Expanding the theoretical base for the dynamics of willingness to communicate

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Abstract

The dynamics underlying willingness to communicate in a second or third language (L2 for short), operating in real time, are affected by a number of intra- and interpersonal processes. L2 communication is a remarkably fluid process, especially considering the wide range of skill levels observed among L2 learners and speakers. Learners often find themselves in a position that requires the use of uncertain L2 skills, be it inside or outside the classroom context. Beyond issues of competencies, which are themselves complex, using an L2 also evokes cultural, political, social, identity, motivational, emotional, pedagogical, and other issues that learners must navigate on-the-fly. The focus of this article will be on the remarkably rapid integration of factors, such as the ones just named whenever a language learner chooses to be a language speaker, that is, when the moment for authentic communication arrives. Communicative events are especially important in understanding the psychology of the L2 learner. Our research group has developed the idiodynamic method to allow examination of an individual's experience of events on a timescale of a few minutes. Results are describing complex interactions and rapid changes in the psychological conditions that accompany both approaching and avoiding L2 communication. The research takes a new approach to familiar concepts such as motivation, language competence, learning strategies, and so on. By examining willingness to communicate as a dynamic process, new types of research questions and answers are emerging, generating new theory, research methods, and pedagogical approaches applicable both within language classrooms and beyond.

Keywords: communicative events; idiodynamic method; willingness to communicate; communication traits; dynamic turn

1. Introduction

In second- or foreign-language situations, choosing to communicate or not may be one of the most important decisions a person can make. Language learning and communication are intimately interconnected; it is generally accepted that one must talk in order to learn (Skehan, 1989). A learner's willingness to communicate (WTC) can be defined as the probability that she or he would choose to initiate communication given the opportunity (McCroskey & Richmond, 1991). WTC was originally conceptualized in the communication literature as a trait, reflecting a stable pattern over time. In essence, the concept reflects the common observation that some people talk a lot while others talk very little. Interest in WTC has grown steadily since it was introduced to the second-language (L2) literature by MacIntyre, Clément, Dörnyei, and Noels (1998). As lead author of the 1998 paper, I can admit that, at the time we wrote it, we were not fully aware of the implications of the model we proposed, nor that it would lead us to embrace complex dynamic systems theory (CDST) some twenty years later. This chapter offers a discussion of how thinking about WTC has changed over the years, with an eye to clarifying the appropriateness of the trait approach and also expanding the theoretical base for the dynamic approach. In this paper, I address two areas where much of the existing research literature diverges from the theory presented in the pyramid model. First, the need to identify CDST-appropriate methods and, second, enlisting a theoretical explanation for how various processes, operating on different timescales, influence WTC in real time. The present paper is written in a style that is intended to be both personal and accessible for readers without much prior experience in the literature, especially for a reader new to the use of complex dynamic systems theory (CDST).

2. Origins of WTC research

WTC was originally conceptualized as a stable individual difference variable in native-language (L1) communication (Burgoon, 1976). Based on the wholly uncontroversial idea that some people talk more than others, Burgoon's (1976) early research described the need to conceptualize an unwillingness to communicate (UnWTC) as a stable personality disposition. Burgoon proposed a scale to measure UnWTC based on a previously unpublished scale that examined "restrained communication." The scale items for both restrained communication and UnWTC included a variety of items referring to anxiety, distrust, and avoidance including items such as: "I feel nervous when I have to speak with others," "I don't think my friends are honest in their communication with me," or "Talking to other people is just a waste of time." Factor analysis revealed that the

scale's underlying structure was not clearly defined (Burgoon, 1976; McCroskey & Baer, 1985) and the scale was not widely used. Perhaps the most enduring contribution of the UnWTC scale was to inspire development of an alternative way to measure the disposition to communicate.

McCroskey and Baer (1985) created a more widely applicable scale to measure the disposition or willingness to communicate. They argued that Burgoon's (1976) UnWTC scale was too closely linked with established concepts such as communication apprehension and therefore created a measure of WTC from a different starting point. The new WTC scale was based on 12 generic situations that combine three types of receivers (friends, acquaintances, and strangers) with four group settings (dyads, small group, large meetings, and public speaking). An example of an item is "Speak to a small group of strangers." Additional eight filler items were added (e.g., "Talk with a secretary"). Significantly, rather than the familiar Likert-style scoring, where responses ranged from *strongly agree* to *strongly disagree*, the WTC scale asked for a direct estimate of the probability of initiating communication. In the probability response format, each respondent provides an estimate of the percentage of time (from 0% to 100%) in which he/she would be willing to talk in each situation named in each item. For example, the item "Talk with a friend while standing in line" is usually rated near 100% WTC, indicating respondents are almost always willing to talk in that situation. The use of a probability estimate is a measurement strategy highly consistent with the conceptual definition of WTC, and the scale's psychometric properties are very good (McCroskey & Baer, 1985; McCroskey & Richmond, 1991).

The WTC scale measures a trait-like concept, so it is important to clarify what the authors meant by *trait* in this context. They suggest that a general tendency in one context is correlated with tendencies in other contexts. WTC has never been defined as "monolithic" or invariant. The central point, made forcefully by McCroskey and Baer (1985, pp. 5-6), deserves to be quoted directly to avoid misunderstandings:

> Underlying the construct of willingness to communicate is the assumption that this is a personality-based, trait-like predisposition which is relatively consistent across a variety of communication contexts and types of receivers. For us to argue the predisposition is trait-like, then, it is necessary that the level of a person's willingness to communicate in one communication context (like small group interaction) is correlated with the person's willingness in other communication contexts (such as public speaking, talking in meetings, and talking in dyads). Further, it is necessary that the level of a person's willingness to communicate with one type of receiver (like acquaintances) is correlated with the person's willingness to communicate with other types of receivers (such as friends and strangers).

