of the study. The results of the study revealed that there were significant differences in four types of PLSs scores for males and females among Overall participants. The results of

descriptive statistics, as represented in Table 4.20, revealed that the highest mean scores for memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies were found in males group. Moreover, the results of the independent-samples t-test (Table 4.20) showed statistically significant differences between male and female groups in these four types of PLSs: $t(476)=1.81$, $p < 0.05$ for CogS; $t(476)=3.18$, $p < 0.05$ for ComS; $t(476)=3.01$, $p < 0.05$ for MetaS; $t(476)=2.23$, $p < 0.05$ for AffS. The results of the study revealed that males group used all types of PLSs more frequently than females and there were significant gender differences regarding use of CogS, ComS, MetaS, and AffS.

Table 4.20. Results of *t-Test* for Gender and PLSs (Overall)

Variables		Group Statistics			Independent Samples t-Test		
PLSs	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Mem.	Male	113	45.44	8.24	.791	476	.429
	Female	365	44.58	8.79			
Cog.	Male	113	88.21	14.40	1.81	476	.005
	Female	365	85.24	15.41			
Com.	Male	113	15.74	3.61	3.18	476	.002
	Female	365	14.46	3.75			
Meta.	Male	113	45.54	7.74	3.01	476	.003
	Female	365	43.09	7.53			
Aff.	Male	113	28.81	3.79	2.23	243	.020
	Female	365	27.77	5.01			
So.	Male	113	16.71	2.99	1.22	476	.221
	Female	365	16.33	2.87			

4.5.2.1. Gender and Pronunciation Learning Strategies in Turkey

An *Independent-Samples t-Test* was also conducted to compare the PLSs scores for male (N=50) and female (N=148) among Turkish participants of the study. The results of the study revealed that there were no significant differences in PLSs scores for males and females. The results of *descriptive statistics*, as represented in Table 4.21, revealed that the highest mean scores for memory strategies, cognitive strategies, compensation strategies, metacognitive strategies were found in males group, and the highest mean scores for compensation strategies, affective strategies, and social strategies were found in females group. However, the results of the independent-samples t-test (Table 4.21) showed statistically no significant

differences between male and female groups in none of PLSs. To sum up, regarding the results of the descriptive statistics, males group used most frequently MemS, CogS, and MetaS more than females group, Females group also more frequently used ComS, AffS, SoS more than males group; however, on the basis of independent-samples t-test there were no significant differences.

Table 4.21. Results of *t-Test* for Gender and PLSs in Turkey

Variables		Group Statistics			Independent Samples t-Test		
PLSs	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Mem.	Male	50	48.84	8.26	1.99	.196	.472
	Female	148	45.63	10.27			
Cog.	Male	50	93.14	16.91	1.29	.196	.198
	Female	148	89.33	18.35			
Com.	Male	50	16.16	3.23	-1.12	.196	.260
	Female	148	16.70	2.83			
Meta.	Male	50	42.86	7.41	.484	.196	.629
	Female	148	42.26	7.57			
Aff.	Male	50	26.12	3.73	.102	.196	.919
	Female	148	29.04	4.54			
So.	Male	50	16.16	3.23	-1.12	.196	.260
	Female	148	16.70	2.83			

4.5.2.2. Gender and Pronunciation Learning Strategies in Iran

An *Independent-Samples t-Test* was also conducted to compare the PLSs scores for male (N=63) and female (N=217) among Iranian participants of the study. The results of the study revealed that there were significant differences in four types of PLSs scores for males and females. The results of *descriptive statistics*, as represented in Table 4.22, revealed that the highest mean scores for cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies were found in males group, and the highest mean scores in memory strategies were found in female group. Moreover, the results of the independent-samples t-test showed statistically significant differences between male and female groups in these four types of PLSs: $t(278)=4.53$, $p < 0.05$ for ComS; $t(278)=3.77$, $p < 0.05$ for MetaS; $t(278)=2.77$, $p < 0.05$ for AffS; $t(278)=2.64$, $p < 0.05$ for SoS. The results of the study revealed that Iranian males group used five types of PLSs more frequently than females, and female more often used memory

strategies more than males; however, there were significant gender differences only regarding use of ComS, MetaS, AffS, and SoS.

Table 4.22. Results of *t-Test* for Gender and PLSs in Iran

Variables		Group Statistics			Independent Samples t-Test		
PLSs	Gender	N	Mean	SD	t	df	Sig (2-tailed)
Mem.	Male	63	42.53	7.13	-1.24	278	.213
	Female	217	43.87	7.56			
Cog.	Male	63	84.30	10.65	1.07	278	.282
	Female	217	82.45	12.31			
Com.	Male	63	15.41	3.87	4.53	94.15	.000
	Female	217	12.94	3.54			
Meta.	Male	63	47.68	2.37	3.77	278	.000
	Female	217	43.65	7.48			
Aff.	Male	63	28.57	3.85	2.77	132.5	.006
	Female	217	26.91	5.14			
So.	Male	63	17.15	2.73	2.64	278	.009
	Female	217	16.08	2.87			

4.5.3. Nationality and Motivation Types

An *Independent-Samples t-Test* was conducted to compare the MTs scores for nationality, Turkish (N=198) and Iranian (N=280). The results of *descriptive statistics*, Table 4.23, revealed that the highest mean scores for intrinsic motivation and amotivation were found in Iranian students, the highest mean scores in identified regulation and external regulation were found in Turkish students. Regarding integrated regulation and introjected regulation, there were nearly the same mean scores between Turkish and Iranian prospective English teachers. Moreover, the results of the *independent-samples t-test* (Table 4.23) showed statistically significant differences between Turkish and Iranian in these MTs: $t(476)=-5.08$, $p < 0.05$ for intrinsic motivation; $t(476)=2.67$, $p < 0.05$ for identified regulation; $t(476)=2.65$, $p < 0.05$ for external regulation. The results of the study showed that there were nationality differences regarding intrinsic, identified, and external regulations. Iranian English teacher students mostly preferred intrinsic motivation but Turkish students more often preferred identified and external regulations.

Table 4.23. Results of *t-Test* for Nationality and Motivation Types

Variables		Group Statistics			Independent Samples t-Test		
Variables	Nationality	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	Turkish	198	23.90	8.27	-5.08	476	.000
	Iranian	280	78.12	9.79			
Inte.	Turkish	198	41.57	4.61	.736	476	.462
	Iranian	280	41.24	4.95			
Iden.	Turkish	198	41.28	4.84	2.67	476	.008
	Iranian	280	39.85	6.84			
Intro	Turkish	198	39.65	5.10	-.372	474	.710
	Iranian	280	39.85	6.77			
Exte.	Turkish	198	23.02	10.27	2.65	476	.028
	Iranian	280	21.52	8.96			
Amo.	Turkish	198	18.92	5.23	-.443	476	.656
	Iranian	280	19.16	6.40			

4.5.4. Nationality and Pronunciation Learning Strategies

An *Independent-Samples t-Test* was conducted to compare the PLSs scores for nationality, Turkish (N=198) and Iranian (N=280). The results of *descriptive statistics*, Table 4.24, revealed that the highest mean scores for memory strategies, cognitive strategies, compensation strategies, affective strategies, and social strategies were found in Turkish students, the highest mean scores in metacognitive strategies were found in Iranian students. Moreover, the results of the *independent-samples t-test* (Table 4.24) showed statistically significant differences between Turkish and Iranian prospective English teachers in the use of the following PLSs: $t(476)=3.44$, $p < 0.05$ for memory strategies; $t(476)=5.05.$, $p < 0.05$ for cognitive strategies; $t(476)=9.99$, $p < 0.05$ for compensation strategies; $t(476)=-3.04$, $p < 0.05$ for metacognitive strategies; and $t(476)=4.08$, $p < 0.05$ for affective strategies. The results of the study showed that there were nationality differences regarding all types of PLSs, except social strategies. Turkish students most often used MemS, CogS, ComS, and AffS more than Iranian counterparts, Iranian students most frequently preferred using metacognitive strategies more than Turkish counterparts.

Table 4.24. Results of t-test for Nationality and Pronunciation Learning Strategies

Variables		Group Statistics			Independent Samples t-Test		
PLSs	Nationality	N	Mean	SD	t	df	Sig (2-tailed)
Mem.	Turkish	198	46.44	9.88	3.44	348	.001
	Iranian	280	43.58	7.47			
Cog.	Turkish	198	90.29	18.04	5.05	317	.000
	Iranian	280	82.87	11.96			
Com.	Turkish	198	16.57	2.94	9.99	471	.000
	Iranian	280	13.50	3.76			
Meta.	Turkish	198	42.41	7.51	-3.04	476	.002
	Iranian	280	44.56	7.43			
Aff.	Turkish	198	29.07	4.34	4.08	476	.000
	Iranian	280	27.29	4.92			
So.	Turkish	198	16.57	2.94	.892	476	.373
	Iranian	280	16.33	2.87			

4.5.5. Being Resident and Motivation Types

An *Independent-Samples t-Test* was conducted to compare the MTs scores for being resident in a native English speaking country. The results of *descriptive statistics*, Table 4.25, revealed that the highest mean scores for intrinsic motivation, integrated regulation, and identified regulation were found among students who were resident to native English speaking countries, the highest mean scores in introjected regulation, external regulation, and amotivation were found among students who had never been to any English speaking country. However, the results of the *independent-samples t-test* (Table 4.25) revealed statistically significant differences in these MTs: $t(476)=4.17$, $p < 0.05$ for identified regulation; $t(476)=-4.75$, $p < 0.05$ for introjected regulation; $t(476)= -3.15$, $p < 0.05$ for external regulation. The results of the study showed that there were being resident differences regarding identified, introjected, and external regulations. Prospective English teachers who had been to a native English speaking country were more autonomous oriented rather than the students who were not resident to any native English speaking country. Whereas the students who had been to a NESC preferred intrinsic, integrated, and identified regulations, the students who had never been to NESC most often preferred introjected and external regulations. Moreover amotivation among the students who had never been to NESC was more than other counterparts, although, in *independent samples t-Test* no significant difference was found.

Table 4.25. Results of *t-Test* for Being Resident and Motivation Types

Variables		Group Statistics			Independent Samples t-Test		
MTs	Being in ESC	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	Yes	30	77.23	11.75	.515	476	.606
	No	448	76.31	9.25			
Inte.	Yes	30	41.40	6.42	.332	476	.740
	No	448	41.10	4.69			
Iden.	Yes	30	40.74	5.98	4.17	476	.000
	No	448	36.00	6.76			
Intro	Yes	30	34.73	6.36	-4.75	476	.000
	No	448	40.10	5.97			
Exte.	Yes	30	17.60	8.05	-3.15	34.71	.003
	No	448	22.45	9.58			
Amo.	Yes	30	17.30	7.01	-1.68	476	.093
	No	448	19.18	5.85			

4.5.6. Being Resident and Pronunciation Learning Strategies

An *Independent-Samples t-Test* was also conducted to compare the PLSs scores for being resident in a native English speaking country. The results of *descriptive statistics*, as represented in Table 4.26, revealed that the highest mean scores for memory strategies, cognitive strategies, metacognitive strategies, affective strategies, and social strategies were found among students who were resident to native English speaking countries, the highest mean scores in compensation strategies were found among students who had never been to any English speaking country. However, the results of the *independent-samples t-test* (Table 4.26) revealed statistically significant differences only in one type of PLSs: $t(476)=2.93$, *p* < 0.05 for affective strategies. The results of the study showed that the prospective English teachers who had been to a NESC before more frequently used PLSs than other counterparts.

Table 4.26. Results of *t-Test* for Being Resident and Pronunciation Learning Strategies

Variables		Group Statistics			Independent Samples t-Test		
PLSs	Being in ESC	N	Mean	SD	t	df	Sig (2-tailed)
Mem.	Yes	30	45.53	9.28	.502	476	.616
	No	448	44.71	8.63			
Cog.	Yes	30	85.98	15.15	.203	476	.839
	No	448	85.40	16.35			
Com.	Yes	30	14.56	2.81	-1.06	32.28	.293
	No	448	14.80	3.82			
Meta.	Yes	30	43.76	8.25	.070	476	.944
	No	448	43.66	7.61			
Aff.	Yes	30	28.60	4.66	2.93	476	.004
	No	448	25.56	5.68			
So.	Yes	30	16.70	2.80	.536	476	.592
	No	448	16.40	2.91			

4.5.7. Length of Resident and Motivation Types

An *Independent-Samples t-Test* was conducted to compare the MTs scores for length of resident in a native English speaking country. The students' length of resident in NESC had been studies into two categories, between "1-6" months and between 7-12 months. The results of *descriptive statistics*, Table 4.27, revealed that the highest mean scores for intrinsic and integrated regulations were found in the "7-12" group, the highest mean scores in identified, introjected, external, and amotivation were found in the "1-6" group. However, the results of the *independent-samples t-test* (Table 4.27) revealed statistically no significant differences in the motivation types. The results of the study showed that, contrary to the findings of being resident in a native English speaking country that had significant effect on motivation types, length of being resident had not any significant effect on motivation type; even though, there were mean score differences between the groups of "1-6" and "7-12). It might be because of because of that the length of resident was not so much long or because of social and environmental differences.

Table 4.27. Results of *t-Test* for Length of Resident and Motivation Types

Variables		Group Statistics			Independent Samples t-Test		
MTs	LoR	N	Mean	SD	t	df	Sig (2-tailed)
Intr.	1-6	17	78.88	14.52	-1.26	28	.216
	7-12	13	80.30	5.89			
Inte.	1-6	17	39.94	7.78	-1.13	28	.266
	7-12	13	42.61	3.81			
Iden.	1-6	17	37.52	7.08	1.44	28	.160
	7-12	13	34.00	6.00			
Intro	1-6	17	35.17	6.71	.430	28	.671
	7-12	13	34.15	6.08			
Exte.	1-6	17	19.29	9.46	1.43	28	.163
	7-12	13	15.23	5.29			
Amo.	1-6	17	18.23	8.71	-1.07	28	.291
	7-12	13	16.06	3.86			

4.5.8. Length of Resident and Pronunciation Learning Strategies

An *Independent-Samples t-Test* was also conducted to compare the PLSs scores for length of resident in a native English speaking country. The students' length of resident in NESC had been studies into two categories, between "1-6" months and between 7-12 months. The results of *descriptive statistics*, Table 4.28, revealed that the highest mean scores for memory, cognitive, and metacognitive strategies were found in the "7-12" group, the highest mean scores in compensation, affective, and social strategies were found in the "1-6" group. However, the results of the *independent-samples t-test* (Table 4.28) revealed statistically no significant differences in the use of PLSs, regarding the length of being resident in native English speaking countries.

Table 4.28. Results of *t-Test* for Length of Resident and PLSs

PLSs	LoR	N	Mean	SD	t	df	Sig (2-tailed)
Variables			*Group Statistics*		*Independent Samples t-Test*		
Mem.	1-6	17	43.94	10.50	-1.07	28	.291
	7-12	13	47.91	7.28			
Cog.	1-6	17	83.11	17.96	-.870	28	.391
	7-12	13	88.38	14.10			
Com.	1-6	17	14.35	2.87	.280	28	.837
	7-12	13	14.15	2.19			
Meta.	1-6	17	42.17	7.29	-1.21	28	.234
	7-12	13	45.84	9.23			
Aff.	1-6	17	26.52	16.01	1.06	28	.297
	7-12	13	24.30	5.08			
So.	1-6	17	16.23	2.90	-1.03	28	.308
	7-12	13	17.30	2.65			

4.5.9. Academic Pronunciation Achievement and Motivation Types

A *one-way analysis of variance (ANOVA)* conducted to explore pronunciation achievement differences among Overall prospective English teachers' MTs. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, as represented in Table 4.29, was found to be statistically significant in intrinsic regulation, $F(2, 475) =155.68$, $p < .05$; in integrated regulation, $F(2, 475) =68.79$, $p < .05$; in identified regulation, $F(2, 475) =16.65$, $p < .05$; in introjected regulation, $F(2, 475) =28.57$, $p < .05$; in external regulation, $F(2, 475) =131.30$, $p < .05$; and in amotivation, $F(2, 475) =154.83$, $p < .05$.

In order to determine whether there were significant differences between the groups, by not simply relying on ANOVA indexes, the Robust Tests (i.e. Welch and Brown-Forsythe Statistics) for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their motivation types.

Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value (η^2) revealed strong significant differences between the groups in: intrinsic regulation ($\eta^2=0.32$), integrated regulation ($\eta^2=0.24$), external regulation ($\eta^2=0.35$), and amotivation ($\eta^2=0.39$) ($\eta^2 >0.14$); and moderate significant differences in:

introjected regulation ($\eta^2=0.10$), and identified regulations ($\eta^2=0.06$) ($\eta^2 <0.14$). The strength of the differences, as indexed by η^2, was 0.32, 0.24, 0.35, 0.39, 0.10, and 0.06. As represented in Table 4.29, the strength of "*Effect Size*" in intrinsic regulation, integrated regulation, external regulation, and amotivation was more than $\eta^2 >0.14$, and in introjected and identified regulations less than $\eta^2 <0.14$.

Table 4.29. Results of *One-way ANOVA Test* for APA and Motivation Types (Overall)

Variables		Group Statistics			ANOVA			
MTs	APA	N	Mean	SD	df	F	Sig.	η^2
Intr.	High	293	80.93	5.73	2, 475	155.68	.000	0.32
	Moderate	138	70.49	9.20				
	Low	47	65.19	9.71				
Inte.	High	293	43.23	3.16	2, 475	68.79	.000	0.24
	Moderate	138	39.98	5.27				
	Low	47	36.87	5.83				
Iden.	High	293	41.68	6.27	2, 475	16.65	.000	0.06
	Moderate	138	38.66	5.41				
	Low	47	37.95	5.19				
Intro.	High	293	41.33	6.23	2, 475	28.57	.000	0.10
	Moderate	138	37.68	5.12				
	Low	47	36.17	4.76				
Exte.	High	293	17.64	7.81	2, 475	131.30	.000	0.35
	Moderate	138	28.72	7.42				
	Low	47	30.87	7.53				
Amo.	High	293	16.11	3.62	2, 475	154.83	.000	0.39
	Moderate	138	23.41	5.87				
	Low	47	24.68	5.94				

A *Tukey HSD post-hoc Test* was also performed to determine which groups differ significantly from others. The results of the test, as shown in Table 4.30, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in all MTs: intrinsic regulation, integrated, identified, introjected, and external regulations; between the "high-low" and the "low-high" groups in all MTs: intrinsic regulation, integrated, identified, introjected, and external regulations; and between the "moderate-low" and the "low-moderate" groups only in intrinsic regulation and integrated regulation.

Table 4.30. Post hoc Comparisons for APA and Motivation Types (Overall)

Dependent Variables	Tukey HSD		Mean Difference	Std. Error	Sig.
	(I) APA	(J) APA	(I-J)		
Intr.	High	Moderate	10.44581*	.75736	.000
		Low	15.74708*	1.15265	.000
	Moderate	High	-10.44581*	.75736	.000
		Low	5.30126*	1.23890	.000
	Low	High	-15.74708*	1.15265	.000
		Moderate	-5.30126*	1.23890	.000
Inte.	High	Moderate	4.24999*	.43168	.000
		Low	6.36315*	.65698	.000
	Moderate	High	-4.24999*	.43168	.000
		Low	2.11317*	.70614	.008
	Low	High	-6.36315*	.65698	.000
		Moderate	-2.11317*	.70614	.008
Iden.	High	Moderate	3.01593*	.61342	.000
		Low	3.72515*	.93358	.000
	Moderate	High	-3.01593*	.61342	.000
		Low	.70922	1.00344	.760
	Low	High	-3.72515*	.93358	.000
		Moderate	-.70922	1.00344	.760
Intro.	High	Moderate	3.64990*	.59924	.000
		Low	5.16085*	.91199	.000
	Moderate	High	-3.64990*	.59924	.000
		Low	1.51095	.98024	.273
	Low	High	-5.16085*	.91199	.000
		Moderate	-1.51095	.98024	.273
Exte.	High	Moderate	-11.07617*	.79262	.000
		Low	-13.22388*	1.20630	.000
	Moderate	High	11.07617*	.79262	.000
		Low	-2.14770	1.29657	.223
	Low	High	13.22388*	1.20630	.000
		Moderate	2.14770	1.29657	.223
Amo.	High	Moderate	-7.30042*	.47826	.000
		Low	-8.56822*	.72788	.000
	Moderate	High	7.30042*	.47826	.000
		Low	-1.26781	.78235	.238
	Low	High	8.56822*	.72788	.000
		Moderate	1.26781	.78235	.238

4.5.9.1. Academic Pronunciation Achievement and MTs in Turkey

A *one-way analysis of variance (ANOVA)* conducted to explore pronunciation achievement differences among Turkish students' MTs. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, as represented in Table 4.31, was found to be statistically significant in intrinsic regulation, $F(2,195)$ =33.30, p < .05; in integrated regulation, $F(2,195)$ =21.73, p < .05; in identified regulation, $F(2,195)$ =20.55, p < .05; in introjected regulation, $F(2,195)$ =41.29, p < .05; in external regulation, $F(2,195)$ =90.55, p < .05; and in amotivation, $F(2,195)$ =56.54, p < .05.

Table 4.31. Results of *One-way ANOA Test* for APA and Motivation Types in Turkey

Variables		Group Statistics			ANOVA			
MTs	APA	N	Mean	SD	df	F	Sig.	η^2
Intr.	High	95	78.12	4.24	2, 195	33.30	.000	0.25
	Moderate	71	70.90	8.80				
	Low	32	68.03	9.74				
Inte.	High	95	43.55	2.28	2, 195	21.73	.000	0.18
	Moderate	71	40.19	5.52				
	Low	32	38.75	5.08				
Iden.	High	95	43.37	2.59	2, 195	20.55	.000	0.17
	Moderate	71	39.47	5.67				
	Low	32	39.06	5.48				
Intro.	High	95	42.51	2.88	2, 195	41.29	.000	0.29
	Moderate	71	37.36	5.25				
	Low	32	36.21	5.37				
Exte.	High	95	15.63	7.08	2, 195	90.55	.000	0.48
	Moderate	71	29.49	7.75				
	Low	32	30.62	7.73				
Amo.	High	95	15.63	3.08	2, 195	56.54	.000	0.36
	Moderate	71	21.95	5.02				
	Low	32	21.96	4.93				

In order to determine whether there were significant differences between the groups, by not simply relying on ANOVA indexes, the Robust Tests for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their motivation types. Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value (η^2) revealed strong significant

differences between the groups in the MTs of intrinsic motivation (η^2=0.25), integrated regulation (η^2=0.18), identified regulation (η^2=0.17) introjected regulation (η^2=0.29), external regulation (η^2=0.48), and amotivation (η^2=0.36) (η^2>0.14). The strength of the differences, as indexed by η^2, were 0.25, 0.18, 0.17, 0.29, 0.48, and 0.36.

