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Review

Reflection literacy: A multilevel perspective on the challenges of using reflections in higher education through a comprehensive literature review

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ABSTRACT

It is well established that the use of reflections influences and supports learning in important ways. However, student-learning, teacher-pedagogical, institutional, and sociocultural factors can hinder initiatives to promote student reflection in universities. This literature review aims to provide an overview of the challenges of encouraging reflection in higher education through a multilevel perspective. Based on the analysis of 66 selected empirical and non-empirical articles, the results show that there is a reciprocal relationship between barriers that occur at the macro and micro levels. In addition, it is found that reflection literacy is necessary at all four levels to overcome the barriers identified. The multilevel framework is proposed as a model for coordinating institutional efforts to address the challenges of reflection and upon which a shared discourse can be developed by key stakeholders who are interested in promoting reflective practice in higher education.

1. Introduction

As higher education continues its shift away from passive learning towards greater student autonomy and active strategies (e.g. Chan, Wong, Law, Zhang, & Au, 2017; Lo, 2010), it has created more student-centred and experiential learning opportunities while also enabling students to become more responsible and self-directed learners. Reflection, a pedagogical approach central to experiential learning and is a critical element of Kolb's Learning Cycle in which knowledge is created from transforming experience (Kolb, 2014); experiences alone do not necessarily lead to learning – it is the active and conscious reflection of one's experiences, emotions, actions, and responses that is essential (Loughran, 2002).

However, reflections are complex and can be employed in different ways for both learning and assessment. As Kember, McKay, Sinclair, and Wong (2008) pointed out, the concept of reflection is "widely and diversely used" (p.369) and, depending on the time and circumstance, its definitions and conceptualisations vary. For example, some researchers consider reflection to be an activity in which an individual actively engages in exploring his or her experiences (e.g. Boud, Keogh, & Walker, 1985; Rogers, 2001), while others consider it to be a tool for a person to re-examine and change their beliefs or perspectives (e.g.(Alsina et al., 2017; Mezirow, 1998)). Nevertheless, reflection is seen as a process of thinking, evaluating, and making sense of existing experiences as well as planning for future experiences, and are an integral component of both self-knowledge and self-regulation that allows the individual to evaluate,

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monitor, and improve themselves (Grant, Franklin, & Langford, 2002; Hixon & Swann, 1993; Høyrup, 2004; Mezirow, 1991; Ryan, 2013). In addition, there is currently no consensus on a preferred term for reflection, and various terms are often used to describe the concept in the literature, for example, reflective thinking, self-reflection, and reflective process (Carroll et al., 2002; Rogers, 2001). In this review, *reflection* is used as a generic term to mean the process of "mulling over events in our mind or making sense of experiences we have had" (Boud et al., 1985, p. 8), whereas *reflective practice* refers to activities as well as the capacities, abilities, and skills one employs in reflection. The ability to engage in reflection "is embedded in graduate attributes and learning outcomes across most disciplines in higher education" (Webster-Wright, 2013). Current literature on reflective practices has focused on its uses in primary and secondary education, as well as in teacher, medical, and language education (e.g. Akbari, 2007; Cotton, 2001; LaBoskey, 1994; Tsingos, Bosnic-Anticevich, & Smith, 2014); little has been done in the wider context of higher education, particularly in other disciplines such as engineering and business, and misconceptions by both students and teachers remain. Moreover, reflective practices have yet to be fully and universally adopted by higher education institutions where they are obscured by other priorities like student retention and diversity (Davis, 2003; Lo, 2010).

To thus assist effective implementation of reflections in the higher education curriculum, the goal of this study is to provide a comprehensive review of the challenges for university-level students to achieve critical and intentional reflection. It will consider the various forms and uses of reflection as a learning or assessment tool, including blogs, journals, and videos, as well as both in-class and out-of-class reflective assignments. As will be discussed, reflective expression is highly challenging and demanding, and misconceptions over the nature of reflection can render them to be ineffective or, in some cases, detrimental to student development (Boud & Walker, 1998; Ryan, 2011, 2013). Newer forms for reflection, enabled by advancements in technology, have also generated a number of additional challenges while accentuating existing ethical concerns over personal openness and privacy.