> This assumption does not mandate that a person be equally willing to communicate in all contexts or with all receivers, only that the level of willingness in various contexts

and with various receivers be correlated. Thus, if Person A is much more willing to communicate in small groups than in a public speaking context, the underlying assumption is not necessarily violated. However, if Person A is more willing to communicate than Person B in one context, it is assumed that Person A will be more willing to communicate than Person B in other contexts as well. If no such regularity exists when data are aggregated for a large number of people, willingness to communicate in one context will not be predictive of willingness to communicate in another context and willingness to communicate with one type of receiver will not be predictive of willingness to communicate with another type of receiver. In this event, the data would invalidate the assumption of a trait-like predisposition and necessitate we redirect attention to predispositions that are context-based and/or receiver-based or forgo the predispositional approach in favor of a purely situational explanation of willingness to communicate. (pp. 5-6)

McCroskey and Baer (1985) found correlations to support the cross-situational consistency they sought, and subsequent research into WTC in the L1 provided growing support for the concept. Much of the initial research was correlational in nature, showing that WTC is associated with low communication apprehension, high extraversion, low anomie, and low cultural alienation, and that it is also associated with positive self-esteem and self-perceived communication competence (summarized by McCroskey & Richmond, 1991). MacIntyre and Charos (1996) proposed a path model in which basic personality traits lead to the development of patterns of communication, reflected both in perceptions of competence and anxiety which, once developed, are the two most direct influences on L1 WTC (see also McCroskey & Richmond, 1991). In addition, it is important to note that WTC was also found to correlate with measures of actual communication-related behavior. Chan and McCroskey (1987) reported that high-WTC students initiated communication in their classrooms more often than those with low WTC. Later, Zakahi and McCroskey (1989) reported that people higher in WTC were more likely to volunteer for a communication study and were more likely to turn up to participate later in that study. Finally, MacIntyre, Babin, and Clément (1999) reported that WTC predicted communication during specific tasks in an oral-interview format.

If L1 WTC is related to a variety of personality-based and situational factors, it seems reasonable to think WTC will also be relevant to L2 learning as well, the major caveat being that changing the language of discourse might have dramatic effects on the communication process and the learner/speaker psychology behind it. Indeed, there is an even wider range of potentially relevant factors in learning additional languages, making WTC even more interesting to study from a L2 learner's psychological perspective. In the 1998 pyramid paper, MacIntyre, Clément, Dörnyei, and Noels (1998, p. 546) commented:

> It is highly unlikely that WTC in the second language (L2) is a simple manifestation of WTC in the L1. In fact, a recent study of beginning language students has found a negative correlation between WTC in L1 and L2 (Charos, 1994) . . . The differences between L1 and L2 WTC may be due to the uncertainty inherent in L2 use that interacts in a more complex manner with those variables that influence L1 WTC. For example, among most adults, a much greater range in communicative competence would be found in the L2, as compared to the L1. By definition, L1 speakers have achieved a great deal of competence with that language. However, L2 competence level can range from almost no L2 competence (0%) to full L2 competence (100%). In addition, L2 use carries a number of intergroup issues, with social and political implications, that are usually irrelevant to L1 use.

To address issues such as the ones just noted, we created the heuristic pyramid model of WTC (MacIntyre et al., 1998). The six layers of the model are organized by time and breadth-of-concept. At the bottom of the figure are long-term, stable, enduring influences of intergroup climate and personality that change very slowly, if at all, and are ubiquitous across communication contexts. The intergroup climate is something a person is born into; friendly relations or tensions between language groups tend to span generations. With respect to an individual's personality traits, because they have a strong heritability component, we might say that personality is partially established even before the person exists. The base of the pyramid reflects the influence of long-term, stable processes. As one moves upward the pyramid, shorter-term, more situation-specific or time-limited processes begin to become relevant. Eventually, the pyramid converges on a specific moment in time, an opportunity to communicate. At such a moment, a specific behavioral intention emerges from the interaction of many influences that lead to two key underlying features of the situation: (a) a person has something to say to somebody, and (b) they have the self-confidence at that moment to do so. Such a state of confidence is heavily influenced by the level of communication competence previously attained in the target language, but also implies that, in the moment, negative emotions such as anxiety are not interfering too much with communication (see Gregersen, MacIntyre, & Meza, 2014). Combining the notion of having something to say with the self-confidence to say it creates the behavioral intention to communicate at a particular time, which by definition is WTC.

Research into L2 WTC initially used trait-like WTC from the L1 communication literature and made substantial progress. In the Canadian context, studies found that L2 immersion students were more willing to talk in the L2 than traditional French as a L2 students (MacIntyre, Baker, Clément, & Donovan, 2002). Having friends who are willing to communicate was associated with a learner who was more willing to communicate (MacIntyre, Baker, Clément, & Conrod, 2001). A social context that provides a choice to communicate or not was found

to increase WTC (Clément, Baker, & MacIntyre, 2003). In the Japanese context, Yashima, Zenuk-Nishide, and Shimizu (2004) found that Japanese students coming to the United States who were more willing to communicate benefited more from the trip abroad when they returned home. WTC has been shown to predict the initiation of communication in both L1 and L2 and is correlated with personality and other factors (MacIntyre, Clément, & Noels, 2007). The literature on L2 trait WTC has matured well and its research base continues to build (for a recent overview of the literature, see Mystkowska-Wiertelak & Pawlak, 2017).

There now are several measures of trait-like WTC available (see Ayers-Glassey & MacIntyre, 2019). The original L1 WTC scale (McCroskey & Richmond, 1991) was adapted to L2 WTC simply by changing the language referenced in the instructions. In addition, a scale assessing L2 WTC inside and outside the language classroom was developed in the Canadian context (MacIntyre et al., 2001). Beyond that, in the Japanese context, Weaver (2007) developed a scale to measure a combination of speaking and writing WTC. Mystkowska-Wiertelak and Pawlak (2016) also developed a new scale with a focus on classroom WTC in the Polish context. Most recently, a group in Iran has also reported a WTC scale that has a more complex structure (Khatib & Nourzadeh, 2015). The trait-like measures of WTC allow research to proceed in various contexts, where the choice of measure should be guided by the research questions under consideration. The trait approach to WTC is perfectly reasonable if one is asking about its correlations with longer-term processes.

