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Peter D. MacIntyre's 35-Year Research Contribution to Psychology, Language Education and Communication: A Systematic Review

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Abstract

Peter MacIntyre's 35-years of research in SLA, psychology of language learning, and communication was systematically reviewed in six sections driven by subjective guidelines developed for the purposes of the present survey. To operationalize the objectives of the sections, an impressionistic methodology was created for analysis, according to which exclusion and inclusion rules were coined. Then, a fairly representative sample of six main thematic areas were extracted; the main themes were SLA, willingness to communicate, psychology of language learning, motivation theory, the idiodynamic method, and other relevant topics, all of which were portrayed in the light of the dominance and frequency of investigation. Next, we tabulated from our online search, a total number of his overall achievements which stood approximately at 250 research works. After that, we systematically reviewed his research works including articles, book chapters and books. Finally, Peter MacIntyre provided a discussion and his personal reflections on the systematic review.

Keywords: *Peter D. MacIntyre, Willingness to Communicate, SLA, Systematic Review*

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¹Introduction: The Impetus behind the Study

When the scholars and educators dip their toes into the soggy waters of SLA and applied linguistics or the related fields, they face a plethora of complicated issues. They observe how demanding it appears to be in order to make a widespread contribution to the field. As such, the shelf life of published articles in the expansive field of language education, SLA, psychology and applied linguistics is relatively short and fleeting. There exists, apparently, authors and researchers whose ideas and research works are extensively and frequently quoted and cited. The name as well as the research works of Peter MacIntyre shines among the distinguished figures of SLA, language education research, psychology and communication. This was the main impetus inspiring the reviewers' (Ali Panahi and Hassan Mohebbi) to perform the present systematic review. To accomplish the goals of the present systematic review and to fully comprehend the legacy MacIntyre contributed to the field, the review is outlined in six sections:

Section 1. Introduction

Section 2: Methodology for the Systematic Review

Section 3. A Graphic View of MacIntyre's Themes and Overall Achievements

Section 4. Inclusion and Exclusion Rules

Section 5. Systematic Review of Peter MacIntyre's Research Works

Section 6. Peter MacIntyre's Personal Discussion and Reflection

Section 1. Introduction

In this introductory section, we (Ali Panahi and Hassan Mohebbi) would like to indicate that SLA, the first theme of the study, is an umbrella theme in the study, to which other themes are related and to which, the implications of other research issues are potentially attributed. Therefore, the SLA-relevant themes Peter MacIntyre investigated over the course of 35 years are overviewed. One of the significant areas he has investigated is Willingness to Communicate (WTC) and its contribution to SLA and applied linguistics. Numerous numbers of research works appear in this domain. According to more recently published research works, the significance of WTC is more highlighted and focused. For example, Henry et al. (2024) and Henry and MacIntyre (2023) investigated WTC in multilingual contexts and the dynamic relationship it bears with language learning anxiety and enjoyment. Added to that, it examined WTC in multiple contexts and points out that language learners can potentially communicate in target language in varying contexts of multilingualism. By the same token, approximately 30 years ago, MacIntyre (1994b) in his research work titled "*Variables underlying willingness to communicate: A causal analysis*" and also approximately the same date, his jointly published journal article titled "*Personality, motivation and willingness to communicate as predictors of 2nd language communication*" (Macintyre & Charos, 1995) as well as a myriad of other research works symbolize the significance of WTC and its more focused role in SLA and in the psychology of language learning.

Another primary focus of his research was a theme related to the psychology of language learning and positive psychology and examined varying issues such as psychology of

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consciousness, cognitive factors, and psychological factors, such as joy, anxiety, stress, well-being, flow experiences, self-esteem, emotion, personality, music, etc., in EFL class. According to this theme, on the one hand, MacIntyre places emphasis on the significance of the psychology of language learning, positive psychology, the bond between psychology and language learning and the implications and applications of psychological issues on language teaching. On the other hand, he elaborates on the danger of using positive psychology in an oversimplified manner called tyranny of positive thinking. To demystify the ambiguity and shed light on the importance of positive psychology, he co-authored and published the first book titled *Positive psychology in SLA* (MacIntyre, Gregersen, & Mercer, 2016) which highlighted the theoretical issues on positive psychology and its leading part in language education as well as the key role of positive emotional states, such as flow, enjoyment, and love which facilitate learning. Added to this, he has widely published, as they are visible in the systematic review and reference section. Some of his publications are *Acting locally to integrate positive psychology and peace: practical applications for language teaching and learning* (Gregersen & MacIntyre, 2021b), *So far so good: An overview of positive psychology and its contributions to SLA* (MacIntyre, 2016), *Exploring applications of positive psychology in SLA* (MacIntyre, 2021), *Positive Psychology* (MacIntyre & Ayers-Glassey, 2021), *Setting an agenda for positive psychology in SLA: Theory, practice, and research* (MacIntyre, Gregersen & Mercer, 2019), and *Introducing positive psychology to SLA* (MacIntyre, & Mercer, 2014).

Remarkably, micro-themes discussed under the heading of the psychology of language learning and positive psychology were the concept of L2 anxiety and other affective and emotional factors. Approximately 65 years ago, in the context of anxiety, two of its versions i.e., facilitating and debilitating types of anxiety, were of primary focus (Alpert & Haber, 1960). In pursuance of the significance of the issue, approximately three decades ago, MacIntyre conducted a noticeable number of research works on the concept of L2 anxiety in the context of attitudes and motivation and their relationship to language proficiency (MacIntyre, & Gardner, 1989). Following his findings, he authored his dissertation titled “*Anxiety and language learning from a stages of processing perspective*” (MacIntyre, 1992), according to which he investigated varying aspects of language anxiety. Then on, he conducted numerous numbers of research in this field. At the time, as is the case at present, the role of anxiety has been so dramatic that one Gregersen et al.’s (2017) research works titled “*Do you see what I feel? An idiodynamic assessment of expert and peer’s reading of nonverbal language anxiety cues*” indicates that there are two wolves (benevolent wolf and malevolent wolf) within anxious language learners. If you feed the former, you will receive positive results and if you feed the latter, you will get negative results. This indicates the significance and role of anxiety in ESL or EFL class and the way educators are required to provide language learners with battle-field techniques and skills to cope with anxiety-causing issues. Apparently, his research is not limited to psychological and anxiety-related issues, rather he has investigated other wide-ranging topics.

To move on to MacIntyre’s next significant area of investigation, motivational concerns and issues emerge which have dramatically affected the whole realm of language education, the performance of language learners and the process of language learning. He widely researched motivation theory which is one of the main themes of the study. In brief, through

motivational theory as a primary theme contributing to SLA, MacIntyre has inspired plenty of researchers and educators. Adopting research works tracing back to 35 years ago and titled “*Integrative motivation, induced anxiety, and language learning in a controlled environment*” (Gardner, et al.,1992) and “*An instrumental motivation in language study: Who says it isn't effective?*” (Gardner & MacIntyre, 1991) indicates a consistency in his research. This indicates that the facilitative impact of varying types of motivation, such as integrative motivation and instrumental motivation, on language learning skills and subskills (e.g., vocabulary acquisition) and on reducing language learning anxiety is undeniable. In one of the recently published books jointly authored by MacIntyre and Al-Hoorie titled *Contemporary language motivation theory: 60 Years since Gardner and Lambert (1959)* (Al-Hoorie & MacIntyre, 2020), a diverse range of contemporary theories, local and global contributions, research findings of the works of the main leaders in the field of the language learning motivation are brought together. Therefore, research on motivation started in the past and at present is being further researched by scholars.

A more highlighted area of exploration is related to the idiodynamic approach for examining WTC (MacIntyre, 2020; MacIntyre & Wang, 2021), anxiety (MacIntyre, 2019) and the way psychological and social processes influence second language learning and communication (MacIntyre, 2012a, 2012b). Peter MacIntyre’s most recently published book chapter titled *The idiodynamic method* (MacIntyre, 2023b) places emphasis on the use of a new idiodynamic method, whereby he examines learners’ conative and affective variables and their intra/ inter-individual variations required for performing a task. As such, he has widely published on the use of the idiodynamic approach for research, such as *A dynamic system approach to willingness to communicate: Developing an idiodynamic method to capture rapidly changing affect* (MacIntyre & Legatto, 2010), *The idiodynamic method: A closer look at the dynamics of communication traits* (MacIntyre, 2012b), *The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety* (Gregersen, MacIntyre & Meza (2014), *Enjoyment and anxiety in second language communication: An idiodynamic approach* (Boudreau et al., 2018), *Anxiety/uncertainty management and communication accommodation in women’s brief dyadic conversations with a stranger: An idiodynamic approach* (MacIntyre, 2019), *Expanding the theoretical base for the dynamics of willingness to communicate* (MacIntyre, 2020), *Willingness to communicate in the L2 about meaningful photos: Application of the pyramid model of WTC* (MacIntyre & Wang, 2021), *The idiodynamic method: A practical guide for researchers* (MacIntyre & Ducker, 2022) and many others.

To conclude this section, issues, concepts and constructs Peter MacIntyre has researched are wide-ranging both quantitatively and qualitatively. Therefore, what we tabulated and reviewed as well as categorized as the last theme of his areas of interest and research include research in SLA, teacher education, ADHD Hyper-focus, grit and language, mindset in EFL, peace-building issues and language education, COVID-19 and online education, individual differences, computer skill, strategy use, feedback, non-verbal communication, multilingualism, language and culture, gender and immersion, job satisfaction, L2 program evaluation, language skills/subskills, etc. As such, for every single concept and issue, varying numbers of research articles and book chapters have been published. In section 2 below, the methodology of the systematic review is detailed.

Section 2. Methodology for the Systematic Review

The reviewers developed a general guideline and provided a subjective framework and impressionistic criteria for the systematic review. The tentative criteria offer a neat orientation to Peter MacIntyre's vast research works over his 35-year professional lifespan in terms of both quality and quantity. At first, we searched his CV and Google scholar, based on which what we tabulated from our online search led to 6 main themes. In the searching process, the decision was first made on the types of research works to be reviewed. Therefore, we divided his research works for analysis into articles, book chapters, and books. Although the selection was somewhat on subjective basis, we took account of the vastness of his research, manageability and time factors as well as the guideline for the journal in terms of the maximum page numbers. Precisely viewed, we (Ali Panahi and Hassan Mohebbi) attempted to obtain access to his research works, but accessing all his research works was kind of impossible. In reality, Google scholar was the main sources for finding out his works and his CV, but we failed to find his most recent CV. For example, some of the articles had neither publication date nor the details and name of the journals in which they were published, naturally, then, his inaccessible works were excluded from the systematic review.