A *Tukey HSD post-hoc Test* was also administered to determine which groups differ significantly from others. The results of the test, as shown in Table 4.32, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in all MTs: intrinsic regulation, integrated, identified, introjected, and external regulations; between the "high-low" and the "low-high" groups in all MTs: intrinsic regulation, integrated, identified, introjected, and external regulations; and between the "moderate-low" and the "low-moderate" groups there were no significant differences in any of motivation types.

Table 4.32. Post hoc Comparisons for APA and Motivation Types in Turkey

Dependent Variables	Tukey HSD		Mean Difference	Std. Error	Sig.
	(I) APA	(J) APA	(I-J)		
Intr.	High	Moderate	7.22491*	1.12689	.000
		Low	10.09507*	1.46820	.000
	Moderate	High	-7.22491*	1.12689	.000
		Low	2.87016	1.52945	.148
	Low	High	-10.09507*	1.46820	.000
		Moderate	-2.87016	1.52945	.148
Inte.	High	Moderate	3.36071*	.65763	.000
		Low	4.80789*	.85681	.000
	Moderate	High	-3.36071*	.65763	.000
		Low	1.44718	.89255	.239
	Low	High	-4.80789*	.85681	.000
		Moderate	-1.44718	.89255	.239
Iden.	High	Moderate	3.90007*	.69471	.000
		Low	4.31645*	.90512	.000
	Moderate	High	-3.90007*	.69471	.000
		Low	.41637	.94287	.898
	Low	High	-4.31645*	.90512	.000
		Moderate	-.41637	.94287	.898
Intro.	High	Moderate	5.14959*	.67459	.000
		Low	6.29704*	.87890	.000
	Moderate	High	-5.14959*	.67459	.000
		Low	1.14745	.91557	.423
	Low	High	-6.29704*	.87890	.000
		Moderate	-1.14745	.91557	.423
Exte.	High	Moderate	-13.86138*	1.16639	.000
		Low	-14.99342*	1.51965	.000
	Moderate	High	13.86138*	1.16639	.000
		Low	-1.13204	1.58305	.755
	Low	High	14.99342*	1.51965	.000
		Moderate	1.13204	1.58305	.755
Amo.	High	Moderate	-6.32617*	.65641	.000
		Low	-6.33717*	.85522	.000
	Moderate	High	6.32617*	.65641	.000
		Low	-.01100	.89089	1.000
	Low	High	6.33717*	.85522	.000
		Moderate	.01100	.89089	1.000

4.5.9.2. Academic Pronunciation Achievement and MTs in Iran

A *one-way analysis of variance (ANOVA)* conducted to explore pronunciation achievement differences in Iranian MTs. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, as represented in Table 4.33, was found to be statistically significant in intrinsic regulation, $F(2, 277) =134.88$, $p < .05$; in integrated regulation, $F(2, 277) =82.61$, $p < .05$; in identified regulation, $F(2, 277) =8.50$, $p < .05$; in introjected regulation, $F(2, 277) =8.88$, $p < .05$; in external regulation, $F(2, 277) =49.11$, $p < .05$; and in amotivation, $F(2, 277) =139.45$, $p < .05$.

Table 4.33. Results of *One-way ANOA Test* for APA and Motivation Types in Iran

MTs	APA	N	Mean	SD	df	F	Sig.	η^2
			Group Statistics			ANOVA		
Intr.	High	198	82.28	5.87	2, 77	134.88	.000	0.49
	Moderate	67	70.05	9.66				
	Low	15	59.13	6.50				
Inte.	High	198	43.08	3.50	2, 77	82.61	.000	0.37
	Moderate	67	37.70	4.70				
	Low	15	32.86	5.42				
Iden.	High	198	40.86	7.29	2, 77	8.50	.000	0.05
	Moderate	67	37.80	5.01				
	Low	15	35.60	3.64				
Intro.	High	198	40.76	7.25	2, 77	8.88	.001	0.04
	Moderate	67	38.01	5.01				
	Low	15	36.06	3.23				
Exte.	High	198	18.61	7.97	2, 77	49.11	.000	0.26
	Moderate	67	27.91	7.03				
	Low	15	31.40	7.33				
Amo.	High	198	16.34	3.84	2, 77	139.45	.000	0.50
	Moderate	67	24.95	6.34				
	Low	15	30.46	3.09				

In order to determine whether there were significant differences between the groups, by not just simply relying on ANOVA indexes, the Robust Tests (i.e. Welch and Brown-Forsythe Statistics) for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their motivation types.

Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value (η^2) revealed strong significant differences between the groups in: intrinsic regulation ($\eta^2=0.49$), integrated regulation ($\eta^2=0.37$), external regulation ($\eta^2=0.26$), and amotivation ($\eta^2=0.50$) ($\eta^2>0.14$); and moderate significant differences in: identified regulation ($\eta^2=0.05$), and introjected regulation ($\eta^2=0.04$) ($\eta^2<0.14$). The strength of the differences, as indexed by η^2, were 0.49, 0.37, 0.26, 0.50, 0.05, and 0.04.

A *Tukey HSD post-hoc Test* was also performed to determine which groups differ significantly from others. The results of the test, Table 4.34, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in all MTs: intrinsic motivation, integrated, identified, introjected, and external regulations, between the "high-low" and the "low-high" groups in all MTs: intrinsic motivation, integrated, identified, introjected, and external regulations, between the "moderate-low" and the "low-moderate" groups only in intrinsic motivation, integrated regulation, and amotivation.

Table 4.34. Post hoc Comparisons for APA and Motivation Types in Iran

Dependent Variables	Tukey HSD		Mean Difference (I-J)	Std. Error	Sig.
	(I) APA	(J) APA			
Intr.	High	Moderate	12.22818*	.98866	.000
		Low	23.15455*	1.87330	.000
	Moderate	High	-12.22818*	.98866	.000
		Low	10.92637*	1.99811	.000
	Low	High	-23.15455*	1.87330	.000
		Moderate	-10.92637*	1.99811	.000
Inte.	High	Moderate	5.37932*	.55650	.000
		Low	10.21414*	1.05445	.000
	Moderate	High	-5.37932*	.55650	.000
		Low	4.83483*	1.12471	.000
	Low	High	-10.21414*	1.05445	.000
		Moderate	-4.83483*	1.12471	.000
Iden.	High	Moderate	3.06272*	.94261	.004
		Low	5.26869*	1.78603	.010
	Moderate	High	-3.06272*	.94261	.004
		Low	2.20597	1.90503	.479
	Low	High	-5.26869*	1.78603	.010
		Moderate	-2.20597	1.90503	.479
Intro.	High	Moderate	2.74770*	.93735	.010
		Low	4.69596*	1.77608	.023
	Moderate	High	-2.74770*	.93735	.010
		Low	1.94826	1.89441	.560
	Low	High	-4.69596*	1.77608	.023
		Moderate	-1.94826	1.89441	.560
Exte.	High	Moderate	-9.29429*	1.09254	.000
		Low	-12.78384*	2.07012	.000
	Moderate	High	9.29429*	1.09254	.000
		Low	-3.48955	2.20804	.256
	Low	High	12.78384*	2.07012	.000
		Moderate	3.48955	2.20804	.256
Amo.	High	Moderate	-8.61179*	.64109	.000
		Low	-14.12323*	1.21473	.000
	Moderate	High	8.61179*	.64109	.000
		Low	-5.51144*	1.29566	.000
	Low	High	14.12323*	1.21473	.000
		Moderate	5.51144*	1.29566	.000

4.5.10. Pronunciation Achievement and Pronunciation Learning Strategies

A *one-way analysis of variance (ANOVA)* conducted to explore pronunciation achievement differences in PLSs among Overall Turkish and Iranian participants. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, Table 4.35, was found to be statistically significant in memory strategies, $F(2, 475) = 55.79$, $p < .05$; in cognitive strategies, $F(2, 475) = 83.06$, $p < .05$; in compensation strategies, $F(2, 475) = 4.95$, $p < .05$; in metacognitive strategies, $F(2, 475) = 217.21$, $p < .05$; in affective strategies, $F(2, 475) = 26.94$, $p < .05$; in social strategies, $F(2, 475) = 45.05$, $p < .05$.

In order to determine whether there were significant differences between the groups by not simply relying on ANOVA indexes, the Robust Tests (i.e. Welch and Brown-Forsythe Statistics) for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their use of pronunciation learning strategies.

Table 4.35. Results of *One-way ANOA Test* for APA and PLSs (Overall)

Variables		Group Statistics			ANOVA			
PLSs	APA	N	Mean	SD	df	F	Sig.	η^2
Mem.	High	293	47.77	7.90	2, 475	55.79	.000	0.19
	Moderate	138	40.54	7.46				
	Low	47	38.40	7.97				
Cog.	High	293	92.02	12.58	2, 475	83.06	.000	0.25
	Moderate	138	77.41	13.71				
	Low	47	73.10	14.58				
Com.	High	293	15.18	3.73	2, 475	4.95	.000	0.02
	Moderate	138	14.21	3.67				
	Low	47	13.68	3.83				
Meta.	High	293	47.76	5.05	2, 475	217.2	.000	0.47
	Moderate	138	38.06	5.93				
	Low	47	34.42	7.06				
Aff.	High	293	29.21	4.44	2, 475	26.64	.000	0.10
	Moderate	138	26.40	4.42				
	Low	47	25.36	5.33				
So.	High	293	17.31	2.35	2, 475	45.05	.000	0.16
	Moderate	138	15.27	2.93				
	Low	47	14.23	3.55				

Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value (η^2) revealed strong significant differences between different APA groups in: memory strategies ($\eta^2=0.19$), cognitive strategies ($\eta^2=0.25$), metacognitive strategies ($\eta^2=0.47$), and social strategies ($\eta^2=0.16$) ($\eta^2>0.14$); and moderate significant differences between different APA groups in: affective strategies ($\eta^2=0.10$), and compensation strategies ($\eta^2=0.02$) ($\eta^2<0.14$). The strength of the differences, as indexed by η^2, was 0.19, 0.25, 0.47, 0.16, 0.10, and 0.02. As represented in Table 4.36, the strength of "*Effect Size*" in memory, cognitive, metacognitive, and social strategies was more than $\eta^2 >0.14$, and in affective, and compensation strategies less than $\eta^2 <0.14$.

A *Tukey HSD post-hoc test* was also performed to determine which groups differ significantly from others. The results of the test, as shown in Table 4.36, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in all PLSs: memory, cognitive, compensation, metacognitive, affective, and social strategies; between the "high-low" and the "low-high" groups in all PLSs: memory, cognitive, compensation, metacognitive, affective, and social strategies; between the "moderate-low" and the "low-moderate" groups only in use of metacognitive strategies.

Table 4.36. Post hoc Comparisons for APA and PLSs (Overall)

Dependent Variables	Tukey HSD		Mean Difference	Std. Error	Sig.
	(I) APA	*(J) APA*	*(I-J)*		
Mem.	High	Moderate	7.22785*	.80397	.000
		Low	9.36708*	1.22357	.000
	Moderate	High	-7.22785*	.80397	.000
		Low	2.13922	1.31514	.235
	Low	High	-9.36708*	1.22357	.000
		Moderate	-2.13922	1.31514	.235
Cog.	High	Moderate	14.61085*	1.35513	.000
		Low	18.91751*	2.06240	.000
	Moderate	High	-14.61085*	1.35513	.000
		Low	4.30666	2.21674	.128
	Low	High	-18.91751*	2.06240	.000
		Moderate	-4.30666	2.21674	.128
Com.	High	Moderate	.96691*	.38512	.033
		Low	1.39707*	.58613	.046
	Moderate	High	-.96691*	.38512	.033
		Low	.43016	.62999	.774
	Low	High	-1.39707*	.58613	.046
		Moderate	-.43016	.62999	.774
Meta.	High	Moderate	9.73000*	.57207	.000
		Low	13.36969*	.87065	.000
	Moderate	High	-9.73000*	.57207	.000
		Low	3.63969*	.93580	.000
	Low	High	-13.36969*	.87065	.000
		Moderate	-3.63969*	.93580	.000
Aff.	High	Moderate	2.80581*	.46807	.000
		Low	3.84990*	.71236	.000
	Moderate	High	-2.80581*	.46807	.000
		Low	1.04409	.76567	.361
	Low	High	-3.84990*	.71236	.000
		Moderate	-1.04409	.76567	.361
So.	High	Moderate	2.04204*	.27539	.000
		Low	3.08336*	.41911	.000
	Moderate	High	-2.04204*	.27539	.000
		Low	1.04132	.45048	.055
	Low	High	-3.08336*	.41911	.000
		Moderate	-1.04132	.45048	.055

4.5.10.1. Pronunciation Achievement and PLSs in Turkey

A *one-way analysis of variance (ANOVA)* conducted to explore pronunciation achievement differences in Turkish PLSs. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, Table 4.37, was found to be statistically significant in memory strategies, $F(2, 195) =98.92$, $p < .05$; in cognitive strategies, $F(2, 195) =120.59$, $p < .05$; in compensation strategies, $F(2, 195) =5.80$, $p < .05$; in metacognitive strategies, $F(2, 195) =114.66$, $p < .05$; in affective strategies, $F(2, 195) =35.58$, $p < .05$; in social strategies, $F(2, 195) =5.80$, $p < .05$.

Table 4.37. Results of *One-way ANOA Test* for APA and PLSs in Turkey

Variables		Group Statistics			ANOVA			
MTs	APA	N	Mean	SD	df	F	Sig.	η^2
	High	95	53.72	6.28				
Mem.	Moderate	71	39.97	7.04	2, 195	98.92	.000	0.50
	Low	32	39.18	8.74				
	High	95	114.1	8.82				
Cog.	Moderate	71	78.61	14.12	2, 195	120.5	.000	0.55
	Low	32	75.00	15.43				
	High	95	17.13	2.53				
Com.	Moderate	71	16.43	2.89	2, 195	5.80	.004	0.05
	Low	32	15.15	3.68				
	High	95	48.10	3.04				
Meta.	Moderate	71	37.83	6.22	2, 195	114.6	.000	0.54
	Low	32	35.68	7.03				
	High	95	31.38	2.48				
Aff.	Moderate	71	27.12	4.20	2, 195	35.58	.000	0.26
	Low	32	26.46	5.41				
	High	95	17.13	2.53				
So.	Moderate	71	16.43	2.89	2, 195	5.80	.004	0.05
	Low	32	15.15	2.68				

In order to determine whether there were significant differences between the groups, by not simply relying on ANOVA indexes, the Robust Tests (i.e. Welch and Brown-Forsythe Statistics) for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their PLSs.

Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value (η^2) revealed strong significant differences between the groups in the PLSs of memory strategies ($\eta^2=0.50$), cognitive strategies ($\eta^2=0.55$), metacognitive strategies ($\eta^2=0.54$), and affective strategies ($\eta^2=0.26$) ($\eta^2>0.14$), and moderate significant differences in compensation strategies ($\eta^2=0.05$), and social strategies ($\eta^2=0.05$) ($\eta^2<0.14$). The strength of the differences, as indexed by η^2, was 0.50, 0.55, 0.54, 0.26, 0.05, and 0.05.

A *Tukey HSD post-hoc Test* was also performed to determine which groups differ significantly from others. The results of the test, as shown in Table 4.38, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in memory, cognitive, metacognitive, and affective, strategies; between the "high-low" and the "low-high" groups in all PLSs: memory, cognitive, compensation, metacognitive, affective, and social strategies; between the "moderate-low" and the "low-moderate" groups in none of pronunciation learning strategies.

Table 4.38. Post hoc Comparisons for APA and PLSs in Turkey

Dependent Variables	Tukey HSD		Mean Difference	Std. Error	Sig.
	(I) APA	(J) APA	(I-J)		
Mem.	High	Moderate	13.75448*	1.09830	.000
		Low	14.53882*	1.43095	.000
	Moderate	High	-13.75448*	1.09830	.000
		Low	.78433	1.49064	.859
	Low	High	-14.53882*	1.43095	.000
		Moderate	-.78433	1.49064	.859
Cog.	High	Moderate	25.54870*	1.90188	.000
		Low	29.16842*	2.47791	.000
	Moderate	High	-25.54870*	1.90188	.000
		Low	3.61972	2.58128	.342
	Low	High	-29.16842*	2.47791	.000
		Moderate	-3.61972	2.58128	.342
Com.	High	Moderate	.70022	.45062	.268
		Low	1.98059*	.58710	.003
	Moderate	High	-.70022	.45062	.268
		Low	1.28037	.61159	.094
	Low	High	-1.98059*	.58710	.003
		Moderate	-1.28037	.61159	.094
Meta.	High	Moderate	10.27428*	.80353	.000
		Low	12.41776*	1.04690	.000
	Moderate	High	-10.27428*	.80353	.000
		Low	2.14349	1.09057	.124
	Low	High	-12.41776*	1.04690	.000
		Moderate	-2.14349	1.09057	.124
Aff.	High	Moderate	4.26271*	.58681	.000
		Low	4.92072*	.76455	.000
	Moderate	High	-4.26271*	.58681	.000
		Low	.65801	.79644	.687
	Low	High	-4.92072*	.76455	.000
		Moderate	-.65801	.79644	.687
So.	High	Moderate	.70022	.45062	.268
		Low	1.98059*	.58710	.003
	Moderate	High	-.70022	.45062	.268
		Low	1.28037	.61159	.094
	Low	High	-1.98059*	.58710	.003
		Moderate	-1.28037	.61159	.094

4.5.10.2. Pronunciation Achievement and PLSs in Iran

A *one-way analysis of variance* conducted to explore pronunciation achievement differences in Iranian use of PLSs. The English teacher students' academic pronunciation achievement (APA) was divided into three groups of high (A1-A3), moderate (B1-B3), and low (below C1). This analysis, as represented in Table 4.39, was found to be statistically significant in memory strategies, $F(2, 277) =14.20$, $p < .05$; in cognitive strategies, $F(2, 277) =35.15$, $p < .05$; in compensation strategies, $F(2, 277) =15.32$, $p < .05$; in metacognitive strategies, $F(2, 277) =103.92$, $p < .05$; in affective strategies, $F(2, 277) =13.70$, $p < .05$; in social strategies, $F(2, 277) =77.11$, $p < .05$.

Table 4.39. Results of *One-way ANOA Test* for APA and PLSs in Iran

Variables		Group Statistics			ANOVA			
PLSs	APA	N	Mean	SD	df	F	Sig.	η^2
Mem.	High	198	44.91	6.96	2, 277	14.20	.000	.09
	Moderate	67	41.14	7.88				
	Low	15	36.73	5.94				
Cog.	High	198	86.19	9.61	2, 277	35.15	.000	.20
	Moderate	67	76.13	13.26				
	Low	15	69.06	12.06				
Com.	High	198	14.24	3.86	2, 277	15.32	.000	.09
	Moderate	67	11.86	2.87				
	Low	15	10.86	2.23				
Meta.	High	198	47.64	5.77	2, 277	103.92	.000	.42
	Moderate	67	38.31	5.65				
	Low	15	31.73	6.54				
Aff.	High	198	28.16	4.79	2, 277	13.70	.000	.09
	Moderate	67	25.64	4.54				
	Low	15	23.00	4.47				
So.	High	198	17.40	2.26	2, 277	77.11	.000	.35
	Moderate	67	14.04	2.46				
	Low	15	12.26	2.31				

In order to determine whether there were significant differences between the groups, by not simply relying on ANOVA indexes, the Robust Tests (i.e. Welch and Brown-Forsythe Statistics) for equality of means were also checked. The test indexes of robust test of ANOVA also confirmed that there were statistically significant differences among the groups (high, moderate, and low) in relation to their PLSs. Additionally, "Effect Size" statistics (Cohen, 1988) based on the "Eta Square" value

(η^2) revealed strong significant differences between the groups in cognitive strategies (η^2=0.20), metacognitive strategies (η^2=0.42), and social strategies (η^2=0.35) (η^2>0.14); and moderate significant differences in memory strategies (η^2=0.09), affective strategies (η^2=0.09), and compensation strategies (η^2=0.09) (η^2<0.14). The strength of the differences, as indexed by η^2, were 0.20, 0.42, 0.35, 0.09, 0.09, and 0.09. A *Tukey HSD post-hoc Test* was also performed to determine which groups differ significantly from others. The results of the test, as shown in Table 4.40, indicated that there were significant differences between the "high-moderate" and the "moderate-high" groups in all PLSs: memory, cognitive, compensation, metacognitive, affective, and social strategies, between the "high-low" and the "low-high" groups in all PLSs: memory, cognitive, compensation, metacognitive, affective, and social strategies, between the "moderate-low" and the "low-moderate" groups only in use of metacognitive strategies and social strategies.

Table 4.40. Post hoc Comparisons for APA and PLSs in Iran

Dependent Variables	Tukey HSD		Mean Difference	Std. Error	Sig.
	(I) APA	(J) APA	(I-J)		
Mem.	High	Moderate	3.76489*	1.01020	.001
		Low	8.18081*	1.91410	.000
	Moderate	High	-3.76489*	1.01020	.001
		Low	4.41592	2.04163	.079
	Low	High	-8.18081*	1.91410	.000
		Moderate	-4.41592	2.04163	.079
Cog.	High	Moderate	10.06264*	1.51592	.000
		Low	17.13030*	2.87234	.000
	Moderate	High	-10.06264*	1.51592	.000
		Low	7.06766	3.06371	.056
	Low	High	-17.13030*	2.87234	.000
		Moderate	-7.06766	3.06371	.056
Com.	High	Moderate	2.38180*	.50643	.000
		Low	3.38081*	.95957	.001
	Moderate	High	-2.38180*	.50643	.000
		Low	.99900	1.02350	.593
	Low	High	-3.38081*	.95957	.001
		Moderate	-.99900	1.02350	.593
Meta.	High	Moderate	9.33303*	.81835	.000
		Low	15.91313*	1.55060	.000
	Moderate	High	-9.33303*	.81835	.000
		Low	6.58010*	1.65391	.000
	Low	High	-15.91313*	1.55060	.000
		Moderate	-6.58010*	1.65391	.000
Aff.	High	Moderate	2.52488*	.66699	.001
		Low	5.16667*	1.26379	.000
	Moderate	High	-2.52488*	.66699	.001
		Low	2.64179	1.34799	.124
	Low	High	-5.16667*	1.26379	.000
		Moderate	-2.64179	1.34799	.124
So.	High	Moderate	3.35926*	.32708	.000
		Low	5.13737*	.61974	.000
	Moderate	High	-3.35926*	.32708	.000
		Low	1.77811*	.66103	.021
	Low	High	-5.13737*	.61974	.000
		Moderate	-1.77811*	.66103	.021

4.6. Motivation Types, and Pronunciation Learning Strategies as Predictors of Academic Pronunciation Achievement

Research question 5: How well do pronunciation learning strategies and motivation types predict success in pronunciation?

