| **RESEARCH ARTICLE**

Reflective Thinking: from Opacity to Clarity

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| **ABSTRACT**

In the last few decades, there has been a surge of interest in establishing a reflective pedagogy to foster a culture of reflective thinking in higher education due to its importance in scholastic achievement and professional success. Consequently, this interest engenders an extensive discussion in the literature. However, despite this wide interest and the voluminous works written on reflective thinking, there is a huge polemic revolving around the definition of such a concept. This reasonably results in having a vague understanding and an unclear picture of reflective thinking. To this end, there is a need for more clarity. The aim of this paper is to deconstruct this concept to conceptualize it, provide deeper insights into it, elucidate any ambiguities, and clarify its key aspects and specificities. Providing a comprehensive, clear picture of this concept is crucial for teaching effectively English as a foreign language (EFL) university students how to become reflective thinkers, a much valued 21st century soft skill.

1. Introduction

Promoting university students' reflective thinking is among the end-goals of higher education due to its positive impact on the quality of their learning, thinking, and practice. Consequently, this interest engenders an extensive discussion in the literature. However, despite this wide interest and the voluminous works written on reflection, there is a huge polemic concerning the definition of such a concept. Consensus has been lacking to develop a single definition acknowledged by all scholars. Many of them (e.g., Denton, 2011; Gibson et al., 2016; Hickson, 2011; O'Connell & Dyment, 2013; Lew & Schmidt, 2011a, 2011b; Ratkic, 2012; Ryan, 2013; Ryan & Ryan, 2015; Timmins, 2008) posit that reflection has been defined differently. Additionally, Rodgers (2002, p. 843) argues that reflection has endured a "loss of meaning" over the previous fifteen years. She points out that there is even a deficiency of limpid and lucid definitions of reflection. Similarly, Farrell (2012); Kember, Jones, et al. (2001); and Moon (2007) claim that this concept is not clearly defined. Alongside these diverging perspectives, other scholars (e.g., Bell et al., 2011; Kember, McKay, et al., 2008; Poole et al., 2013; Rogers, 2001) point out that there is a lack of both clarity and definition of reflection. Consequently, this reasonably results in having a vagueness and an inconsistency regarding its definition. These discrepancies have negative drawbacks as they give rise to problems in teaching learners how to reflect and how to write reflectively (Farrell, 2012; Moon, 2007).

Several attempts have been made to explain the reasons behind this lack of consensus and shortcomings regarding reflection definition and find solutions (e.g., Moon, 2004, 2006, 2007; Rodgers, 2002; Rogers, 2001). However, despite all the efforts made to elucidate these ambiguities, there is a need to provide further insights into reflective thinking. This paper seeks to deconstruct this thinking mode by adopting an analytical approach to rebuild a clear picture of it. To achieve this aim, the following objectives were

formulated (a) to delineate between the different terminologies related to reflection as oftentimes they are used interchangeably, (b) to deconstruct reflective thinking to conjure up a clear picture of this thinking mode, and (c) to highlight its key specificities.

2. Delineating Between the Terminologies Related to Reflection

To address the problematic pertaining to this opaque picture of reflection, the first step is to make a clear delineation between the terms that revolve around it. Moon (2007) advocates that defining reflection relies on identifying the different terms related to this concept that have distinct implications. Reflection is an umbrella term that covers reflective learning, reflective writing, reflective practice, and reflective thinking. It is a crucial human activity that involves recording a personal experience, ruminating on it, and thinking carefully about and evaluating it (Boud et al., 1985). This form of mental processing is positioned around two notions, namely learning and thinking (Moon, 2004).