We operationalized varying phases in carrying out the review. First, we browsed through his whole research works spanning a period of almost 35 years and based on the title of the research works, we took a hard copy of them in printed format. Then, we developed subjective rules and acted accordingly; that is to say, we developed exclusion and inclusion rules (Tables 2 and 3) and an impressionistic decision was also made on the types of works to review and removed aside those which were out of the rules of the study. Next, we developed objective themes, based on which Table 1 was coined and at the same time, we came up with a notion of developing an idea of his overall achievements. After that, before we conducted the systematic review, we speculated over the content of the systematic review and adopted the idea of reviewing the specified research works within the framework of four items in four separate and single standing columns (Table 4 and Table 5):

1. *Journal Articles, Book Chapters and Books*: The name of research works and their publication date were indicated in a chronological order rather than in an alphabetical one.
2. *Research*: We provided the main tenet of the research work and the purpose and main ideas in the research.
3. *Practice*: We developed and inferred some, among many possible, pedagogical implications for the classroom teachers. As a matter of fact, the main purpose of Column 2 and 3 was to connect theory to practice and encourage the potential readers to speculate over the application and practicality of the research works.
3. *Main Themes*: We developed six types of themes, as is clear in Table 1. In analyzing every single research work, we attempted to extract the themes on subjective basis. On the other hand, we developed two independent Tables: Table 4 (Analysis of Journal Articles) and Table 5 (Analysis of the Books and Book Chapters). In fact, in Table 5, we merged the analysis of book chapters and books. A point worth elaboration is that in extracting the themes, we decided not to extract any themes from his books, as we assumed it is unmanageable in terms of time factor. However, we extracted the main themes for his journal articles and book chapters. In the following section, a graphic view of MacIntyre's themes and overall achievements is portrayed.

Section 3. A Graphic View of MacIntyre’s Themes and Overall Achievements

The number of research works and overall achievements contributed by Peter Macintyre to the field, as tabulated from our online search, stood approximately at 250 items. Due to not having full access to his contributions including guest editorials, test reviews, book reviews, posters, conference abstracts, published proceedings of conferences, research works published in a language other than English, published comments and notes and some of his published research works, the mentioned number is relatively an estimated number, so no claim is made as to its exactness. With reference to the key concepts of the research works, a fairly representative sample of Peter MacIntyre’s publications in six thematic areas were extracted. They are outlined in Table1.

Table 1

Main-Themes

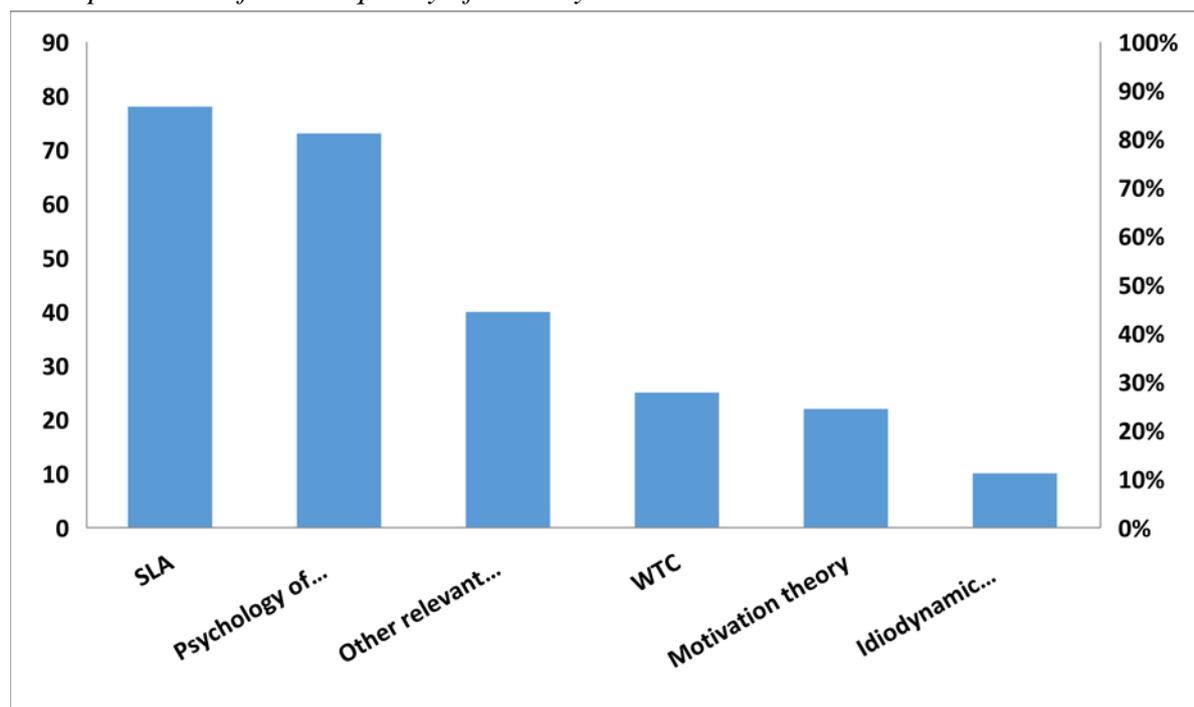
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1. SLA
 2. Willingness to communicate
 3. Psychology of language learning (positive psychology, psychology of consciousness, cognitive factors, positive language education, and psychological factors, such as joy, anxiety, stress, well-being, flow experiences, self-esteem, emotion, personality, music in EFL class)
 4. Motivation theory
 5. The idiodynamic method and dynamics issues in in language learning
 6. Other relevant topics (Research in SLA, teacher education, ADHD Hyper-focus, grit and language, mindset in EFL, peace-building issues and language education, positive language education, COVID-19 and online education, individual differences, computer skill, strategy use, feedback, non-verbal communication, multilingualism, language and culture, gender and immersion, job satisfaction, L2 program evaluation, language skills/subskills)
-

As it is clear from Table 1, Peter MacIntyre’s areas of investigation and concern are wide-ranging. SLA serves as an umbrella terms, to which all other five themes are connected, as he attempts to provide pedagogical implications for every single research work he conducts. The second theme is WTC. As it was cited already, it is one of the main themes which he widely researched and strove to practically inspire the researchers and educators in the field to find implications for the class resulting from research into WTC. Although we separated the themes, there exist plenty of research works which integrate a number of themes together. For example, in this research work “*Personality, motivation and willingness to communicate as predictors of 2nd language communication* (Macintyre & Charos, 1995), at least five themes including 1, 2, 3, 4, and 6 (Table 1), as identified by the reviewers impressionistically, are visible. This given, the reason why we separated them, we found no other efficient alternative for giving orientation to the themes of his research works. The third theme is concerned with psychology of language learning which contains other sub-themes including positive psychology, psychology of consciousness, cognitive factors, positive language education and psychological factors, such as joy, anxiety, stress, well-being, flow experiences, self-esteem, emotion, personality, and music in EFL class. We did not consider the sub-themes as separate themes in Table 1, as they were vast enough to be grouped into an independent analysis. The fourth and fifth themes are motivation theory and idiodynamic methods, which stand as independent themes in Table 1. We named the last theme as “Other relevant topics”. The primary reason for this was that we decided to portray a brief report of the main themes. Therefore, the number of other sub-themes which were quantitatively lower, but collectively a noticeable member of

research works were grouped under the heading of “Other relevant topics”. The sub-themes subsumed under the theme are research in SLA, teacher education, ADHD Hyper-focus, grit and language, mindset in EFL, peace-building issues and language education, positive language education, COVID-19 and online education, individual differences, computer skill, strategy use, feedback, non-verbal communication, multilingualism, language and culture, gender and immersion, job satisfaction, L2 program evaluation, and language skills/subskills.

Figure 1

A Graphic View of the Frequency of Macintyre’s Themes



As Figure 1 illustrates, SLA is the most dominant issue on which Peter MacIntyre has focused incessantly. The second more prevalent area investigated is psychology of language learning. As it is clear from Table 1, Psychology of language learning contains many other sub-themes, such as positive psychology, psychology of consciousness, cognitive factors, positive language education, and psychological factors, such as joy, anxiety, stress, well-being, flow experiences, self-esteem, emotion, personality, music in EFL class. All these themes were subsumed under psychology of language learning. As it was mentioned already, Peter MacIntyre’s research works are vast and wide-ranging. Therefore, the theme “other relevant topics” was labeled subjectively as it contains a wide range of other sub-themes (Table 1). The other three themes were WTC, motivation theory, and idiodynamic method for researching the other themes and sub-themes extracted and introduced in the study.

Section 4. Inclusion and Exclusion Rules

In the systematic review, we grouped in a chronological order the research works selected for the systematic review. So as not to exceed the page limit of this article, we used inclusion rules (Table 2) and exclusion rules (Table 3), based on which we removed some research

works from the systematic review and also, we clarified the rules of inclusion. The rules are presented below.

Table 2

Inclusion Rules and Examples for the Systematic Review

	Inclusion Rule	Example
1	A publication was considered to be potentially eligible for inclusion if it was relevant to <i>at least one</i> of the 6 main themes portrayed in the study.	Henry & MacIntyre (2024) MacIntyre & McGillivray (2023) MacIntyre (2020) MacIntyre. (1994b) MacIntyre & Mercer (2014)
2	The publications having somewhat similar themes and researched issues were merged and analyzed together due to time, space and manageability considerations. On these occasions, the rule for the chronological order of the intended researcher's work was disobeyed.	Ross and MacIntyre's (2018), as an article, was merged into a chapter by Dewaele and MacIntyre (2021); Dewaele and MacIntyre's (2022a, 2022b) and Dewaele et al. (2023) were merged into MacIntyre (2016); Dewaele & MacIntyre (2019) as a book chapter and Jin et al. (2023) as a research article were analyzed together.
3	We included a couple of conference proceedings in the systematic review and excluded all others due to time, manageability and space limitations. However, we included both the excluded ones and included ones in Peter MacIntyre's overall achievement and in the theme extraction process.	Included: MacIntyre (2012) Included: Braithwaite et al. (2014) Excluded: MacIntyre (2010)
4	Due to sharing closely similar themes and also in order to save space on the column, a group of articles were analyzed all together. We included them in "Research" section in Table 4, but named them Positive psychology articles.	The articles analyzed together are: MacIntyre & Mercer (2014); MacIntyre, Ross, and Clément's (2019); MacIntyre, Gregersen, & Mercer (2019); MacIntyre & Ayers-Glassey (2021); Gregersen, MacIntyre, & Buck (2021)