4.6.1. Motivation Types as Predictors of Pronunciation Achievement

The section presents the results of data analysis regarding the relationship between motivation types, and prospective English teachers' use of pronunciation learning strategies and their academic pronunciation achievement. Multiple regression analysis was conducted to determine to what extent the variables affect academic pronunciation achievement among the participants.

Multiple stepwise-method regression analysis was conducted to determine the predictive power of motivation types with regard to the Overall participants' academic pronunciation achievement (APA). The results, as represented in Table 4.41, were statistically significant for both intrinsic motivation (IM) and extrinsic motivation (EM). Intrinsic motivation, $R2=.38$, $F(1, 476)= 297.11$, $p<0.0005$, extrinsic motivation, $R2=.02$, $F(2, 475)= 132.04$, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The two predictor variables explained 41% ($R2=.410$) of variance in the participants of academic pronunciation achievement. This indicates a good model fit for the data.

Table 4.41. Results of Multiple Regression for Motivation Types as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	IM	478	.620	.384	38.4	1, 476	297.11	.000
2	IM, EM	478	.640	.410	41.0	2, 475	165.14	.000

a. Dependent Variable: APA

Table 4.42. Results of Coefficients for Motivation Types as Predictors of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	IM	.047	.003	.668	18.160	.000
2	EM	-.007	.001	-.168	-4.562	.000

a. Dependent Variable: APA

The security of values for motivation types, among overall participants, revealed that the two motivation types significantly predicted the participants' pronunciation achievement (Table 4.42). The prediction power of the two motivation types: intrinsic

motivation, β=.66, $t(475)$= 18.16, $p<0.0005$, and extrinsic motivation, β=-.16, $t(475)$= -4.56, $p<0.0005$. Moreover, intrinsic motivation among the overall participants was the strongest predictor of the pronunciation achievement.

Multiple stepwise-method regression analysis was also conducted to determine the predictive power of Overall participants' motivational orientations in SDT with regard to the overall participants' academic pronunciation achievement (APA). The results were statistically significant for both orientations (Table 4.43). The autonomous orientation (Auto.), R^2=.30, $F(1, 476)$= 211.12, $p<0.0005$, controlled orientation (Cont.), R^2=.14, $F(2, 475)$= 193.73, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The two predictor variables explained 44% (R^2=.449) of variance in the participants of academic pronunciation achievement. This also indicates a good model fit for the data.

Table 4.43. Results of Multiple Regression for Orientations as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Auto.	478	.554	.307	30.7	1, 476	211.12	.000
2	Auto., Cont.	478	.670	.449	44.9	2, 475	193.73	.000

a.   Dependent Variable: APA

Table 4.44. Results of Coefficients for Orientations as Predictors of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Auto.	.023	.001	.591	17.276	.000
2	Cont.	-.024	.002	-.379	-11.067	.000

a. Dependent Variable: APA

The security of values for different motivational orientations, among overall participants, in SDT revealed that the two orientations significantly predicted the overall participants' pronunciation achievement (Table 4.44). The prediction power of the orientations were: autonomous orientation, β=.59, $t(475)$= 17.276, $p<0.0005$, and controlled orientation, β=-.37, $t(475)$= -11.06, $p<0.0005$. Moreover, autonomous orientation was the strongest predictor of the pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of autonomous oriented regulations with regard to the overall participants' academic pronunciation achievement (APA). The results were

statistically significant for intrinsic regulation (Table 4.45). The other two regulations, integrated and identified regulations, were excluded. The intrinsic regulation (Intr.R), R^2=.38, $F(1, 476)$= 297.11, p<0.0005, explained a significant proportion of variance in pronunciation achievement. The predictor variable alone explained 38% (R^2=.384) of variance in the overall participants' academic pronunciation achievement.

Table 4.45. Results of Multiple Regression for Auto. Orientation as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Intrinsic R.	478	.620	.384	38.4	1, 476	297.11	.000

a. Dependent Variable: APA

Table 4.46. Results of Coefficients for Auto. Orientation as Predictor of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Intrinsic R.	.044	.003	.620	17.237	.000

a. Dependent Variable: APA

The security of values for autonomous orientation, among overall participants, revealed that the only intrinsic regulation significantly predicted the participants' pronunciation achievement (Table 4.46). The prediction power of autonomous orientation was: intrinsic motivation, $β$=.62, $t(476)$= 17.237, p<0.005. The study showed that intrinsic regulation was the only strongest autonomous oriented predictor of the overall participants' pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of controlled oriented regulations with regard to the overall participants' academic pronunciation achievement (APA). The results were statistically significant for both introjected and external regulations (Table 4.47). The external regulation (Exte.R), R^2=.32, $F(1, 476)$= 225.93, p<0.0005, and introjected regulation (Intro.R), R^2=.06, $F(2, 475)$= 150.77, p<0.0005, explained a significant proportion of variance in pronunciation achievement. The predictor variable explained 38% (R^2=.388) of variance in the overall participants' academic pronunciation achievement.

Table 4.47. Results of Multiple Regression for Cont. Orientation as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Exte.	478	.567	.322	32.2	1, 476	225.93	.000
2	Exte, Intro.	478	.623	.388	38.8	2, 475	150.77	.000

a. Dependent Variable: APA

Table 4.48. Results of Coefficients for Cont. Orientation as a Predictor of APA

						Coefficients [a]
Model	Variables	B	Std. E.	β	t	Sig.
1	External R.	-.038	.003	-.538	-14.894	.000
2	Introjected R.	.028	.004	.259	7.183	.000

a. Dependent Variable: APA

The security of values for controlled oriented regulations in MTs revealed that the both controlled regulations significantly predicted the participants' pronunciation achievement (Table 4.48). The prediction power of the controlled oriented regulations in MTs were: external regulation, $β$=.58, t(475)= -14.89, p<0.0005, and introjected regulation, $β$=.25, t(475)= 7.18, p<0.0005. Moreover, external regulation was the strongest controlled oriented predictor of the overall participants' pronunciation achievement.

4.6.1.1. Motivation Types as predictor of APA in Turkey

Multiple stepwise-method regression analysis was conducted to determine the predictive power of Turkish motivation types (IM and EM) with regard to the Turkish participants' academic pronunciation achievement (APA). The results were statistically significant for both motivation types (Table 4.49). The intrinsic motivation, R^2=.24, F(1, 196)= 62.00, p<0.0005, and extrinsic motivation, R^2=.04, F(2, 195)= 39.65, p<0.0005, explained a significant proportion of variance in pronunciation achievement. The two predictor variables explained 28% (R^2=.289) of variance in the participants' APA.

Table 4.49. Results of Multiple Regression for Turkish MTs as Predictors of APA

				Model Summary [a]				ANOVA
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	IM	198	.490	.240	.240	1, 196	62.004	.000
2	IM, EM	198	.538	.289	.289	2, 195	39.655	.000

a. Dependent Variable: APA

Table 4.50. Results of Coefficients for Turkish MTs as Predictors of APA

						Coefficients [a]
Model	Variables	B	Std. E.	β	t	Sig.
1	IM	.052	.006	.586	8.905	.000
	EM	-.012	.003	-.241	-3.659	.000

a. Dependent Variable: APA

The security of values for the two Turkish motivation types revealed that the intrinsic motivation and extrinsic motivation significantly predicted Turkish participants' pronunciation achievement level (Table 4.50). The prediction power of the MTs were: intrinsic motivation, β=.58, t(195)= 8.90, p<0.0005, and extrinsic motivation, β=-.24, t(195)= -3.65, p<0.0005. Moreover, intrinsic motivation was the strongest predictor of the Turkish pronunciation achievement.

Multiple stepwise-method regression analysis was also conducted to determine the predictive power of Turkish motivation orientations in SDT with regard to the participants' academic pronunciation achievement (APA). The results were statistically significant for both autonomous and controlled orientations (Table 4.51). The motivation orientations, autonomous orientation, R^2=.24, F(1, 196)= 63.79, p<0.0005, and controlled orientation, R^2=.18, F(2, 195)= 74.95, p<0.0005, explained a significant proportion of variance in pronunciation achievement. The two predictor variables explained 43% (R^2=.435) of variance in the participants of academic pronunciation achievement. This indicates a good model fit for the data.

Table 4.51. Results of Multiple Regression for Orientations as Predictors of APA

		Model Summary [a]					ANOVA	
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Auto.	198	.496	.246	24.6	1, 196	63.79	.000
2	Auto., Cont.	198	.659	.435	43.5	2, 195	74.95	.000

a. Dependent Variable: APA

Table 4.52. Results of Coefficients for Orientations as a Predictor of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Auto.	.025	.003	.534	9.873	.000
2	Cont.	-.032	.004	-.437	-8.076	.000

a. Dependent Variable: APA

The security of values for Turkish motivational orientations in SDT revealed that the two orientations significantly predicted the participants' pronunciation achievement (Table 4.52). The prediction power of the Turkish orientations were: autonomous orientation, β=.53, t(195)= 9.87, p<0.0005, and controlled orientation, β=-.43, t(195)= -8.07, p<0.0005. Moreover, Turkish autonomous orientation was the strongest predictor of the pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of autonomous oriented regulations with regard to the participants' academic pronunciation achievement (APA). The results were statistically significant for intrinsic and integrated regulations. The identified regulation was excluded. (Table 4.53). The intrinsic regulation (Intr.R), R^2=.24, $F(1, 196)$= 62.00, $p<0.0005$, and integrated regulation (Intr.R), R^2=.01, $F(2, 195)$= 33.90, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The predictor variable explained 25% (R^2=.258) of variance in the participants of academic pronunciation achievement.

Table 4.53. Results of Multiple Regression for Auto. Orientation as Predictors of APA

	Model Summary [a]					ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Intr.	198	.490	.240	24.0	1, 196	62.00	.000
2	Intr. Inte.	198	.508	.258	25.8	2, 195	33.90	.000

a. Dependent Variable: APA

Table 4.54. Results of Coefficients for Auto. Orientation as Predictor of APA

	Coefficients [a]					
Model	Variables	B	Std. E.	β	t	Sig.
1	Intrinsic R.	.034	.007	.379	4.717	.000
2	Integrated R.	.028	.013	.173	2.156	.032

a. Dependent Variable: APA

The security of values for Turkish autonomous orientation revealed that the intrinsic and integrated regulations significantly predicted the participants' pronunciation achievement (Table 4.54). The prediction power of autonomous orientation was: intrinsic regulation, $β$=.37, $t(195)$= 4.71, $p<0.0005$, and integrated regulation, $β$=.17, $t(195)$= 2.15, $p<0.05$. The study showed that intrinsic regulation was the strongest autonomous oriented predictor of Turkish participants' pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of Turkish controlled oriented regulations with regard to their academic pronunciation achievement (APA). The results were statistically significant for both introjected and external regulations (Table 4.55). The external regulation (Exte.R), R^2=.40, $F(1, 196)$= 131.81, $p<0.0005$, and introjected regulation (Intro.R), R^2=.11, $F(2, 195)$= 103.54, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The predictor variable explained 51%

(R^2=.515) of variance in the Turkish participants' academic pronunciation achievement.

Table 4.55. Results of Multiple Regression for Cont. Orientations as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Exte.	198	.634	.402	40.2	1, 196	131.81	.000
2	Exte, Intro.	198	.718	.515	51.5	2, 195	103.54	.000

a. Dependent Variable: APA

Table 4.56. Results of Coefficients for Cont. Orientations as a Predictor of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	External R.	-.038	.004	-.525	-10.01	.000
2	Introjected R.	.051	.008	.353	6.73	.000

a. Dependent Variable: APA

The security of values for Turkish controlled oriented regulations in MTs revealed that both external and introjected regulations significantly predicted the Turkish participants' pronunciation achievement (Table 4.56). The prediction power of the two regulations in MTs were: external regulation, $β$=-.52, $t(195)$= -10.01, $p<0.0005$, introjected regulation, $β$=.35, $t(195)$= 6.73, $p<0.0005$. Moreover, external regulation was the strongest predictor of the pronunciation achievement.

4.6.1.2. Motivation Types as predictor of APA in Iran

Multiple stepwise-method regression analysis was conducted to determine the predictive power of Iranian motivation types with regard to their academic pronunciation achievement (APA). The results were statistically significant for both motivation types (Table 4.57). The two subscales in MTs, intrinsic motivation, R^2=.49, F(1, 278)= 270.21, $p<0.0005$, and extrinsic motivation, R^2=.01, F(2, 277)= 141.02, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The two predictor variables explained 50% (R^2=.505) of variance in the participants of academic pronunciation achievement. This indicates a good model fit for the data.

Table 4.57. Results of Multiple Regression for Iranian MTs as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	IM	280	.702	.493	49.3	1, 278	270.21	.000
2	IM, EM	280	.710	.505	50.5	2, 277	141.02	.000

Table 4.58. Results of Coefficients for Iranian MTs as Predictors of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	IM	.043	.003	.733	16.65	.000
2	EM	-.004	.001	-.112	-2.54	.011

a. Dependent Variable: APA

The security of values for Iranian motivation types revealed that both intrinsic motivation and extrinsic motivation significantly predicted Iranian participants' pronunciation achievement (Table 4.58). The prediction power of the two variables were: intrinsic motivation, $β=.73$, $t(277)= 16.65$, $p<0.0005$, and extrinsic motivation, $β=-.11$, $t(277)= -2.54$, $p<0.05$. Moreover, intrinsic motivation was the strongest predictor of the Iranian ELT students' pronunciation achievement.

Multiple stepwise-method regression analysis was also conducted to determine the predictive power of Iranian motivation orientations in SDT with regard to the Iranian ELT students' academic pronunciation achievement (APA). The results were also statistically significant for both autonomous orientation and controlled orientation (Table 4.59). The two types of orientations, autonomous orientation $R^2=.38$, $F(1, 278)= 174.89$, $p<0.0005$, controlled orientation $R^2=.11$, $F(2, 277)= 138.75$, $p<0.0005$, explained a significant proportion of variance in Iranian prospective English teachers' pronunciation achievement. The two predictor variables explained 50% ($R^2=.500$) of variance in the Iranian participants' academic pronunciation achievement. This also indicates a good model fit for the data.

Table 4.59. Results of Multiple Regression for Orientations as Predictors of APA

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Auto.	280	.621	.386	38.6	1, 278	174.89	.000
2	Auto., Cont.	280	.707	.500	50.0	2, 277	138.75	.000

a. Dependent Variable: APA

Table 4.60. Results of Coefficients for Orientations as a Predictor of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Auto.	.021	.001	.659	15.415	.000
2	Cont.	-.017	.002	-.340	-7.961	.000

a. Dependent Variable: APA

The security of values for Iranian motivational orientations in SDT revealed that the two orientations significantly predicted the participants' pronunciation achievement (Table 4.60). The prediction power of the Iranian orientations were: autonomous orientation, β=.65, t(277)= 15.41, p<0.0005, and controlled orientation, β=-.34, t(277)= -7.96, p<0.0005. Moreover, Iranian autonomous orientation was the strongest predictor of the pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of Iranian autonomous oriented regulations with regard to their academic pronunciation achievement (APA). The results were statistically significant for intrinsic, identified, and integrated regulations (Table 4.61).

Table 4.61. Results of Multiple Regression for Auto. Orientation as Predictors of APA

	Model Summary [a]					ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Intr.	280	.702	.493	49.3	1, 278	270.21	.000
2	Intr. Iden.	280	.708	.501	50.1	2, 277	139.30	.000
3	Intr. Iden. Inte.	280	.714	.509	50.9	3, 276	95.52	.000

a. Dependent Variable: APA

Table 4.62. Results of Coefficients for Auto. Orientation as Predictor of APA

	Coefficients [a]					
Model	Variables	B	Std. E.	β	t	Sig.
1	Intrinsic R.	.037	.004	.628	8.410	.000
2	Identified R.	-.012	.004	-.137	-2.740	.007
3	Integrated R.	.019	.009	.166	2.114	.035

a. Dependent Variable: APA

The intrinsic regulation (Intr.R), R^2=.49, F(1, 278)= 270.21, p<0.0005; identified regulation (Iden.R), R^2=.008, F(2, 277)= 139.30, p<0.0005; and integrated regulation (Intr.R), R^2=.008, F(3, 276)= 95.52, p<0.0005 explained a significant proportion of variance in pronunciation achievement. The predictor variable explained 50% (R^2=.509) of variance in the participants of academic pronunciation achievement (Table 4.61).

The security of values for Iranian autonomous orientation revealed that the intrinsic, identified, and integrated regulations significantly predicted the participants' pronunciation achievement (Table 4.62). The prediction power of autonomous orientation was: intrinsic regulation, β=.62, t(276)= 8.41, p<0.0005, identified

regulation, β=-.13, t(276)= -2.74, p<0.005, and integrated regulation, β=.16, t(276)= 2.11, p<0.05 . The study showed that intrinsic regulation was the strongest autonomous oriented predictor of the participants' pronunciation achievement.

Multiple stepwise-method regression analysis was also used to determine the predictive power of Iranian controlled oriented regulations with regard to their academic pronunciation achievement (APA). The results were statistically significant for both external and introjected regulations (Table 4.63). The external regulation (Exte.R), R^2=.25, F(1, 278)= 92.84, p<0.0005; and introjected regulation (Intro.R), R^2=.04, F(2, 277)= 58.83, p<0.0005 explained a significant proportion of variance in pronunciation achievement. The predictor variable explained 29% (R^2=.298) of variance in the participants of academic pronunciation achievement.

Table 4.63. Results of Multiple Regression for Cont. Orientations as Predictors of APA

		Model Summary [a]					ANOVA	
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Exte.	280	.500	.250	25.0	1, 278	92.84	.000
2	Exte, Intro.	280	.546	.298	29.8	2, 277	58.83	.000

a. Dependent Variable: APA

Table 4.64. Results of Coefficients for Cont. Orientations as a Predictor of APA

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	External R.	-.032	.003	-.501	-9.957	.000
2	Introjected R.	.019	.004	.219	4.342	.000

a. Dependent Variable: APA

The security of values for Iranian controlled oriented regulations in MTs revealed that both external and introjected regulations significantly predicted Iranian participants' pronunciation achievement (Table 4.64). The prediction power of the two controlled regulations were: external regulation, β=-.50, t(277)= -9.95, p<0.0005; introjected regulation, β=.21, t(277)= 4.34, p<0.0005. Moreover, external regulation was the strongest predictor of the pronunciation achievement.

4.6.2. Pronunciation Learning Strategies as Predictor of APA

Multiple stepwise-method regression analysis was conducted to determine the predictive power of pronunciation learning strategies (PLSs), among Overall participants, with regard to the participants' academic pronunciation achievement (APA). The results were statistically significant for three subscales of PLSs. The

other three strategies were excluded (Table 4.65). The results of the study revealed that the three PLSs, metacognitive strategies, R^2=.45, $F(1, 476)$= 394.10, $p<0.0005$; memory strategies, R^2=.02, $F(2, 475)$= 216.03, $p<0.0005$; and cognitive strategies, R^2=.009, $F(3, 474)$= 148.97, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The three predictor variables explained 48% (R^2=.485) of variance in the overall participants of academic pronunciation achievement. This indicates a good model fit for the data.

Table 4.65. Results of Multiple Regression for PLSs as a Predictor of APA (Overall)

		Model Summary [a]				ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Meta.	478	.673	.453	45.3	1, 476	394.10	.000
2	Mem.	478	.690	.476	47.6	2, 475	216.03	.000
3	Cog.	478	.697	.485	48.5	3, 474	148.97	.000

a. Dependent Variable: APA

Table 4.66. Results of Coefficients for PLSs as a Predictor of APA (Overall)

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Meta.	.059	.004	.678	14.931	.000
2	Mem.	.023	.005	.303	5.129	.000
3	Cog.	-.009	.003	-.204	-2.874	.004

a. Dependent Variable: APA

The security of values for PLSs revealed that three types of pronunciation learning strategies significantly predicted the overall participants' pronunciation achievement (Table 4.66). The prediction power of the three PLSs were: metacognitive strategies, β=.67, $t(474)$= 14.931, $p<0.0005$; memory strategies, β=.30, $t(474)$= 5.129, $p<0.0005$; and cognitive strategies, β= -.20, $t(474)$= -2.874, $p<0.005$. Moreover, metacognitive strategies were the strongest predictors of the overall English teacher students' pronunciation achievement.

4.6.2.1. Pronunciation Learning Strategies as Predictor of APA in Turkey

Multiple stepwise-method regression analysis was also conducted to determine the predictive power of Turkish pronunciation learning strategies (PLSs) with regard to the Turkish English teachers' academic pronunciation achievement (APA). The results were statistically significant for four subscales of PLSs, and affective and social strategies were excluded (Table 4.67). The results of the study revealed that the four PLSs, metacognitive strategies, R^2=.48, $F(1, 196)$= 180.86, $p<0.0005$;

memory strategies, $R^2=.03$, $F(2, 195)= 102.29$, $p<0.0005$; compensation strategies, $R^2=.01$, $F(3, 194)= 71.66$, $p<0.0005$; cognitive strategies, $R^2=.01$, $F(4, 193)= 55.71$, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The four predictor variables of PLSs explained 53% ($R^2=.536$) of variance in the Turkish participants of academic pronunciation achievement. This indicates a good model fit for the data.

Table 4.67. Results of Multiple Regression for PLSs as a Predictor of APA in Turkey

	Model Summary [a]					ANOVA		
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Meta.	198	.693	.480	48.0	1, 196	180.86	.000
2	Meta. Mem.	198	.716	.512	51.2	1, 195	102.29	.000
3	Meta. Mem. Com.	198	.725	.526	52.6	1, 194	71.66	.000
4	Meta. Mem. Com. Cog.	198	.732	.536	53.6	1, 193	55.71	.000

a. Dependent Variable: APA

Table 4.68. Results of Coefficients for PLSs as a Predictor of APA in Turkey

	Coefficients [a]					
Model	Variables	B	Std. E.	β	t	Sig.
1	Meta.	.030	.011	.305	2.831	.005
2	Mem.	.015	.006	.202	2.405	.017
3	Com.	.030	.012	.122	2.443	.015
4	Cog.	.010	.005	.241	2.059	.041

a. Dependent Variable: APA

The security of values for PLSs revealed that four types of pronunciation learning strategies significantly predicted the Turkish participants' pronunciation achievement (Table 4.68). The prediction power of the four types of PLSs were: metacognitive strategies, $β=.30$, $t(193)= 2.83$, $p<0.05$, memory strategies, $β=.20$, $t(193)= 2.40$, $p<0.05$, compensation strategies, $β= .12$, $t(193)= 2.44$, $p<0.05$, cognitive strategies, $β= .24$, $t(193)= 2.05$, $p<0.05$. Moreover, metacognitive strategies were the strongest predictors of the Turkish English teacher students' pronunciation achievement.