First, reflective learning highlights the intent of learning as a consequence of reflection because we reflect so as to learn (Moon, 2004). To Boyd and Fales (1983), it is "the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective" (p. 100). Second, reflective writing is a representation of internal reflection in the written form (Moon, 2007). Simply put, it is the expression on paper of the internal reflective processes via writing since both the process and outcome of reflection are represented in the written form (Moon, 2004). Thirdly, reflective practice depicts a wider process whereby there is a reflective habit on a given activity for the purpose of improving the practice (Moon, 2007). In this sense, we reflect to ameliorate the practice. Ratkic (2012) refers to reflective practice as "dedoublement" which has two meanings, namely literal and figurative. The former means "observing one's own action at the same time the action is going on" (Ratkic, 2012, p. 340). The latter is the ability to see things from different angles or perspectives (Ratkic, 2012). Essentially, the focus is centered around thinking about what we do in order to improve the practice. This logical process of linking thought to action promotes the quality of professional practice as it helps practitioners to perform thoughtful actions; become effective and expert; and grow professionally. Osterman (1990) points out that reflective practice promotes professional development in multiple ways as it entails the examination of underlying assumptions and ideas that shape one's behavior, and it develops self-awareness. This explains why this dynamic process leads to continuing professional development. Lastly, reflective thinking is a mode of thinking that entails thinking deeply about things (Ghanizadeh et al., 2020). It is intentional and conscious thinking.

3. Deconstructing Reflective Thinking

In an attempt to clarify the concept of reflective thinking, it is important to deconstruct this concept in order to reconstruct a clear picture. Deconstruction is meant to analyze the key characteristics of reflective thinking so as to reconstruct all the elements to have a panoramic view and gain a more nuanced understanding of it.

3.1 Reflective Thinking as a Specific Form of Thinking

Reflective thinking is a specific mode of thinking (McNamara, 1990; Moon, 1999, 2007). It involves the act of stopping and thinking (Hullfish & Smith, 1961; Mezirow, 1991) using advanced cognitive processes. That is why not all thinking is reflective (Lethbridge et al., 2013). The term reflective thinking or reflection is attributed to Dewey's work. Dewey's (1933) book *How We Think,* a classical reference in the field of reflection, lays the foundation of reflective thinking and discusses its different aspects, thereby providing a comprehensive view of it. Dewey (1933, as cited in Rodgers, 2002) differentiates between four thinking modes, namely stream of consciousness, belief, imagination, and reflective thinking. Similarly, Gelter (2003) distinguishes reflective thinking from other forms of thinking when he describes it as "a conscious, active process of focused and structured thinking which is distinct from free-floating thoughts, as in general thinking or day-dreaming" (p. 338). Therefore, thought includes two distinct mental processes, namely one uncontrolled and random and the other one disciplined and focused (Dewey, 1933, as cited in Greiman & Covington, 2007). This latter refers to reflective thinking, which "consists in turning a subject over in the mind and giving it serious and consecutive consideration" (Dewey, 1933, p. 3). Dewey (1933) clarifies this notion of consecutiveness by pointing out that "reflection involves not simply a sequence of ideas, but a *con*-sequence—a consecutive ordering in such a way that each determines the next as its proper outcome, in turn, leans back on, or refers to its predecessors" (p. 4, emphasis in original). From this line of reasoning, reflective thought is not merely a sequence or a succession of thoughts, rather, it is a consecutive or uninterrupted flow of thoughts. In brief, reflection is forming thoughts or ideas as a result of rumination (Carrington & Selva, 2010). It helps students to both generate and select relevant thoughts (Gelter, 2003).

3.2 Reflective Thinking as a Flexible Cognitive Process

Reflective thinking is a flexible, versatile cognitive process. This thinking mode is purposeful, driven by an objective (e.g., solving a problem) and can take place in different situations (learning and practice), time frames (before, during, and after the action and activity), contexts (individual or collective), and modes (controlled or uncontrolled cognitive process; prepared or unprepared; formal or informal) (Ratkic, 2012). As for the time frames of reflective thinking, many terminologies exist in the body of literature referring to the timing in which this reflective process occurs, namely "the chronological dimensions of reflection" (Wilson, 2008)