Table 3

Exclusion Rules and Examples for the Systematic Review

	Exclusion Rule	Example
1	Those chapters published in any book edited or co-edited by Peter MacIntyre were excluded from the systematic review. The assumption was that since the book was systematically reviewed, it would be partially informative for the readers to search for their wanted content on the ground of the clues in the reviewed book. Moreover, due to the vastness of MacIntyre's research work, time and space factors and the manageability of the systematic review were primary concerns.	MacIntyre & Serroul (2014); Gregersen & MacIntyre (2014a); Gregersen & MacIntyre (2017b); Gregersen, MacIntyre, & Meza (2016). In his book titled <i>Positive psychology in SLA</i> (MacIntyre, Gregersen, & Mercer, 2016), we observed five chapters and excluded them all.
2	As unpublished manuscript was illegible to be included in the systematic review as it had some common themes with other research works.	Ayers-Glassey & MacIntyre (2019)
3	Some research articles were psychologically technical and appeared to be beyond our expertise and were related to other issues such as song, music, etc., and we could not find any relationship between SLA and the articles. Despite their innovativeness, differences in subject, and high quality, we failed to find their pedagogical implications. Consequently, we excluded them from the systematic review. Moreover, we did not include them in MacIntyre's overall achievement either.	Higgins et al. (2020); MacDonald & MacIntyre (1999); MacDonald, Mann et al. (2008); MacDonald et al. (2015). MacIntyre, Schnare, & Ross (2018); MacNeil & MacIntyre (2007);
4	A research work closely associated with music and dance were excluded from the systematic review, as we failed to realize its implications for ESL or EFL classroom.	Baker et al. (2024)
5	Papers written in memoriam were excluded from the study because we failed to provide a more effective pedagogical implication. However, there would have existed psychological implications.	Gregersen & MacIntyre (2022)
6	An article was excluded from the systematic review if reviewers failed to understand their pedagogical implications for EFL/ ESL classroom or for other reasons. However, we included them in the reference section and considered them in outlining the themes.	MacIntyre & Khajavy (2021) Murphy et al. (2024) Robertson et al. (2004)
7	Peter MacIntyre's Research works (book chapters or journal articles) not tabulated from our online search were all excluded from the study. However, we included them in his overall achievement.	MacIntyre (2002) Gregersen & MacIntyre (2013)
8	We extracted the main themes for his book chapters and articles based on our subjective framework and impressionistic attitude. However, due to the wide-ranging disciplinary and interdisciplinary themes included in his books, we failed to extract the main themes from his books.	Gregersen & MacIntyre (2014b) MacIntyre (2016) MacIntyre (2020)
9	A publication was excluded from the systematic review if it was in a foreign language that could not be understood by systematic reviewers and they were excluded from the reference section, too.	El flujo en el aula de español como lengua extranjera by Jean-Marc Dewaele and Peter MacIntyre

10	Some of the research works we tabulated from our online search had no publication date or publishing company or no page number. Since we could not access the full version of such works, we excluded them from our systematic review.	For example, a research work published by MacDonald, J. R., and MacIntyre, P. D. in 1998 and titled <i>The development of scales to measure state perceived competence and audience congeniality</i> was excluded from the systematic, as we could not find any details regarding its publications.
11	All tributes, guest editorials, test reviews, book reviews, posters, conference abstracts, conference published proceedings, research works published in a language other than English, published comments and notes and other very short pieces were ineligible for inclusion, so they were excluded from the systematic review due to space, time and manageability considerations. However, they were included in his overall achievements.	MacIntyre (2009)

Section 5. Systematic Review of Peter MacIntyre's Research Works

In the previous sections, we provided an Introduction, Methodology for the Systematic Review, A Graphic View of MacIntyre's Themes and Overall Achievements, and Inclusion and Exclusion Rules. In this section, we practically run the systematic review and due to the much higher magnitude of MacIntyre's contributions, we selected to analyze his articles (Table 4), book chapters and books (Table 5). Thus, an in-depth analysis appears below.

Table 4*Analysis of Articles*

Articles	Research	Practice	Main Theme(s)
MacIntyre & Gardner (1989)	There exist ambiguity and difficulties associated with reviews of the literature on foreign-language anxiety arising from the conflicting consequences of studies in the past. The present study deals with these difficulties with reference to theoretical perspectives associated with General Anxiety and, Communicative Anxiety and finally, proposes a model for the development of foreign language anxiety.	Since there exists a vivid connection between foreign language anxiety and foreign language proficiency, teachers can consider varying factors effective for reducing language learning anxiety and for developing the language proficiency of the learners.	1, 2
Gardner et al. (1990)	The study investigates the affective dimension in L2 programme evaluation from the perspective of the socio-educational model of second language acquisition and identifies sub-categories of the formal context, in terms of the type of programme, the nature of the curriculum, or characteristics of the teacher.	Teachers and teacher trainers can use the socio-educational model and consider the sociocultural milieu, cognitive and affective variables and individual differences in their instructional context and contribute to language learners and teacher candidates.	1, 3, 6
Gardner & MacIntyre (1991)	The study examines the impact of integrative motivation and instrumental motivation on the learning of French/English vocabulary. The results revealed that both integrative motivation and instrumental motivation facilitated language learning. The secondary results are also argued.	Teachers can reflect over inspiring and motivating their learners with use of varying external factors and psychological elements which can boost the process and outcome of developing their language proficiency.	1,4
MacIntyre & Gardner (1991a)	This article, as a review of literature, examines the basis of foreign language anxiety research, the instruments, and the reported results. It reviews studies of children, studies of anxiety included in models of language learning, and studies dealing with the role of anxiety in language learning.	The study can broaden the horizon of language teachers and help them realize how to help language learners cope with debilitating anxiety, and develop language proficiency and manage test anxiety.	1, 3
MacIntyre & Gardner (1991b)	The study aims to manipulate the anxiety level of language learners by asking them to reflect over and report their own positive or negative experiences. Also, it investigates the effect of essay writing and anxiety levels on language performance tasks in both L1 and L2.	One potential implication of the study is for language teachers. They can use the content of the article and reflect over the primary findings in the study and use the techniques to help language learners reduce their speaking and writing anxiety.	1, 3
MacIntyre & Gardner (1991c)	The article reports on the factor structure underlying 23 scales assessing both language anxiety and other forms of anxiety. Three factors were obtained and identified as Social Evaluation Anxiety, State Anxiety, and Language Anxiety. As a result, correlations were obtained between scores.	One of the possible implications can be for language teachers, teacher trainers and language testers. They should consider the affective domain and students and test takers' emotions and use techniques which can help them minimize their test taking or language learning anxiety.	1, 3
Gardner, et al. (1992)	The impact of both integrative motivation and anxiety on computerized vocabulary acquisition is examined using videotaping and considering	Language teachers need to understand that there exists a relation among motivation of language learners, their attitudes, and anxiety, as well as second language learning.	1, 3, 4

	individual differences in integrative motivation. Subjects higher in integrative motivation revealed higher vocabulary acquisition.	Therefore, they should respect their attitudes, and try to offer them tips to reduce their anxiety.	
Gardner & MacIntyre (1992)	The study examines various characteristics of individuals influencing second language learning. In fact, it overviews the language learning process, and cognitive variables, such as language aptitude, intelligence, and language learning strategies.	One more significant implication of the study is that without strategy use, second language learning will be kind of impossible or highly challenging. Therefore, teachers should motivate language learners to use language learning strategies.	1, 4
Gardner & MacIntyre (1993a)	This is the second part which deals with individual difference in second language learning. It investigates the role of affective variables, i.e., emotionally relevant traits of the individuals, in second language learning. In fact, it concentrates on two wider categories of affective factors: 1. Language anxiety and self-confidence 2. Language attitudes and motivation.	We would like to infer an implication from this study with reference to Krashen's affective filter hypothesis. Teachers need to take into account the emotional facets of L2 or EFL learning because if ignored, it might hurt learners' feelings, self-esteem and self-confidence standing in the way of due learning.	1, 3, 4
Gardner & MacIntyre (1993b)	This study investigates four issues regarding the validity of the Attitude/Motivation Test Battery with use of a multi-trait/multimethod analysis, a factor analysis, and correlations. The results led to more communality among integrative orientation items and measures than among instrumental orientation measure.	Educators can read the content of the article and highlight the role of the effectiveness of affective variables in L2 learning. Also, it has implications for classroom language testers. They need to notice the significance of the measurement strategies which can help boost learning outcome and teaching process.	1,3
MacIntyre (1994a)	The study deals with language learning strategy and provides an alternative perspective towards using language learning strategies. In fact, it offers a model and indicates that learners should use one or two suitable strategies.	Without strategy use, no foreign language learning can be feasible, so teachers should teach the effective types of strategies to language learners.	1, 6
MacIntyre. (1994b)	The article examines the personality-based aspects of Willingness to Communicate (WTC) with reference to constructs, such as communication apprehension, anomie, alienation, introversion, and self-esteem with use of causal modelling. For further study on WTC, refer to MacIntyre and Ayers-Glassey (2020b).	Since WTC is caused by a mixture of communication apprehension and perceived competence, teachers should be more mindful about the learners who are introvert and consider their self-esteem and their self-confidence.	1, 2, 3
MacIntyre & Gardner (1994a)	The study investigates the arousal of anxiety caused by the introduction of a video camera in a vocabulary learning task. The results revealed dramatic increases in state anxiety when the video camera was introduced; concomitant deficits in the acquisition of vocabulary was evident.	Teachers can study the article and take remedial action to reduce debilitating anxiety and help language learners develop their general English proficiency.	1, 3
MacIntyre & Gardner (1994b)	The article reports on some of the cognitive processes involved in language acquisition in terms of a three-stage model of learning: Input, Processing, and Output. The results revealed significant correlations between the stage-specific anxiety scales and stage-specific tasks.	Since the effects of language anxiety can probably be both subtle and pervasive, language teachers should find out the individual differences among learners and act based on their interests, needs and abilities.	1, 3, 6
MacIntyre, & Noels (1994)	The study deals with the phrase "the good language learner" and reviews the collection of books focusing on individual differences, cognitive and affective variables, related research findings and strategies for success.	Studying this work will help researchers to investigate varying aspects of individual differences. Language teachers	1, 3, 6

MacIntyre & Thivierge (1995a)	The study examines two sources of anxiety including audience pleasantness and audience familiarity. Using split-plot ANOVA, a significant three-way interaction was obtained for both willingness to speak and public speaking variety. In general, pleasantness exerted a stronger effect than familiarity.	will also enjoy the way to deal with learners of varying abilities, differences, interests and preferences. Teachers can use varying tasks to develop learners' enthusiasm for speaking and let them be familiar with numerous types of topics which can help them reveal willingness for interaction in the classroom context as well as outside the class.	1, 2, 3, 6
Macintyre & Thivierge (1995b)	The article examines the correlations between speaker personality traits and public speaking anxiety with use of the Five Factor Model. Results revealed a correlation between extroversion, emotional stability and intellect and public speaking anxiety.	The study has implications for language teachers. They can trigger varying types of techniques to the numerous personality types and features of individual differences and arouse willingness to speak, and reduce and help learners overcome fear of negative opinion.	1, 2, 3, 6
Gardner, MacIntyre, & Lalonde (1995)	This article investigates some of the cognitive processes underlying the effects of multiple social categories in impression formation and stereotyping. The results reveal that individuals are perceived in terms of stereotypes and that certain salient categories will be more influential in a particular context.	There are implications for researchers. They should realize that the use of verbal descriptions minimizes the risk of unassessed dimensions (such as attractiveness). Therefore, verbal cues rather than photographs or voices are recommended when two task-relevant constructs are compared.	1, 3, 6
MacIntyre & Charos (1995, 1996)	Affective variables, such as attitudes, motivation, perceived competence, and anxiety, the impact of the frequency of L2 communication, and the role of global personality traits were investigated.	There are implications for teachers: Valuing the specifics of learners' global personality traits and language-related affective variables can help learners be effective communicators.	1, 2, 3, 4, 6
MacIntyre (1995a, 1995b)	Peter MacIntyre provides a reply to Sparks and Ganschow. They proposed the linguistic coding deficit hypothesis (LCDH) which indicates that language aptitude is the primary source of individual differences in language achievement. MacIntyre challenges their basis and points out that LCDH neglects the context in which language learning occurs and with it, we can't see the forest for the tree, so that this can probably reduce affective variables.	Teachers need to consider facilitating and debilitating role of anxiety in developing individual differences in both language learning process and communication. Therefore, they should use relevant affective techniques which can facilitate classroom interaction, enhance input and motivate appropriate output.	1, 3, 6
Damji et al. (1996)	The current article investigates both contextual and individual difference variables in L2 use. It explores L2 as a tool for the development of intellectual communication and emphasizes the social context where L2 confidence, identity and WTC can potentially emerge.	Teachers can use the theoretical basis of the current article as a justifying factor which can help learners promote their identity and enhance appropriate interactive skills.	1, 2, 3, 6
MacIntyre & Noels (1996)	The article proposes a social-psychological model and indicates that strategy use depends in the main on the reasons to use the required knowledge of suitable strategies. The study uses this model to predict the frequency of use for 50 language learning strategies.	One of the main implications is for teachers. They should remember that motivation affects language learning and overall strategy use and can potentially lead to debilitating or facilitating anxiety. Therefore, teachers can perform learner training and guide the learners in the appropriate direction.	1, 3, 4, 6