In addition to the trait-like approach, the WTC literature is progressing in other directions as well, meaning we must take account of recent developments that have given new life to studies of WTC by adopting a complex, dynamic approach that co-exists along-side the trait approach. It is important not to consider these research approaches as competing or mutually exclusive; they are different ways of approaching the topic, each with the potential to yield different insights about WTC (see MacIntyre, Noels, & Moore, 2010).

3. Changes in L2 WTC research: A dynamic turn

The discussion of the dynamics of L2 WTC research began by noting that there are several ways in which WTC theory and research proved to be difficult to align with the pyramid conceptualization. It might be worth mentioning that the pyramid was published in 1998, ten years before Larsen-Freeman and Cameron's (2008) highly influential book on complex dynamic systems theory (CDST). In 1998, we did not have the CDST framework within which to situate our idea about how WTC operates; had CDST concepts been used in conceptualizing and describing the pyramid model of WTC, the meta-theoretical implications might have been made clearer at that time.

As an illustration of the need for a dynamic approach, a quote from a young learner can exemplify the complexity of the processes. As part of a large-scale qualitative study, a sample of Canadian French immersion students in grades seven to nine responded to structured diaries given to them by the researchers, including myself, for six weeks (MacIntyre, Burns, & Jessome, 2011). In the diaries, learners were asked to describe a situation they encountered during the week that made them most willing to communicate and another situation in which they were least willing to communicate. Approximately 300 diary entries were analyzed for the study. Initially, it was thought that the study would generate a list of situations that reflected UnWTC and a list of situations that reflected WTC, with clear differences between the situations on each list. However, we found few clear differences and a great deal of overlap between the lists. Recently, in preparing a conference presentation (MacIntyre, 2018), I found a previously unpublished extract from the collection of diaries (MacIntyre et al., 2011). One respondent provided a brief but meaningful description of how WTC and UnWTC can be affected by a specific situation. The student, a 12-year-old English-speaking girl taking French immersion at school, said:

> I was most unwilling to speak French when I was at a craft show with my mom and she met someone who spoke French. Mom introduced me to her friend, and vice versa. I felt like saying hello in French, willing, but I felt I would make a mistake. I don't feel comfortable talking with strangers, unwilling. And I would though if I had another opportunity. (MacIntyre, 2018)

The question we researchers faced was how to code this entry: Does it reflect a willing or unwilling student? She wrote it on a page asking for UnWTC, but she expresses WTC at the very end (if another opportunity arises). Clearly, the learner felt conflicted; she wanted to use the L2 but was herself holding back. This young girl had the choice to talk or not, and she decided not to do so at the craft show. But she wants another opportunity, a second chance. The moment of deciding whether or not to engage reflected in the brief narrative is fascinating in the complexity of the psychological processes involved, as forces moving this learner toward using her L2 are competing with forces leading to avoidance (see MacIntyre, 2007 for a discussion of ambivalence in L2 communication). As the young learner suggested, if those same interacting forces pulling in different directions came together during another opportunity, a very different communicative result very well might occur.

This conflicted state between approach and avoidance is not unique to communication. In a study of parachute jumpers, Epstein and Fenz (1965) studied the moments in time before a skydiver jumps out of a perfectly good aircraft. The researchers presented the interaction between approach and avoidance

motivations as two separate dimensions at various moments in time relative to the jump: the night before, when the skydiver arrives at the airport, when boarding the aircraft, when the signal comes on that the pilot is ready to let the jumpers open the door, when the jump begins, and then when the person lands. Epstein and Fenz (1965) also reported that the approach and avoidance motivations change significantly with experience, as new opportunities arise. The maximum avoidance for new skydivers is at the moment the signal to jump comes on, just as the aircraft door is about to open. After repeated jumps, the maximum avoidance actually comes the night before the jump, as life's tasks interfere with going skydiving. Clearly approach and avoidance patterns change over time as experience grows.

The moment of decision of whether or not to communicate can be likened to "crossing the Rubicon" in which a learner essentially says "yes, I'm willing to jump into conversation" (Dörnyei, 2005; MacIntyre, 2007). The idea of the Rubicon suggests uncertainty, irrevocability, and engaging with a potentially dangerous situation (for clarity, this is a situation risky to one's positive view of self and relationships with others, not necessarily a physical danger). In some ways, this idea is similar to the conflicted state of mind that a skydiver has when preparing for a jump for the first time. Instead of staying within the safety of the aircraft, which almost always lands without incident, the jumper thinks: "No, I'd rather have a large, thin piece of cloth I packed into a sack on my back to get me safely to the ground." Some L2 speakers face a similar dilemma, especially early on, as they are both trying to learn language and learning to communicate with language at the same time. They might think to themselves things such as: "Do I start a conversation," "I don't know where it's going," "I don't know how it's going to end," "I don't know what the demands are going to be," "I might really embarrass myself," and so on. Perhaps these are the sorts of questions that arose when the choice to use the L2 arose for the girl at the craft show in the diary entry quoted above. Being willing to jump across the communication Rubicon, indicative of WTC at a moment in time, and is very interesting psychologically because it *integrates* approach and avoidance processes, each of which has multiple interacting and coordinated influences (MacIntyre & Serroul, 2015).