and "the developmental continuum of reflection" (Thorsen & DeVore, 2013). The former focuses on the temporal dimension of reflection or reflective activity; whereas, the latter emphasizes the chronological order involved in reflection, including the past, present, and future as well. Schon (1983, 1987) differentiates between two types of reflection, namely "reflection-on-action" taking place after the action and "reflection-in-action" taking place in the midst of the action. Killion and Todnem (1991) include a third type of reflection, referring to the future, which is "reflection-for-action". To them, this future-oriented thinking represents the hoped-for result of the two above-stated types of reflection. Reflection is not limited to the past (reflection-on-action) and the present (reflection-in-action) as it extends to the future (reflection-for-action or reflection-on-the-future) (Greenwood, 1998; Wilson, 2008). Consequently, the process of reflection involves all time dimensions, namely past, present, and future concurrently. The focus, therefore, is on the time frame within which the action and the reflective thought transpire (Hatton & Smith, 1995) as the reflective process occurs at different time frames, namely after, during, or before the experience it intends to examine (Bassot, 2016; Boud et al., 1985; Raelin, 2001; Rogers, 2001). In this sense, it can be labeled retrospective, contemporaneous, and anticipatory reflection (Loughran, 1996, as cited in Raelin, 2001). Dewey (1933, as cited in Boud et al., 1985) refers to these three dimensions as "conscious reflective activities". With respect to EFL teaching and learning, in particular, students can reflect after a learning activity or experience (exams or learning tasks), during a learning activity (exams, reading, writing, and listening activities, among others), and before a learning activity (planning for future learning tasks and preparing for an exam, to name a few). This explains why reflection promotes the quality of students' learning as it enables them to take an active and proactive role in this process.

3.2.1 Reflection-on-Action
Reflection-on-action is also labeled "retrospective reflection" (Fade, 2003; Loughran, 1996), "proactive reflection" (Seibert & Daudelin, 1999), "backward reflection" (Kettler, 2017), "reflection after events" (Boud, 2001), and "post-experience reflection" (Wald et al., 2012) as it describes the reflective process that occurs after the experience or event (Rogers, 2001). Reflection-on-action is the most frequently used (Dyment & O'Connell, 2010; O'Connell & Dyment, 2013). It consists in reviewing, analyzing (O'Connell & Dyment, 2013), and evaluating past experiences (McAlpine et al., 1999). To Bassot (2016), reflection-on-action encourages turning off the mental automatism, hence preventing routine stagnation. It allows students to consider the event in a broader and retrospective view (Boud, 2001; O'Connell & Dyment, 2013). Wilson (2008) notes that this conscious reflection on past experiences permits the evaluation of what occurred and the identification of potential points of improvement. To him, it is an effective means that permits learning from past experiences to improve future performances. The purpose of reflection-on-action is to review what happened, evaluate and assess both learning experiences and performances, detect weaknesses and strengths, reinforce learning, and learn from prior experiences. Essentially, it leads to the improvement of future learning performances.

3.2.2 Reflection-in-Action
Reflection-in-action is also referred to as "active reflection" (Seibert & Daudelin, 1999), "contemporaneous reflection" (Rogers, 2001), "spective reflection" (Fade, 2003), "reflection in the midst of action" (Boud, 2001), and "instant reflection" (Brigley, 2003) as it takes place during the experience, activity, or action. Schon (1992) asserts that this type of reflection occurs in the midst of action through thinking of what we are doing whilst doing it, that is, thinking and doing at the same time. This explains why it is the most cognitively demanding (McAlpine et al., 1999). Generally, reflection-in-action is an informal type of reflection implying the natural mental engagement with the experience (Seibert, 1999). It is a spontaneous and unstructured reflection that takes place in the midst of a challenging experience (Varner & Peck, 2003) or unusual situations (Kember, Jones, et al., 2001). Reflection-in-action is described as a reflective conversation with the self (Hatton & Smith, 1995) and with the situation (Schon, 1992). It entails the concurrent act of both doing and reflecting, hence reflecting this advanced stage of both consciously thinking about the action that is happening and instantaneously making modifications (Hatton & Smith, 1995). Therefore, reflecting during the situation necessitates being aware of what we are doing, thinking, and feeling (Hickson, 2011). This process of reflection-in-action builds on internalized knowledge to guide behavior during the activity through direct feedback (Wilson, 2008). As a result, a reflective practitioner has the ability to consciously think about a given action while it is happening, make sense of what is taking place, and shape consecutive workable steps through the use of relevant standpoints (Hatton & Smith, 1995). Schon (1992) identifies the different situations during which reflection-in-action takes place, namely teaching, learning, coaching, and criticism. The purpose of this type of reflection is to reflect or consciously think during a learning activity or a professional practice and provide instant feedback, make connections, and instantly make adequate decisions. It, therefore, aims at making both learning and practice conscious and thoughtful activities rather than automatic and mechanical.