4.6.2.2. Pronunciation Learning Strategies as Predictor of APA in Iran

Multiple stepwise-method regression analysis was conducted to determine the predictive power of Iranian pronunciation learning strategies (PLSs) with regard to their academic pronunciation achievement (APA). The results were statistically significant for three subscales of PLSs (Table 4.69).

Table 4.69. Results of Multiple Regression for PLSs as a Predictor of APA in Iran

		Model Summary [a]					ANOVA	
Model	Variables	N	R	R^2	%	df	F	Sig. (2-tailed)
1	Meta.	280	.652	.425	42.5	1, 278	205.59	.000
2	Meta. Mem.	280	.676	.458	45.8	1, 277	116.85	.000
3	Meta. Mem. Cog.	280	.698	.488	48.8	1, 276	87.61	.000

a. Dependent Variable: APA

Table 4.70. Results of Coefficients for PLSs as a Predictor of APA in Iran

		Coefficients [a]				
Model	Variables	B	Std. E.	β	t	Sig.
1	Meta.	.062	.005	.824	12.154	.000
2	Mem.	.041	.008	.533	5.490	.000
3	Cog.	-.023	.006	-.473	-4.033	.000

a. Dependent Variable: APA

The results of the study, Table 4.69, revealed that the three types of PLSs, metacognitive strategies, R^2=.42, $F(1, 278)$= 205.59, $p<0.0005$, memory strategies, R^2=.03, $F(2, 277)$= 116.85, $p<0.0005$, cognitive strategies, R^2=.03, $F(3, 276)$= 87.61, $p<0.0005$, explained a significant proportion of variance in pronunciation achievement. The three predictor variables explained 48% (R^2=.488) of variance in the Iranian participants of academic pronunciation achievement. This indicates a good model fit for the data (Table 4.69).

The security of values for different PLSs revealed that three pronunciation learning strategies significantly predicted Iranian participants' pronunciation achievement (Table 4.70). The prediction power of the PLSs were: metacognitive strategies, $β$=.82, $t(276)$= 12.154, $p<0.0005$, memory strategies, $β$=.53, $t(276)$= 5.490, $p<0.0005$, cognitive strategies, $β$= -.47, $t(276)$= -4.033, $p<0.0005$. Moreover, metacognitive strategies were the strongest predictors of the English teacher students' pronunciation achievement.

4.7. Analysis of Qualitative Data

Question 1: I use other ways of learning pronunciation (Please, explain what you do).

The qualitative data for the participants of the study were analyzed within the general framework of the data analysis addressed in chapter three of this study. From the total pool of the response only those which were within the scope of the

study were reported. Only a total of 96 participants have answered to the item number 65, and from a total of 478 ELT participants, 382 students mentioned that all strategies that they used had been mentioned in the pronunciation learning inventory. Their reported statements were studied on the basis of six-strategy categories (memory, cognitive, compensation, metacognitive, affective, and social strategies). Mostly, they had reported the same strategies cited in the PLSs questionnaire; however, their statements involved only four general strategies: cognitive, compensation, metacognitive, and social strategies. The most frequently used strategies reported by the students were cognitive strategies followed by metacognitive, and social strategies, Table 4.71.

Table 4.71. Participants' Self-Reported Strategies for Pronunciation Learning

Strategy Type	Tactics	Turkey	Iran	New
Cognitive	Watch TV shows, series, movies	√	√	-
	Watch animations, cartoons	√	√	-
	Listen to radio programs	√	√	-
	Listening and watching English news e.g. BBC, CNN, …	-	√	-
	Listen to music, songs, etc.	√	√	-
	Listen to native speakers as much as possible	√	√	-
	Try to understand pronunciation from songs	√	√	-
	Imitate native speakers' pronunciation, sing with singers while listening	√	√	-
	Look up dictionaries	√	√	-
	Using talking dictionaries	√	√	-
	Repeat it slowly in mind, imagine it in my minds	√	√	-
	Use technology: internet, computer, media, Skype, YouTube, cellphone, etc.	√	√	-
	Repeat words loudly with correct pronunciation several times a day	√	√	-
	Practice intonation patterns	√	√	-
	Practice pronunciation rules	√	√	-
	Practice pronunciation in front of mirror	√	√	-
	Practice natural English rhythm	√	√	-
	Finding similar words in L1 and L2 and compare them	√	√	-
	Use online voiced dictionaries	√	√	-
	Read aloud	√	√	-
	Speak aloud	√	√	-
	Use English as much as possible	√	√	-
	Look at Lyrics while listening to songs	√	√	-
	Using software programs e.g. Rosetta stone CDs	√	√	-

	Watching EFL programs like Rachel's in YouTube	√	√	-
	Play English video games	√	√	-
	Highlight difficult words	√	√	-
	Search on the net	√	√	-
	Working in tourist centers and spend time with tourists	√	√	-
	Use phonetic symbols, paying attention to phonetics	√	√	-
	Acting out like characters of movies	√	√	-
	Using pencil while practicing in front of mirror to improve articulation	√	√	-
	Grouping similar words	√	√	-
	Compare American and English pronunciations and accents	√	√	-
Compensation	Pay attention to problematic words and find ways to overcome	√	√	-
Metacognitive	Pay attention to pronunciation	√	√	-
	Record voice and control mistakes	√	√	-
	Find out how to improve English pronunciation skill	√	√	-
	Revise theoretical knowledge	√	√	-
	Prepare for giving a lecture with good pronunciation	√	√	-
	Attend in different pronunciation classes	√	√	-
Social	Join ELT conversation club	√	√	-
	Communicate with native English friends and foreigners through Skype	√	√	-
	Ask native English friends	√	√	-
	Ask for help from friends, teachers, professors, etc.	√	√	-

Unfortunately, as represented in Table 4.71, the results of the study revealed that the participants had not reported any new way of learning pronunciation. In fact, there were no extra PLSs employed by the participants, and the questionnaire of PLSs involves all of the reported tactics. However, most of the reported tactics were categorized into cognitive, metacognitive, and social strategies.

4.8. Summary of the Basic Findings

This section briefly offers the summary of the main findings of the dissertation. The findings were given based on the order of the research questions and data analysis procedure. Table 4.72 indicates the mean scores of MTs and PLSs. Tables 4.73, 4.74, 4.75, 4.76, and 4.77 demonstrate correlations between MTs, PLSs, MTs and PLSs, MTs and APA, PLSs and APA. Tables 4.78 and 4.79 represents gender differences in MTs and PLSs. The differences between high, moderate, and low groups in APA regarding the participants' MTs and use of PLSs represented in Tables 4.80 and 4.81.

Finally, Tables 4.82, 4.83, 4.84, 4.85, and 4.86 indicate predictors of the English teacher students' APA level.

Table 4.72. Summary of Means and Standard Deviations for MTs and PLSs

Variables	Overall N=478		In Iran N=280		In Turkey N=198	
	Mean	SD	Mean	SD	Mean	SD
IM	76.37	9.41	78.12	9.79	73.90	8.27
EM	35.93	6.65	35.51	6.88	39.38	6.20
Inte. R.	41.38	4.81	41.24	4.95	41.57	4.61
Iden. R.	40.44	6.13	39.85	6.84	41.28	4.84
Intro. R.	39.76	6.13	39.85	6.77	39.65	5.10
Exte. R.	22.14	9.54	21.52	8.96	23.02	10.26
AM	19.06	5.94	19.16	6.40	18.92	5.23
Auto. M	52.73	6.78	53.07	7.19	52.25	5.90
Cont. M	30.95	7.83	30.68	7.86	31.33	7.68
Mem.	44.76	8.66	43.57	7.47	46.44	9.88
Cog.	84.94	12.21	82.87	11.96	90.29	18.03
Com.	14.76	3.76	13.49	3.76	16.56	2.94
Meta.	43.67	7.65	44.56	7.63	42.41	7.51
Aff.	28.02	4.77	27.28	4.92	29.06	4.31
So.	16.42	2.90	16.32	2.87	16.56	2.94

In the study, it was found that the participants of the study regarding learning foreign language pronunciation were both intrinsically (M=76.37, Turkey: M=73.90; Iran: M=78.12) and extrinsically (M=35.93, Turkey: M=39.38; Iran: M=35.51) motivated but most often they preferred intrinsic motivation. The prospective English teachers were in general autonomous oriented motivated (M=52.73 Turkey: M=52.25; Iran: M=53.07). That is, they had more tendency towards intrinsic regulation (M=76.37, Turkey: M=73.90; Iran: M=78.12) followed by identified (M=40.44, Turkey: M=41.28; Iran: M=39.85) and integrated (M=41.38, Turkey: M=41.57; Iran: M=41.24) regulations. Studying the prospective English teachers' mean scores in extrinsic motivation, it was found that there was a linear positive increase from highly controlled regulation (external regulation) towards extrinsically high autonomous regulation (integrated regulation). Put it simple, the subjects' regulation mean scores increased from external (M=22.14, Turkey: M=23.02; Iran: M=21.52), to introjected (M=39.76, Turkey: M=39.65; Iran: M=39.85), to identified (M=40.44, Turkey: M=41.28; Iran: M=39.85), and to integrated regulation (M=41.38, Turkey: M=41.57; Iran: M=41.24). There were significant differences between mean scores of highly

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controlled external regulation and highly autonomous integrated regulation in extrinsic motivation. In addition, both counterparts' mean scores in intrinsic motivation were significantly high, and the participants' mean scores in amotivation was very low.

Regarding the participants' use of pronunciation learning strategies, it was found that the prospective English teachers most often employed cognitive (M=84.94, Turkey: M=90.29; Iran: M=82.87), memory (M=44.76, Turkey: M=46.44; Iran: M=43.57), and metacognitive (M=43.67, Turkey: M=42.41; Iran: M=44.56) strategies, and the least frequently used strategies were affective (M=28.02, Turkey: M=29.06; Iran: M=27.28), social (M=16.42, Turkey: M=16.56; Iran: M=16.32), and compensation (M=14.76, Turkey: M=16.56; Iran: M=13.49) strategies. Both Turkish and Iranian counterparts most frequently preferred using cognitive, memory, and metacognitive strategies to using affective, social, and compensation strategies.

Table 4.73. Summary of Correlations between Motivation Types

		N	M	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
Overall	IM	478	76.37	1					
	Inte.R	478	41.38	.732**	1				
	Iden.R	478	40.44	.478**	.602**	1			
	Intro.R	478	39.76	.492**	.585**	.907**	1		
	Exte.R	478	22.14	-.487**	-.277**	-.184*	-.113*	1	
	AM	478	19.06	-.659**	-.540**	-.299**	-.289**	.625**	1
In Turkey	IM	198	73.90	1					
	Inte.R	198	41.57	.671**	1				
	Iden.R	198	41.28	.641**	.765**	1			
	Intro.R	198	39.65	.659**	.756**	.710**	1		
	Exte.R	198	23.02	-.366**	-.156*	-.222**	-.309**	1	
	AM	198	18.92	-.483**	-.389**	-.358**	-.387**	.537**	1
In Iran	IM	280	78.12	1					
	Inte.R	280	41.24	.825**	1				
	Iden.R	280	39.85	.458**	.533**	1			
	Intro.R	280	39.85	.430**	.506**	.993**	1		
	Exte.R	280	21.52	-.573**	-.379**	-.25	-.004	1	
	AM	280	19.16	-.787**	-.628**	-.290**	-.252**	.790**	1

In the present study, it was also found that there were significant correlations between different regulations of motivation types. There were strong positive correlations between autonomous oriented regulations (intrinsic, integrated, and

identified regulation). Surprisingly, it was found that controlled introjected regulation was also positively correlated to all autonomous oriented regulations, especially more strongly with identified regulation. External regulation from controlled oriented motivation was strong negatively correlated with autonomous intrinsic, integrated, and identified regulations, and even controlled introjected regulation. This revealed the fact that the students had the least tendency towards controlled oriented motivation, especially external regulation.

In the study of correlations between different motivation types, it was also found that there was a linear positive increase from the lowest autonomous oriented motivation (identified regulation) to the highest autonomous oriented motivation (intrinsic regulation) so that the correlation coefficients between integrated regulation and intrinsic regulation was significantly more stronger than the correlation coefficients between identified regulation and intrinsic regulation. In addition, amotivation had negative significant correlations with intrinsic, integrated, identified, and even introjected regulations but significant positive correlation with external regulation.

Table 4.74. Summary of Correlations between Pronunciation Learning Strategies

		N	M	Mem.	Cog.	Com.	Meta	Aff.	So.
Overall	Mem.	478	44.76	1					
	Cog.	478	85.94	.816**	1				
	Com.	478	14.76	.021	.241**	1			
	Meta.	478	43.67	.429**	.661**	.341**	1		
	Aff.	478	28.02	.394**	.524**	.187**	.430**	1	
	So.	478	16.42	.197**	.357**	.600**	.591**	.240**	1
In Turkey	Mem.	198	46.44	1					
	Cog.	198	90.29	.806**	1				
	Com.	198	16.56	.127*	.138*	1			
	Meta.	198	42.41	.762**	.885**	.171*	1		
	Aff.	198	29.06	.518**	.641**	-.020	.644**	1	
	So.	198	16.56	.127*	.138*	1.000**	.171*	-.020	1
In Iran	Mem.	280	43.57	1					
	Cog.	280	82.87	.828**	1				
	Com.	280	13.49	.181**	.199**	1			
	Meta.	280	44.56	.196**	.585**	.585**	1		
	Aff.	280	27.28	.273**	.408**	.197**	.360**	1	
	So.	280	16.32	.259**	.612**	.442**	.910**	.401**	1

Exploring the relationships between different pronunciation learning strategies, it was found that either among overall students, among Turkish students, or among

Iranian students there were significant positive correlations coefficients between different types of pronunciation learning strategies. The strength of correlation coefficients was found between memory, cognitive, and metacognitive strategies. In addition correlation coefficients between Iranian social and cognitive, compensation, metacognitive, and affective strategies; and Turkish social and compensation strategies were very strong. There were only one case among overall participant' use of strategies, and two cases among Turkish students' use of PLSs that no significant correlations were found.

Table 4.75. Summary of Correlations between MTs and PLSs

		N	IM	InteR	IdenR	IntroR	ExteR	AM
Overall	Mem.S	478	.293**	.319**	.85	.123**	-.289**	-.298**
	Cog.S	478	.437**	.444**	.277**	.286**	-.385**	-.422**
	Com.S	478	.173**	.320**	.373**	.353**	-.153**	-.262**
	Meta.S	478	.724**	.627**	.410**	.466**	-.493**	-.595**
	Aff.S	478	.371**	.373**	.475**	.461**	-.196**	-.271**
	So.S	478	.405**	.413**	.217**	.247**	-.257**	-.415**
In Turkey	Mem.S	198	.468**	.459**	.445**	.585**	-.559**	-.533**
	Cog.S	198	.620**	.496**	.535**	.619**	-.597**	-.582**
	Com.S	198	.021	.107	.054	.186**	-.069	-.157*
	Meta.S	198	.673**	.557**	.571**	.687**	-.551**	-.583**
	Aff.S	198	.511**	.427**	.443**	.475**	-.337**	-.342**
	So.S	198	.021	.107	.054	.186**	-.069	-.157*
In Iran	Mem.S	280	.254**	.205*	-177**	-.187**	-.039	-.136*
	Cog.S	280	.467**	.429**	.082	.074	-.144*	-.331**
	Com.S	280	.420**	.453**	.480**	.478**	-.291**	-.322**
	Meta.S	280	.747**	.691**	.373**	.359**	-.441**	-.630**
	Aff.S	280	.387**	.344**	.477**	.473**	-.131*	-.250**
	So.S	280	.673**	.619**	.301**	.285**	-.420**	-.577**

Studying the correlation coefficients between motivation types and use of pronunciation learning strategies, in overall study, it was found that there were significant positive correlation coefficients between all autonomous oriented regulations and pronunciation learning strategies; however, just in one case, there was not significant correlation coefficient between identified regulation and memory strategies. This revealed the fact that students with autonomous regulation used all types of PLSs. Controlled oriented regulations were divided into two categories. Introjected regulation was positively correlated to all types of pronunciation learning strategies; however, external regulation was negatively correlated all types of PLSs.

Put it simple, the more the prospective English teachers got controlled the more they negatively used PLSs, and the less the got controlled oriented the more they positively used PLSs. Amotivation had also negative significant correlation coefficients with all types of PLSs.

Studying the relationship between different Turkish motivation types and use of pronunciation learning strategies in Turkey, it was found that there were positive significant correlation coefficients between Turkish autonomous oriented regulations and memory, cognitive, metacognitive, and affective strategies. Regarding Turkish controlled oriented regulations, there were significant positive correlation coefficients between introjected regulation and all types of PLSs, and significant negative correlation coefficients between external regulation and four types of strategies.

Regarding the relationship between Iranian motivation types and pronunciation learning strategies, it was found that intrinsic and integrated regulations were positively correlated to all types of PLSs and the correlation coefficients were significant. There were significant positive correlation coefficients between Iranian identified regulation and four types of PLSs (compensation, metacognitive, affective, and social strategies); however, it was found that identified regulation was negatively correlated to memory strategies. Regarding controlled oriented regulations, Iranian introjected regulated students had positive tendency to use all types of pronunciation learning strategies, except use of memory strategies. There were positive correlations between Iranian introjected regulation and four types of PLSs (compensation, metacognitive, affective, and social strategies). There were significant negative correlation coefficients between external regulation and all types of PLSs.

Table 4.76. Summary of Correlations between Orientations and PLSs

		Memory	Cognitive	Compensation	Metacognitive	Affective	Social
Overall	Auto.	.260**	.443**	.342**	.674**	.481**	.393**
	Cont.	-.187**	-.155**	.065	-.172**	.089	-.87
Turkey	Auto.	.515**	.633**	.059	.689**	.527**	.054
	Cont.	-.276**	-.298**	.024	-.217**	-.104	.024
Iran	Auto.	.126**	.391**	.519**	.716**	.472**	.631**
	Cont.	-.143*	-.70	.050	-.135*	.180**	-.163**

Investigating the relationship between orientations and pronunciation learning strategies, it was found that autonomous oriented learners significantly used a vast amount of pronunciation learning strategies. Controlled oriented learners, however, used the least amount of PLSs. Autonomous learners indicated to use all type pronunciation learning strategies, and the most frequently used strategies were metacognitive strategies , $r(478)=.67$, $r(198)=.68$, $r(280)=.71$. Turkish autonomous learners used memory, cognitive, and affective strategies more than Iranian autonomous counterparts, and Iranian autonomous students used social and metacognitive strategies more than Turkish autonomous counterparts.

Table 4.77. Summary of Correlation between MTs and APA, and PLSs and APA

MTs →	N	IM	Inte.R	Iden.R	Intro.R	Exte.R	AM
APA (Overall)	478	.620**	.491**	.245**	.320**	-.567**	-.595**
APA (in Turkey)	198	.490**	.416**	.387**	.515**	-.637**	-.540**
APA (in Iran)	280	.702**	.611**	.240**	.217**	-.500**	-.704**
PLSs →	N	Mem.S	Cog.S	Com.S	Meta.S	Aff.S	So.S
APA (Overall)	478	.427**	.491**	.140**	.673**	.311**	.394**
APA (in Turkey)	198	.644**	.690**	.233**	.693**	.481**	.233**
APA (in Iran)	280	.305**	.448**	.310**	.652**	.300**	.591**

Studying the relationship between motivation types and academic pronunciation achievement, and the relationship between pronunciation learning strategies and academic pronunciation achievement (APA), among Turkish, Iranian, and Overall participants, it was found that autonomous regulations (intrinsic, integrated, and identified regulations), and even controlled introjected regulation were positively correlated to APA, and the correlation coefficients were significant. Regarding autonomous regulations, from low autonomous regulation to high autonomous regulation there was a linear positive increase so that the strength of correlation coefficients intensively increased. Controlled introjected regulation had significant positive correlation with APA; whereas, controlled external regulation had significant negative correlation with APA. Moreover, amotivation had significant strong negative correlation coefficient with APA.

There were also significant positive correlation coefficients between all types of pronunciation learning strategies and students' academic pronunciation achievement. The strength of correlation coefficients, among Turkish, Iranian, and Overall participants, between metacognitive and APA was large; however, the

strength of correlation coefficients between cognitive and APA, and memory and APA were medium. This reveals the fact that metacognitive strategies followed by cognitive and memory strategies had significant stronger effect on the Turkish and Iranian participants' APA level. It was also found that Iranian students' use of social strategies had significant strong correlation with their APA level.

Table 4.78. Summary of *t-Test* for Gender and Motivation Types

Variables		Independent Samples t-Test								
		Overall			In Turkey			In Iran		
Variables	Gender	t	df	Sig	t	df	Sig	t	df	Sig
Intr.	Male	2.61	476	.009	.114	196	.909	4.03	278	.000
	Female									
Inte.	Male	3.09	476	.002	-.099	196	.922	4.39	278	.000
	Female									
Iden.	Male	3.54	476	.000	-.005	196	.996	4.20	278	.000
	Female									
Intro	Male	3.75	476	.000	.493	196	.622	4.27	278	.000
	Female									
Exte.	Male	-3.78	476	.000	-2.30	196	.022	-3.06	278	.003
	Female									
Amo.	Male	-3.46	476	.001	-1.44	196	.149	-3.136	278	.002
	Female									

The results of the study also showed that there were significant gender differences between Turkish, Iranian, and Overall students regarding their motivation type preferences. Turkish males and females in terms of external regulation; Iranian and Overall males and females in terms of all types of motivation and amotivation significantly differed. The Iranian and Overall males were superior in intrinsic, integrated, identified and introjected regulations, but the female counterparts were superior in external regulation and amotivation. Turkish females regarding their external regulation were superior.

Investigating gender differences on the use of pronunciation learning strategies, it was found that there was no significant gender difference among Turkish students' use of PLSs, but there were significant gender differences among Iranian and Overall participants. Overall male students in terms of using cognitive, compensation, metacognitive, and affective strategies significantly were different from female counterparts. Iranian male students in terms of using compensation,

metacognitive, and affective, and social strategies significantly were different from Iranian female counterparts. The male students' mean scores were more than female students.