MacIntyre et al. (1997)	The article investigates perceived competence, actual competence and language anxiety. The results of the study indicate an inter-correlation between L2 language anxiety, perceived L2 competence, and actual L2 competence.	There are implications for language teachers. They should realize that apprehensive students may downgrade their ability, so teachers should help them overcome negative feelings and expectations.	1, 3
MacDonald & MacIntyre (1997)	The study is mainly concerned with job satisfaction. To this end, it develops a scale on job satisfaction and uses factor analysis and Cronbach's alpha for the analysis of data. The workplace-related factors were boredom, job stress, isolation and danger of illness or injury.	The study can be useful for ELT managers running English language institutes. It can help the novice or experienced teachers in psychological and financial terms, such as reducing job burnout, job security, and income sufficiency: All of these can help the quality of job and keep the instructors satisfied.	6
MacIntyre Thivierge & MacDonald (1997)	The study examines and identifies the sources of anxiety including the level of audience's interest in the topic, the degree of formal evaluation, and the audience's responsiveness to the speaker. In addition to public speaking anxiety, willingness to speak and expected speech quality were examined.	One of the potential implications can be attributed to the teachers. They can help learners find topics of interest for other learners who listen to them: This will create mutual understanding and will help others develop their comprehensible input.	1, 2, 3
MacIntyre & MacDonald (1998)	This article reports on the relations among perception of the audience before and after a speech, perceived competence and public speaking anxiety. The group with highest anxiety revealed the largest improvement in perception of audience pleasantness and perceived competence.	One of the implications of the study is for teachers to help learners with skills training and techniques which can reduce and ameliorate public speaking anxiety.	1, 3, 6
MacIntyre et al. (1998)	The article proposes WTC as the primary goal of language instruction, and indicates that the WTC model provides an account of the communicative, linguistic and social psychological variables which affect WTC. Also, it outlines a comprehensive conceptual model that can help describe and explain L2 communication. For further reading, refer to Clément et al. (2003).	One of the implications of the article is for language teachers. They can help learners (with limited communicative competence) speak without any communication breakdown and provide some guides for those learners who have much higher competence and anxiety and much lower speaking tendency.	1, 2
Coffin & MacIntyre (1999)	The article reports on the impact of "motivation to learn to use computers", and "previous experience with computers" on three computer-related affective variables such as anxiety, attitudes, and self-efficacy: An intrinsic motivational orientation was observed in all three groups.	The type of personality styles, i.e., extrinsic or intrinsic orientations, can affect the attitudes to use computers. Therefore, teachers can recognize the type of orientation the learners have and help them reduce computer-related anxiety and develop keyboarding competence for essay writing on TOEFL iBT or computer-based IELTS.	1, 3, 4, 6
MacIntyre et al. (1999)	The study examines WTC at two complementary levels: the trait and state levels. Measures of trait WTC included extraversion, emotional stability, self-esteem, communication apprehension, and competence. Trait WTC was related to volunteering for the lab portion of the study and state WTC was related to initiating a difficult communication task.	By defection, WTC deals with the decision to initiate communication. Therefore, the findings of the current study can help language learners initiate a successful communication without any debilitating anxiety.	1, 2
Wall et al. (1999)	This was a questionnaire-based study which used Path analyses and examined relations among social support, perception of future opportunity, and	One of the implications of the study is that instructors need to be more aware of females' personality details and strive to take care of their self-esteem.	1, 3, 6

Baker & MacIntyre (2000)	education and career aspirations and expectations. The overall results indicated that females perceive more teacher and peer support than do males. The article investigates the nonlinguistic consequences of an immersion versus a non-immersion program. It displayed higher WTC, higher perceived communicative competence, and lower communication anxiety. For further study on the issue, refer to Donovan and MacIntyre (2004), MacIntyre, Baker et al. (2001), MacIntyre et. al. (2011) and MacIntyre, Baker et al. (2002, 2003).	There are varying implications. One of the implications can be attributed to SLA researchers. They can study the article and get inspired to further research immersion and non-immersion issues in SLA context.	1, 2, 3, 6
MacMaster et al. (2002)	The article investigated the impact of being diagnosed with a learning disability on children's self-esteem. The results indicated that self-esteem increased significantly above pre-diagnosis levels following diagnosis of a learning disability.	The study has implications for psychologists. They can consider and value the self-esteem, self-confidence and self-image of the patients once they diagnose a specific type of learning disabilities.	3
Covin et al. (2003)	The study reports on the relationship between self-esteem and performance when students had received information about peers' success or failure. The results revealed that people with low self-esteem display performance deficits.	Teachers should consider the whole person and respect learners' self-image, and self-confidence and should also note that personality of learners and their knowledge should be carefully distinguished.	1, 3, 6
MacIntyre & Donovan (2004); MacIntyre & Doucette (2010);	The study indicates that WTC has a relationship with the amount of desired control and examines a sample of 95 university students' performance on a measure of desire for control which led to a correlation with WTC, and perceived communication competence. The work of MacIntyre and Doucette (2010) is informative, too, as it examines and introduces Julius Kuhl's theory of action control as an expansion of the conceptual framework for the study of WTC. For further study on the issue, MacIntyre and MacKay (2019) is also highly informative.	In EFL context, teachers are required to respect personality-related aspects and help learners strike a balance between their desire for communication and desire for controlling the related anxiety. Added to this, since the tendency to abandon tasks would lead to lower WTC, teachers are required to be more focused on the motivational domain of classroom interactional activities.	1, 2, 3
MacIntyre (2007)	The present study uses WTC as a central concept, examines the convergence of psychological processes underlying communication at a specific moment and investigates the phenomenon of reluctant and unwilling speakers who remain silent and others in EFL context choose to speak up.	One of the implications is for EFL teachers. They should strive to recognize learners who are uncommunicative or introvert and unwilling to communicate. With use of engaging and interesting tasks, they can motivate silent learners to participate in speaking events.	1, 2, 3, 4
MacKinnon et al. (2007)	The research examines the reasons why the stuttering stereotypes occur and indicates that they are formed though inference from one's own personal experiences with temporary disfluency. The results grow consistent with the anchoring-adjustment hypothesis and generalization.	One of the implications is that teachers should not necessarily consider the personality of a stutterer different from a typical language learner, and should support and motivate them to participate in classroom learning activities and events.	1, 2, 3, 4
MacIntyre (2010)	The study reports on the phenomena that Robert C. Gardner and Wallace Lambert's seminal paper titled <i>Motivational variables in second language acquisition</i> has made a significant contribution to the state of the art in the study of motivation research.	There exist implications for teachers and language learners: They need to bear in mind the role of motivation in developing language proficiency and boosting and nurturing learners' linguistic intelligence.	1, 3, 4

MacIntyre & Legatto (2010)	The article presents an idiodynamic methodology for studying rapid changes in WTC. It uses recording responses from six young female adults, their self-ratings of changes in WTC during those tasks, and their experience with fluctuations in WTC.	One of the implications is that since anxiety significantly affects WTC, teachers and language learners can learn some anxiety-reducing techniques which can motivate them to come into interaction with other learners in the class.	1, 2, 3, 4
MacInnis et al. (2010)	Illusion of transparency means that public speakers believe their nervousness is more apparent to others than is actually the case. The article conducted two studies on beliefs about anxiety during public speaking. People tend to believe that everyone experiences high levels of public speaking anxiety.	There are implications for researchers. The article can serve as a starting point and can potentially inspire them to further investigate a novel conceptual ground.	3, 6
MacIntyre et al. (2010)	This study investigates the relationship between speaking anxiety and difficulties in emotion regulation with respect to heart rate and heart rate variability. Significant changes in heart rate and state anxiety were observed. Also, HRV negatively correlated with difficulties in emotion regulation.	Teachers need to understand the psychological processes and factors involved in speaking and help language learners shape some positive experience of public speaking and reduce the related anxiety.	1, 2, 6
Schnare et al. (2011)	The present qualitative study examines the motivational dimensions of the possible musical self. Possible selves and themes, i.e., the 'hoped for' selves, the 'feared' selves and the 'expected' selves, are explored and revealed. For further study on the issue of music, refer to MacIntyre et al. (2012), MacIntyre and Potter (2013) and MacIntyre, Baker et al. (2017).	The study can have potential implications for musicians and language teachers. They can raise their learners' awareness of varying selves and help them boost and improve their self-esteem and self-concept.	3, 4
MacIntyre (2012a, 2012b)	The studies draw on dynamic systems theory, describe a new research approach called the idiodynamic method and examine the way psychological and social processes influence second language learning and communication, especially L2 WTC. For further study on the issue, MacIntyre and Gregersen (2022) can be similarly informative.	There are potential implications. The studies can broaden the horizon of researchers and teachers to the concept of idiodynamic methods and the way such methods can be applied to classroom instruction.	1, 2, 5
MacIntyre & Blackie (2012)	The present study examines the relative ability of variables from three motivational frameworks, such as action control theory, Pintrich's expectancy-value model, and Gardner's socio-educational model for the prediction of four non-linguistic outcomes of language learning.	One of the possible implications of the study is for language teachers. They can read the findings in the study and help learners overcome their anxiety associated with WTC and learn SLA.	1, 2, 3, 4
MacIntyre & Gregersen (2012)	This article explores positive anticipated and anticipatory emotions related to language learning and indicates that positive emotion has a different function from negative emotion. Also, it points out that imagination can activate the emotions helping imagine future states.	Language teachers need to consider the feeling of learners and take account of Krashen's Affective Filter Hypothesis. So, both affective domain and cognitive domain must be integrated into feedback loop in the class.	1, 3, 4
Braithwaite et al. (2014)	The study presents thoughts on any issues and topics associated with the winners of the 2014 Atlantic Association of Universities teaching awards. Three presented issues are: "teaching relationships" (MacIntyre), "being the change I want to see in the world" (Braithwaite) and "it takes a village to raise a teacher" (Kutnowski)	The study has implications for teachers and teacher trainers in motivational terms. It can inspire them into reading the experiences and novel ideas of the three authors and enjoy much newer perspective for teaching and research.	1, 4, 6