3.2.3 Reflection-on-the-Future
The notion of reflection-on-the-future has various terminologies, namely "reflection-for-action" (Killion & Todnem, 1991; Wilson, 2008), "anticipatory reflection" (Van Manen, 1991), "reflection in anticipation of events" (Boud, 2001; Boud et al., 1985), "reflection-before-action" (Greenwood, 1998), "forward reflection" (Kettler, 2017), and "prospective reflection" (Fade, 2003). It is a "natural human phenomenon" (Wilson, 2008). Killion and Todnem (1991), Greenwood (1998), and Wilson (2008) add a future-oriented dimension to the act of reflection. By so doing, they add to the work of Schon (1983, 1987) as it is centered only on the past

(reflection-on-action) and present (reflection-in-action). Reflection-before-action is a type of reflection that "involves thinking through what one wants to do and how one intends to do it before one actually does it" (Greenwood, 1998, p. 1047). Accordingly, it happens prior to the experience or event allowing students to prepare for what is about to happen (Boud, 2001; O'Connell & Dyment, 2013). Wilson (2008) describes reflection-on-the-future as the process or act of reflecting upon hoped-for and potential futures with a view to evaluating them and consider possible strategies to meet the goals. Also, reflecting before the experience is a type of planning as students suggest how they intend to approach the given situation (Raelin, 2001). Therefore, this type of reflection is centered on potential ways that can optimize future events (Boud, 2001). Through reflection-on-action, students can estimate probabilities of success by considering their weaknesses and strengths (Wilson, 2008). The purpose of this type of reflection is to work on one's weaknesses, and be better prepared for future learning tasks or activities and make informed decisions. Therefore, it leads to the improvement and optimization of learning and professional practice.

3.3 Reflective Thinking as a Cyclical Process

Reflective thinking is a cyclical process because reflecting on present and past actions or learning activities enables EFL students to learn from what happened, draw conclusions, and therefore, inform and improve their future actions. This highlights the cyclical nature of reflection since the learning generated from reflection-in-action and reflection-on-action is used to inform future actions and decisions. Similarly, Ertmer and Newby (1996) posit that "reflection is critical for transforming the knowledge gained *in* and *on* action into knowledge available *for* action" (p. 18, emphasis in original). Consequently, this justifies the dynamic nature of reflection (Sen, 2010). In defining reflective thinking, various scholars (e.g., Barnett & O'Mahony, 2006; Ertmer & Newby, 1996; Fade, 2003; Timmins, 2008; Wilson, 2008) shed light on this reflective cyclical continuum which includes the aforementioned three temporal dimensions, i.e., past, present, and future. Barnett and O'Mahony (2006) posit that reflection is "the combination of hindsight, insight, and foresight" (p. 501). Essentially, it is a learning process that involves a deep consideration of present and past thoughts, behaviors, or practices so as to make informed decisions regarding future actions (Barnett & O'Mahony, 2006). Reflection-on-action and reflection-in-action are reactive (Collier, 1999), while reflection-for-action is proactive (Reagan, 1993) since the latter occurs in anticipation of future actions. Within a similar line of thought, Ertmer and Newby (1996) shed light on this cyclical nature of reflective thinking when they argue that it is not limited to acquiring and storing information (i.e., recalling information), rather it is the ability to infer conclusions from prior experiences and to make potential future action plans (i.e., reflexivity). Similarly, Fade (2003) notes that reflection entails the description, evaluation, and analysis of actions, beliefs, assumptions, and thoughts by looking back on our past experiences, considering what we are doing at the present time, and looking forward. Therefore, reflection refers to a process of profound thought encompassing the ability to look back on the experience being reflected on and also to think ahead to the future (Timmins, 2008). Wilson (2008) argues that reflecting on past and current experiences permits projecting a range of plans and analyzing in advance what might occur. To him, reflecting after and during actions has an implicit and intrinsic acknowledgement to improve future performance.