Table 4.79. Summary of *t-Test* for Gender and Pronunciation Learning Strategies

Variables		Independent Samples t-Test								
		Overall			In Turkey			In Iran		
Variables	Gender	t	df	Sig	t	df	Sig	t	df	Sig
Mem.	Male	.791	476	.429	1.99	.196	.47	-1.24	278	.213
	Female									
Cog.	Male	1.81	476	.005	1.29	.196	.198	1.07	278	.282
	Female									
Com.	Male	3.18	476	.002	-1.12	.196	.260	4.53	94.15	.000
	Female									
Meta.	Male	3.01	476	.003	.484	.196	.629	3.77	278	.000
	Female									
Aff.	Male	2.23	243	.020	.102	.196	.919	2.77	132.5	.006
	Female									
So.	Male	1.22	476	.221	-1.12	.196	.260	2.64	278	.009
	Female									

It was also found that there were significant nationality differences in terms of intrinsic, identified, and external regulations. Iranian mean scores in intrinsic regulation was more than Turkish counterparts, and Turkish students mean scores in identified and external regulations were more than Iranian counterparts.

Nationality had also significant impact on the use of pronunciation learning strategies. On the basis of the results of the present study, there found significant nationality differences in the use of pronunciation learning strategies in terms of memory, cognitive, compensation, metacognitive, and affective strategies. The findings revealed that Turkish students used memory, cognitive, compensation, and affective strategies significantly more than Iranian counterparts. Iranian students, however, were superior at the use of metacognitive strategies.

Investigating the effect of being resident on motivation preferences, even though, there were so much few number of students being resident to native English speaking countries but it was found that there were significant difference between students who had been resident to native English speaking countries (NESC) before and students who did not have any experience of being to a NESC. The significant

differences were found in identified, introjected, and external regulations. The mean scores of the students who had been to NESC in identified regulation was more than the students had not been to NESC; however, mean scores of the students with no experience of resident to NESC in introjected and external regulation were significantly more than the counterparts who had the experience of being to a NESC. This revealed the fact that students with resident experience got the importance of learning strategies.

Being resident to NESC had also significant effect on the use of affective pronunciation learning strategies. The students with resident experience used more affective strategies than other counterparts with no resident experience. Moreover, although there were differences in means scores of other PLSs but the differences were not so significant.

Identifying whether length of resident had any impact on motivation types, and use of pronunciation learning strategies, no significant difference between the groups of resident was found.

Table 4.80. Summary of Post hoc for APA and Motivation Types

Variables	APA level	Dominant Regulations
MTs	High-Moderate	Intr., inte., iden., introj., and exte. regulations, and AM
Overall	High-Low	Intr., inte., iden., introj., and exte. regulations, and AM
	Low-Moderate	Intr. and inte. regulations
MTs	High-Moderate	Intr., inte., iden., introj., and exte. regulations
in Turkey	High-Low	Intr., inte., iden., introj., and exte. regulations
	Low-Moderate	no significant differences in none of regulations
MTs	High-Moderate	Intr., inte., iden., introj., and exte. regulations
in Iran	High-Low	Intr., inte., iden., introj., and exte. regulations
	Low-Moderate	Intr., inte. regulation, and AM

Investigating the impact of APA on motivation types, it was found that there were significant differences between high, moderate, and low achievers in term of different motivation types. High achievers in terms of intrinsic, integrated, identified, introjected, external regulations, and even amotivation differed significantly from moderate and low achievers. This was true with all Turkish, Iranian, and overall participants. However, regarding moderate and low achievers, there were differences between Turkish and Iranian students. Iranian moderate achievers differed significantly in terms of intrinsic and integrated regulations and amotivation

from low achievers. There were also significant differences between moderate and low achievers in terms of intrinsic and integrated regulations. But, there was no significant difference between Turkish moderate and low achievers in terms of motivation types.

Table 4.81. Summary of Post hoc for APA and Pronunciation Learning Strategies

Variables	APA level	Dominant Strategies
PLSs	High-Moderate	mem., cog., com., meta., aff., and so.
Overall	High-Low	mem., cog., com., meta., aff., and so.
	Low-Moderate	meta.
PLSs	High-Moderate	mem., cog., meta., and aff.
in Turkey	High-Low	mem., cog., com., meta., aff., and so.
	Low-Moderate	none of strategies
PLSs	High-Moderate	mem., cog., com., meta., aff., and so.
in Iran	High-Low	mem., cog., com., meta., aff., and so.
	Low-Moderate	meta. and so.

Investigating the impact of academic pronunciation achievement on the use of pronunciation learning strategies, it was found that Iranian and Overall high achievers differed significantly from Iranian and Overall moderate and low achievers in terms of using memory, cognitive, compensation, metacognitive, affective, and social strategies. Overall moderate achievers significantly differed from low achievers in the use of metacognitive strategies, but Iranian moderate achievers significantly differed from Iranian low achievers in terms of using metacognitive and social strategies. Turkish high achievers differed significantly from Turkish moderate achievers in terms of memory, cognitive, metacognitive, and affective, and from Turkish low achievers in terms of memory, cognitive, compensation, metacognitive, affective, and social. There was no significant difference between Turkish moderate and low achievers in terms of using PLSs.

Table 4.82. Summary of Multiple Regression for Motivation Types as Predictors of APA

		Model Summary		ANOVA			Coefficients		
Variables	Predictors	R^2	%	df	F	Sig.	β	t	Sig.
MTs (Overall)	Intrinsic	.410	41.0	2, 475	165.1	.000	.668	18.16	.000
	Extrinsic						-.168	-4.56	.000
MTs (in Turkey)	Intrinsic	.289	28.9	2, 195	39.65	.000	.586	8.90	.000
	Extrinsic						-.241	-3.65	.000
MTs (in Iran)	Intrinsic	.505	50.5	2, 277	141.0	.000	.733	16.6	.000
	Extrinsic						-.112	-2.54	.011

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Motivation as predictor of English teacher students' academic pronunciation achievement was investigated on the basis of self-determination theory of motivation. In the present study, both intrinsic and extrinsic motivations as predictors explained 41% of variance in Overall participants', 28% of Turkish participants', and 50% of Iranian students' academic pronunciation achievement, with the intrinsic motivation recording a higher beta (β =.66) for Overall participants, (β =.58) for Turkish, and (β =.73) for Iranian. This reveals that intrinsic motivation had much strong impact on English teacher students' APA level, especially among Iranian students.

Table 4.83. Summary of Multiple Regression for Orientations as Predictors of APA

Variables	Predictors	Model Summary		ANOVA			Coefficients		
		R^2	%	df	F	Sig.	β	t	Sig.
Motivational Orientations (Overall)	Autonomous	.449	44.9	2, 475	193.7	.000	.591	17.27	.000
	Controlled						-.379	-11.06	.000
Motivational Orientations (in Turkey)	Autonomous	.435	43.5	2, 195	74.95	.000	.534	9.87	.000
	Controlled						-.437	-8.07	.000
Motivational Orientations (in Iran)	Autonomous	.500	50.0	2, 277	138.7	.000	.659	15.41	.000
	Controlled						-.340	-7.96	.000

Investigating motivational orientations as predictors of the participants' APA level, it was found that autonomous oriented motivation and controlled orientations as predictors explained 44% of variance in Overall participants' APA level, 43% of variance in Turkish students' APA level, and 50% of variance in Iranian students' APA level, with the autonomous oriented motivation recording a higher beta (β =.59) for overall participants, (β =.53) for Turkish, and (β =.65) for Iranian students. This reveals that autonomous oriented motivation has much strong impact on English teacher students' APA level, especially among Iranian students.

Table 4.84. Summary of Multiple Regression for Auto. Orientation as Predictors of APA

Variables	Predictors	Model Summary		ANOVA			Coefficients		
		R^2	%	df	F	Sig.	β	t	Sig.
Autonomous Orientation (Overall)	Intrinsic R.	.384	38.4	1, 476	297.1	.000	.620	17.23	.000
Autonomous Orientation (in Turkey)	Intrinsic R.	.258	25.8	2, 195	33.90	.000	.379	4.71	.000
	Integrated R.						.173	2.15	.032
Autonomous Orientation (in Iran)	Intrinsic R.	.509	50.9	3, 276	95.52	.000	.628	8.41	.000
	Integrated R.						-.137	-2.74	.007
	Identified R.						.166	2.11	.035

Regarding autonomous regulations, it was found that Overall participants' intrinsic regulation as single predictor explained 38% of variance in their APA level. Turkish intrinsic and integrated regulations as predictors explained 25% of variance in their APA level, whereas Iranian intrinsic, integrated, and identified regulations as predictors explained 50% of variance in their APA level, with the intrinsic regulation recording a higher beta (*β* =.62) for Overall participants, (*β* =.37) for Turkish, and (*β* =.62) for Iranian students.

Table 4.85. Summary of Multiple Regression for Cont. Orientation as Predictors of APA

Variables	Predictors	R^2	%	df	F	Sig.	β	t	Sig.
Controlled Orientation (Overall)	External R.	.388	38.8	2, 475	150.7	.000	-.538	-14.8	.000
	Introjected R.						.259	7.18	.000
Controlled Orientation (in Turkey)	External R.	.515	51.5	2, 195	103.5	.000	-.525	-10.01	.000
	Introjected R.						.353	6.73	.000
Controlled Orientation (in Iran)	External R.	.298	29.8	2, 277	58.83	.000	-.501	-9.95	.000
	Introjected R.						.219	4.34	.000

Model Summary spans R², %. *ANOVA* spans df, F, Sig. *Coefficients* spans β, t, Sig.

Regarding controlled regulations, it was found that external and introjected regulations as predictors explained 38% of variance in Overall participants' APA level, 51% of variance in Turkish students' APA level, and 29% of variance in Iranian students' APA level, with the external regulation recording a higher beta (*β* =-.53) for overall participants, (*β* =-.52) for Turkish, and (*β* =-.50) for Iranian students.

Table 4.86. Summary of Multiple Regression for Pronunciation Learning Strategies

Variables	Predictors	R^2	%	df	F	Sig.	β	t	Sig.
PLSs (Overall)	Metacognitive	.485	48.5	3, 474	148.9	.000	.678	14.931	.000
	Memory						.303	5.129	.000
	Cognitive						-.204	-2.874	.004
PLSs (in Turkey)	Metacognitive	.536	53.6	1, 193	55.71	.000	.305	2.831	.005
	Memory						.202	2.405	.017
	Compensation						.122	2.443	.015
	Cognitive						.241	2.059	.041
PLSs (in Iran)	Metacognitive	.488	48.8	1, 276	87.61	.000	.824	12.154	.000
	Memory						.533	5.490	.000
	Cognitive						-.473	-4.033	.000

Studying how pronunciation learning strategies predict the prospective English teacgers' academic pronunciation achievement, it was found that, among Overall

participants, metacognitive, memory and cognitive strategies as predictors explained 48% of variance in the participants' APA level, and among Iranian participants, the same strategies as predictors explained 48% of Iranian students' APA level. Among Turkish students, however, metacognitive, memory, compensation, and cognitive strategies as predictors explained 53% of variance in their APA level. Among these pronunciation learning strategies, the metacognitive strategies, recording the highest beta (β =.67) for overall participants, (β =.30) for Turkish, and (β =.82) for Iranian students, received the strongest power of prediction for APA level.

4.9. Discussion

The findings of the present research study were discussed in this section in order to provide answers to the research questions raised in this dissertation. The results were also presented in the order of research questions and with due attention to variables measured in the present study.

In an EFL context, in contrast to ESL situations, there is not an authentic environment to provide and promote opportunities for language use and to encourage or generate learners to use language learning strategies (Green & Oxford, 1995). In such a context, L2 learners "must find ways to deal with the challenge of learning both language and content simultaneously". This is possible if only the L2 learners be autonomous motivated and active agents, and be also able to "regulate their own learning through a variety of procedures that are more likely to meet this challenge successfully" (Chamot, 2014: p.78). Brown (2008), Celce-Murcia et al (2010), Moyer (2004, 2014) among others view pronunciation motivation as an important factor to contribute to success in foreign language near-native-like pronunciation learning. Along with pronunciation motivation, in an EFL context, L2 learners' strategic knowledge was also introduced as significant factor effecting their success in foreign language (e.g. Tseng, Dörnyei, & Schmitt, 2006) and foreign language pronunciation learning (Peterson, 2000; Osburne, 2003; Eckstein, 2007; Pawlak, 2010; Calka, 2011; Rokoszewska, 2012; Szyszka, 2015). Following such assertions regarding foreign language pronunciation learning in EFL contexts, the research study was designed to study how pronunciation motivation and use of pronunciation learning strategies interact and predict Turkish and Iranian prospective English teachers' success in foreign language pronunciation learning.

The first research question was designed to study Turkish and Iranian prospective English teachers' pronunciation motivation type preferences. Unfortunately, the literature on pronunciation motivation types, especially on the basis of self-determination theory, seems to be considerably lacking. In the present research, it was found that the participants of the study regarding learning foreign language pronunciation were both intrinsically (M=76.37, Turkey: M=73.90, Iran: M=78.12) and extrinsically (M=35.93, Turkey: M=39.38, Iran: M=35.51) motivated but most often they preferred intrinsic motivation. The students were in general autonomous oriented motivated. That is, they had more tendency towards intrinsic regulation (M=76.37, Turkey: M=73.90, Iran: M=78.12) followed by identified (M=40.44, Turkey: M=41.28, Iran: M=39.85) and integrated (M=41.38, Turkey: M=41.57, Iran: M=41.24) regulations. Studying the English teacher students' mean scores in extrinsic motivation, it was found that there was a linear positive increase from highly controlled regulation (external regulation towards highly autonomous regulation (integrated regulation). That is, the subjects' regulation mean scores increased from external (M=22.14, Turkey: M=23.02, Iran: M=21.52), to introjected (M=39.76, Turkey: M=39.65, Iran: M=38.85), to identified (M=40.44, Turkey: M=41.28, Iran: M=39.85), and to integrated (M=41.48, Turkey: M=41.57, Iran: M=41.24) regulation. The prospective English teachers' mean scores in autonomous motivation (M=52.73, Turkey: M=52.25, Iran: M=53.07) was more than controlled motivation (M=30.95, Turkey: M=31.33, Iran: M=30.68). In addition, contrary to the fact that the participants' mean scores in intrinsic regulation (M=76.37, Turkey: M=73.90, Iran: M=78.12) were significantly high, their mean scores in amotivation (M=19.06, Turkey: M=18.92, Iran: M=19.16) were very low. The findings of extrinsic motivation approved the fact that to the extent that the L2 learners moved from the highest control orientation (external regulation) to the highest autonomous orientation (integrated regulation), they lost controlling and got close to be autonomous learners. Put it simply, the more L2 learners internalized foreign language phonological rules in their speech and assimilated them to themselves, the more their extrinsically motivated behaviors regarding foreign language pronunciation became self-determined (Ryan & Deci, 2000). The results of the study was in congruent with Moradi (2011) indicating that Turkish and Iranian student were both intrinsically and extrinsically motivated.

The second research question was aimed to distinguish pronunciation learning strategies employed by the Turkish and Iranian prospective English teachers. Unfortunately, the literature on introducing use of pronunciation learning strategies in EFL contexts, especially in Iran and Turkey seems to be considerably lacking; though, recently some studies have been conducted in Turkey (Berkil, 2008; Hişmanoğlu, 2012; Akyol, 2013; Erbay et al, 2016) but they were mostly limited. In the present research, in congruent with Erbay et al (2016), regarding the participants' use of pronunciation learning strategies, it was found that the prospective English teachers most often employed cognitive (M=84.94, Turkey: M=90.29, Iran: M=82.87), memory (M=44.76, Turkey: M=46.44, Iran: M=43.57), and metacognitive (M=43.67, Turkey: M=42.41, Iran: M=44.56) strategies, and the least frequently used strategies were affective (M=28.02, Turkey: M=29.06, Iran: M=27.28), social (M=16.42, Turkey: M=16.56, Iran: M=16.32), and compensation (M=14.76, Turkey: M=16.56, Iran: M=13.49) strategies. The results of the present study were also in congruent with Ellis & Sinclair (1989), O'Malley & Chamot (1991), Peterson (2000), Berkil (2008), Akyol (2013), and Mohammad (2014) indicating that L2 learners seem to use all pronunciation learning strategies but in different degrees.

The third research question, in its first part, was aimed to know how the prospective English teachers' pronunciation motivation type preferences and uses of pronunciation learning strategies interrelate. According to Deci and Ryan's (1985, 2000) self-determination theory, there should be a meaningful relationship and an ordered pattern between motivation types; and on the basis of Oxford's (1990, 2003) six-strategy category, no single strategy can lead to successful learning; as a results, there should be correlations between uses of different types of pronunciation learning strategies. Unfortunately, the literature on interrelationship between different pronunciation motivation type preferences, interrelationship between different pronunciation learning strategies, and relationship between pronunciation motivation types and pronunciation learning strategies seems to be considerably lacking, and there is not even a single research in this regard. Accordingly, before studying the relationship between MTs and PLSs, the variables' interrelationships have been studied.

Regarding pronunciation motivation, in the present research, it was found that there were significant correlations between different regulations. There were strong positive correlations between autonomous oriented regulations (intrinsic, integrated, and identified regulation) (r=.73, r=.47, r=.60). Surprisingly, it was found that controlled introjected regulation was also positively correlated to all autonomous oriented regulations (intrinsic, r=.49, integrated, r=.58, and identified, r=.90). This can be because of the fact that the students might try to control their level of anxiety and to move ahead being autonomous motivated learners rather than being controlled motivated learners. On the basis of SDT, introjected learners perform such actions with the feeling of pressure in order to avoid guilt or anxiety or to attain ego-enhancements or pride (Deci & Ryan, 2000). External regulation from controlled oriented motivation was also negatively correlated with autonomous intrinsic, r=-.48, integrated, r=-.27, and identified r=-.18, regulations, and even controlled introjected regulation r=-.11. This revealed the fact that the prospective teachers had the least tendency towards controlled oriented motivation, especially external regulation. In other words, the participants were not interested in satisfying from external demands (Deci & Ryan, 2000); instead they reported to be more autonomous motivated regarding foreign language pronunciation learning.

In the study of correlations between different motivation types, it was also found that there was a linear positive increase from the lowest autonomous oriented motivation (identified regulation) to the highest autonomous oriented motivation (intrinsic regulation) so that the correlation coefficients between integrated regulation and intrinsic regulation, r=.73, was significantly stronger than the correlation coefficients between identified regulation and intrinsic regulation, r=.47. This approved the fact that there was an ordered patter between autonomous oriented regulations so that the strength of correlation coefficients between intrinsic and integrated regulations was larger than the correlation coefficients between integrated and identified regulations. That is, the participants of the study had more tendency towards highly autonomous oriented intrinsic motivation. In addition, amotivation had significant negative correlations with intrinsic, r=-.65, integrated, r=-.54, identified, r=-.29, and even introjected, r=-.28, regulations but significant positive correlation with external regulation r=.52. The significant strong negative correlation coefficients between amotivation and different regulations of MTs indicated the fact that the more the

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participants of the study received autonomous oriented regulations, especially intrinsic regulation, the more they lost their amotivation level.

The other significant finding of the present study was that the strong correlation coefficients between motivation types indicated the fact that motivation is not such a simple term to be explained through a single linear approach, rather it evolves dynamic interactions with the social context or of the complexities of interacting cognitive and emotional processes and systems functioning within and between individuals at any point in time (Larsen-Freeman & Cameron, 2008a; Dörnyei, 2009b). In other words, an L2 learner at the same time that he/she is intrinsically regulated can carry other regulations, but what is important to signify is direction in which the strength of regulation increases (Celce-Murcia, et al, 2010). In the present study, it was found that even if the participants received a degree of all regulation types simultaneously, but there was a growing strength of direction from high controlled regulation to less controlled regulation, and from less autonomous regulation to high autonomous regulation. Moreover, autonomous oriented regulations (intrinsic, integrated, and identified regulations), and even less controlled introjected regulation negatively correlated to amotivation.

The findings of the present study with regard to pronunciation motivation type interrelationships revealed an ideal motivation type correlations on the basis of Deci and Ryan's (1985-2015) self-determination theory; in addition, it was found that there were ideal ordered patterns between different autonomous oriented regulations and controlled oriented regulations. The same as the findings of the overall study were also found among Turkish, and among Iranian counterparts, with the exception of that regarding Iranian English teacher students there were not significant correlation coefficients between Iranian external regulation and introjected regulation, and Iranian external regulation and identified regulation. To sum up, in the present research, it was found that Turkish, and Iranian English prospective teachers were more autonomous oriented learners with more tendency toward intrinsic regulation.

As discussed above, in an EFL context, there is an essential need for autonomous learning, and pronunciation motivation in this regard is introduced as an important factor to contribute to success in foreign language near-native-like pronunciation

learning (Brown, 2008; Celce-Murcia et al, 2010; Moyer, 2004, 2014). In line with Purcell & Suter, 1980; Smit, 2002; Brown 2008; and Sardegna et al, 2014 who reported integrative and intrinsic motivations correlate positively with L2 learners' desires to sound native-like and the degree of foreign accent, in the present research, it was also found that Turkish and Iranian English teacher students regarding learning English pronunciation preferred autonomous motivation. Autonomous learners are responsible for their own learning, have their ability and willingness to learn (Holec, 1981; Dickinson, 1987; Allwright, 1990 Littlewood, 1996). However, learner autonomy can promote more efficient and effective learning (Dickinson, 1987; Oxford, 2003; Chamot, 2014) if L2 learners learn how to learn and get familiar with learning strategies. To increase learner autonomy, it is, then, essential to help L2 learners to develop a meaningful repertoire of learning strategies (Cotterall, 2000; Hsiao & Oxford, 2002; Oxford, 1990, 1999). Exploring the interrelationships between different pronunciation learning strategies, it was found that among overall students, among Turkish students, and among Iranian students there were significant positive correlations coefficients between different pronunciation learning strategies. The results of the present research approved Oxford's (2003) and Cohen & Macaro's (2007) statements indicating that use of learning strategies are interrelated and a single strategy never will lead to L2 learners' success, and that successful strategic learning requires a meaningful selection of various learning strategies. Scholars are in the belief that successful language learners are those students who consistently use a large amount of various learning strategies (e.g. Naiman et al, 1975; Rubin, 1975, Oxford, 2003; Cohen & Macaro, 2007) in harmony.

Among Overall participants, memory strategies were significantly correlated to cognitive, metacognitive, affective, and social strategies. The strength of correlation coefficients between memory and cognitive strategies (r=.81) was the largest, between memory and metacognitive strategies (r=.42), and affective strategies (r=.39) were medium. Cognitive strategies were significantly correlated to compensation, metacognitive, affective, and social strategies. The strength of correlation coefficients between cognitive and metacognitive strategies (r=.66), and affective strategies (r=.52) were stronger. Compensation strategies were significantly correlated to metacognitive, affective, and social strategies. The largest

strength of correlation coefficients was found between compensation and metacognitive strategies(r=.34). Metacognitive strategies were significantly correlated to affective (r=.43) and social strategies(r=.59), and both correlation coefficients were large. Affective strategies significant correlated to social strategies. Moreover, all correlation coefficients were positive.