What a learner does when such a moment arrives may be critically important to his or her success with the language, especially when the time comes to use the language for communication. MacIntyre et al. (1998, p. 547) comment:

> Authentic communication in a L2 can be seen as the result of a complex system of interrelated variables. We treat communication behavior in a broad sense, which includes such activities as speaking up in class, reading L2 newspapers, watching L2 television, or utilizing a L2 on the job. Often, language teachers do not have the capacity to create this array of opportunities for L2 communication. We would argue that the ultimate goal of the learning process should be to engender in language students the

willingness to seek out communication opportunities and the willingness actually to communicate in them. That is, a proper objective for L2 education is to create WTC. A program that fails to produce students who are willing to use the language is simply a failed program.

The experience at the moment of decision can be quite ambivalent or conflicted, as if a person is jumping into something (metaphorically in the case of communication, literally in the case of skydiving) and one does not know with certainty how it is going to go. Some take the leap, others do not. The situations that produce high WTC may not be very different from the situations that produce low WTC, as noted above (MacIntyre et al., 2011). Subtle changes in the interacting elements of a situation can flip a switch from hesitation to communication or vice versa. What does this mean for the conceptualization of WTC, and what role can the pyramid model play in helping to understand what is happening at the moment of decision?

4. Revisiting the pyramid

Over the years of conducting research on WTC, two significant ways in which the WTC research and the WTC pyramid model were not necessarily in harmony have come into focus.

The first issue is timescales. Burgoon, McCroskey, and others conceptualized WTC over a long timescale, as a trait-like predisposition that is carried across situations; the pyramid model took a different approach, conceptualizing WTC as emerging from the interaction among multi-layered enduring and situational influences that can change rapidly, moment-to-moment. This distinction has important implications for how WTC is studied, specifically for how it can be measured as part of a research project focusing on a brief timescale. The pyramid model did not address the measurement of state WTC and was silent on how it fluctuates over time. The trait-level measures of WTC cited above, developed with reference to L1 and L2, have worked well for their intended research purpose. However, trait-level measures are not designed to measure fluctuations in WTC from moment to moment because they gloss over the intra-personal variability that is central to the focus on dynamics. The original measure of L1 WTC asked respondents to estimate the percentage of time they would be willing to communicate, which implies estimating a single number that covers a fairly large number of opportunities. However, that measurement approach will not generate the kind of data or the large number of data points required per person for measuring moment-by-moment changes in WTC where the respondent's estimate of WTC changes as the situation unfolds over time. Acknowledging this issue meant a new research method was needed.

A second inconsistency between the WTC research literature and the pyramid model our research team has dealt with lies in the interactions among different

timescales among the multi-layered processes. It was recognized that some of the factors identified in the pyramid model can change rapidly and others change very slowly, but the means by which these processes interact at any moment in time was not described. For example, it was not specified how culture-related or personality processes interact with the immediate influences in the situation. Given that they change on different timescales, there is a need to consider how the multitude of influences on WTC combine in a meaningful way. Both the issue of studying WTC on a per-second timescale and the interactions among underlying processes are addressed below.

4.1. New timescales need new research methods

Given the points of departure between the pyramid model and WTC research, the research focus in the WTC literature has been evolving, in particular to address the need to more directly engage with the issue of "time" in creating appropriate research methods. Dörnyei (2003) noted the need to be explicitly aware of the issue of time. Although he wrote this with respect to motivation, the thought applies equally well to WTC. Dörnyei (2003, p. 18) said:

> I have now come to believe that many of the controversies and disagreements in L2 motivation research go back to an insufficient temporal awareness . . . that different or even contradictory theories do not exclude one another but may simply be related to different phases of the motivated behavioral process.

Language learning is not something that begins or ends at a specific time, for example the way a lecture does. It can be almost impossible to pinpoint a moment at which a learner started to learn a L2, and even more difficult to specify when learning ends (de Bot, 2012); maybe it is not even worth the attempt. Rather than pinpointing a start and a finish time, it seems preferable to think about how learners continuously arrive at new moments in time, such as an opportunity to jump into a conversation, by transitioning out of old moments. As people communicate with each other, interpreting verbal and nonverbal cues, WTC can potentially change at any moment. For example, if one person said something offensive or insulting to the others, there would be immediate changes; WTC at that moment in time would change rapidly and significantly from just the moment before. However, immediately thereafter the communication would arrive at a new moment in time perhaps following a successful repair, explanation, elaboration, or apology that puts the conversation back on track. Then, following the communication event of making an apology, there would be another event, and then another, and then another, each moment a transition from the previous moment, in a continuous chain. Therefore, if people are

constantly arriving at a new point in time – as reflected at the top of the WTC pyramid where there is an opportunity to communicate or not – the clear and pressing need is for a conception of time focused on the now.

The need for a greater emphasis in research on a wider range of potentially relevant situational and individual factors affecting WTC generated calls for increased use of qualitative methods (e.g., Cao, 2014; Kang, 2005; Peng, 2007). Qualitative methods have significant advantages over quantitative approaches in terms of providing rich descriptions of the processes involved in creating WTC, but they are not necessarily adept at describing interactions and complex dynamics unless they have been designed for that purpose (MacIntyre, Mercer, & Gregersen, in press). Documenting the process by which various factors interact and the timescales on which different processes operate is the heart of CDST. It is important to note that the choice of timescale will have an impact on the types of conclusions that can be drawn from any study; stability on a longer timescale (e.g., over a semester of a language course) can mask considerable variability and fluctuation on a brief timescale, such as in a conversation (de Bot, 2012). In the present case, as contrasted with the long-term focus on trait WTC, the pyramid model required a focus on a timescale reflecting changes moment-to-moment in a given situation, measured in seconds.