1.1. Benefits of reflection

Reflections allow students to better understand themselves through expressing their thoughts and experiences in a focused and structured manner (Gelter, 2003; Ryan, 2011), in turn also improve their future learning pursuits. Reflective learning occurs when an individual's internal exploration of an issue or experience helps them to create or clarify its meaning (Boyd & Fales, 1983) and is something that must be done actively and purposefully, involving a "critique of assumptions about the content or process of problem solving" (Mezirow, 1991). While there are epistemological critiques of reflections as learning tools (e.g. Jordi, 2011), reflective learning nevertheless provides an important foundation for students to better resolve uncertainties and complex situations, as well as consider multiple solutions to a single problem (Fullana, Pallisera, Colomer, Fernández Peña, & Pérez-Burriel, 2016).

Studies on the benefits of reflections are abundant in the literature, highlighting their role in facilitating learning through experiences and relating new knowledge to existing knowledge, integrating classroom learning into practice, guiding students to become more self-aware of their actions, strengths and weaknesses, and helping both students and teachers identify learning needs (Bandura, 1986; Mann, Gordon, & MacLeod, 2009; Tsingos et al., 2014). For example, in Ghanizadeh's (2017) study of Iranian language students, those who were engaged in reflection were more effective learners and may have had better achievements as they "monitor [ed] their learning via different strategies and reflect [ed] directly and critically on their own performances" (p.112). Moreover, students can apply skills they fostered and gained from reflections, such as self-awareness, critical thinking, and problem-solving (e.g. Perels, Gürtler, & Schmitz, 2005), to other aspects of life in the long term. The development of such transferable skills is also, in part, influenced by how students perceive and reflect on their learning experiences (Chan & Yeung, 2019). By engaging in self-assessment activities education and having greater ownership and responsibility over their own learning as a result (Bond, Evans, & Ellis, 2011), students can flourish even further as self-learners.

1.2. Student approaches to reflection

Student approaches to reflections vary by framework and methods involved. Ryan (2013) describes reflection as occurring in four different levels: the first being the ability to *report and respond* to an event or issue, followed by the ability to *relate* the issue to one's existing experiences and knowledge, the third level of *reasoning* involving the ability to understand and explain the importance of the issue at hand, and the final and highest level being the ability to *reconstruct and reframe* knowledge using new ideas and renewed ways of thinking as a result of the reflective process. Other authors have also made effort to specify and define sub-genres like critical reflection, in which the reflection process further involves consideration of social, cultural, and political contexts, critiques of pre-existing assumptions and beliefs, and engaging in problem-solving to question our frames of reference (Høyrup, 2004; Mezirow, 1990; Moon, 2004).

In the educational context, Dewey (1933) describes reflective thought as the "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the conclusion to which it tends". While reflections typically involve the processes of listening, telling, and demonstrating (Schön, 1987), they can also be interpreted and represented in multiple ways such as through writing, visuals, orally, or performance (Moon, 2004; Ryan, 2011). Reflective writing has been widely used to nurture students' reflective abilities (e.g. Wald & Reis, 2010), they come in different modes including online journaling (e.g. Xie, Ke, & Sharma, 2008), diaries (Bruno & Dell'Aversana, 2017), and learning portfolios (e.g. Klenowski, Askew, & Carnell, 2006; Lo, 2010; Scott, 2010), reflective journaling (Barney & Mackinlay, 2010) and reflection essays (McGuire, Lay, & Peters, 2009). Other reflective approaches include group-based or collaborative discussions between peers and supervisors (e.g. Burchell & Dyson, 2005; Martin & Double, 1998; Olson, Bidewell, Dune, & Lessey, 2016), video-based reflections, and reflective analyses (e.g. Fakazli & Gönen, 2017). This diversity of formats on one hand enhance the student learning but at the same time, adds to the confusion for adapting

reflective practices into higher education institutions.

1.3. The research gap in the context of higher education

There is still yet to be a comprehensive review of the challenges of reflections in higher education in the current era of progression towards active learning (particularly in experiential learning), student autonomy, and greater technology. Moreover, as the context of higher education differs from other educational levels, we should be wary of how findings from primary and secondary schools can be translated to university-level teaching and learning; for example, educators at the tertiary level are often not trained as teachers but are researchers and scientists who are required to spend part of their time teaching. At research-oriented universities in particular, staff evaluations are based on research outputs and less on teaching performance (Jung & Chan, 2017).