Gregersen, MacIntyre & Meza (2014)	As an individual-level study, it uses the idiodynamic method, triangulates physiological, idiodynamic, interview, and self-report survey data of high and low anxiety language learners and examines their language anxiety.	There are possible implications for researchers. The content of the article can help them conduct triangulation and perform both qualitative and quantitative research into issues relevant to foreign language anxiety and present their implications to the class.	1, 5, 6
Gregersen, MacIntyre Finegan, et al. (2014)	The article adopts a qualitative approach for studying how emotional intelligence is used by a learner and pre-service teacher. Analysis revealed the ways in which four branches of emotional intelligence interacted as respondents were engaged in positive psychology-relevant activities.	One of the significant implications can be for researchers. This is the first qualitative study to examine emotional intelligence in the context of positive psychology, as the authors claim. Therefore, researchers can read the methodology and replicate the study.	3
Positive Psychology Articles	The articles (mentioned below) introduce positive psychology (a relatively new subfield) to second language acquisition (SLA), deal with the contribution of positive psychology to SLA and the way the humanistic movement in SLA leads to productive outcome. In fact, the articles height the ways positive psychology affects trends in education and language teaching and learning (MacIntyre & Mercer, 2014; MacIntyre, Ross, and Clément, 2019; MacIntyre, Gregersen, & Mercer, 2019; MacIntyre & Ayers-Glassey, 2021; Gregersen, MacIntyre, & Buck, 2021).	The study has varying implications for teachers and researchers. Language researchers can delve into the depth of positive psychology and create research questions relevant to its effect on SLA. Also, educators and language teachers need to be familiar with its general principles and relate it to the classroom context: It can help teachers see how language learners thrive and flourish.	1, 3
Dewaele & MacIntyre (2014);	The present study examines Foreign Language (FL) enjoyment and foreign language anxiety in the classroom with use of a much larger sample size of 1746 FL learners from around the world. FL enjoyment and anxiety are linked to varying personal and contextual variables. For further reading on the issue, you can refer to Dewaele et al. (2016).	FL teachers can study the article and assist their learners with the way to trigger their attitudes to learning a foreign language and the way to provide them with significant strategies for coping with the psychological hassles of FL kerning.	1, 3, 4, 6
Khajavy et al. (2017)	The article investigates the relations between WTC, emotions, and classroom environment with use of an advanced quantitative approach and a sample size of 1528 participants in Iran. It revealed that a positive classroom environment is associated with WTC and enjoyment and that WTC is affected by anxiety.	Teachers can develop a psychologically pleasurable context for interaction and use think-pair-share approach to create willingness in learners to communicate.	2, 3
MacIntyre & Vincze (2017)	The study explores the role of basic emotions, i.e., 10 positive emotions and 9 negative emotions, with reference to three models of L2 motivation: Gardner's integrative motive, Clément's social-contextual model, and Dörnyei's L2 self-system. Closely relevant to the theme of the study, the research work of Marton and MacIntyre (2022) is informative.	There are implications for teachers. Since the process of learning a foreign language is replete with varying psychological filters and challenges, in particular in EFL context, studying the article can help teachers provide their learners with effective consultation.	3, 4

Vincze & MacIntyre (2017)	The study integrates the social context model of L2 acquisition with the pyramid model of WTC in L2 and investigates aspects of the psychological process underlying WTC in Slovak among young Hungarian speakers in Southern Slovakia. Informative results were obtained from the study. Closely related to the study, Wang and MacIntyre's (2021) research works are informative, too.	Exposure to and contact with native speakers, listening to news and watching podcasts and films, as audio input-enhancing sources, can develop speaking, push learners' output and enhance their language proficiency. This can possibly reduce speaking anxiety.	1, 3
Boudreau et al. (2018)	The article takes an idiodynamic approach to examine the relationship between anxiety and enjoyment in second language communication. A highly dynamic relationship between enjoyment and anxiety was observed ranging from positive to negative.	Teachers can possibly develop a much richer understanding of the role of emotions in second language communication and researchers can develop research questions with reference to the unbridged gap.	1, 3, 5
Mercer et al. (2018)	Positive language education is discussed in the article; in fact, it stems from a mixture of positive education and language education. There are compelling reasons for language educators to engage in enhancing 21st-century skills together with linguistic skills and well-being competencies.	Teachers can connect the theory of positive language educations issues to classroom practice based on their own creativity and promote many wellbeing competences for language learners to facilitate their language process and boost their learning outcome.	1,3, 6
Yashima et al. (2018)	The study examines both trait and state WTC in a classroom context and surveys ways to mix the two to gain a further perception of why L2 learners select (or avoid) communication. Also, it explores the communication behavior of individuals and that of the group they belong to.	The study has potential implications for teachers. It can provide them with tips to help their learners participate in discussions in academic contexts and will help them enhance WTC and the tactics and skills required for taking the initiative to communicate.	1, 2, 3, 6
MacIntyre (2019)	The study uses two theories of anxiety/uncertainty management and communication accommodation and also uses an innovative approach, i.e., the idiodynamic method, to gather detailed data on the ways women converse with men or with other women and finds out the differences between them.	The study can inspire researchers to use innovative methods and procedures to examine communication processes in real time and find out varying theoretical differences between genders in terms of actual conversation between persons.	5
Elahi Shirvan et al. (2019)	The current meta-analysis examined the correlation between L2 WTC and three key variables influencing foreign/second language learners' WTC. A moderate correlation was observed between L2 WTC and the three variables.	Educators can study some articles on WTC and find out the effectiveness of enhancing the tendency for communication, thereby developing language learners' flouncy and communicative competence.	1, 2, 3
MacIntyre, Ross, Talbot et al. (2019)	The paper examines correlations among well-being, personality and stress among language teachers in the globe. The results revealed a consistent correlation between stress and personality with teacher wellbeing, but no correlation between stress and personality was found. For further study on the related theme, refer to Gregersen, MacIntyre, and Macmillan (2020).	It is imperative that teachers get familiar with varying sources of language teaching stress and learn techniques to cope with it in order to better flourish in their profession.	1, 3

MacIntyre, Ross, & Sparling (2019)	The study explores correlations between WTC, perceptions of competence, and flow experiences in both language and music. It used the sample of 54 persons from Canada and Scotland contacted via Facebook groups. A combination of social and personality-based processes is reported. For further study, Sparling and MacIntyre (2024) focusing on the constructs of music, flow and heritage language is informative.	Teachers should note the significance of music in SLA and develop learners' language proficiency. Moreover, teachers can bring musical input to the class and develop learners' interactive competence. A note follows that, music-transferred cultural input should not be diametrically opposed to learners' native culture.	1, 2, 3
Marton & MacIntyre (2019)	The study explores whether majority language speakers utilize the minority language more repeatedly or not. The study recommends positive feedback from L1 users as a possible facilitator of L2 use and reports the development of the scale utilized to assess L1 user feedback.	In the EFL classes where there are two groups of the minority and majority speakers, the teachers should respect the fact that language is for communication and no linguistic discrimination should be exercised.	1, 6
MacIntyre (2020)	The study examines the impact of intra- and interpersonal processes on the dynamics underlying WTC in a second or third language. Using the idiodynamic method, the study examines an individual's experience of events on a timescale of a few minutes.	Teachers need to be life-long learners and gain knowledge in varying disciplinary and interdisciplinary sciences to be able to justify L2 instructional processes in terms of cultural, political, social, identity, motivational, emotional, pedagogical, and competence-related issues.	1, ,2, 5
Jin et al. (2020)	The study examined whether contracting students' speaking in the foreign language (FL) classroom could effectively mitigate their FL classroom anxiety. It also explored the working mechanisms of this approach which can potentially reduce classroom anxiety and examined FL students' attitudes toward it. Positive results were revealed.	Teachers can use the findings of the study and help their learners maximize their learning engagement, and their self-efficacy and also help them self-reflect their weaknesses and strengths as FL learners in order to cultivate positive emotions.	1, 3, 6
MacIntyre, Gregersen, & Mercer (2020)	The study investigates the stress and coping responses of over 600 language teachers in an online survey: Noticeable levels of stress were reported by teachers. The results revealed that positive psychological outcomes correlated positively with approach coping and negatively with avoidant coping.	The study has implications for teacher trainers and teachers. Since teaching is one of the most stressful professions, teacher trainers should inform the in-service and pre-service teachers of the potential challenges and the ways to cope with them.	1, 3, 6
MacIntyre, Wang, & Khajavy, (2020)	The study assesses differences in WTC ratings made based on rational and experiential processes, and differences between L1 and L2 WTC. The results revealed that a preference for using rational thinking in the second language and WTC ratings were significantly higher when made fast compared to slow regardless of language group.	One of the primary pedagogical implications is for teachers: They are recommended to capitalize on rational thinking and attempt to avoid hesitation in communication.	1, 2
Gregersen et al. (2021)	The article examines the reasons why some language teachers burn out and leave the profession precipitously, but many remain resilient and experience growth after trauma, survive the challenges and transform teaching into their lifelong passion. The study seeks answers to this question in the context of teaching during the Covid-19 pandemic.	Education is a complex phenomenon, so in this context, teachers need to consider the learners as a human being, not a container needing to be filled with knowledge. To operationalize this, they need to consider varying factors, such as cognitive domain, affective domain, technological domain, individual characteristics, etc.	1, 3, 6

Jin et al. (2021)	The study adopted a positive psychology approach to foreign language anxiety (FL) reduction and examined whether reminiscing about language achievements could minimize the learners' FL classroom anxiety. In connection with psychology and language learning, the research work of MacIntyre, Mercer, and Gregersen, (2021) is informative.	Reminiscing about the achievements can potentially decrease FL anxiety. Therefore, teachers can ask their learners to exchange their ideas of their accomplishments and their learning styles and strategies.	1, 2, 6
Khajavy, MacIntyre and Hariri (2021)	The article examined grit (continuous effort and interest for long-term goals) and language mindset (individuals' perceptions of their language learning ability). It explored the factor structure of grit and language mindset, gender differences in and the relationship between grit or language mindset.	The findings of the study can potentially help FL learners move along the long road of learning a foreign language which is replete with emotional turbulences, setbacks and discouragements. The teachers can also help learners develop positive self-image and perceive their own L2 learning ability.	1, 3
MacIntyre & Wang (2021)	The article uses the idiodynamic method and interprets data from all English as a second language (ESL) learners and international students in Canada data using the pyramid model of WTC. The results reveal that WTC changes as speakers' emotion and motivation are affected by relevant topics.	Teachers need to study articles on WTC and realize the strong bond between learner psychology and pedagogy and attempt to develop the closeness of the bond through developing group work in the class and through noticing learners' emotions and beliefs.	1, 2, 3, 5
MacIntyre, Mercer et al. (2022)	Considering that language teaching has been a "profession in crisis" during the COVID-19 pandemic, the article examines data on stress, coping, and well-being. Results show significant, positive correlations between hope and various measures of successful coping and teacher well-being. For detailed study, Gregersen and MacIntyre's (2024) research on the issue of well-being is more informative, too.	Reading the article can potentially make language teachers better recognize an opportunity to help learners improve their skill set and possibly the quality of their future. Also, it helps them how to put up with EFL-relevant predicament in online education.	1, 3
MacIntyre & Ducker (2022)	The study stresses individual-level research methods and the idiodynamic method in the psychology of language development and calls for urgent need for a more holistic perception of the complexity of individual learners and varying influences on language development.	Educators and teachers can consider the complex intra-individual emotional issues, such as self-perception, self-image and other person-relevant features into account, as they can significantly affect language learning process and product.	1, 5
Sparling et al. (2022)	The study explores the way to motivate learners of threatened heritage languages using Zoltán Dörnyei's L2 Motivational Self System to analyze interviews with musicians from Nova Scotia with varying degrees of Gaelic fluency. The results reveal that musical knowledge inspires and develops language learning and vice versa.	Teachers can possibly integrate music-related input into their instructional factors and inspire their language learners to develop their language proficiency.	1, 3
MacIntyre & McGillivray (2023)	The article draws on the work emerging from the perspective of complex dynamic systems and the intra-individual, dynamic emotional experience. In general, it investigates anxiety which is a significant construct and an important emotion for language learning and communication.	There are possible implications for researchers. They can conduct further research into the individual-level experiences of language learners and document the inner workings of anxiety within individual language learners.	1, 3, 5, 6