As our research team conducted studies of hypotheses derived from the pyramid model, it became obvious that the trait approach was working on a timescale that did not allow us to study fluctuations in WTC as communication unfolds. We needed to develop a new method to focus on communication over a short period of time (a few minutes) during which a substantial number of WTC ratings could be collected. Given the need to focus on the occurrence of unpredictable moments of change during communication, it was necessary to focus on data for individuals rather than groups. We called this the *idiodynamic method*, where *idio* implies a focus on the individual and *dynamic* on fluctuations (MacIntyre, 2012). The method captures communication events during which WTC likely fluctuates. Given that it is not possible to both communicate in a meaningful way and to simultaneously rate one's WTC, the idiodynamic method is necessarily retrospective. It begins with a recorded speech sample, either from one person (MacIntyre & Legatto, 2011) or from a dyad during a brief interaction (MacIntyre, 2019). As soon as possible after the communication event, the research participants watch their own video and rate their WTC using software created to play the video and to collect ratings on a per-second basis. In addition to WTC, other individual difference variables such as anxiety (Gregersen et al., 2014), motivation (MacIntyre & Serroul, 2015), speech fluency (Wood, 2016), and other factors have been variables of interest. The idiodynamic software produces a continuous graph of changes in WTC or another variable over time, approximately

five minutes or less in most of our studies. After collecting the ratings, participants are shown the video again, along with a printed graph of their WTC ratings. In an interview with the researcher, participants explain reasons for changes in the graph, using their video as a cue. Both the original communication event and the interview are then transcribed for analysis.

The first idiodynamic study was published by MacIntyre and Legatto in 2011 using an eight-item oral interview to generate L2 use. Both relatively easy and relatively difficult prompts were used, such as "Describe what you're wearing" (easy) and "What's the role of Parliament in the Canadian system of government?" (difficult). Other prompts included "Discuss the education system of your home province in some detail," "Interpret a painting," "Count to 100 by 10s," "Order a simple meal," and "Give directions for local shopping mall." Over the course of those eight tasks, fluctuations in WTC took place. We found that each of the prompts, even the relatively easy ones, proved to create unexpected difficulties for specific individuals.

One unusual instance was preceded by a respondent's (Mabel) relatively flat WTC ratings, until she encountered a significant problem. Mabel was trying to figure out how to say the number 80 in French. She could not remember it; she knew it was a compound word construction, but she could not retrieve the vocabulary item. The research assistant running the experiment asked if she wanted to be told the troublesome number, but Mabel declined. She went on for a relatively long time struggling to try to remember "80." Eventually she gave up and said to the research assistant, "You're going to tell me this after the experiment's over." She struggled in a way that no other student did in that particular study, and in a way probably few students would have endured. What was unusual about Mabel? Was she exceptionally stubborn, highly determined, frustrated, or embarrassed? What was going on at that moment during which she would not give up? Metacognitively she was aware that she knew the correct word, but the vocabulary retrieval process was disrupted. In her interview, she said she knows her numbers, but after 70 she couldn't think about 80 or 90, and her WTC dropped.

The moment described here is an example of the power of the idiodynamic method to detect interactions in real time. The quantitative ratings of WTC tracked over time allow a comparison of the systems that create the sense of being willing to communicate. By quantifying the change in WTC, researchers are able to identify moments of change in WTC and look for explanation in underlying systems. The addition of the qualitative and observational data helps to focus attention on the interactions occurring at the exact time WTC changes. It is clear that the lynchpin of Mabel's particular struggle with the number 80 was a sudden loss of vocabulary coupled with her awareness that the problem was one of retrieval. She had knowledge of the sought-after number – it was in the shadows of memory – but the information would not come into the light.

Immediately this glitch in the cognitive system initiated an emotional response, probably best described as frustration. In this case, this state seemed to last an unusually long time in part because Mabel refused to give up or accept assistance. There is no data available to address that specific issue in Mabel's case, but we might speculate that some combination of the test-like approach to the oral interview coupled with the social situation of being tested by a near peer (research assistant) activated a stubbornness that might be at least partially personality-based. Given that complex dynamic systems such as human communication are open to unanticipated influences, it can be difficult to predict in advance all factors that might be relevant to a specific event. For example, we do not know what role experience with prior testing situations might have played, but it does not stretch the imagination to think that Mabel might have refused to give up in comparable prior testing situations. The ways in which long-term processes, such as personality or prior experience with the language, combine with short-term processes, such as emotional arousal or cognitive difficulties, implicates a process by which several influences can be combined in real time.

4.2. Combining multiple influences on different timescales

The dynamics of a communication situation such as Mabel's draw together interactions among cognition, emotion, social processes, personality, prior experience, and more that are assembled into a meaningful, emergent state. We might identify her state as a stubborn refusal to give up in the face of vocabulary retrieval difficulty. This state is a psychological situation to which many people can relate. After remaining in the state for a period of time, Mabel did move on to the next task, the frustrated state dissolved, and she was on to a new moment in time that marshalled many of the same subsystems to address a new communicative task.

In CDST, reactions at the next moment in time are in part dependent on the moment just completed, which sets the new task's initial conditions (Verspoor, 2015). To the extent that the next task draws on different resources, however, other factors relevant to that situation might assemble to create a meaningful, emergent state that can be similar to or different from the state just experienced. That is, different traits might be more or less relevant to a specific situation. In Mabel's example, it is possible that the lingering effect of feeling frustration might have activated a trait such as conscientiousness, making it more relevant than it was moments before; conscientiousness might have led her to persist in trying to retrieve the vocabulary item in spite of frustration. Once the offending task was over, the relevance of conscientiousness might be replaced by a factor more relevant to the next task, such as language competence. Mabel reported a fairly neutral reaction to the next task, giving directions, which she completed without difficulty.

The larger theoretical issue raised by documenting rapid fluctuations in WTC ratings concerns the way in which various influences combine at a given moment in time to create WTC. The pyramid model took note of over 30 variables that can affect WTC in one way or another, with the possibility that more influences would be identified. It would be virtually impossible to measure and map the interactions among 30 or more variables fluctuating on different timescales that influence WTC at a given moment. However, human beings have the capacity to deal quickly and efficiently with enormous amounts of information. The pyramid model did not describe how information is processed and integrated into the per-second WTC ratings. Modern dual processing theories (Frankish, 2010), on the other hand, have considerable explanatory power in elucidating the types of processes that underlie WTC and link the trait and dynamic conceptualizations.