Among Turkish participants, it was found that there were significant positive correlation coefficients between memory and cognitive, and compensation, and metacognitive, and affective, and social strategies; between cognitive and compensation, and metacognitive, and affective, and social strategies; between compensation and metacognitive, and social strategies; between metacognitive and affective, and social strategies. The strength of correlation coefficients between compensation and social (r=1.000), metacognitive and cognitive (r=.88), memory and cognitive (r=.80), memory and metacognitive (r=.76), metacognitive and affective (r=.64), cognitive and affective (r=.64), and memory and affective (r=.51) strategies was very large. There were no significant correlation coefficients between compensation and affective, and affective and social strategies.

Among Iranian prospective English teachers, it was found that there were significant positive correlation coefficients between memory and cognitive, and compensation, and metacognitive, and affective, and social strategies; between cognitive and compensation, and metacognitive, and affective, and social strategies; between compensation and metacognitive, and affective, and social strategies; between metacognitive and affective, and social strategies, and between affective and social strategies. The strength of correlation coefficients between metacognitive and social (r=.91), memory and cognitive (r=.82), cognitive and social (r=.61), cognitive and metacognitive (r=.58), metacognitive and compensation (r=.58) strategies was very large.

The significant strong positive correlation coefficients between different PLSs revealed the fact that the English teacher students used varieties of pronunciation learning strategies. This multivariate strategy use can provide successful learning (Naiman et al, 1975; Rubin, 1975, Oxford, 2003; Cohen & Macaro, 2007) if it happens in harmony. However, one significant finding regarding the multivariate strategy use, in the present study, was that comparing to the amazing use of

cognitive, memory, and metacognitive strategies the participants used affective, social, and compensation strategies less frequently. It may be because of that they students were not so much aware of the significant role of compensation, social, and affective strategies, which requires more strategic instructions.

Motivation is stated to be an essential element of strategic behavior and a forefront of strategic use (e.g. Weinstein et al., 1988). Assertions like this led scholars to scrutinize more about the relations between motivation and learning strategies. In the present research, following the first part of third research question, it was found that, in Overall study, there were significant positive correlation coefficients between all autonomous oriented (intrinsic, integrated, and identified) regulations and all pronunciation learning (memory, cognitive, compensation, metacognitive, affective, and social) strategies; except in one case between identified regulation and memory strategies. This revealed the fact that students with autonomous regulation more often used all types of PLSs. Controlled oriented regulations were divided into two categories. Less controlled introjected regulation was positively correlated to all types of pronunciation learning strategies; however, highly controlled external regulation was negatively correlated with all types of PLSs; and all correlation coefficients were significant. This approved the fact that the more students got highly controlled the more they negatively used PLSs, and the less the got controlled oriented the more the used PLSs. Amotivation had also negative significant correlation coefficients with all types of PLSs. The findings of the present research in congruent with Oxford & Nyikos (1989), Oxford (1990), Oxford & Nyikos (1993), Ellis (1994), Mochizuki (1999), Wharton (2000), Wen & Wang (2004) Vandergrift (2005), and Dornyei & Csizer (2005) indicated that highly motivated leaners used more various pronunciation learning strategies more than less motivated learners. It was found that autonomous motivated learners (intrinsic, integrated, and identified learners) used all types of pronunciation learning strategies more than controlled learners, and less controlled introjected learners used more pronunciation learning strategies than other counterparts with highly controlled external regulation. In addition, amotivation was negatively correlated to all types of PLSs. That is, the more students got a level of amotivation the less amount of PLSs they used. On the basis of the findings of the present research, all pronunciation learning strategies might be crucial elements for learners with autonomous oriented regulations

(intrinsic, integrated, and identified) and with less controlled introjected regulation, and it may in turn contribute to L2 learners' success in pronunciation learning.

Studying the relationship between motivation types and use of pronunciation learning strategies, among Turkish and Iranian prospective teachers separately, we got in the same results as in Overall study; however, there were some significant difference regarding the Turkish students' use of compensation and social strategies and the Iranian identified and introjected students' use of memory strategies. Regarding Turkish students, we couldn't find significant correlations between intrinsic, integrated, and identified regulations and use of compensation and social strategies; though, directions were positive. In addition, correlation coefficients between Turkish externally regulated students' use of compensation and social strategies were not significant; but, directions were negative. Surprisingly, it was also found that Iranian identified and introjected students negatively used memory strategies; and their use of cognitive strategies were not significant, but the directions were positive.

Investigating the relationship between motivation orientations and use of pronunciation learning strategies, it was found that autonomous orientation was positively correlated to all pronunciation learning strategies. All correlation coefficients between autonomous orientation and pronunciation learning strategies among Overall, and Iranian students were significantly positive, and among Turkish students except with compensation strategy, correlation coefficients with other PLSs were positively significant. Controlled orientation was mostly negatively correlated to the use of pronunciation learning strategies, especially memory, cognitive, metacognitive, and social strategies. The strength of correlation coefficients between autonomous orientation and PLSs were stronger than the strength of correlations between controlled orientation and PLSs. The largest strength of correlation coefficients was found between autonomous orientation and metacognitive strategies. Moreover, memory and cognitive strategies among Turkish students, and social strategies among Iranian students received larger correlation coefficients. The strength of correlation coefficients between autonomous orientation and metacognitive strategies among Iranian students was significantly larger than Turkish counterparts. To sum up, the results of the study revealed that autonomous oriented learners significantly used a vast amount of

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pronunciation learning strategies. Controlled oriented learners, however, used the least amount of PLSs. Autonomous learners indicated to use all type pronunciation learning strategies, and the most frequently used strategies were metacognitive strategies , $r(478)=.67$, $r(198)=.68$, $r(280)=.71$. Turkish autonomous learners used memory, cognitive, and affective strategies more than Iranian autonomous counterparts, and Iranian autonomous students used social and metacognitive strategies more than Turkish autonomous counterparts.

Second part of the third research question, in the present research, was aimed to investigate the relationship between motivation type preferences, use of pronunciation learning strategies, and (high, moderate, and low) academic pronunciation achievement (APA). In this regard, among Turkish, Iranian, and Overall participants, it was found that autonomous (intrinsic, $r(478)=.62$, $r(198)=.49$, $r(280)=.70$; integrated, $r(478)=.49$, $r(198)=.41$, $r(280)=.61$; and identified $r(478)=.24$, $r(198)=.38$, $r(280)=.24$) regulations, and even controlled introjected regulation ($r(478)=.32$, $r(198)=.51$, $r(280)=.21$) were positively correlated to APA, and the correlation coefficients were significant. Regarding autonomous regulations, from low autonomous regulation ($r(478)=.24$, $r(198)=.38$, $r(280)=.24$) to high autonomous regulation ($r(478)=.62$, $r(198)=.49$, $r(280)=.70$) there was a linear positive increase so that the strength of correlation coefficients intensively increased. This revealed the fact that the more students were autonomously motivated the more their APA increased. Less controlled introjected regulation ($r(478)=.32$, $r(198)=.51$, $r(280)=.21$) had significant positive correlation with APA; whereas, high controlled external regulation ($r(478)=-.56$, $r(198)=-.63$, $r(280)=-.50$) had significant negative correlation with APA. Studying the correlation coefficients between controlled regulations and APA, it was found that the strength of correlation coefficients from introjected regulation to external regulation largely increased, but the directions were different. That is, the more the prospective English teachers were controlled regulated the more they were less successful in APA. Moreover, amotivation ($r(478)=-.59$, $r(198)=-.54$, $r(280)=-.70$) had significant strong negative correlation coefficient with APA. The more the students received amotivation level the less the received APA.

In line with Ryan (1982), Ryan & Connell (1989), Vallerand (1997), Ryan & Frederick (1997), Knee et al (2005), Niemiec et al (2006), Roth et al (2007), and Weinstein &

Ryan (2011) the findings of the research study approved the fact that autonomy and autonomous learning result in successful achievement. It was also found that motivation, as stated by Lukmani (1972), Schumanne (1975), Celce-Murcia & Goodwin (1991), Moyer (2007, 2014), Brown (2008); Celce-Murcia et al (2010) is a main reason and a key factor to acquire a proper pronunciation. In addition, in line with Purcell & Suter (1980); Smit (2002); Brown (2008); and Sardegna et al (2014) who reported integrative and intrinsic motivations correlate positively with L2 learners' desires to sound native-like and the degree of foreign accent, in the present research, it was found that L2 learners with autonomous motivation (intrinsic, integrated, and identified regulations), and even less controlled learners (introjected regulated learners) were successful learners regarding foreign language pronunciation learning. The more the prospective English teachers' level of autonomous motivation increased the better their success in academic pronunciation achievement improved.

A myriad of studies have also reported that use of language learning strategies result in a positive effect on students' proficiency and achievement in foreign language learning (e.g. Rubin, 1975; Naiman, Fröhlich, Stern, & Todesco, 1978; Wenden & Rubin, 1987; Weinstein, Goetz, & Alexander, 1988; Ehrman, and Oxford, 1989; Cohen, 1990; O'Malley & Chamot, 1990; Pressley & Associates, 1990; Oxford, 1990; Nunan, 1991; Oxford, 1993; Oxford, 1996b; Park, 1997; Bruen, 2001; Lee, 2003; Griffiths, 2003; Anderson, 2005; Khalil, 2005; Fuping, 2006; Hong, 2006; Yang, 2007; Magogwe & Oliver, 2007; Ya-Ling, 2008; Deneme, 2008; Rahimi et at., 2008; Khamkhien, 2010; Moradi, 2011; Moradi & Sarıçoban, 2012). In line with the studies, in the present research, among Turkish, Iranian, and Overall participants, it was found that there were significant positive correlation coefficients between all types of pronunciation learning strategies and students' academic pronunciation achievement. The strength of correlation coefficients among all counterparts between metacognitive and APA (r(478)=.67; r(198)=.69; r(280)=.65) was the largest, cognitive and APA (r(198)=.69), and memory and APA (r(198)=.64) among Turkish prospective English teachers were large; cognitive and APA (r(478)=.49; r(280)=.44), and memory and APA (r(478)=.42; r(280)=.30) among Iranian and Overall prospective English teachers were medium. This reveals the fact that metacognitive strategies followed by cognitive and memory strategies had

significant stronger effect on the Turkish and Iranian participants' APA level. It was also found that the strength of correlation coefficient between Iranian students' use of social strategies and APA was significantly stronger than the correlation coefficients between Turkish counterparts' use of social strategies and their APA level. The findings of the research approved that as Zimmerman & Pons (1986), Pressley & Associates (1990) among others assert there is significant positive relationship between use of learning strategies and achievement.

The fourth research question was aimed to study Turkish and Iranian prospective English teachers' motivation types and their use of pronunciation learning strategies in terms of gender, nationality, being resident in a native speaking country, and length of resident in a native speaking country (NESC).

Regarding gender differences in motivation type preferences, too many contradictory results were reported. While some scholars (e.g. Ghazvini & Khajehpour, 2011; Mori & Gobel, 2006; Khajehpour, 201) reported that females were more internally and males were more externally motivated; some other scholars (e.g. Kaylani, 1996; Polat, 2011) reported that males were more internally motivated and females were more externally motivated. In the present research, it was found that Iranian and Overall males and females in terms of intrinsic, integrated, identified, introjected, external regulations, and amotivation significantly differed. Male students' mean scores in autonomous oriented regulations (intrinsic, integrated, and identified) and less controlled introjected regulation were significantly more than the female counterparts, and the female students' mean scores in external regulation and amotivation was more than the male counterparts. This revealed that the Iranian males were more autonomous than female, and females were more controlled oriented learners. However, gender differences among Turkish students regarding their motivation preferences was only found in external regulation in which females were superior. The results of the study, regarding gender difference in Iranian motivation type preferences was in line with Kaylani (1996) and Polat (2011) indicating that males were more internally motivated and females were more externally motivated.

Gender differences regarding the use of language learning strategies has also received contradictory findings in literature. On one hand, some scholars reported

that female L2 learners used more strategies than males (e.g. Oxford & Nyikos, 1989; Green & Oxford, 1995; Dreyer and Oxford,1996; Khalil, 2005; Hong-Nam & Leavell, 2006; Kavasoğlu, 2009), on the other hand, some other studies (e.g. Tercanlioğlu, 2004; Abu Radwan, 2011; Park & Brian, 2011; Aydoğan & Akbarov, 2014) reported that male L2 learners used more learning strategies than their female counterparts; and even some investigations (e.g. Wharton, 2000; Griffith, 2003a; Shmais, 2003; Nisbet et al, 2005) reported no gender differences in the use strategies. In the present study, in line with Nisbet et al, 2005 among others, no significant gender difference was found among Turkish prospective teachers' use of PLSs, but in congruent with Aydoğan & Akbarov (2014) among others there were significant gender differences among Iranian, and overall participants. Overall male students in terms of using cognitive, compensation, metacognitive, and affective strategies significantly were different from female counterparts; and Iranian male students in terms of using compensation, metacognitive, affective, and social strategies differed from Iranian females. In both of the studies male prospective teachers were superior in the use of pronunciation learning strategies. The contradictory results reported in literature with regard to gender differences in use of learning strategies may best be explained through social environmental factors rather than mainly neurobiological differences.

The other influencing factor studied in the present study was nationality differences. Unfortunately, the literature on the nationality impact on motivation type preferences and use of pronunciation learning strategies seems to be considerably lacking. In the present research study, it was also found that there were significant nationality differences in terms of intrinsic, identified, and external regulations. Iranian mean scores in intrinsic regulation was more than Turkish counterparts, and Turkish students mean scores in identified and external regulations were more than Iranian counter parts. This revealed the fact that regarding Turkish and Iranian students intrinsic and extrinsic motivation level Iranian students compared to Turkish counterparts were more intrinsically motivated leaners and Turkish students were more extrinsically identified and external regulated learners. The results of the study was in congruent with Moradi (2011) and Moradi & Sarıçoban (2012) indicating that nationality can influence L2 learners' motivation level and motivation type. L2 learners' opportunity to benefit from native speakers' teaching, their cultural and

religious background, American colony and campaign against some countries like Iran and Turkey in the area might affect their motivation to learn English pronunciation. According to self-determination theory (Deci & Ryan, 1985, 1991; Ryan, 1991 1993), L2 learners' aspiration related to autonomous motivation (intrinsic, integrated, and identified regulations) might affect their greater identity stability, self-esteem, and fear of identifying with English culture and values may be related to their anxiety, lack of self-cohesion, integration, and sociocultural and religious affiliation.

It was also found that nationality had significant impact on the use of pronunciation learning strategies. There found significant nationality differences in the use of pronunciation learning strategies in terms of memory, cognitive, compensation, metacognitive, and affective strategies. The results revealed that Turkish students used memory, cognitive, compensation, and affective strategies significantly more than Iranian counterparts. Iranian students, however, were superior at the use of metacognitive strategies. The results of the study was in congruent with Politzer & McGroarty (1985), O'Malley (1987), O'Malley (1987), Bedell and Oxford (1996), Griffiths & Parr (2000) indicating that nationality can affect L2 learners' use of learning strategies.

Unfortunately, the literature on "being resident" impact and "length of resident" impact on motivation type preferences and use of strategies, especially use of pronunciation learning strategies, seems to be considerably lacking. Investigating the effect of being resident on motivation preferences and use of PLSs, even though, there were few number of students being resident to native English speaking countries but it was found that there were significant difference between students who had been resident to native English speaking countries (NESC) before and students who had no experience of being to a NESC. Regarding MTs, the significant differences were found in identified, introjected, and external regulations; regarding use of PLSs, the significant difference was found in the use of affective pronunciation learning strategies. The prospective teachers with experience of being resident to a NESC mostly preferred identified regulation; however, the teacher students with no experience of being resident more often preferred introjected and external regulations. This revealed the fact that students with resident experience identified to get through autonomous learning rather than

controlled learning. In addition, the students with resident experience were superior in the use of affective pronunciation earning strategies.

Identifying whether length of resident has any impact on MTs and use of PLSs, it was explored that even though mean scores for two counterparts were different; however, there was no significant difference between two groups of resident: the resident students with length of resident between 1-6 months and other counterparts with length of resident between 7-12 months.

On the basis of self-determination theory, learners' achievement largely depends on their level of autonomy, self-regulation, and self-determination (e.g. Simons, Van der Linden, & Duffy, 2000; Zimmerman, 2002; Deci & Ryan, 1985b, 2002, 2008; Nota, Soresi, & Zimmerman, 2004; Sundre & Kitsantas, 2004; Muraven et al., 2008; Deci & Ryan, 2008; Legault, Green-Demers, & Eadie, 2009). That is, the more L2 learners are autonomous motivated the better they will be successful in final attainment. It is also stated that L2 learners' success and achievement can affect their level of motivation (Ellis, 1985; Chambers, 1998; Julkunen, 1990, 1994, 2001; Mihaljević, 1990, 1994; Dörnyei, 1994; Inbar, Shohamy & Donitsa-Schmidt, 1999, 2001; Ozek & Williams, 1999; Williams & Burden, 1999; Williams et al, 2001; Dörnyei, 2002; Egbert, 2003; Donitsa-Schmidt, Inbar & Shohamy, 2004; Dörnyei, 2008). In line with these studies, in the present research, it was found that the prospective English teachers' APA had significant impact on their motivation type preferences and there were significant differences between high, moderate, and low achievers. High achievers in terms of intrinsic, integrated, identified, introjected, external regulations, and even amotivation differed significantly from moderate and low achievers. This was true with all Turkish, Iranian, and overall participants. However, regarding moderate and low achievers, there were differences between Turkish and Iranian students. Iranian moderate achievers differed significantly in terms of intrinsic and integrated regulations and amotivation from low achievers. There were also significant differences between moderate and low achievers in terms of intrinsic and integrated regulations. However, there was no significant difference between Turkish moderate and low achievers in terms of motivation types. The results of the study the same as the fact that the more students were autonomous oriented the more they received better score in pronunciation revealed that the prospective English teachers' APA had also significant impact on their

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pronunciation motivation types so that there were strongly significant differences between high, moderate and low achievers. The higher APA the prospective English teachers received the more they had tendency towards autonomous motivation (intrinsic, integrated, and identified regulation). The results of the study showed that success in pronunciation learning can act as a motivational achievement and influence L2 learners' motivation type preferences.

It is extremely investigated and reported by various scholars that use of language learning strategies result in a positive effect on students' proficiency and achievement (e.g. Wenden and Rubin, 1987; Oxford, 1990; Chamot & O'Malley, 1994; Anderson, 2005; Khalil, 2005; Fuping, 2006; Shmais, 2003 Hong, 2006; Yang, 2007; Magogwe & Oliver, 2007; Ya-Ling, 2008; Deneme, 2008; Rahimi *et at.*, 2008; Khamkhien, 2010; Moradi, 2011; Moradi & Sarıçoban, 2012; Zare, 2012). In this respect, it is also stated by various scholars that high proficiency and achievement can influence L2 learners' use of learning strategies (Ehrman, and Oxford, 1989; O'Malley & Chamot, 1990; Green and Oxford, 1995; Park, 1997; Chamot, Barnhart, El-Dinary & Robbins, 1999; Bruen, 2001; Lee, 2003; Shmais, 2003; Griffiths, 2003; Anderson, 2005; Khalil, 2005; Hong, 2006; Magogwe & Oliver, 2007; Rahimi *et at.*, 2008; Moradi, 2011; Moradi & Sarıçoban, 2012; Zare, 2012). In light of such remarkable associations between use of learning strategies and positive learning outcomes, it is not surprising that students who frequently employ learning strategies enjoy a high level of self-efficacy (Zimmerman & Pons, 1986; Bandura, 1997; Chamot & Kupper, 1989; Oxford, 1999), and there should be significant differences between high, moderate, and low achievers regarding their use of pronunciation learning strategies. In the present research, investigating how the prospective English teachers' use of pronunciation learning strategies differed in terms high, moderate and low achievers, it was found that the prospective English teachers' APA had significant impact on their employment of pronunciation learning strategies and there were significant differences between high, moderate, and low achievers. Iranian high achievers and Overall high achievers differed significantly from Iranian and overall moderate and low achievers in terms of using memory, cognitive, compensation, metacognitive, affective, and social strategies. Overall moderate achievers significantly differed from low achievers in the use of metacognitive strategies, but Iranian moderate achievers significantly differed from

Iranian low achievers in terms of using metacognitive and social strategies. Turkish high achievers differed significantly from Turkish moderate achievers in terms of memory, cognitive, metacognitive, and affective, and from Turkish low achievers in terms of memory, cognitive, compensation, metacognitive, affective, and social. There was no significant difference between Turkish moderate and low achievers in terms of using PLSs. The results of the study showed that success in pronunciation learning can act as a motivational achievement and influence L2 learners' use of pronunciation learning strategies. The more the prospective English teachers' APA increased the more they had tendency to employ more pronunciation learning strategies.

The last research question was aimed to investigate how pronunciation motivation types and use of pronunciation learning strategies predict prospective English teachers' success in foreign language pronunciation.

Motivation as predictor of English teacher students' academic pronunciation achievement was investigated on the basis of self-determination theory of motivation. According to SDT, there are two types of motivation and two types of motivational orientations in which five different regulations get into two general autonomous and controlled regulations. Regulations in a continuum rage from the lowest controlled external regulation to the highest autonomous intrinsic regulation. In the present study, the findings revealed that intrinsic motivation and extrinsic motivation together had significant predictive role in prospective English teacher students' academic pronunciation achievement. The significant factors as predictors explained 41% of variance in Overall participants', 28% of Turkish participants', and 50% of Iranian students' academic pronunciation achievement, with the intrinsic motivation recording an extremely higher beta (β =.59) for overall participants, (β =.58) for Turkish, and (β =.53) for Iranian, as the strongest predictor of academic pronunciation achievement. This reveals that intrinsic motivation had much strong impact on English teacher students' APA level, especially among Iranian students.

Investigating motivational orientations as predictors of the participants' APA level, the findings revealed that autonomous and controlled orientations together had significant predictive role in prospective English teacher students' academic pronunciation achievement. The significant factors as predictors explained 41% of

variance in Overall participants', 43% of variance in Turkish students and 43% of variance in Iranian students' APA level, with the autonomous oriented motivation recording a higher beta (β =.66) for overall participants, (β =.58) for Turkish, and (β =.65) for Iranian students, as the strongest predictor of academic pronunciation achievement. This revealed that autonomous oriented motivation had much strong impact on English teacher students' APA level, especially among Iranian students. These findings are almost in congruent with the other studies regarding the relationship between motivation types and language achievement. The findings of the studies approved the fact that autonomous oriented motivation, especially intrinsic motivation are the strongest predictors of pronunciation learning achievement.