Ayers-Glasse & MacIntyre (2024)	The article examined the relations between hyper-focus, perseverance, and flow from a trans-diagnostic emotion dysregulation perspective to facilitate insights into the separate associations between the attentional and emotional components of attention-deficit hyperactivity disorder (ADHD) and hyper-focus-like experiences.	Classroom teachers can realize the learners inflicted with attention-deficit hyperactivity disorder (ADHD) and those having hyper-focus-like experiences. Then, they can consider their individual differences with others and their personality features more seriously in assigning tasks.	1, 3, 6
Henry & MacIntyre (2024)	The study introduces qualitative longitudinal research methodology and reveals its application in the investigation of WTC among immigrant women in Sweden context. The key principles of qualitative longitudinal research and the application of data collection strategies are presented and detailed.	The study has pedagogical implications for researchers. Reading through the article can inspire researchers in the field to realize that, in performing qualitative longitudinal research, both person-focused and process-oriented issues should be considered.	1, 2, 6
Henry et al. (2024)	The study adopted a person-context dynamics perspective, and explored intra-individual variability in the WTC propensities of adult learners. It examined WTC in multiple contexts and points out that language learners can potentially communicate in target language in varying contexts of multilingualism.	Teachers can consider the individual differences of the language learners in the context of multilingualism and help them get inspired to communicate in the target language.	1, 3, 5, 6

Table 5

Analysis of the Books and Book Chapters

Book Chapters / Books	Research	Practice	Main Themes
MacIntyre et al. (2001)	The current chapter examines the overlap among varying models including six concepts from an academic motivation model offered by Pintrich and associates, 10 concepts from Gardner's model, three communication-related variables employed by McCroskey and associates and three concepts from an action control model proposed by Kuhl and associates.	There are implications for educators and teacher trainers. They can read the study and broaden their horizon of the effectiveness of motivation models, specifically Gardner's socio-educational model of SLA and value as well as apply the findings accompanying the action of teaching,	1, 4
MacIntyre & Gregersen (2002)	The fundamental concept in the study is reviewing the literature on language anxiety which is a term encompassing the feelings of worry and negative, fear-related emotions possibly emerging learning or using a second language rather than a mother tongue. In this connection, MacIntyre's research work (Botes et al., 2022) is also informative.	The main implications are for language teachers. They need to realize that affective variables necessarily accompany cognitive factors, both of which are inseparable from each other and play a leading role in second language learners' performance.	1, 3, 4
MacIntyre et al. (2007)	The chapter reports on a research into the affective factors influencing language learning. The chapter is organized around more significant concepts, processes and variables and deals with intergroup relations and their effect on attitudes and motivation.	Teachers and teacher trainers are required to realize that affective domain is inseparable from cognitive domain and these two are inseparable from personality features of language learners, too. Therefore, they should be highly sensitive to all three.	3, 4
Macintyre et al. (2009a, 2009b)	The studies survey motivation and the socio-educational models as key issues and concepts in SLA. Due to the significance of the concept motivation and its theoretical and educational function within the language	The studies have implications for EFL teachers: They are required to develop motivation-relevant knowledge base for orchestrating EFL activities in the classroom and for inspiring	1, 4

	learning process, the fundamental motivational variables are explored. For further study on motivation as well as language learning anxiety, MacIntyre et al. (2009c) is informative.	language learners to overcome the possibly emotional filters associated with language learning process.	
Gregersen & MacIntyre (2014b)	This book highlights bridging the gap between theory and practice by capitalizing on learners' individuality in L2 or EFL. It investigates the existing literature on key concepts such as anxiety, beliefs, cognitive abilities, motivation, strategies, styles and willingness to communicate.	Lots of activities and tasks are offered at the end of each chapter: This indicates the helpfulness of the book to in-service and pre-service teachers and teacher trainers. They can use the activities and help learners invest in positive and facilitative emotions.	-
Dörnyei et al. (2014)	The book provides a collection of conceptual papers and empirical research studies that explore the dynamics of language learning motivation from the perspectives of a complex dynamic systems. In a word, it addresses the way to understand motivation as an increasingly changing and evolving construct and trait.	The book can be used as a course book and as a part of course syllabus. Since it is more inclusive in terms of varying motivation-related topics and contains a wide range of issues on motivation, it can develop an effective theoretical knowledge-base for teachers.	-
Clément et al. (2015)	The chapter explores key concepts on bilingualism and indicates that persons in many nations can potentially negotiate their daily interactions with others in multiple languages. So, variations on the social psychology of bilinguality including identity, usage and context effect on motivation are tackled.	The study has implications for linguists and those interested in psycholinguistics and sociolinguistics. It can create some knowledge base relevant to bilingualism and can serve as a basis for further qualitative research in the field.	1, 3
MacIntyre, Gregersen, & Mercer (2016)	As the first book in SLA dedicated to the theoretical issues on positive psychology with implications for language teaching, learning and communication, it presents the main factors which facilitate learning including positive emotional states such as flow, enjoyment, love, and also other key character traits such as empathy, hardiness and perseverance.	Since the book contains both new teaching techniques and cutting-edge theory and empirical research, it can inspire both teachers and researchers. The former can possibly use the techniques and pedagogical tips in the class and the former can potentially get motivated to find novel research topics in the related field.	-
MacIntyre (2016)	The chapter surveys key concepts, issues, and trends, such as the move toward studying positive emotions, learner strengths in SLA and flow as well as new conceptual framework. Also, it tackles the tendency to separate positive and negative emotion. Highly relevant to the theme of the study, Dewaele and MacIntyre's (2022a, 2022b) and Dewaele et al. (2023) research works are informative.	If equipped with theoretical knowledge base associated with positive psychology, teachers can attract learners' attention to positive emotion and help them to flourish in EF language learning.	1, 3, 6
MacIntyre et al. (2016)	This chapter explores key characteristics of teenage learners as thinkers in terms of SLA and general theories of cognitive and physical development in different L2 contexts. It also reports on the opportunities and challenges in the current global context.	Since English is the dominant lingua franca worldwide, teachers need to consider the individual differences, needs, preferences and interests of language learners and provide them with the technological advances available.	1, 6
MacIntyre (2017)	The chapter explores language anxiety as the most widely studied emotion in SLA and reviews the research literature on language anxiety and presents three broad approaches including the confounded approach, the specialized approach, and a contextualized dynamic approach.	Teachers need to diagnose the sources of anxiety associated with either internal factors or external ones. Then, based on the nature of the anxiety, they can provide language learners with required anxiety-reducing techniques.	1, 3

Gregersen & MacIntyre (2017c)	This book presents general and specific issues concerning nonverbal behavior in target language communication, affect and cognition. It reports on research tenets and the activities of nonverbal behavior video which can serve as a guideline and inspiring resource for teachers and learners to capitalize on the nonverbal means.	The book can serve as a resource book for educators and language teachers. It can provide them with a solid knowledge base for understanding the influence of nonverbal behavior on language learning, personal growth, professional development and communication.	-
<u>Gregersen & MacIntyre</u> (2017a)	The book deals with innovations in language teacher education and presents a diversity of issues such as teacher autonomy, dynamic self-reflection, peace education, professionalism, action research, socio-emotional intelligence, embodiment, professional development, NeuroELT, and more.	Studying the book can have implications for teachers and researchers. Teachers can possibly find specific, novel ways for working towards efficient practice in language teacher education. It can also serve as a basis for finding research questions and can be used as a course book.	-
MacIntyre, MacKay et al. (2017)	The present chapter reviews 12 specific methods which provide solutions to the methodological challenges for a dynamic approach including several qualitative interview designs, longitudinal cluster analysis, Q-methodology, the trajectory equifinality model, the idiodynamic method, latent growth modelling, and change point analysis.	The study has practical and inspiring implications for researchers: They need to study the chapter and get familiar with the methods contributing to giving order to the methodological disorders associated with dynamic approaches.	5
Gregersen et al. (2017)	The study uses a metaphor of wolf and explores language anxiety indicating that there are two wolves within anxious language learners, with teachers and classmates. One is a benevolent wolf and the other is a malevolent wolf. If you feed the former, you will receive the positive effects of well-being and if you feed the latter, you will get negative results. Regarding language teachers' well-being, Gregersen et al. (2023) is highly informative, too.	Teachers should be cognizant of kinds of anxiety and help learners with coping with debilitating anxiety and scaffold them with developing positive attitudes towards facilitative anxiety.	3, 5
Noels et al. (2018)	This chapter surveys the bond between language and culture in the light of the traditions of ethnolinguistic vitality, ethnolinguistic identity theory, bilingualism, and communication accommodation theory. It provides a ground for realizing the ways language constructs the culture of intergroup relations.	Language teachers need to understand and value the culture of individual learners and help language learners respect each other's culture, too. Also, they need to realize that learning a foreign or second language means learning a language for communication, so the native culture of learners should be preserved and highly valued.	1, 6
Gregersen & MacIntyre (2018)	The study reports on emergent teachers who go through an evolution of their personal and professional identities over time and experience key processes in teacher psychology and the way they develop new roles, different attitudes, and get engaged in new behaviors.	Understanding the changes and challenges associated with personal and professional development can help language teachers successfully cope with tension and self-doubt and strike a balance between their profession and private life.	1, 3, 6
Polat et al. (2019)	Bringing together the fundamental issues of SLA research, and pedagogy, the book outlines five major topics about each language skill including major theories, critical reviews of salient/current research, commonly-used techniques for data collection and data analysis, pedagogical implications and theory and research-driven activities.	Researchers, practitioners and educators can use the book and develop much closer relationship between theory, practice and research and improve their instruction, L2 syllabus and curriculum.	-