The central idea behind dual processing theories is that human beings have developed two types of processing systems to deal with ongoing interactions within their environments (Frankish, 2010). In one of the best known modern dual processing theories, Kahneman (2011) proposes that people use two types of systems to process information and make decisions on how to act, blandly called System 1 and System 2 to avoid evoking extraneous connotations. According to Kahneman, System 1 is a rapid, intuitive, emotional, and error-prone system of information processing allowing quick judgements based on heuristic thinking. System 2 is slower, logical, deliberative, more effortful, and conscious than System 1. Kahneman (2011) notes that people rely on the rapid, intuitive thinking style of System 1 a great deal as they navigate their daily lives because it is a relatively easy way to do so, but also that System 2 is running and available to exert an influence on information processing and decision making if one chooses to be more deliberate in their thinking.

According to Kaufman (2016), the roots of Kahneman's thinking can be traced to cognitive-experiential self theory (CEST; Epstein, 1991, 1994), which also proposed two systems with similar characteristics to System 1 and System 2, called "experiential" and "rational," respectively. Compared to the rational system, Epstein and Erskine (1983, p. 134) describe the experiential system as more affective, less abstract, more action-oriented, less contemplative, and concerned with immediate personal welfare. Furthermore, the experiential system is more loosely integrated, characterized by categorical (*yes/no*) rather than nuanced dimensional judgments, contains affective conceptual subsystems that become dominant when an emotion is experienced, and is experienced passively as if events and emotions directly imposed themselves on the individual rather than being mediated by the individual's interpretive processes. The experiential system operates automatically and pre-consciously and is self-evidently valid because emotions and associated beliefs that arise are based on one's own experience.

Rapid judgements of WTC, such as those made as situations unfold, would be based in the experiential system. The WTC experiences reported in the idiodynamic studies, and some of the qualitative accounts of WTC as well, have the hallmarks of experiential thinking: The judgements are made rapidly with emotional overtones. Rapid WTC judgements are action-oriented, adaptive, and influence feelings of personal welfare. Furthermore, WTC can be justified simply on the basis of present experience, that is, in given circumstances saying that one feels willing or unwilling can be taken as sufficient justification for approaching or avoiding communication.

If requested, however, judgments of WTC can be made more slowly and deliberatively. A learner likely would be able to sit down with a piece of paper and write out a list of pros and cons for communicating in a given situation. The thoughtful application of one's assessment of their language skills, their prior experience, their personality tendencies, situational constraints and so on can be contemplated. This bears a resemblance to what respondents do when completing trait-level measures of WTC. It takes from 30 seconds to a minute or two to complete any of the trait WTC scales described at the beginning of this article. For example, by the time a person has completed the 20-item WTC scale (McCroskey & Richmond, 1991), a fairly reliable assessment is available which covers multiple types of interlocutors and situations. This more deliberative assessment of WTC implicates the rational processes of System 2 more than the rapid judgements discussed above; the person completing the trait scale has time to think about the various communication situations.

It is critically important to note that the experiential and rational processes are running at all times and that they interact to influence each other both simultaneously and sequentially (Epstein, 1994, 2003). The trajectory of emotional arousal can be modified by deliberate thought, but thought can also be modified by emotional experiences. Often the two systems are synchronized, but at times they oppose each other to produce ambivalent or conflicted experiences (MacIntyre, 2007). Ambivalence was evident as the young French immersion student experienced UnWTC at the craft show or as Mabel described when vocabulary retrieval failed.

One of the most relevant CEST concepts to dynamic WTC is the idea of vibes or ". . . subtle feelings of which people are often unaware" (Epstein, 1994, p. 716). When a person encounters an emotionally salient event, such as being asked to speak in an L2 to their mom's friend at a craft show, Epstein (2003, pp. 161-162) proposes that

> the experiential system automatically searches its memory banks for related events, including their emotional accompaniments. The recalled feelings influence the course of further processing and reactions, which in subhuman animals are actions and in humans are conscious and unconscious thoughts as well as actions. If the activated feelings are pleasant, they motivate actions and thoughts anticipated to reproduce the

feelings. If the feelings are unpleasant, they motivate actions and thoughts antici-
pated to avoid the feelings. As this sequence of events occurs instantaneously and
automatically, people are normally unaware of its operation. Seeking to understand
their behavior, they usually succeed in finding an acceptable explanation. Insofar as
they can manage it without too seriously violating reality considerations, they will
also find the most emotionally satisfying explanation possible. (pp. 161-162)

In this sense, the young learner at the craft show can be seen to be rapidly in-
fluenced by the experiential system in the immediate context; in the moment
she refused to talk. In CEST terms, when her mother asked her to say something
in French, a negative vibe arose based on integrating the present situation with
similar past experiences and she avoided communicating. Later, the rational sys-
tem kicked in as she told the story to the researchers. In that brief narrative, she
seemed to regret her previous hesitation as a lost opportunity to communicate
in her L2, possibly because French immersion students are taught that (logically)
one must talk in order to learn (MacIntyre et al., 2001). Her narrative indicated
a WTC if another opportunity were to arise.