3.4 Reflective Thinking as a Higher Cognitive Process

Reflective thinking is a higher-order thinking skill as it involves analysis, evaluation, and synthesis (Atkins & Murphy, 1993; Pretorius & Ford, 2016; Sparks-Langer et al., 1990; Ramlal & Augustin, 2019). It is not based on reviewing and recalling past experiences, rather it entails the use of complex cognitive abilities to critically consider them. Barell (1984) classifies thinking which is reflective, critical, and productive as a complex and higher mode of thinking. Similarly, Ghanizadeh et al. (2020) identify two dimensions of higher-order thinking skills (HOTS), namely critical thinking and reflective thinking. Dewey (1933) defines reflective thinking as an:

> *Active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends* constitutes reflective thoughts...It includes a conscious and voluntary effort to establish belief upon a firm basis of evidence and rationality. (p. 9, emphasis in original)

Dewey's definition sheds light on the basic elements that constitute the development of reflective thinking embodied in using reason and evidence, questioning beliefs and knowledge, and actively tracking well-founded conclusions (Fisher & Pruyne, 2002). These basic elements constitute the foundation for the majority of contemporary theories addressing reflective thinking development (Fisher & Pruyne, 2002). Dewey views reflective thinking as purposeful thinking which is centered on testing out and challenging beliefs through the use of the scientific method which implies experimentation and deductive reasoning (Bulman, 2013). Therefore, it is logical and rational thinking executed by mental discipline (Kok & Chebeli, 2002) as it entails the use of sophisticated reasoning abilities.

3.5 Reflective Thinking as a Problem-Solving Process

This aspect of problem-solving in reflective thinking was highlighted by several researchers (e.g., Dewey, 1933; Hullfish & Smith, 1961). For example, Dewey (1933) provides a model schematizing this logical trajectory linking problem-posing to problem-solving. This model includes three stages that organize the process of reflective thinking into sub-processes executed and regulated by metacognitive skills that permits the thinker to self-monitor and self-adjust their thinking process (Perkins et al., 1993). The stages

encompass pre-reflection, reflection, and post reflection (Dewey, 1933). Each stage is vividly described to offer a clear understanding of the different phases leading to problem-solving. Firstly, pre-reflection stage describes a state of confusion and dilemma indicating the existence of a problem (Dewey, 1933). In other word, it is the awareness of a problematic situation (Hullfish & Smith, 1961; Mezirow, 1991). Therefore, the reflective process starts with identifying a problem and deliberately deciding to find adequate solutions to solve it (Rogers, 2001). Secondly, the reflection stage implies a specific kind of thinking following a sequential and logical process which is goal-oriented and directed towards finding an adequate solution to the existing problem (Dewey, 1933). Therefore, this stage entails the use of scientific thinking which is based on posing tentative hypotheses (Dewey, 1933). Lastly, post-reflection stage implies hypothesis testing and also indicates that the problem has been effectively handled (Dewey, 1933). Therefore, the product (solution to the problem) is the outcome of a logical, reasoned process. Similarly, Hullfish and Smith (1961) view reflective thinking as a process based on the scientific method which includes specific steps, namely observing and describing the problem, analyzing the problem to generate explanations and formulate hypotheses, testing and modifying these hypotheses, and taking action in the light of the selected hypothesis. Kitchener (1984) highlights this scientific nature of reflective thinking by stating that this complex process entails the ability to generate logical suppositions built on experience, evidence, and the credibility of hypotheses.

What should be noted from the above is that this logical process of reflective thinking adheres to the hypothetical-deductive model consisting of identifying the problem and formulating, testing, selecting, and modifying hypotheses (Mezirow, 1991). That is why reflective thinking is qualified as a disciplined, rigorous, and a systematic way of thinking engrained in scientific inquiry (Greiman & Covington, 2007; Rodgers, 2002). It deals with practical problems through perplexity and doubt to find adequate solutions (Hatton & Smith, 1995). To engage in reflective thinking, individuals need to approach the problem by using doubt concerning its solution and questioning their actual understanding of the problem rather than using fixed and preconceived assumptions (Kitchener et al., 2006). From this perspective, this mode of thinking is triggered by uncertainty, doubt, and perplexity; and the drive to find solutions to settle this mental opacity (Baron, 1981; Dewey, 1933). Specifically, it is stimulated by an ambiguous situation, an atypical event (Rogers, 2001), or something questionable (Hullfish & Smith, 1961) which requires a specific, purposeful, and goal-directed thinking mode. The role of reflective thinking is, therefore, to turn this obscure, doubtful, and conflictual situation into a clear, consistent, resolved, and harmonious one (Dewey, 1933). Reflective thinking triggers the development of the act of thinking essential during problem solving as it necessitates looking back and thinking of the appropriate strategies to achieve a goal successfully (Rudd, 2007). It leads to bridging the gap between perceived problems and their solutions (Farra, 1988). In this sense, reflective thinking is a purposeful, strategic (Dewey, 1933; Eyler et al., 1996; Hullfish & Smith, 1961; Otienoh, 2009; Pierson, 1998; Sandars, 2009) and conscious activity (Dewey, 1933; Otienoh, 2009) since it entails the ability to evaluate situations and make considerate, reasoned decisions (Bainer & Cantrell, 1993) to resolve this perplexity following a logical process and applying the scientific method. It is worth noting that the process of reflective thinking is not only an analytical means designed for the scientific investigation of a given problem, but also it includes creative thinking (Farra, 1988). This creativity is embodied in coming up with new, creative solutions and ideas. Accordingly, reflective thinking implies the engagement in different stages vital to problem solving, and ends up with creatively solving the problem.