Studying how pronunciation learning strategies predict English teacher students' academic pronunciation achievement, it was found that metacognitive, memory and cognitive strategies as predictors, among overall participants, explained 48% of variance in their APA level, and among Iranian participants, the same strategies as predictors explained 48% of Iranian students' APA level. Among Turkish students, metacognitive, memory, compensation, and cognitive strategies as predictors explain 53% of variance in their APA level. Among the strategies, the metacognitive strategies recording the highest beta (β =.67) for overall participants, (β =.30) for Turkish, and (β =.82) for Iranian students received the strongest power of prediction for APA level.

5. CONCLUSION AND RECOMEDATOPNS

The findings of the present research revealed that L2 learners' motivation, on the basis of self-determination theory, and their use of pronunciation learning strategies have the potential to affect their pronunciation achievement. The research supports pronunciation motivation and use of pronunciation learning strategies as predictors of L2 learners' success in foreign language pronunciation learning. They also address the greatest possible scope for making language learning activities more efficient and effective (e.g. Deci and Ryan,1985, 2000, 2001, 2002, 2004, 2014b; Ryan, Kuhl & Deci, 1997; Wenden and Rubin, 1987; Deci et al, 2015, Ryan & Deci, 2013; Cohen, 1987, 1990; O'Malley & Chamot, 1987, 1990, 1993; Ehrman & Oxford, 1989, 1990; Allwright, 1990; Nyikos, 1991; Oxford, 1990; Chamot & O'Malley, 1994; Little,1991; Oxford, 1999, 2003; Cohen & Macaro, 2007; Brown, 2008; Moyer, 2004, 2014; Celce-Murica et al, 2010), provide opportunities with academic and personality development in educational context, and result in a positive effect on students' proficiency and achievement in foreign language learning (e.g. Rubin, 1975; Naiman, Fröhlich, Stern, & Todesco, 1978; Wenden & Rubin, 1987; Weinstein, Goetz, & Alexander, 1988; Ehrman, and Oxford, 1989; Cohen, 1990; O'Malley & Chamot, 1990; Pressley & Associates, 1990; Oxford, 1990; Nunan, 1991; Oxford, 1993; Green & Oxford, 1995; Oxford, 1996b; Park, 1997; Chamot, Barnhart, El-Dinary & Robbins, 1999; Bruen, 2001; Lee, 2003; Griffiths, 2003; Anderson, 2005; Khalil, 2005; Fuping, 2006; Shmais, 2003 Hong, 2006; Yang, 2007; Magogwe & Oliver, 2007; Ya-Ling, 2008; Deneme, 2008; Rahimi *et at.*, 2008; Khamkhien, 2010; Moradi, 2011; Moradi & Sarıçoban, 2012; Deci and Ryan, 2004, 2014b; Brown 2008) as they capture the individual differences in an L2 learning. However, the broadest potential for L2 learners' pronunciation motivation and use of pronunciation learning strategies will not be realized unless the concept and practice are developed in a manner which both complement the existing foreign language curriculum and are accessible for both curriculum-directed language teachers and autonomous, self-regulated, and independent prospective English teachers. In other words, both methodology and curriculum should address English teacher students appropriate motivation types and use of pronunciation learning strategies.

On the basis of SDT, L2 learners' behaviors can be described as lying along a continuum of relative autonomy (or self-determination), reflecting the extent to which a person endorses and is committed to what he is doing (Deci & Ryan, 2002). As a result, any behavior can differ in its degree of experienced self-determination and regulation. L2 learners, then, are the only active agents in their own learning, and nothing leads to their learning unless they themselves want to get into regulation. From this point of view, education needs to focus on a multivariate approach in which L2 learners' self-determination, self-regulation, and autonomous learning is taken into consideration.

Scholars view self-regulated learning as a key psychological issue that involves motivation (Dörnyei & Ushioda, 2011), autonomy (Cotterall, 2008; Benson, 2011), metacognition (Anderson, 2008; Chamot, 2009; Vandergrift & Goh, 2012), self-management (Rubin, 2001, 2005); and learning strategies (Cohen, 2011; Oxford, 2011; Chamot, 2013; Griffiths, 2013). They are in the belief that L2 learners' self-regulation is an essential need for their success in the target language (Dörnyei, 2005; Cohen & Macaro, 2007; Oxford & Schramm, 2007; Oxford, 2011), especially near-native-like pronunciation (Brown, 2008; Celce-Murcia et al, 2010). In line with these studies, the findings of the present research also highlighted that autonomous regulated learners were more successful than controlled regulated learners, and approved that the more students were self-regulated learners the more they indicated tendency to use pronunciation learning strategies and the more they were successful in final attainment. In addition, it was found that the more students were controlled regulated the less they employed pronunciation learning strategies and the less they were successful in final achievement. Put it simply, the students' autonomous oriented motivation and use of pronunciation learning strategies had significant impact on their pronunciation achievement. The present research, in fact, attempts to shed more light on the fact that through self-regulated learning, L2 learners will have more opportunity to regulate their learning through a variety of metacognitive and cognitive perspectives in spite of adverse circumstances (e.g. Zimmerman, 1998; Schunk & Zimmerman, 1998; Zimmerman, 2000, 2001; Zimmerman & Schunk, 2001; Chamot, 2014). This implies that self-determination/self-regulation is the central key issue to foreign language learners' motivational and strategic learning.

The findings of the present research suggest that if schools, curriculum developers, teacher training centers, and teachers pay attention to L2 learners' regulation and the practice of self-regulated learning, the students will find themselves more independent, initiator, autonomous, and self-managed learners rather than controlled learners. In an EFL setting context, in fact, L2 learners "must find ways to deal with the challenge of learning both language and content simultaneously", and to be also able to "regulate their own learning through a variety of procedures that are more likely to meet this challenge successfully" (Chamot, 2014: p.78). Their self-regulated effort is key a factor contributing to their level of pronunciation improvement (Ingels, 2011; He, 2011; Sardegna, 2012).

It also remarkable to indicate that because of individual differences, it may not be reasonable to expect all language learners to use the same type of pronunciation learning strategies, prefer the same motivation type or should be trained in using and developing the same strategies or motivation type to become successful learners. In this respect, providing a self-regulated approach, it seems to be logical for schools, teachers, and instructors to move beyond descriptive taxonomies of motivation and pronunciation learning strategies and instead have an attempt to seek answers for the practice of implementing motivation and use of pronunciation learning strategies. Through such an attempt and implementation, it can be possible for language learners to feel autonomy, self-regulated learning, and success in foreign language pronunciation. In light of such remarkable association between pronunciation motivation, use of pronunciation learning strategies and positive learning outcomes, it is not surprising that students who frequently employ learning strategies enjoy a high level of self-efficacy (Zimmerman & Pons, 1986; Bandura, 1997; Chamot & Kupper, 1989; Oxford, 1999).

All language learners, needless to say, use learning strategies in the learning process; however, from the point of the view that acquiring a near native-like pronunciation, in literature, is characterized as laborious and strenuous, it sounds that language learners vary widely in the amount of, combination of, and type of language learning strategies. Additionally, from the point of view that in descriptive studies motivation has been often mentioned to have a strong relationship with L2 learner strategy use (Oxford & Nyikos, 1989; Ku, 1995; Okada et al, 1995; Oxford et al, 1993; Oxford & Ehrman, 1995; Schmidt et al, 1996; Wharton, 2000), the

findings of the present research also attempt to shed more light on the significant relationship between pronunciation motivation and use of pronunciation learning strategies. The prospective English teachers varied largely in the amount, combination, and types of using pronunciation learning strategies. Autonomous motivated learners used an extensive amount of all pronunciation learning strategies, especially metacognitive, cognitive, and memory strategies. The more students' autonomous motivation increased the more their' use of pronunciation learning strategies increased and vice versa. This revealed that MTs and use of PLSs have positive impact on each other. Autonomous learners used extremely more strategies than controlled learners. In addition, the results approved that less controlled (introjected regulated) learners used extensively more strategies than high controlled (external regulated) learners. The more the students were highly controlled motivated or amotivated the more negatively they used pronunciation learning strategies. Investigating the relationship between motivational orientations and PLSs, it was also found that autonomous oriented learners used all types of PLSs positively and controlled oriented students most often used PLSs negatively. However, comparing to the amazing use of cognitive, memory, and metacognitive strategies, the participants used affective, social, and compensation strategies less frequently. It may be because of that the students were not so much aware of the significant role of compensation, social, and affective strategies, or may be because of social and cultural reasons, that requires more education.

The findings of the present research suggests that application of SDT, and using activities and tasks that address self-regulated learning and activate emotional sense-making with strong passion in L2 pronunciation learning and teacher education programs can serve as a powerful motivational factor to academic pronunciation achievement among prospective English teachers. As the activities appeal to arouse L2 learners' autonomous motivation (intrinsic, integrated, and identified regulations) (e.g. Brown, 2008; Celce-Murica et al, 2010; Moyer, 2014; Szyska, 2015) and to rise their awareness towards strategic pronunciation learning (e.g. Peterson, 2000; Calka, 2011, Szyska, 2015), they provide them self-regulated learning, multi-sensorial learning, and multi-memory pathway for learning which are necessary for sustained deep learning (Schuman, 1997). Indeed students are more interested in performing L2 tasks when they are given opportunities to use learning

strategies that match their learning styles and personality type. If properly applied, pronunciation motivation on the basis of self-determination theory could play a crucial role in helping teachers to create an attractive, encouraging, and motivating self-regulated atmosphere for professional phonological development among prospective teachers.

The findings of the present research also attempt to shed light on the fact that the application of SDT in foreign language education and teacher education can handle the ways of distinguishing and understanding L2 learning motivation types and how autonomous and controlled learning can facilitate or hinder L2 pronunciation learning. Additionally, the proper application of SDT in teacher education can explain how teachers, instructors, material developers and schools accommodate instruction and methodologies with external, social, and environmental factors to handle the ways of overcoming phonological errors, personal phonological development, and acquiring a near-native-like pronunciation. According to SDT, individuals' motivation will be largely maximized within social contexts if the social context provides the language learners the opportunities to satisfy their basic psychological needs for competence, relatedness and autonomy (Deci, 1975; Ryan and Deci, 2000). Understanding how social factors and interpersonal environments affect autonomous verses controlled motivation, foreign language education will be able to provide a meaningful situation for L2 learner autonomy and autonomous motivation.

The findings of the present research also indicate that intrinsic motivation and extrinsic motivation both play significant role in L2 learners' success in acquiring near-native-like pronunciation learning. Indeed, motivation on the basis of SDT rather than just focusing on motivation types emphasizes motivation intensity and level of autonomy, self-determination, and self-regulation that L2 learners regarding foreign language pronunciation learning carry on. The results of the study approved that even though the prospective English teachers were both intrinsically and extrinsically motivated but their final attainment in foreign language pronunciation learning increased with their level of autonomy, self-regulation and self-determination. While intrinsic motivated learners did more challenges, used varieties of different PLSs and were more successful in final academic pronunciation achievement, extrinsically motivated learners were also successful learners where

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they were autonomous learners rather than controlled learners. This highlights the fact that both type and intensity of motivation can play significant role in L2 learners' success in acquiring near-native-like pronunciation (e.g. Lukmani, 1972; McCullagh, 2005; Celce-Muria et al, 2010). As a result, teachers, instructors, material developers need to pay more attention on developing motivation intensity through social, environmental, and external factors and the ways in which L2 learners' autonomy in extrinsic motivation increases.

The findings of the present research also attempt to shed more light on the fact that L2 learners' motivation and use of pronunciation learning strategies can affect their academic achievement. There were significant strong positive correlations between autonomous oriented (intrinsic, integrated, identified) regulations and even less controlled introjected regulation and the prospective English teachers' academic pronunciation achievement (APA). External regulation the same as amotivaton were strong negatively correlated to APA. There was a linear positive increase from low autonomous regulation to high autonomous regulation so that the strength of correlation coefficients intensively increased. There was also a linear negative increase from low controlled regulation to high controlled regulation so that the direction of correlation coefficients changed. This highlighted the fact that the more students were autonomously motivated and the less they were controlled the more their APA increased positively. It was also found that the more the prospective English teachers were highly controlled motivated or amotivated the more their APA decreased negatively. There were also significant positive correlation coefficients between all types of pronunciation learning (memory, cognitive, compensation, metacognitive, affective, and social) strategies and students' academic pronunciation achievement. Metacognitive strategies followed by cognitive and memory strategies had significant stronger impact on the Turkish and Iranian prospective teachers' APA level. The findings, in fact, approved that autonomous pronunciation motivation on the basis of SDT if properly be present, and use of PLSs if properly applied in its harmony can provide a meaningful situation for L2 learners' success in academic pronunciation achievement and near-native-like pronunciation (e.g. Brown, 2008; Celce-Murica et al, 2010; Ingels, 2011; He, 2011; Sardegna, 2012; Deci & Ryan, 2014; Moyer, 2014; Chamot, 2014; Szyska, 2015).

As individual difference variables such as gender, age, personality type, learning styles, nationality, being resident in a native speaking country, proficiency level, linguistic confidence of L2 learners may well exert great influences on their motivation type preferences, and use of pronunciation learning strategies, language teachers should pay more attention on L2 learners' individual differences, by varying their teaching styles, strategic teaching, rising strategic knowledge and awareness, using of technology, and addressing diverse learning strategies and autonomous learning preferences. The findings of present research highlighted how the prospective English teachers' motivation types and use of pronunciation learning strategies in terms of gender, nationality, being resident in a NESC, and (high, moderate, and low) academic pronunciation achievement significantly differed. While male prospective English teachers preferred intrinsic, integrated, identified and introjected regulations, females were interested in external regulation and amotivation. Whereas the males were interested in using more PLSs, the females used less amount of strategies in their pronunciation learning. Being resident to NESC had significant positive effect on the prospective English teachers' motivation type preferences and use of PLSs. Nationality difference also showed differences in MTs preferences and differences in use of PLSs. While Iranian students preferred autonomous intrinsic regulation, Turkish students preferred autonomous identified regulation and controlled external regulation. In addition, Turkish students used memory, cognitive, compensation, and affective strategies significantly more than Iranian counterparts. Iranian students, however, were superior at the use of metacognitive strategies. Additionally, there were significant differences between high, moderate, and low achievers in term of different motivation type preferences and use of pronunciation learning strategies. High achievers in terms of all motivation types, and use of all pronunciation learning strategies differed significantly from moderate and low achievers. The results of the study revealed that the prospective English teachers' APA as a motivational achievement factor had significant impact on their motivation type preferences and use of pronunciation learning strategies. The more the students' APA increased the more they preferred autonomous oriented regulations, and also the more they were interested in using more pronunciation learning strategies. Recognizing L2 learners' preferred MTs and use of PLSs based on their individual differences may result in facilitating their final

attainment in foreign language pronunciation learning, and that L2 learners' success in pronunciation learning can act as a motivational achievement factor to influence their autonomous motivation type preferences and using a vast amount of pronunciation learning strategies in harmony. Consequently, teachers and instructors should gain a profound knowledge of the students and share this information with their L2 learners.

The present research provide support for the application of autonomous pronunciation motivation on the basis of SDT, and use of PLSs in L2 teaching and teacher education since MTs (both IM and EM) explained 41% of variance of Overall, 28% of Turkish, and 50% of Iranian participants' academic pronunciation achievement with the intrinsic motivation recording a higher beta coefficient effect for Overall students (=.66), for Turkish (=.58), and for Iranian (=.73); autonomous and controlled motivation orientations explained 44% of variance of Overall, 43% of Turkish, and 50% of Iranian participants' academic pronunciation achievement with the autonomous motivation orientation recording a higher beta coefficient effect for Overall students (=.66), for Turkish (=.58), and for Iranian (=.53); and PLSs (metacognitive, memory, and cognitive) explained 48% of variance of Overall, 48% of Iranian, (metacognitive, memory, compensation, and cognitive) explained 53% of Turkish participants' academic pronunciation achievement with the metacognitive strategies recording a higher beta coefficient effect for Overall students (=.67), for Turkish (=.30), and for Iranian (=.82). Therefore, it is suggested that teacher education programs should aim at providing learner autonomy and arousing autonomous motivation orientation, and increasing L2 learners' level of awareness regarding use of pronunciation learning strategies in harmony.

Lack of appropriate motivation and incorrect use of pronunciation learning strategies among other factors (like negative L1 transfer, overgeneralization, language aptitude, age, personality, cognitive style, communication strategies, cultural background, lack of professional training, etc.) can cause interlanguage fossilization (Selinker,1972, 2006; Selinker & Lamendella, 1978; Krashen, 1985b; Klein, 1986; Ellis, 1999; Larsen-Freeman, 2006; Han, 2009, 2011, 2013; Han & Tarone, 2014). L2 learners without autonomous motivation will have less opportunity to experience complete acquisition of a target language; as a result, their target language

especially regarding foreign language pronunciation will lead to fossilized errors (e.g. Klein, 1986). On the basis of self-determination theory, as it was approved by the findings of the present research study, L2 learners with high autonomous motivation can do better in acquiring near native-like pronunciation.

Incorrect application of pronunciation learning strategies also rather than facilitating learning process can also lead to interlanguage fossilized errors regarding acquiring a near native-like pronunciation. While appropriate use of pronunciation learning strategies helps process of English pronunciation input and improves quality of L2 learning; use of overgeneralization, negative transfer from L1, simplification, incomplete rule application, inadequate declarative knowledge of L2, and repeated use of inappropriate learning strategies not only cannot impede a learner's progress but also lead to interlanguage phonological obstacles. As Sims (1989) indicates the "proposed relationship of fossilization and learning strategies… could be a key to the remediation of systematized errors, as the role of the learner information processing in the second language acquisition process becomes more clearly understood" (p.65).

Considering individual differences, and cognitive, social, and cultural backgrounds, teachers and instructors can use different motivational strategies to increase L2 learners' autonomous motivation in foreign language pronunciation learning, as such we can call some as follows: arouse their students' motivation by different kinds of strategies like Demirezen's (2005) audio-articulation method as a fossilized mistake breaker; make the students aware of different emotional and affective strategies; make students aware of possible errors and mistakes; provide opportunities for self-creation, self-determination, self-regulation, and creative learning; give corrective feedback; have students consciously notice differences between their L2 efforts and the way native speakers of English talk; use lots of authentic speech and let students consciously find out how native speakers apply shrinking and linking techniques to make their speech natural and fluent; have the students listen to non-native speakers of English and find segmental and supersegmental errors; make the students aware of similarities and differences between their L1 and L2 pronunciation features; show students how prosodic features can produce context-bound meaning; have students to give lectures in front of class with much emphasis on good pronunciation; invite some natives to

classroom, if possible, and let students communicate with them objectively; as a model, try having a good command of English with a near-native-like accent; Increase students' self-awareness to phonology patterns then provide them opportunities to assess themselves (via daily conversation, recording themselves, listen and check their pronunciation); ask students to make a list of words they mainly have pronunciation difficulty with and show them how following pronunciation patterns they can break them down; show students how sounds are produced in isolation by help of muscles and how the sounds are produced in harmony with other sounds and then provide them opportunities practice the sounds in context-bound words and sentences; while practicing show students how imitation, shadowing, and role modeling, revising accent mimicry can come to their help; encourage students to listen closely to music of words and sentences; show students that pronunciation is not just the sounds inside words but there is a music that gets place at the background of context-bound words and sentences which carries the main meaning; encourage them to listen to native English Websites, Podcasts, and YouTube channels; and emphasize that daily communication with a near-native-like accent is a key element for improving their pronunciation so have them always practice with someone else inside and outside classroom.

Implementing such properties of a learner-focused principle in L2 curriculum and material, needless to say, L2 learners will enjoy autonomous strategic pronunciation learning rather than controlled learning. We, as language teachers, should also never forget that we cannot do learning for students but instead we can just make their learning easy (Nunan, 2015). So, it must be taken into mind that if students be not active agents in their own learning, nothing will lead to their learning.

In the present research, the authors attempted to cover some significant gaps in foreign language education regarding pronunciation motivation and pronunciation learning strategies, especially on the basis of self-determination theory. The findings of the present research is considered brand-new since:

1. such a research has not conducted yet, especially in Turkey and Iran,
2. self-determination theory for the first time has been applied in foreign language education to investigate L2 learners' pronunciation motivation, especially regarding autonomous motivation and controlled motivation while all sub-theories of SDT, different regulations were considered in details.

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3. it involves a valid, liable, and comprehensive pronunciation motivation inventory, designed on the basis of SDT by the authors for the first time in literature, while all details of L2 pronunciation learning have been considered,

4. it covers how pronunciation motivation and use of pronunciation learning strategies can facilitate or hinder interlanguage phonological obstacles,

5. it presents how external factors, on the basis of the sub-theories of SDT, can draw a good frame of motivation and help L2 learners move ahead towards autonomous self-regulated learning; even though, their primary motivation is high externally controlled,

6. it introduces some practical techniques and strategies that applying them inside and outside classroom can provide an appropriate motivational strategic learning context for L2 learners' near-native-like English pronunciation learning,

7. it demonstrates how both types of intrinsic and extrinsic motivation are interrelated and how they play crucial role in L2 learners' success in foreign language pronunciation learning,

8. it shows how extrinsic motivation, which is at the center of education, in a continuum from high controlled regulation to high autonomous regulation can detract or improve L2 learners' success in learning a near-native-like pronunciation,

9. it demonstrates how education can play a crucial role to keep L2 learners' authentic intrinsic pronunciation motivation and improve it rather than detract.

10. it presents that pronunciation motivation types and use of pronunciation learning strategies are interrelated and have positive impact on each other.

11. it demonstrates how lack of appropriate pronunciation motivation both in types and intensity and incorrect use of pronunciation learning strategies can cause interlanguage phonological obstacles and fossilized errors, and finally,

12. it draws a comprehensive picture on L2 pronunciation motivation, on the basis of SDT, and pronunciation learning strategies, and their crucial effect on L2 learners' foreign language academic pronunciation achievement.

Of its great importance is also to notify that motivation types, and pronunciation learning strategies demonstrate just two of the various variables which can influence success in foreign language pronunciation. For example, too many other factors such as meta-phonological awareness, age of first exposure to the target language,

learning styles, intelligences, conscious attenuation and awareness to pronunciation differences, first language, experience of learning other foreign languages, and many other factors can influence success in near native-like pronunciation (Wong, 1987; Celce-Murcia, Brinton, & Goodwin, 1996; Brown, 2008; Celce-Murcia et al, 2010; Moyer, 2007, 2014, Low, 2015). The present research was just intended to illustrate and define how MTs and PLSs can affect English language learners' success in pronunciation, and how L2 learners' MTs and use of PLSs differ in terms of gender, nationality, pronunciation achievement (high, moderate, and low), being resident, and length of being resident in native English speaking countries. In addition, the purpose of the present research was to help teachers, instructors, and material developers to recognize and understand the role of pronunciation motivation type preferences and pronunciation learning strategies employed by L2 learners in order to adapt the medium of instruction based on students' individual differences and autonomous learning. It is hoped that the findings of the research will help teachers, instructors, schools, and material developers to revise teacher education programs, curriculum, and language teaching approaches and methodology and provide a better condition to increase L2 learners' autonomy, self-regulation, and autonomous pronunciation learning by creating autonomous motivation and increasing awareness of using pronunciation learning strategies in harmony.