Examining the pyramid model of WTC in terms of CEST allows an under-
standing of how proximal and distal influences converge rapidly in real time and
why the ratings of WTC can fluctuate considerably (or not at all) as a situation
unfolds. When respondents in an idiodynamic study are making WTC ratings on
a per-second basis, they are more or less reporting the vibes emerging from the
coordinated action of their experiential and rational systems, vibes that are
heavily influenced by the emotional tenor that summarizes past experience or
within the present situation. In the craft show example, and also in idiodynamic
WTC ratings, the feelings of WTC are made conscious by the requirement of the
study to report on WTC. In naturalistic situations, communication may be initi-
ated or avoided without generating fully conscious awareness of changes in
WTC. Through the coordinated operation of the experiential and rational sys-
tems, learners navigate their way through experiences that change quickly. Ap-
plying Epstein's idea of rationalization, fluctuations in WTC that reflect reasons
for approaching or avoiding communication opportunities must be emotionally
satisfying to the individual, not necessarily logical to an external observer. For
example, if asked for a more detailed explanation for her UnWTC, the young
learner might have come up with reasonable and emotionally satisfying expla-
nations for her low WTC based on any layer of the pyramid. She might explain
UnWTC based on enduring influences, such as "I am shy" (personality), or more
proximal influences such as "My French is not great, I am still learning" (com-
municative competence), through to situational influences like "I don't know my
mom's friend very well" or "I don't really have anything to say to her today"
(desire to speak with a specific person).

WTC theory requires combining multiple influences on different time-scales. The rational system, which seems to be most implicated in assessments of trait WTC, combines influences in a way that differs from the experiential system, which seems to be strongly implicated in dynamic WTC ratings. Both systems draw on the same personality traits, past experiences, linguistic knowledge but may combine those influences to produce different levels of WTC, especially when situational factors are highly salient. Therefore, we can expect differences from time to time between typical patterns and communication behavior in specific situations because of how factors interact to affect WTC.

5. Conclusion

The dynamic turn in WTC research has presented a treasure trove of issues relevant to understanding L2 communication. The trait-level conceptualizations of WTC in both L1 and L2 emphasize stability, and over the long-term the processes can be seen to show consistency within situations and WTC shows high correlations across different types of situations. However, as de Bot (2012) points out, the nature of dynamic systems suggests that stability observed at one timescale may mask variability on a shorter time scale. The theoretical orientation of the pyramid model (MacIntyre et al., 1998) requires consideration of the here-and-now experience of WTC, even though much of the early WTC research approached it at the trait level. The divergence between the timescales used by the research instruments as opposed to the pyramid model generated two significant discrepancies between the pyramid model and WTC research that are being actively addressed in the literature. First, the idiodynamic method was developed to measure WTC on a per-second timescale, with a goal of explaining the fluctuations in willingness from one moment to the next as communication demands change, leading to the idiodynamic method and other approaches to capturing changes in WTC (Mystkowska-Wiertelak & Pawlak, 2017). Second, the research method necessitates a theoretical rationale for combining WTC-related factors across multiple timescales. Although they have not been extensively applied to WTC, dual processing theories such as Kahneman's (2011) System 1 versus System 2 or Epstein's (2003) CEST seem to provide coherent and defensible ways of understanding the processes involved in creating WTC, consistent with CDST principles. The dynamic approach to WTC, alongside the trait approach, allows for a relatively comprehensive account of both change and stability in communication processes.

References

Ayers-Glassey, S., & MacIntyre, P. D. (2019). *Measuring willingness to communicate in first and additional languages: An annotated bibliography* (Unpublished manuscript). Cape Breton University.

Burgoon, J. K. (1976). The unwillingness-to-communicate scale: Development and validation. *Communication Monographs, 43*, 60-69. http://doi.org/10.1080/03637757609375916

Cao, Y. (2014). A sociocognitive perspective on second language classroom willingness to communicate. *TESOL Quarterly*, *48*, 789-814.

Chan, B., & McCroskey, J. C. (1987). The WTC scale as a predictor of classroom participation. *Communication Research Reports, 4*, 47-50.

Charos, C. (1994). *Personality and individual differences as predictors of second language communication: A causal analysis* (Unpublished honors thesis). University of Ottawa, Canada.

Clément, R., Baker, S. C., & MacIntyre, P. D. (2003). Willingness to communicate in a second language: The effects of context, norms, and vitality. *Journal of Language and Social Psychology*, *22*, 190-209.

de Bot, K. (2012). Time scales in second language development. *Dutch Journal of Applied Linguistics, 1*, 143-149.

Dörnyei, Z. (2003). Attitudes, orientations, and motivations in language learning: Advances in theory, research, and applications. *Language Learning*, *53*, 3-32.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. London: Erlbaum. http://doi.org/10.4324/9781410613349

Epstein, S. (1991). Cognitive-experiential self-theory: An integrative theory of personality. In R. C. Curtis (Ed.), *The relational self: Theoretical convergences in psychoanalysis and social psychology* (p. 111-137). New York: Guilford Press.

Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist, 49*, 709-724.

Epstein, S. (2003). Cognitive-experiential self-theory of personality. In T. Millon & M. J. Lerner (Eds.), *Comprehensive handbook of psychology. Volume 5: Personality and Social Psychology* (pp. 159-184). Hoboken, NJ: Wiley.

Epstein, S., & Erskine, N. (1983). The development of personal theories of reality. In D. Magnusson & V. Allen (Eds.), *Human development: An interactional perspective* (pp. 133-147). New York: Academic Press.

Epstein, S., & Fenz, W. D. (1965). Steepness of approach and avoidance gradient in humans as a function of experience: Theory and experiment. *Journal of Experimental Psychology*, *70*, 1-12.

Frankish, K. (2010). Dual-process and dual-system theories of reasoning. *Philosophy Compass, 5,* 914-926. http://doi.org/10.1111/j.1747-9991.2010.00330.x

Gregersen, T., MacIntyre, P. D., & Meza, M. (2014). The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety. *Modern Language Journal, 98,* 574-588.

Kang, S. (2005). Dynamic emergence of situational willingness to communicate in a second language. *System, 33,* 277-292. http://doi.org/10.1016/j.system.2004.10.004

Kaufman, S. B. (2016). *An ode to Seymour Epstein, originator of modern dual-process theory (1925-2016).* Retrieved from https://blogs.scientificamerican.com/beautiful-minds/an-ode-to-seymour-epstein-originator-of-modern-dual-process-theory-1925-2016/

Kahneman, D. (2011). *Thinking, fast and slow.* CA: Anchor Canada.