3.6 Reflective Thinking as Both a Process and Product
Reflective thinking is both a process and a product. Dewey (1933) distinguishes between the process and product of reflective thinking. To him, the process is "psychological" as it reflects the steps or stages undergone during the engagement in the reflective process, and the outcome is "logical". In other words, the process entails analyzing the situation through breaking it into small parts, evaluating it, and drawing conclusions; and the product refers to the outcome or end-goal of the reflective process which can be learning from an experience or solving a problem, among others. The product is the outcome of a logical and reasoned process which is organized, controlled, consecutive, calculated, and purposeful. Dewey (1933) claims that "we must distinguish between the logical *form*, which applies to the product, and the logical *method*, which may and should belong to the process" (p. 75, emphasis in original). Both process and product are logical because to have a logical outcome, the process of thought that is carried out has to be reasoned and logical. For this reason, reflective thinking is a logical, reasoned thinking process executed by mental discipline (Kok & Chabeli, 2002). It is centered on three dimensions, namely the purpose referring to the objective of reflection, the process highlighting how reflection is practiced, and the focus referring to the key experience to reflect on (Serafini, 2000, as cited in Procee, 2006).

3.7 Reflective Thinking as a Developmental Cognitive Process
Reflective thinking is a developmental process that includes different hierarchical levels. For this reason, it can be taught, practiced, and developed. To Brown (1997), learning and thinking are assumed to be developmental processes. The development of reflective thinking is dynamic and nonlinear in nature, and it varies from one person to another (Fisher & Pruyne, 2002). Essentially, it occurs at a slow pace and requires repeated exposure to experiences that involve mental effort and careful thinking for learners who are abstract thinkers and have the willingness and openness to develop this thinking skill (Sargent, 2014). From this perspective, both environmental conditions and internal factors come into play in the development of reflective thinking. Environmental conditions

play an important role in the development of this skill by offering engaging opportunities to force students to think and help them to practice, ameliorate, and enhance their reflective potential. Sargent (2014) sheds light on three intrinsic factors of equal importance vital to the development of this thinking skill, namely motivation, cognitive stimulation, and reasoning skill. All the above-stated factors explain Fisher and Pruyne (2002) statement noting that only few adults achieve general proficiency despite the fact that almost all of them can develop reflective thinking. Also, they explain this notion of levels of reflective thinking as "there is no single level of competence in reflective thinking" (Fisher & Pruyne, 2002, p. 170).

3.8 Reflective Thinking as an Inextricable Part of Experiential Learning
Kolb (1984) enhances experiential learning, focusing on the crucial role of both experience in learning and reflective thinking in engaging learners in the learning process. Kolb's "Learning Cycle" depicts how the iterative nature of reflection supports students learning mainly when the reflective process is made clear and explicit by means of writing (Cowan, 1998, as cited in Sayers, 2005). Osterman (1990) notes that experience is fundamental for learning, and reflection plays an important role in making learning from the experience possible. To him, reflection is a sine qua non for learning from an experience. As such, learning takes place through integrating theory with practice and experience with reflection. Gibbs (1988) provides an influential framework reflecting the importance of learning by doing, that is, learning from one's own experience. Drawing on the work of Dewey (1933) and Kolb (1984), he focuses on the need to both think and reflect upon a given experience so as to learn from it (Grant et al., 2017). Therefore, learning is the outcome of reflecting on an experience.