The present research concerned only prospective English teachers in two different EFL contexts with different educational and cultural backgrounds. Hence, the generalization of the results to other fields and language learning programs should be taken more cautiously. It is recommended, therefore, that other studies should focus more on self-determination theory, autonomous pronunciation learning, and interrelationships between PMTs, PLSs, and APA and how the variables decrease interlanguage phonological obstacles, especially overcoming interlanguage phonological fossilized errors. Additionally, since extrinsic motivation is at the center of education, further research needs to be conducted in the field in order to reveal how social, environmental, and external factors can facilitate or diminish success in near-native-like pronunciation, and overcoming interlanguage phonological obstacles. There is also an essential need for further study to reveal why L2 learners in EFL contexts, especially Turkey and Iran, are not interested in using social,

compensation and affective strategies. Moreover, this research investigated the impact of gender, nationality, being resident, and length of being resident in native English speaking countries in the participants' MTs preferences and use of PLSs. Further research can investigate the effect of age, gender, being resident, and length of being resident with respect to PMTs, PLSs, and academic pronunciation achievement.

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APPENDIXES

T.C.
HACETTEPE ÜNİVERSİTESİ
Genel Sekreterlik

GİZLİ

Sayı : 76000869/ 493—1521

1 4 Mayıs 2015

EĞİTİM BİLİMLERİ ENSTİTÜ MÜDÜRLÜĞÜNE

İlgi: 06.05.2015 tarih ve 838 sayılı yazınız.

Enstitünüz Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı doktora programı öğrencilerinden **Ahmad MORADI**'nın **Prof. Dr. Mehmet DEMİREZEN** danışmanlığında yürüttüğü **"Türk ve İranlı İngilizce Öğretmen Adaylarının Kullandıkları Telafuz Öğrenme Stratejileri ve Motivasyon Türlerinin Belirlenmesi"** başlıklı tez çalışması, Üniversitemiz Senatosu Etik Komisyonunun **12 Mayıs 2015** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi rica ederim.

Prof. Dr. Ömer UĞUR
Rektör a.
Rektör Yardımcısı

Ek: Tutanak

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T.C.
HACETTEPE ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜ

Sayı: 51944218-010.99/899   15/05/2015
Konu: Ahmad
MORADI
(Uygulama İzni)

İRAN-İSLAM CUMHURİYETİ BÜYÜKELÇİLİĞİNE

Enstitümüz Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı Doktora programı öğrencisi Ahmad MORADI'nın Prof. Dr. Mehmet DEMİREZEN'in danışmanlığında yürüttüğü "Türk ve İranlı İngilizce Öğretmen Adaylarının Kullandıkları Telafuz Öğrenme Stratejileri ve Motivasyon Türlerinin Belirlenmesi" başlıklı tez çalışması Üniversitemiz Etik Komisyonun 12 Mart 2015 tarihinde yapmış olduğu toplantıda etik açıdan uygun bulunmuştur.

Adı geçen öğrencimizin İran Islamıc Azad Unı.(Tabrız,Ahar,Shabestar,Orumıyeh) yapacağı araştırmalar için gerekli belgeler ekte gönderilmektedir. Bilgilerinizi ve gereğini rica ederim.

Prof. Dr. S.Sadi SEPEROĞLU
Enstitü Müdürü V.

EKLER :
1 adet dosya.

صحت صدور و تعلق این گواهی به آقای احمد مرادی
تصدیق می گردد
تاریخ: 1394/02/25   شماره: M5NT8NKW

سید عباس نصرتی ـ دبیر دوم

Enstitü Sekreter V. : O. ERUYSAL (Paraf)

Hacettepe Üniversitesi Eğitim Bilimleri Enstitüsü Beytepe Kampusu Çankaya / ANKARA Telefon: (0312) 2978570-71 Faks: (0312) 2998560 E-posta: ebe@hacettepe.edu.tr

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APPENDIX 3: Socio-Demographic Information

Date: _____

➢ **Personal**

1. Name: _____

2. ID. No. _____

3. Age: _____

4. Gender:

    Male ☐   Female ☐

5. Native Country: _____

6. Nationality: _____

7. First Language: _____

8. Have you ever been to a native English speaking country (US, England, Canada, and

    New Zealand)?

    Yes ☐   No ☐

    If yes, please answer the next question:

9. How long have you stayed there?

    _____

10. What age did you exactly start learning English?

    (1-5) ☐   (6-12) ☐   (13-16) ☐   (17-Over) ☐

➢ **Educational**

11. University: _____

12. Grade:

    Freshman ☐   Sophomore ☐   Junior ☐   Senior ☐

13. Have you passed "**Phonetic and Phonology**" courses?

    Yes ☐   No ☐

    If yes, please answer the next question:

14. What were your achievement scores in *the courses*?

    Phonetic Course Score:_____   Phonology Course Score:_____

APPENDIX 4: Consent Form

Gönülü Katılım Formu

Bu çalışma, Prof. Dr. Mehmet Demirezen ve Ahmad MORADI tarafından "Türk ve İranlı İngilizce Öğretmen Adaylarının Kullandıkları Telafuz Öğrenme Stratejileri ve Motivasyon Türlerinin Belirlenmesi" başlıklı doktora tezinin bir parçasi olarak Türkiye'deki Hacettepe Üniversitesi ve İran'daki İslamic Azad Üniversitesi'nde yürütülmektedir. Çalışmanın amacı, ingilizce öğretmen adaylarının kullandıkları telafuz öğrenme stratejileri ve motivasyon türlerinin belirlenmesiyle ilgili bilgi toplamaktır. Çalışmaya katılım tamamiyle gönüllülük temelinde olmalıdır. Ankette, sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamiyle gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır.

Anket, genel olarak kişisel rahatsızlık verecek soruları içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz. Böyle bir durumda anketi uygulayan kişiye, anketi tamamlamadığınızı söylemek yeterli olacaktır. Anket sonunda, bu çalışmayla ilgili sorularınız cevaplanacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için Yabancı Diller - İngiliz Dili Eğitimi üyelerinden Prof. Dr. Mehmet DEMIREZEN (E-posta: md49@hacettepe.edu.tr) ya da tez araştırıcısı Ahmad MORADI (E-posta: ahmadmoradi@hacettepe.edu.tr; elt_amoradi@yahoo.com) ile iletişim kurabilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Tarih: -----/-----/------

Katılımcı:

Adı, Soyadı:

Adres:

Tel:

İmza:

Araştırmacı:

Adı, Soyadı: Prof. Dr. Mehmet DEMIREZEN
Adres: H.U. Beytepe Kampusu Eğitim Fak. B Blok Kat: 3 Yabanci Diller Eğitimi Anabilim Dali İngiliz Dili Eğitimi Bölümü Beytepe/Ankara
Tel: 0506 555 1863
E-posta: md49@hacettepe.edu.tr

Araştırmacı:

Adı, Soyadı: Ahmad MORADI
Adres: MTR Language School, Tabriz, Iran ; H.U. Beytepe Kampusu Eğitim Fak. B Blok Kat: 3 Yabanci Diller Eğitimi Anabilim Dali İngiliz Dili Eğitimi Bölümü Beytepe/Ankara
Tel: 0534 488 6283 ; 0914 411 0296
E-posta: elt_amoradi@yahoo.com ; ahmadmoradi@hacettepe.edu.tr

APPENDIX 5: Motivation Types Scale

Name: ID. No.:

Dear student, below are a number of statements with respect to learning English pronunciation with which some people agree and others disagree. We would like you to indicate your opinion about each statement by circling one of the numbers (1, 2, 3, 4, or 5) below which indicates the extent to which you agree or disagree with the statement. Please answer in items of how well the statement describes you. ***Do not answer how you think you should be, or what other people do.*** There is no right or wrong answer to these statements. The estimated time to complete the questionnaire is about 20-25 minutes. If you have any question, let the researcher know immediately.

Statements	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
1. As an ELT student, sounding like a native English speaker is VERY important to me.	1	2	3	4	5
2. Being able to speak English with good pronunciation makes me feel a sense of superiority.	1	2	3	4	5
3. Being able to speak English with good pronunciation will add to my social status.	1	2	3	4	5
4. English pronunciation has no practical relevance to my future.	1	2	3	4	5
5. English pronunciation is my favorite subject, I feel happy whenever I practice English pronunciation.	1	2	3	4	5
6. I am learning English pronunciation because I have the impression that it is expected of me.	1	2	3	4	5
7. I can honestly say that I really put my best effort into trying to learn everything about English pronunciation.	1	2	3	4	5
8. I don't like to do any extra work on English pronunciation.	1	2	3	4	5
9. I feel I am not able to learn English pronunciation.	1	2	3	4	5
10. I find learning English pronunciation is boring.	1	2	3	4	5
11. I have a strong desire to find and learn all aspects of English pronunciation.	1	2	3	4	5
12. I learn English because it's the skill that every English teacher must be required.	1	2	3	4	5
13. I learn English pronunciation because English is a global language.	1	2	3	4	5
14. I learn English pronunciation because I can get a better score from my teacher.	1	2	3	4	5
15. I learn English pronunciation in order to have a better salary later on.	1	2	3	4	5
16. I learn English pronunciation because I need to pass the course.	1	2	3	4	5
17. I learn English pronunciation because I will be failed if I don't.	1	2	3	4	5

18. I learn English pronunciation because I won't be employed if my pronunciation is awful.	1	2	3	4	5
19. I learn English pronunciation because I would feel guilty if I didn't know how to speak with correct pronunciation.	1	2	3	4	5
20. I learn English pronunciation because it can help me to make friends with foreigners easily.	1	2	3	4	5
21. I learn English pronunciation because it can help me to understand western culture better.	1	2	3	4	5
22. I learn English pronunciation because it is what I am supposed to learn.	1	2	3	4	5
23. I learn English pronunciation because it's a required course.	1	2	3	4	5
24. I learn English pronunciation for the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.	1	2	3	4	5
25. I learn English pronunciation in order to get a more prestigious job later on.	1	2	3	4	5
26. I learn English pronunciation in order to show that my pronunciation is better than the other students.	1	2	3	4	5
27. I learn English pronunciation mainly because of my teacher.	1	2	3	4	5
28. I learn English pronunciation since it is a must for language teachers to get familiar with all aspects of English pronunciation.	1	2	3	4	5
29. I learn English pronunciation to satisfy my teachers' expectations.	1	2	3	4	5
30. I enjoy the feeling of acquiring knowledge about the second language pronunciation as much as possible.	1	2	3	4	5
31. I really love to listen to native speakers of English.	1	2	3	4	5
32. I pay attention to English pronunciation because I think it is essential for my personal development.	1	2	3	4	5
33. I pay attention to learn English pronunciation well because I want to spend time in an English speaking country.	1	2	3	4	5
34. I pay attention to my English pronunciation because it can help me to make friends with foreigners.	1	2	3	4	5
35. I pay more attention to my English pronunciation because this way I can help my English students to learn English pronunciation better.	1	2	3	4	5
36. I plan to continue studying English pronunciation for as long as possible.	1	2	3	4	5
37. I really enjoy speaking English with good pronunciation.	1	2	3	4	5
38. I really want to sound like a native speaker when I speak English.	1	2	3	4	5
39. I study English pronunciation because my students will respect me more if I speak English well.	1	2	3	4	5
40. I study English pronunciation since it often makes me happy.	1	2	3	4	5
41. I study English pronunciation since pronunciation learning often gives me a feeling of success.	1	2	3	4	5
42. I study English pronunciation to show others that I am an intelligent person.	1	2	3	4	5
43. I think increasing my English proficiency in pronunciation will have financial benefits for me.	1	2	3	4	5

44.	I think learning English pronunciation is fun for me.	1	2	3	4	5
45.	I try to learn English pronunciation because English is a worldwide trend.	1	2	3	4	5
46.	I try to learn English pronunciation because without good pronunciation one cannot be successful in communication skills such as listening and speaking.	1	2	3	4	5
47.	I try to learn English pronunciation not to feel anxious when I speak English in class.	1	2	3	4	5
48.	I try to learn good pronunciation because others will respect me more if I know how to speak English well.	1	2	3	4	5
49.	I will feel proud if I can speak English well with good pronunciation.	1	2	3	4	5
50.	I will never be able to speak English with a good accent.	1	2	3	4	5
51.	I would rather spend my time on subjects other than English pronunciation.	1	2	3	4	5
52.	I'm going to learn English pronunciation to prevent myself from feeling guilty.	1	2	3	4	5
53.	I believe if I have good pronunciation, I will be more confident in English speaking.	1	2	3	4	5
54.	If I learn English pronunciation better, I will be able to get a job easily.	1	2	3	4	5
55.	I learn English pronunciation because I choose to be the kind of person who can speak English well.	1	2	3	4	5
56.	I get satisfied of doing exercise to sound like native speakers of English even it is a difficult job	1	2	3	4	5
57.	It is extremely important for me to learn English pronunciation since I need it for my job.	1	2	3	4	5
58.	It is not important for me to learn English pronunciation.	1	2	3	4	5
59.	Learning English pronunciation is a difficult challenge that I love to take.	1	2	3	4	5
60.	Learning English pronunciation is a hard work, but I enjoy doing the hard work.	1	2	3	4	5
61.	Learning English pronunciation is one of the most important aspects of English as an international language so it is a must for me to learn it.	1	2	3	4	5
62.	Listening to someone who is speaking English with good pronunciation makes me feel satisfied.	1	2	3	4	5
63.	Learning English pronunciation will never satisfy me.	1	2	3	4	5
64.	Learning good pronunciation is NOT as important as learning grammar and vocabulary.	1	2	3	4	5
65.	Learning to speak English with correct pronunciation is really difficult for me.	1	2	3	4	5
66.	Studying English pronunciation is important to me because I want to travel to the language-speaking country someday.	1	2	3	4	5
67.	The main reason I am learning English pronunciation is that my supervisors want me to improve my English.	1	2	3	4	5
68.	The more I listen to native speakers of English the more I like English pronunciation.	1	2	3	4	5

69. The more I learn English pronunciation, the more I hate it.	1	2	3	4	5
70. There is no need to focus on learning English pronunciation.	1	2	3	4	5

APPENDIX 6: Pronunciation Learning Strategies Scale

Name:						ID. No.:

Dear student, in this part, you will find statements about your English pronunciation learning. Please read each statement and circle one of the numbers (1, 2, 3, 4, or 5) that tells HOW TRUE THE STATEMENT IS FOR YOU. ***Please answer in items of how well the statement describes you.*** Do not answer how you think you should be, or what other people do. There is no right or wrong answer to these statements. The estimated time to complete the questionnaire is about 20-25 minute. If you have any question, let the researcher know immediately.

Statements	1 = Never	2 = Usually Not	3 = Sometimes	4 = Usually	5 = Always
1. In order to memorize the pronunciation of a given word I try to associate it with the pronunciation of a different word (in another language I know) or with some sounds (e.g. animals sounds, sounds of machines, devices).	1	2	3	4	5
2. I memorize the pronunciation of a given word by associating it with an image or a picture (in mind or in actual drawing).	1	2	3	4	5
3. I group words that sound similar in order to memorize their pronunciation.	1	2	3	4	5
4. I use visual aids to memorize the pronunciation of new words (e.g. posters with transcription of new words, and marking phonetic symbols with various colors).	1	2	3	4	5
5. In order to memorize the pronunciation of a given word I use phonetic symbols or my own code to write down its pronunciation.	1	2	3	4	5
6. I memorize the pronunciation of a given word by visualizing its transcription.	1	2	3	4	5
7. I memorize the pronunciation of new words by remembering the location of their transcription on the page, board etc.	1	2	3	4	5
8. I memorize the pronunciation of new words when I associate them with a situation in which I have heard them.	1	2	3	4	5
9. I repeat a word several times over (aloud or in my mouth) to memorize its pronunciation.	1	2	3	4	5
10. I record words whose pronunciation I want to memorize and listen to the recording several times over.	1	2	3	4	5
11. I memorize the pronunciation of a given word by putting it in a context (a sentence, a story, a rhyme, etc.)	1	2	3	4	5
12. I review the pronunciation of recently learnt words regularly.	1	2	3	4	5
13. I use flash cards which I put from 'I want to learn' pile to 'I haven't learnt' pile	1	2	3	4	5

	1	2	3	4	5
14. I practice pronunciation by repeating sounds, words, sentences, etc., several times in the same way or in different ways (changing speed, dividing words into syllables, etc.)	1	2	3	4	5
15. I repeat sounds, words, sentences, etc., after English speakers.	1	2	3	4	5
16. I repeat sounds, words, sentences, etc., simultaneously with English speakers.	1	2	3	4	5
17. I repeat sounds, words, sentences, etc., simultaneously with English speakers, imitating their gestures and facial expressions.	1	2	3	4	5
18. I listen to the radio and/ or watch TV in English.	1	2	3	4	5
19. I speak to foreigners in English.	1	2	3	4	5
20. I imitate mouth movements made by English speakers.	1	2	3	4	5
21. I observe the movements of articulators in the mirror when speaking English.	1	2	3	4	5
22. I do exercises recommended by speech therapists in order to make my tongue, lips and jaw more flexible.	1	2	3	4	5
23. Before I say something aloud, I practice saying a given word, sentence, etc., in my mind.	1	2	3	4	5
24. I practice my pronunciation by speaking to myself in English.	1	2	3	4	5
25. I practice my pronunciation by reciting texts and/ or acting out dialogues.	1	2	3	4	5
26. I practice reading aloud, paying particular attention to my pronunciation.	1	2	3	4	5
27. I practice whispering to focus on the feeling of articulation.	1	2	3	4	5
28. I look up the pronunciation of unknown words in a dictionary.	1	2	3	4	5
29. I search for information on phonetics and phonology in books, on the internet, etc.	1	2	3	4	5
30. I try to identify and use pronunciation rules.	1	2	3	4	5
31. I analyze the differences between English pronunciation and the pronunciation of other languages.	1	2	3	4	5
32. I complete various phonetic exercises which I find in course-books, computer programs and on internet sites.	1	2	3	4	5
33. I use phonetic symbols.	1	2	3	4	5
34. I listen to recordings several times in order to identify the pronunciation of unknown words (perception practice).	1	2	3	4	5
35. I make notes on interesting phonetic problems.	1	2	3	4	5
36. I imitate native speakers of English, speaking Turkish in order to feel the difference between the two languages better.	1	2	3	4	5
37. I pay attention to pronunciation errors made by native speakers of English speaking Turkish.	1	2	3	4	5
38. If I do not know how to pronounce a given word, I guess its pronunciation.	1	2	3	4	5
39. If I do not know how to pronounce a given word, I avoid using it.	1	2	3	4	5

40.	If I do not know how to pronounce a given word and its spelling is similar to a Turkish word, I use Turkish pronunciation hoping that I will be understood.	1	2	3	4	5
41.	If I cannot produce a given English sound, I produce a sound as similar to it as possible.	1	2	3	4	5
42.	I try to find as many different ways of practicing my pronunciation as I can.	1	2	3	4	5
43.	I pay attention to pronunciation when someone is speaking English.	1	2	3	4	5
44.	I choose a phonetic problem (e.g. a given sound, word stress, intonation, etc.) and pay attention to it when someone is speaking English.	1	2	3	4	5
45.	I try to find out how to improve my pronunciation.	1	2	3	4	5
46.	I care for appropriate learning conditions so that my work on pronunciation is as efficient as possible.	1	2	3	4	5
47.	Before practicing a given pronunciation feature I revise appropriate theoretical knowledge.	1	2	3	4	5
48.	I plan pronunciation learning – I set the time of learning, select materials, strategies, etc.	1	2	3	4	5
49.	I have clear goals for improving my pronunciation.	1	2	3	4	5
50.	When I prepare a talk in English, I look up the pronunciation of new words in a dictionary and practice their pronunciation.	1	2	3	4	5
51.	I notice my pronunciation problems and I try to overcome them.	1	2	3	4	5
52.	I evaluate my progress in pronunciation by recording myself and comparing my pronunciation to the pronunciation of native speakers.	1	2	3	4	5
53.	I try to relax whenever I feel afraid of reading aloud or speaking in English.	1	2	3	4	5
54.	I encourage myself to speak English even when I am afraid that my pronunciation is not good.	1	2	3	4	5
55.	I encourage myself to work on pronunciation even when I think that something is too difficult for me or when I do not feel like learning.	1	2	3	4	5
56.	I give myself a reward or treat when I have worked hard on pronunciation.	1	2	3	4	5
57.	I notice if I am tense or nervous when I am learning English pronunciation or speaking English and I try to relax.	1	2	3	4	5
58.	I use a sense of humor about my mispronunciations.	1	2	3	4	5
59.	I analyze my feelings connected with learning pronunciation.	1	2	3	4	5
60.	I talk to someone else about how I feel when I am learning pronunciation.	1	2	3	4	5
61.	I ask English speakers to correct my pronunciation when I speak.	1	2	3	4	5
62.	I ask others for help if I do not know how to pronounce a given sound or word.	1	2	3	4	5
63.	I learn pronunciation with other students, friends.	1	2	3	4	5
64.	I help others in learning pronunciation.	1	2	3	4	5

65. I use other way(s) of learning pronunciation (Please, explain what you do).

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APPENDIX 7: Originality Report

CURRICULUM VITAE

Personal Information

Name Surname	Ahmad MORADI
Place of Birth	TABRIZ - IRAN
Date of Birth	11.09.1972

Education

High School	Ghazi Tabatabayi, Tabriz/IRAN
BA	English Language Teaching, Islamic Azad University, Tabriz, Iran
MA	Strategic Management, Azarbayecan Technical University, Tabriz, Iran
	English Language Teaching, Hacettepe University, Ankara, Turkey
Foreign Language	English: Reading (Good), Writing (Good), Speaking (Good), Listening (Good)
	Turkish: Reading (Good), Writing (Good), Speaking (Good), Listening (Good)

Work Experience

Establishments	Iran: Founder of MTR Language Schools,	
	Iran: Founder of MORAD Research and Culture Institution,	
	Iran: Founder of ANIS Primary and Guidance Schools	
Working Centers	Iran: MTR Language Schools, Chairman/Director	
	Iran: MORAD Research Institution, Teacher Training Center,	
	Chairman/Teacher Coaching	
	Iran: ANIS Primary and Guidance Schools	
	Turkey: Active English Institution , Perfect English Institution,	
	and Wall Street Language Institution	

Academic Studies

Publications (National, international articles, papers, posters etc.)

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