Khatib, M., & Nourzadeh, S. (2015). Development and validation of an instructional willingness to communicate questionnaire. *Journal of Multilingual and Multicultural Development, 36,* 266-283. http://doi.org/10.1080/01434632.2014.914523

Larsen-Freeman, D., & Cameron, L. (2008). *Complex systems and applied linguistics.* Oxford: Oxford University Press.

MacIntyre, P. D. (2007). Willingness to communicate in the second language: Understanding the decision to speak as a volitional process. *Modern Language Journal, 91,* 564-576.

MacIntyre, P. D. (2012). The idiodynamic method: A closer look at the dynamics of communication traits. *Communication Research Reports, 29,* 361-367.

MacIntyre, P. D. (2018, October). *Willingness to communicate: A dynamic approach.* Plenary talk presented at the Second Language Research Forum.

MacIntyre, P. D. (2019). Anxiety, uncertainty management and communication accommodation in women's brief dyadic conversations with a stranger: An idiodynamic approach. *Sage Open, 9*(3), 1-18.

MacIntyre, P. D., Babin, P. A., & Clément, R. (1999). Willingness to communicate: Antecedents and consequences. *Communication Quarterly, 47,* 215-229. http://doi.org/ 10.1080/01463379909370135

MacIntyre, P. D., Baker, S. C., Clément, R., & Conrod, S. (2001). Willingness to communicate, social support, and language-learning orientations of immersion students. *Studies in Second Language Acquisition, 23,* 369-388. http://doi.org/10.1017/S0272263101003035

MacIntyre, P. D., Baker, S. C., Clément, R., & Donovan, L. A. (2002). Sex and age effects on willingness to communicate, anxiety, perceived competence, and L2 motivation among junior high school French immersion students. *Language Learning, 52,* 537-564.

MacIntyre, P. D., Burns, C., & Jessome, A. (2011). Ambivalence about communicating in a second language: A qualitative study of French immersion students' willingness to communicate. *Modern Language Journal, 95*, 81-96. http://doi.org/10.1111/j.1540-4781.2010.01141.x

MacIntyre, P. D., & Charos, C. (1996). Personality, attitudes, and affect as predictors of second language communication. *Journal of Language and Social Psychology, 15*, 3-26. http://doi.org/ 10.1177/0261927X960151001

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *Modern Language Journal, 82,* 545-562. http://doi.org/10.1111/j.1540-4781.1998.tb05543.x

MacIntyre. D., Clément, R., & Noels, K. A. (2007). Affective variables, attitude and personality in context. In D. Ayoun (Ed.), *Handbook of French applied linguistics* (pp. 270-298). Philadelphia: John Benjamins.

MacIntyre, P. D., & Legatto, J. J. (2011). A dynamic system approach to willingness to communicate: Developing an idiodynamic method to capture rapidly changing affect. *Applied Linguistics, 32*, 149-171. http://doi.org/ 10.1093/applin/amq037

MacIntyre, P. D., & Serroul, A. (2015). Motivation on a per-second tTimescale: Examining approach-avoidance motivation during L2 task performance. In Z. Dornyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp 109-138), Bristol: Multilingual Matters.

MacIntyre, P. D., Mercer, S., & Gregersen, T. (in press). Reflections on researching dynamics in language learning psychology. In R. Sampson & R. Pinner (Eds.), *Complexity perspectives on researching language learner and teacher psychology*. Bristol, UK: Multilingual Matters.

MacIntyre, P. D., Noels K. A., & Moore, B. (2010). Perspectives on motivation in second language acquisition: Lessons from the Ryoanji Garden. In M. Prior (Ed.), *Selected proceedings of the 2008 second language research forum* (pp. 1-9). Somerville, MA: Cascadilla Proceedings Project.

McCroskey, J. C., & Baer, J. E. (1985). *Willingness to communicate: The construct and its measurement.* Paper presented at the annual convention of the Speech Communication Association, Denver, CO, USA.

McCroskey, J. C., & Richmond, V. P. (1991). Willingness to communicate: A cognitive view. In M. Booth-Butterfield (Ed.), *Communication, cognition, and anxiety* (pp. 19-37). Newbury Park, CA: Sage.

Mystkowska-Wiertelak, A., & Pawlak, M. (2016). Designing a tool for measuring the interrelationships between L2 WTC and confidence, beliefs, motivation, and context. In M. Pawlak (Ed.), *Classroom-oriented research* (pp. 19-37). Heidelberg: Springer.

Mystkowska-Wiertelak, A., & Pawlak, M. (2017). *Willingness to communicate in instructed second language acquisition: Combining a macro- and micro-perspective*. Bristol, UK: Multilingual Matters.

Peng, J. E. (2007). Willingness to communicate in an L2 and integrative motivation among college students in an intensive English language program in China. *University of Sydney Papers in TESOL*, *2*, 33-59.

Skehan, P. (1989). *Individual differences in second language learning.* London: Edward Arnold.

Verspoor, M. (2015). Initial conditions. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp 38-46). Bristol, Multilingual Matters.

Weaver, C. (2007). Willingness to communicate: A mediating factor in the interaction between learners and tasks. In K. Van den Branden, K. Van Gorp, & M. Verhelst (Eds.), *Tasks in action: Task-based language education from a classroom-based perspective* (pp. 153-187). Cambridge: Cambridge Scholars Press.

Wood, D. (2016). Willingness to communicate and second language speech fluency: An idiodynamic investigation. *System, 60,* 11-28.

Yashima, T., Zenuk-Nishide, L., & Shimizu, K. (2004). The influence of attitudes and affect on willingness to communicate and second language communication. *Language Learning*, *54*, 119-152.

Zakahi, W. R., & McCroskey, J. C. (1989). Willingness to communicate: A potential confounding variable in communication research. *Communication Reports, 2*, 96-104.