4. The Key Specificities of Reflective Thinking
4.1 Reflective Thinking Dispositions
To be developed, reflective thinking requires both logical processes and moral qualities of character (Dewey, 1933). It "requires attitudes that value the personal and intellectual growth of oneself and of others" (Rodgers, 2002, p. 845). Therefore, in addition to the cognitive characteristics of reflective thinking, Dewey (1933) identifies four attitudes, dispositions, traits of character, or personal qualities essential to the development of reflective thinking, namely whole-heartedness, open-mindedness, responsibility, and readiness. To him, these dispositions are essential to the development of the 'habit' of thinking reflectively. According to Dinkelman (2003), these attitudes serve a dual-purpose of bringing both life and depth to the reflective thinking process and injecting vitality and meaning into the activity. Consequently, both logical reasoning processes and personal dispositions are of equal importance to reflective thinking and therefore they cannot be separated (Dewey, 1933). To this end, Dewey (1933) calls for the need to combine them. To Brigley (2003), these key reflective dispositions lead to personal as well as professional commitment.

First, whole-heartedness is the ability to engage wholeheartedly in something (Dewey, 1933), that is, to be fully engaged with no reservation. Second, open-mindedness is referred to as being open and denoting receptivity to new ways of understanding and perceiving things (Rodgers, 2002). Dewey (1933) defines this attitude as "freedom from prejudice, partisanship, and such other habits as close the mind and make it unwilling to consider new problems and entertain ideas" (p. 30). It is the ability to share personal thoughts, see things from different perspectives, and be open to diverse possibilities. It, therefore, implies an intelligent critique of all ideas (Rodgers, 2002). Third, responsibility or intellectual responsibility refers to considering the consequences of a planned step (Dewey, 1933). Fourth, readiness means to be ready to engage in the reflective process (Dewey, 1933). It is embodied in having both this thirst and curiosity for engaging in reflection (Rodgers, 2002). All the above-mentioned dispositions have a direct effect on the degree to which an individual may engage in a reflective reasoning.

4.2 Taxonomy of Reflective Thinking
There is a common agreement among most researchers on the idea that reflection occurs at different hierarchical levels (Ryan & Ryan, 2015). Additionally, most models of reflective thinking (e.g., Atkins & Murphy, 1993; Hatton & Smith, 1995; Mezirow, 1991; Kember, Leung, et al., 2000; Van Manen, 1977) depict this notion of hierarchy which reflects the depth of the reflective process. Mann et al. (2009, p. 597) advocate that these models share two key dimensions namely "vertical" and "iterative". The latter focuses on the cyclical nature of the reflective process, and the former highlights the hierarchical nature of reflection. Atkins and Murphy (1993) conducted an in-depth analysis of the existing literature and infer that the differences between scholars' writings concerning the reflective processes are mainly related to the terminology, detail, and hierarchical arrangement of the processes. To them, there is a consensus between scholars on the three hierarchical stages that constitute the reflective processes. Therefore, these models are consistent in that they ascribe the same qualities to the profound levels of reflection and consider descriptive reflection as a superficial form of reflection (Moon, 2004, 2006).

Alike other skills, reflective thinking includes different levels of competence (Fisher & Pruyne, 2002). These hierarchical levels have been identified to assess the quality of reflective thinking, and also guide students in writing higher-order reflections (Moussa-Inaty, 2015). Reflection, therefore, includes various levels starting from descriptive, less analytical, and superficial to deeper and profound levels of analysis (Brigley, 2003; Mann et al., 2009). The superficial level is descriptive as it consists mainly in reporting and describing experiences. Contrariwise, the profound level is both analytical and critical. It reflects a high-quality reflection as it

takes place when individuals face events or incidents that can challenge not only their competencies and knowledge, but also their practice as well (Brigley, 2003). This notion of hierarchy is also acknowledged by Ryan (2011, 2013) and Ryan and Ryan (2015) when they shed light on three main levels that constitute reflection, namely descriptive reflection, reflection with various levels of mental processing, and in-depth or transformative reflection. From this perspective, reflection encompasses different levels starting from a simple form of thinking to a more advanced one that includes sophisticated cognitive processes.