Al-Hoorie & MacIntyre (2020)	This book brings together contributions, findings and philosophy of the works of the main leaders in the field of the language learning motivation. In general, it covers a wide range of topics related to applied linguistics, SLA, social psychology, sociology, methodology and historical issues and presents a diverse range of contemporary theories underpinning the psychology of language.	Since the book presents thinking on cutting-edge topics in the field of applied linguistics, SLA, psychology and many other disciplinary and interdisciplinary issues, it can be highly beneficial for language teachers and researchers, as it can provide them a solid theoretical knowledge base required for pedagogy and research.	-
Dewaele & MacIntyre (2019); Jin et al. (2023)	The studies use mixed-methods study and examine foreign language enjoyment (FLE) and the related classroom anxiety (CA) and confirm that FLE and CA are negatively correlated.	There are potential pedagogical implications and suggestions for teachers. The teachers can concentrate on enhancing FLE in a supportive, social and positive classroom context rather than worry over CA.	1, 3
Yim et al. (2020)	This chapter draws on an ecological framework and varying psychological perspectives and grounds L2 motivation in multilingual communication. It explores much wider societal influences and more specific sociolinguistic factors.	The study has implications for researchers. It inspires researchers to use a idiodynamic approach for the investigation of the impact of context on SLA motivation.	1, 2, 4, 5
MacIntyre & Ayers-Glassey (2020a)	This chapter draws on complex dynamic systems theory, action-assembly theory and stimulus-appraisal theory and surveys competence appraisals, as ongoing assessments of competence. It indicates that a self-evaluation of competence takes place nonstop embedded in the process of deciding what and how to say something.	The study has implications for researchers. It can inspire them to perform further research into the way self-assessment can affect the process and outcome of language learning.	1, 6
Gregersen & MacIntyre (2021a, 2021b); Gregersen, MacIntyre, Oxford, et al. (2021)	The studies drawing on positive psychology deal with peace issues and consider peace as the absence of conflict. They explore the potential for language educators and their learners to provide solid grounds for individuals, communities, cultures and nations to experience enduring peace.	There are implications for educators and their learners. They can study the content of the chapters and think of the ways language supports the goals of peacebuilding in the classroom context for multilingual and multicultural learners.	1, 3, 6
Dewaele & MacIntyre (2021)	The chapter surveys inter-individual variation in terms of emotions in the foreign language classroom and concentrates on the frequency of experiencing positive flow and anti-flow in Spanish FL classrooms. The results displayed that participants experienced significantly more flow than anti-flow. For further reading on flow, Ross and MacIntyre's (2018) research article is informative.	One of the possible implications is that teachers can orchestrate the classroom activities in a way that learners should have a feeling of complete involvement in a collective or individual task so that joy and intense focus should make them lose their sense of place and time in the FL class.	1, 3
MacIntyre, Mercer, & Gregersen (2021)	The present chapter adopts a complexity perspective, focuses on dynamism and elaborates on combining psychology and language learning. It inspires readers to bridge the gap in understanding the complex dynamic systems theory and comprehending its use for empirical research. For further study, refer to Amerstorfer and MacIntyre (2023) who stress that psychology and language learning should be juxtaposed to each other,	The contributions of psychology to learning-related counselling are undeniable. More particularly, English language teaching (ELT) is suffering from a lack of ELT-relevant counseling, as a vast majority of the people in the world urgently need English language for communicative purposes. However, the process of English language learning	1, 3, 6

	as the psychology of language learning is of practical concern to much of the population.	in EFL context is emotionally turbulent and there exists a myriad of false expectations regarding assessing and mastering English language in EFL context. The content of the study offers relevant solutions to this turbulence.	
Khajavy, MacIntyre et al. (2021)	The study explores the dynamic relationship between WTC, foreign language anxiety, and foreign language enjoyment using experience sampling method. The findings revealed significant amount of variability in all three variables over time.	Language teachers can use a variety of engaging and enjoyable tasks to motivate language learners, reduce their anxiety and inspire them to be willing to communicate.	1, 2, 3
MacIntyre (2021)	The chapter explores positive psychology and its possible application in SLA. It reviews the origins of positive psychology and elaborates on the danger of using positive psychology in an oversimplified manner called tyranny of positive thinking.	There are implications for teachers: They can study articles on positive psychology and help language learners in terms of both developing their language proficiency and personal development.	1, 3
MacIntyre (2023a)	The study surveys motivation from “selves approaches” and presents an overview of the L2 Motivational Self System and elaborates on the way it evolves from the self-theory.	The chapter can help language teachers be informed of the role of motivational factors in developing an appropriate type of communicative skills and interactive competence.	1, 3, 4
MacIntyre (2023b)	The study uses a new idiodynamic method and examines varying types of learners’ variables, such as conative (e.g., WTC, motivation) and affective (e.g., emotions) as well as intra-individual and inter-individual variations which are involved in performing a task.	The content of the study has implications for teachers. They need to realize that individual language learners attend the class with varying learning, cultural and family backgrounds, thus language teachers should be more sensitive to the way they treat the learners in the light of their individual differences.	1, 5, 6
Henry & MacIntyre (2023)	The book surveys the dynamic nature of WTC, communication behaviors and language choice in multilingual community contexts using a qualitative longitudinal approach. In general, it fills a gap in contemporary WTC research by investigating the way WTC functions in multilingual community contexts.	Researchers can use it for exploring WTC-driven individual differences in varying multilingual contexts. Also, language educators can use the book to gain WTC-relevant knowledge and theories to reduce their language learners’ anxiety.	-

Discussion and Personal Reflection (Peter MacIntyre)

It is quite remarkable to be asked to contribute to this type of retrospective, systematic review paper. The work that the other authors, Ali Panahi, Hassan Mohebbi, have put into this article, summarizing each of the papers reviewed above, truly is appreciated. Furthermore, it is humbling to be asked to comment on the body of work reviewed here. The editors have not imposed any requirements on the style of review. I looked at other systematic reviews that have been published, the various authors each took a unique approach, so there was no template to follow. Therefore, what I would like to do below is to offer the reader a little bit of a “behind the scenes” glimpse showing where the ideas came from that ultimately wound up in these publications. A published journal article or chapter is written in a style it seems to reflect almost absolute certainty that the results could not have come out any other way. In my experience, rarely does the finished product match up exactly with the plan at the outset; and sometimes there is more than a little good luck involved.

Before discussing the content of the review, it is worth commenting on how collaborations have formed the basis of almost every project shown in the tables above. Throughout my career I've been blessed with the good fortune to work with some truly outstanding people, many now leaders in the field, who are also among some of the nicest people and hardest working scholars in the world. I owe a special debt of gratitude to my doctoral and post-doctoral mentors, Professors R.C. (Bob) Gardner and Richard Clément, whose advice and guidance, as well as their active collaboration, paved the way for much of the work that followed. I also have benefited tremendously from the collaborations with Kimberly Noels, Zoltán Dörnyei, Jean-Marc Dewaele, Alastair Henry, Sarah Mercer, and Tammy Gregersen. Although we all work at a distance from each other, the scholarship that we have been able to practice has been truly invigorating. In addition to these academic titans, let me also note one more group that deserves special thanks: the BA and BSc students I've had the pleasure to teach and to work with as young researchers. My university does not have its own masters or doctoral program in psychology or applied linguistics, so with a few exceptions, the various collaborators named in the above review have been undergraduate students. In many cases, the students have published multiple articles and chapters; sometimes, however, they were not in the SLA area and have been excluded from the present review. I sincerely hope that in some small way this work has contributed to each of their careers, whether they work in academics or elsewhere. As I think about this as a full circle moment, I hope publishing with these new researchers has begun to repay in some small way the debt I owe to my own mentors and frequent collaborators. It's difficult to put into words the excitement and energy that comes from working on good ideas with such capable people, at all stages of their careers.

Perhaps the best way to organize the discussion to follow is to take five topic areas that capture most of the papers reviewed above, which differs only slightly from the themes identified by my co-authors who took a broader approach. The five areas on which I would like to comment are: anxiety, motivation, willingness to communicate (WTC), the idiodynamic method, and positive psychology. My goal in organizing the Discussion in this way is to tell some of the stories that have led to work in these areas, and hopefully to make sense of how they fit together, which is information that would not be available in other types of publications.

Anxiety

I started in my MA program in 1986 under the supervision of R.C. Gardner. I marvel at the sheer good fortune of having him as my advisor and mentor. Bob passed away a few weeks ago (October, 2024). As I write this reflection, I am also writing a contribution to an obituary describing his marvelous career for the *Journal of Language and Social Psychology*. The systematic review compiled here shows how intertwined our work was in those early days, starting with our first publication together in 1989. That project began to emerge on the first day we met. He was asking me about my research experience as an undergraduate, in particular the combination of studying Psychology and Speech Communication at the University College of Cape Breton (now Cape Breton University). I told him about a project based on data collected by a communication professor, Dr. Judy Rolls with whom I worked as an undergraduate. The main research question we had asked was ‘does taking a course in interpersonal communication reduce communication apprehension (CA)?’ The answer in the data was clear – it does. We saw no change in CA within a control group and a significant reduction in CA among the group who had taken the communication course. With the experience of both data analysis and the literature on CA under my belt, Bob said maybe we can revive a project that had been sitting on his shelf. The project examined the anxiety experienced by a group of learners who had dropped out of their language course. The goal was to see if dropouts had higher anxiety than continuing learners. We wrote a paper that was never published – the fatal flaw noted by the reviewers for the language journals to which we sent the paper was that we had collected data focusing on dropouts, not language learners.

Taking our cue from the reviewers, Bob and I collected new data from current language learners that would become the basis for MacIntyre & Gardner (1989). Perhaps even more influential than the data itself was the theory review done for the introduction. Bob had long argued that his concepts of French Classroom Anxiety and French Use Anxiety were unique forms of anxiety developed in language learning situations, so they may or may not correlate at all with anxiety in other types of situations. This relatively straightforward idea also had been taken up by Bob's friend and colleague Professor Elaine Horwitz who developed a measure of language anxiety (the FLCAS) based on her experience at the University of Austin. I have noted in several of my publications that Horwitz cites Gardner in her influential paper publishing the FLCAS (Horwitz et al., 1986); they both deserve credit for moving the field forward with this idea. It is safe to say that over the years, the FLCAS has been more widely used than Bob's measures of French classroom and French use anxiety, but the core idea that language anxiety was something different from other types of anxiety was “theoretical clarification” we published in 1989. I should note also that the title of the paper was, in part, a reaction to Scovel's (1978) review of the literature on anxiety in language learning which reported “mixed and confusing” results. It felt like we were on the right path with the anxiety research, especially when we followed up the 1989 study with a more extensive study that factor analyzed a total of 23 anxiety scales, and which again showed that language anxiety can be separated from other types of anxiety (MacIntyre & Gardner, 1991c).

Fast forward thirty years and there has been a lot of progress on the study of language anxiety. What is emerging more often in the literature now is an account of anxiety processes that blends general trends in its development with rapidly changing situational effects, including on cognitive and social processes. It is far more common these days to see papers

that report anxiety along with one or more other emotions, often highlighting the different functions of positive and negative emotions. MacIntyre and McGillivray (2023) summarize how the various strands in the literature are coming together to reveal the complexity of emotion systems applied to language learning and communication.

Motivation

Looking back on my years of graduate school working with Bob Gardner, I was reminded how fortunate we were to publish several papers together on motivation. Readers should know that Bob taught the graduate Psychology course in Research Design and Data Analysis at the University of Western Ontario. He was both a gifted, award-winning teacher and a committed methodologist. I like to think of the current focus on quality in studies of second language as a return to the principles that Gardner talked about over his long career, and endorsement of the quality of the methods he was using (for an example, see Gardner & MacIntyre, 1993b).

One of the motivation papers that Bob and I worked on was with an honours student (Gardner, et al., 1992). This was an experimental project where we looked at integrative versus instrumental motivation using computerized vocabulary learning. One of the key variables was the time spent studying the new vocabulary words on the computer screen. Among other things, we found that more motivated learners spent more time studying the vocabulary on-screen, but then the effect of instrumental motivation collapsed on the final learning trial. Participants stopped studying the words once they had either earned or failed to earn the incentive we were offering. A different pattern emerged with integrative motivation, which remained more stable in its influence on study time. The results supported Gardner's idea that integrative motivation is more durable than instrumental motivation because the two motives were based on different attitudinal and social supports. But the results also planted a seed in my mind that suggested motivation could rise and fall very quickly, an idea that we have pursued in multiple avenues over the years, with motivation and other concepts.