Additionally, students' approaches to learning are greatly influenced by how students perceive their learning experiences (Biggs, 1987; Entwistle & Ramsden, 1983; Prosser & Trigwell, 1999). These experiences include a range of factors "from the specific characteristics of the learning and teaching environment, to disciplinary, institutional and systematic variables, and beyond that to broad social influences and personal issues affecting students' lives" (Benson & Samarawickrema, 2007, pp. 2–5). Gow et al. (quoted in Hall, Ramsay, & Raven, 2004) and Sharma (quoted in Hall et al., 2004) also found several variables which influence students' learning approaches, such as workload, the nature of assessment tasks, teaching styles, staff to student ratios, course and lecture structures, lecturer and tutor enthusiasm, construction of a personal learning context, and feedback. Furthermore, approaches to implement and assess reflection in higher education is diverse – students, teachers, and even institutions may struggle to understand and engage with the concepts and practices of reflection in the different disciplines.

The implementation of student reflection involves efforts across the academic community (Rai, 2006). Educational environment influences the uptake of reflection (Clarke, 2011). Boud and Walker (1998) assert the importance of establishing a safe environment where students' personal boundaries are respected within the university's institutional culture. At the learning level, students have their own expectations, demands, and assumptions about the purpose and practices of reflection (Boud & Walker, 1998), whereas the wider political and sociocultural context has an impact on students' attitude towards reflective practice (Richards & Richards, 2013). While an open learning environment is conducive for reflective practices, students who are accustomed to traditional teacher-student relationships may find it threatening (Rowan, McCourt, Bick, & Beake, 2007). At the pedagogical level, ethical issues concerning the grading of reflections (Ghaye, 2007) and the tension between assessing the quality of reflection and mastery of subject knowledge (Gibbons, 2019) pose great challenges to teachers. In addition, a university culture that places great emphasis on outcome assessment discourages academics from focusing on students' critical capacities such as reflection (Richards & Richards, 2013), making the development and assessment of reflection a lesser priority (Hodkinson & Hodkinson, 2004). The often-restrictive bureaucratic system in a university also means that any institution-wide initiative to enhance reflective practice takes time to come to fruition (Thomson, Bengtsson, & Mkwebu, 2019). In light of the complex interaction of factors in play, this literature review aims to provide an overview of the challenges for encouraging reflection in higher education through a multilevel perspective. The research question of this study is as follows: …

RQ: What are the challenges for students to achieve critical and intentional reflection in higher education, and how does it affect them from the …

(a) … student learning level?
(b) … teaching and pedagogical level?
(c) … institutional level?
(d) … sociocultural level?

2. Methodology

2.1. Literature search procedure

This paper utilised the six-step literature search strategy from Petticrew and Roberts' (2006) study in the social sciences for executing systematic reviews, outlined below. Only studies that met the quality requirements were included in this review. Data that addressed the research questions was extracted. The literature search was conducted in July 2020.

Step 1: Formulating research questions.

To answer the research questions above, the authors sought to conduct a comprehensive review of literature from the past two decades to identify the different issues faced by students when using reflections in higher education, and how these issues may affect their engagement in reflective learning.

Step 2: Database and literature search terms.

The systematic review was conducted using four major scientific databases chosen based on the access they provided to a high quantity of educational research journals across different disciplines: ERIC, PsycInfo, Scopus, and Web of Science. The search was limited to the year between 2000 and 2020. Only English language articles published in scientific, peer-reviewed journals were included; other publications such as books, book chapters, and conference papers were excluded.

The search process began with three main key phrases – *"reflection"*, *"higher education"*, and *"challenges"* – and a set of relevant terms corresponding to each one. The search results *"reflection"* returned too many irrelevant articles as the term has many different meanings in other academic subject areas; it was thus specified using the search string *"reflective practice" OR "reflective learning" OR*

"written reflection" OR "reflective journal" OR "reflective writing" OR "reflective assessment" OR "reflective capacity" OR "reflective ability" OR "reflective process" OR "reflective thinking" OR "reflective thought" OR "critical reflection", as based on previous work done in this area. The second set of search terms corresponding to *"higher education"* included the terms *"university"* and *"college"*, while the third set for *"challenges"* included its common synonyms such as *"barriers", "difficulties", "issues", "problems", "limitations", "obstacles", "disadvantages",* and *"shortcomings"*.