4.3 The Development of Reflective Thinking: Cognitive Psychology Perspective
Given that reflective thinking is valued in education and continuing professional development, it is essential to understand how this thinking skill develops from the cognitive psychology perspective.

Fisher and Pruyne (2002) define reflective thinking as a complex form of cognition solely connected with adult development because it arises during adulthood. To them, its emergence during this particular period is linked to the brain processes and cognitive abilities that develop in both early adulthood and adolescence, hence providing a basis for developing abstract thinking which is crucial to thinking reflectively. This thinking mode is "a form of advanced abstract thinking in which abstract systems and principles are contracted from units and mappings of abstract information" (Fisher & Pruyne, 2002, p. 173). These abstract principles and systems constitute the highest levels of reflective reasoning (Fisher & Pruyne, 2002). Therefore, from a cognitive psychology perspective, the development of this thinking mode is determined by abstract reasoning ability and hence, it is linked to the advanced stages of cognitive development. This latter develops during early adulthood and achieves its optimum at the age of 25 (Fisher & Pruyne, 2002).

Developmental psychology assumes that individuals in general go through different stages of development to learn, change, and grow cognitively and psychologically (Brown, 1997). Piaget's (1972) theory of cognitive development sheds light on four stages of cognitive development, namely (1) sensorimotor intelligence, (2) preoperational thinking, (3) concrete operational thinking, and (4) formal operational thinking. These stages depict the developmental process of thinking starting from early childhood to adulthood. However, discussing these stages is beyond the scope of this paper, only the last stage is examined because of its relevance to abstract thinking. The last stage of Piaget's theory, formal operations, refers to the period in which individuals develop the ability to engage in deductive, inductive, hypothetical and abstract thought (Macomber, 1977). Piaget advocates that this period starts between 11 and 14 (Macomber, 1977). At this stage, thinking changes as it moves to reasoning about both concrete and abstract or hypothetical things and adopting a problem-solving approach. As a result, more sophisticated thinking processes emerge involving hypothetical and analytical reasoning. Fisher and Pruyne (2002) note that reflective thinking does not emerge automatically at a specific stage of development or age, but rather, it is a skill that needs to be carefully constructed by developing the ability for abstract thinking. To explain this process, the authors differentiate between the optimal level and the functional level of reflective thinking. The optimal level, also referred to as the upper limit on functioning, is reached via contextual support along with biological development processes, while the functional level is achieved normally without any support (Fisher & Pruyne, 2002). Accordingly, this indicates that reflective thinking includes different levels of competence.

5. Conclusion
Reflective thinking is a specific mode of thinking which entails the ability to stop, step back from the experience to see things with an objective eye, and deeply consider them using analytical and evaluative reasoning. Such a mode of thinking wears many hats. First, it is classified as a higher order thinking skill, implying the use of sophisticated reasoning skills and thinking at a deeper level, and also the questioning of deeply ingrained beliefs and assumptions that unconsciously and implicitly govern our behaviors and actions. Second, it is a controlled and a problem-solving process since it is triggered by a problematic situation or atypical event. Therefore, it is a purposeful thinking skill regulated by an objective which is solving the problem. This line of thought leads us to perceive reflective thinking as a process, including a set of logical stages or phases and a product, since the end product or the outcome of the process is finding solutions. Third, reflective thinking is a flexible and active cognitive process as it can happen after, during, and even before an experience or activity. Fourth, it is a cyclical process because reflecting on present and past actions or activities enables EFL students to learn from the experience and improve their future actions. Reflective thinking has key specificities as its effective development requires both cognitive abilities and moral traits. Also, it includes different hierarchical levels reflecting its depth and quality, namely non-reflective, reflective, and critically reflective. Being aware of these levels is needed to help EFL students distinguish between descriptive and reflective accounts and, therefore engage in higher-order reflection. It is worth noting that the development of this thinking skill is linked to the ability to think abstractly which emerges during early adulthood.

Building on the above, reflective thinking has manifold characteristics qualifying it as a multifaceted soft skill, e.g., higher order reasoning, meaning making, problem solving, and questioning; all of which are lifelong learning skills. To this end, it is one of the promising, must-have thinking skills for EFL students that needs to be given considerable interest by formalizing its teaching.

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