WTC

After my graduate work at the University of Western Ontario, I completed a two-year postdoctoral fellowship at the University of Ottawa, under the supervision of Richard Clément (also one of Bob Gardner's former students). As I was arriving at Ottawa, Richard had been awarded a sabbatical and was spending time in California working with Howard Giles, a social psychologist working in the Communication Department at Santa Barbara. Richard's PhD student, Kimberly Noels, and I began talking about projects that we would like to do. At one point, Kim travelled to California to visit Richard, but before she left she loaned me a book called "Communication, Cognition, and Anxiety" (Booth-Butterfield, 1991). That book contains a chapter by McCroskey and Richmond on Willingness to Communicate (WTC). I remember while reading the chapter and its description of WTC feeling a genuine Eureka moment as new research vistas opened up right before my eyes. My graduate work on language anxiety could be an integral part of a larger communication system that seemed extraordinarily relevant for language learning but which wasn't being discussed in literature very often. I thought, if native language communication shows a high degree of individual differences, then L2 communication is an even richer treasure trove of psychological processes to be explored. After reading McCroskey and Richmond's (1991) description of WTC and its antecedents, I

wrote to Professor McCroskey and asked if he would allow me to re-analyze data presented in the chapter, using path analysis. Much to my surprise, the data arrived almost immediately by email. The path analysis worked out well and it was reported in MacIntyre (1994). To this day it remains the only paper I've ever had accepted without revisions, and it was all thanks to James McCroskey's generosity.

After working on the 1994 WTC path model, I had the good fortune to meet a prospective honor student named Catherine (Cathy) Charos. Cathy was an extraordinary student with broad interests including languages, communication, and motivation. For her honors thesis we put together a project that combined Gardner's model of integrative motivation with the 1994 model I had just published based on McCroskey's WTC work. The data turned out as well as could be expected and was published as MacIntyre & Charos (1996).

Kim Noels' California trip also produced a second through line in the above summary. While Kim was in California meeting with Richard Clément and Howard Giles, a researcher from Hungary by the name of Zoltán Dörnyei also was visiting. Kim and I were corresponding by email about the interesting chapter on WTC by McCroskey and Richmond. Perhaps it was a form of fate that Zoltán had just read that same paper – and he was excited to discuss it. This coincidence turned into an invitation for Kim and I to visit Zoltan in Budapest. It was an extraordinary trip that planted the seeds for what became our “pyramid” model of WTC (MacIntyre et al., 1998). Indeed, if you take the shape of the path analysis model from MacIntyre and Charos (1996) and turn it on its side, it looks like a pyramid shape. Richard, Zoltán, Kim and I worked on multiple drafts of the pyramid paper and eventually it was published in the *Modern Language Journal*. Soon after, we were told that the editorial board was nominating the paper for the biennial Mildenerger prize for best article, which we won in 1999. Not bad for a paper that stitched together ideas, in a novel research area, from four people working in different places.

The WTC pyramid paper has been one of the most influential projects of my career. It reflects the integration of social, psychological, linguistic, and other perspectives. I am not sure that we (the authors) fully realized the implications of the model we had proposed. It was almost a decade **after** the publication of the pyramid model that Larson-Freeman and Cameron (2008) published their seminal work on complex dynamic systems theory (CDST). In effect, this was the theoretical support that had been missing from the pyramid paper. In looking back on what we had written in the pyramid model, MacIntyre (2020) identified the sharp contrast in the use of time as an organizing feature of the model between the McCroskey and Richmond (1991) model and the state communication model that the MacIntyre et al. (1998) pyramid proposed. Over the years the bulk of the research inspired by the pyramid model was conducted not at the situational level, but at the trait level consistent with the original McCroskey perspective. It was only after digesting CDST and using it as the basis for our Motivation Dynamics book (Dörnyei, MacIntyre & Henry, 2016), that the marriage between CDST and the pyramid became clear. Our recent book on WTC in multilingual contexts (Henry & MacIntyre, 2023) describes the latest developments in WTC, moving to a 3-D conceptualization of the pyramid and its continuously changing internal structure. Continuing with the metaphor, new language experiences build new corridors (relationships) inside the pyramid structure, below the visible surfaces each representing a different language, among

the various concepts that underlie WTC such as perceived competence, anxiety, motivation, and other psychological factors.

Idiodynamics

WTC was the first topic examined using the idiodynamic method, though as noted above the original inspiration for the MacIntyre and Legatto (2011) paper was not CDST. That theory was added later to help support and justify the approach that we used. The inspiration for the dynamic approach was actually inspired by the television show, *The West Wing* (1999-2006). In one episode of the show, a political consultant is shown using a device that tracks audience reaction to a formal public speech, specifically by the President of the United States played by Martin Sheen. As the president spoke, audience members pressed buttons to indicate whether they liked or disliked what they were hearing. The result was a continuous graph of audience reactions that was overlaid on top of a recording of the president's speech, showing in real time how audience reactions were changing as the speech unfolded. If a person watched their own speech instead of one by a fictional politician, and we interviewed the respondent to ask why they were changing their ratings, this sort of technology seemed to be exactly what we needed to document the rapidly fluctuating changes in willingness to communicate. Indeed, it could be used to document and explain rapid changes in anxiety, motivation, perceived competence, and many other language learning concepts. A method such as this would allow us to make a transition from static, trait level concepts to more dynamic ones that could change in real time, as described at the top of the pyramid model. This was an exciting idea, but we had one major problem – how do we get the ratings analogous to the audience reactions from the TV show? One of my students found a local computer programmer, taking a degree in English literature, who offered to write software that would play a video, capture the respondent's input, and produce the kind of ratings we needed. He called the software, the Anion Variable Tester, named after his fledgling software business.

I think it's safe to say that when we started out we had no idea how different the datasets produced by the idiodynamic method would turn out to be, compared to the McCroskey-inspired measures typically used (see Elahi Shirvan et al., 2019 for a meta-analysis). The first thing that became clear was that data analysis could not or should not be done at the group level, as most of the individual differences research does. The reason is there is such diversity the speech produced by respondents, it is almost impossible to aggregate the data or create a meaningful average score for a group, unless we shamelessly discard most of the information provided by the moment-to-moment fluctuations in the data. Some applications of the idiodynamic method lend themselves to group level analysis, for example examining listening comprehension while watching a video. In that case, reactions could be averaged for a group more readily because the video item that they're reacting to second-by second is the same for everyone. Such is not the case for different L2 speakers - no two people are the same in what they say or how they say it. This quality seems to be the *raison d'être* of individual differences and so it is quite surprising to me, looking back, that more individual level, N-of-1 results are not reported in the literature. As I've said elsewhere, we need to put the individual back in individual differences, and that requires studying and reporting data for individuals.

One other side effect of the dynamic method has been to introduce researchers and my recent students to a complex and difficult analytic world. Nowhere in our research methods

courses do we teach people to handle idiodynamic data. Psychology in general does not use data analytic methods at the N-of-1 level, despite calls for individual-level reporting over many decades from some of the most prominent researchers in psychology. In reflecting on the challenges in data visualization, reporting, interpretation, summarization, the issue with idiodynamics is trying to retain the unique individuality of each person simply is not as easy as computing the average across a sample. But I believe it is more than worthwhile to complement group-level results with wholistic, integrated individual-level data.

Positive Psychology (Including Enjoyment, Flow)

The final major element that organizes much of the literature review above, is positive psychology. Unlike the other topics mentioned here (anxiety, motivation, WTC, and idiodynamics), the studies of positive psychology emerge most directly from my teaching. For several years I taught a course on Motivation at my university. The concluding topic in the textbook that I used introduced readers to positive psychology. The applicability of positive psychology to SLA hit me like a ton of bricks, another Eureka moment where new vistas of research opened up. There were so many ways in which positive psychology could generate new avenues of research in SLA, it almost boggled the mind to think about what could be done with concepts like enjoyment, flow, courage, pride, well-being, engagement, and other variables.

As I was thinking about ways to apply positive psychology in SLA, my colleague Tammy Gregersen and I were presented with an opportunity to write an article for a new, open access journal called *Studies in Second Language Learning and Teaching*. The editor of the journal, Miroslaw Pawlak, afforded Tammy and me the freedom to pursue the idea is about the broadening power of positive emotions. We contrasted theory on the positive-broadening with negative-narrowing emotions, emphasizing the need to consider jointly the combination of positive and negative processes. This combined approach means "...we can discuss interesting moments of approach *and* avoidance, to capture in theory the tensions experienced by learners so that pedagogy can actively deal with the issues raised by affective reactions, and better understand the breadth of facilitative and debilitating emotional processes" (MacIntyre & Gregersen, 2012, p. 199).

Since then, the SLA field has embraced the long-neglected study of emotion. These days we see a rapidly growing body of work on both positive and negative emotions, often included in the same project. Perhaps that has been the most encouraging part of the success of facilitating the study of emotion, there is a greater appreciation now for both the role emotion plays in many learning and communication processes, as well as the complexity of emotion itself. The functional differences between positive and negative emotion have proven to be of more interest to researchers and teachers in applied linguistics than I expected, given the historical emphasis on cognition. It is fascinating to see the combined effects of positive and negative emotion examined in numerous studies since the arrival of positive psychology in SLA.

Building on the addition of positive emotion, and specifically foreign language enjoyment, is the flourishing of research on enjoyment and flow. I recall spending an afternoon with Jean Marc Dewaele at his office in Russel Square, London in 2013 talking about emotions. We discussed the potential of the recently introduced positive psychology in SLA, and especially

what a better understanding of positive emotion might provide researchers, teachers, learners, curriculum planners, and others. As with other topics described above, the possibilities seemed limitless. I believe emotions are the key to understanding motivation and they form the basis of most of the things we do in life. Jean-Marc and I discussed the many emotions that were missing from the literature and decided that afternoon we had to study enjoyment. We put together scale items and Jean-Marc created an online survey featuring FL enjoyment that eventually generated over 1700 responses (Dewaele & MacIntyre, 2014). Since then, enjoyment has been widely studied, often in combination with other emotions such as anxiety or boredom, or in its more intensive form – flow. Flow is one of the most interesting concepts in the motivation literature, one that has been studied in innovative ways for a long time (Csikszentmihalyi, 1990). It has recently emerged as a hot topic in SLA, generating a good number of studies in a relatively short time.

Conclusion

This systematic review has been a most interesting exercise. An overview of the publications over the years (with some exclusions) shows that there has been a lot of interest in individual differences in SLA, around the world, and the papers here have made some small contribution to that impressive body of work. Taking the field of psychology of language learning as a whole and considering the prolific scholars who are involved in it these days, the future looks bright indeed. Reflecting on the origins of the research projects, I cannot help but marvel at the serendipity of it all. The above list of projects has resulted in no small part from the good fortune of a chance meeting or simply saying yes to working with a potential collaborator. But more than that, let me conclude by expressing my profound sense of gratitude for the students and colleagues with whom I have connected over the years.

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