The search was then set to identify articles from the four databases above with terms from the *"reflection"*, *"higher education"*, and *"challenges"* key phrase sets in their abstracts. A total of 2032 publications were identified at this step (see Table 1).

Step 3: Formulating the inclusion and exclusion criteria.

Abstracts of all publications obtained from Step 2 were read and examined based on two sets of inclusion criteria for empirical and non-empirical papers. Non-empirical papers that contained discussions on the issues of encouraging reflective practice in higher education were included. For an empirical study to be selected, it must:

- Be conducted in the context of higher education and utilised reflection as part of the curriculum or activity (credit or non-credit bearing).
- Implement reflection(s) as learning tools and/or assessments of the course, activity, or curriculum with the purpose of enhancing student learning. Reflections to evaluate courses or programmes, or to study consciousness or the philosophy of mind, were excluded.

After the examination of abstracts, 188 articles were found to meet the criteria. However, since 15 of the articles were not accessible, only 173 articles were included for full-text reviews. Next, the complete texts of the 173 articles were read. Only those that satisfied at least one of the following criteria were included for the next steps. The article must:

- Provide information about students' (full-time or part-time, enrolled at a post-secondary institution) perceptions, experiences, or attitudes towards the use of reflection in the curriculum;
- Provide information about the teacher's (faculty members who teach and/or design courses at a university, including management level staff who drive initiatives) perceptions, experiences, or attitudes towards employing, planning, or designing reflection in the curriculum for student learning;
- Contain the author(s)' views on the challenges of encouraging reflection and the shortcomings of reflective practice; and/or
- Synthesise or summarise issues concerning reflective practices in higher education.

Forty-five articles were selected after the full-text examination, while 23 articles were identified through snowballing. A total of 68 articles were subjected to data extraction and quality check in the subsequent step.

Step 4: Initial data extraction and quality check.

Relevant data from the 68 full texts identified were extracted to evaluate the quality of the publications. For empirical articles, the

Table 1
Search strategy used in each database.

Database	Search String	Fields Searched	Articles Identified
ERIC	("reflective practice" OR "reflective learning" OR "written reflection" OR "reflective journal" OR "reflective writing" OR "reflective assessment" OR "reflective capacity" OR "reflective ability" OR "reflective process" OR "reflective thinking" OR "reflective thought" OR "critical reflection") AND ("higher education" OR "university" OR "college") AND ("challenges" OR "barriers" OR "difficulties" OR "issues" OR "problems" OR "limitations" OR "obstacles" OR "disadvantages" OR "shortcomings")	Abstract	109
PsycInfo	ab ("reflective practice" OR "reflective learning" OR "written reflection" OR "reflective journal" OR "reflective writing" OR "reflective assessment" OR "reflective capacity" OR "reflective ability" OR "reflective process" OR "reflective thinking" OR "reflective thought" OR "critical reflection") AND ab ("higher education" OR "university" OR "college") AND ab ("challenges" OR "barriers" OR "difficulties" OR "issues" OR "problems" OR "limitations" OR "obstacles" OR "disadvantages" OR "shortcomings")	Abstract	140
Web of Science	#1 AND #2 AND #3 #1 AB=("reflective practice" OR "reflective learning" OR "written reflection" OR "reflective journal" OR "reflective writing" OR "reflective assessment" OR "reflective capacity" OR "reflective ability" OR "reflective process" OR "reflective thinking" OR "reflective thought" OR "critical reflection") #2 AB=("higher education" OR "university" OR "college") #3 AB=("challenges" OR "barriers" OR "difficulties" OR "issues" OR "problems" OR "limitations" OR "obstacles" OR "disadvantages" OR "shortcomings")	Abstract	381
Scopus	TITLE-ABS-KEY ("reflective practice" OR "reflective learning" OR "written reflection" OR "reflective journal" OR "reflective writing" OR "reflective assessment" OR "reflective capacity" OR "reflective ability" OR "reflective process" OR "reflective thinking" OR "reflective thought" OR "critical reflection") AND TITLE-ABS-KEY ("higher education" OR "university" OR "college") AND TITLE-ABS-KEY ("challenges" OR "barriers" OR "difficulties" OR "issues" OR "problems" OR "limitations" OR "obstacles" OR "disadvantages" OR "shortcomings")	Title, keyword, and abstract	1402
Total			2032

data extracted included general information (e.g., research context), topic (e.g., article summary), research design (e.g., methodology), population (e.g., number of respondents), overall results (e.g., challenges of reflections discussed), and a quality check. This quality check followed 11 criteria from Petticrew and Roberts (2006; Table 2). On the other hand, the non-empirical articles were assessed against the ten criteria adapted from Hirschheim (2008) as shown in Table 3. Each criterion was evaluated and given points; to pass the check and be included in this paper, an article needed a total score of at least half the maximum points possible.

To ensure robustness of the process and avoid incorrect evaluations due to rater bias, a second rater was invited to independently scored each article using the same strategy. Interrater reliability was evaluated by comparing both sets of ratings on all criteria; an intraclass correlation of 0.78 was found. Two articles did not meet the quality criteria, resulting in a final total of the 66 remaining articles that were eligible for our review (see Fig. 1 for the article selection process). There were 51 empirical articles and 15 non-empirical articles.

2.2. Data analysis

Inductive qualitative content analysis was used to code and categorise the challenges identified from the selected articles. Content analysis is a flexible method for systematic classification of text data (Cho & Lee, 2014), allowing the researchers to classify text into categories based on the focus of the research question. According to Elo and Kyngäs (2007), the three steps of inductive content analysis process are open coding, creating categories, and abstraction: while reading the selected articles, any relevant challenges identified were summarised into open codes; quantitative findings were transformed to qualitative data by assigning descriptive codes to them. The empirical and non-empirical articles were analysed and coded, and the two sets of open codes were compared and combined under the relevant challenges. Similar open codes were grouped together to form categories; then, the abstraction process was done to name each category using terms and phrases relevant to the research topic. The titled categories are finally further grouped together to form a classification of the main themes that enables the researchers to address and answer the research question. A total of 12 categories and 28 categories have emerged from the data. Table 4 shows the distribution of empirical and non-empirical articles according to the themes and categories.

3. Findings

Four levels – student learning, teacher-pedagogical, institutional, and sociocultural – concerning the challenges of reflection in higher education were derived. Many of the challenges identified are interrelated and across these different levels, with student learning at the core as shown in Fig. 2a.

3.1. Challenges at the student learning level

3.1.1. Student motivation

The analysis shows that time is a key factor that influences student motivation and engagement in reflective activities (Ahmed, 2020; Fakazli & Gönen, 2017; Mahlanze & Sibiya, 2017; Tsang & Walsh, 2010), and the development of reflective skills require commitment and hardwork (Bruno & Dell'Aversana, 2017; Hubbs & Brand, 2010). In Kis and Kartal's (2019) study of 60 student teachers' experiences with reflection in Turkey, the participants reported a dislike for journal writing due to the time and effort required to complete the task although they were aware of its benefits. Similarly, 77.5% of the nursing students inChong's (2009) study rated time constraints as the most significant barrier that discouraged them from engaging in reflective practice.

According to Ryan (2013), reflection consists of different levels with the highest level of reconstruction being the most difficult to achieve. The inability to achieve reflection-based goals may lead to stress and burnout, and thus an individual may feel less inclined to engage in deep reflection (Mälkki & Lindblom-Ylänne, 2012). As reflective tasks require a complex thinking process, placing a time limit on the task leads to additional pressure (Knowles, Gilbourne, Borrie, & Nevill, 2001; Olson et al., 2016; Smith & Trede, 2013). Roche and Coote (2008) found that time constraints caused students to avoid reflection during clinical placement and might negatively

Table 2
Quality criteria for empirical articles.

Category	Criteria
General	1. Is the research objective clear?
	2. Is the research done using the chosen method capable of finding a clear answer to the research question?
Selection Sample	3. Was enough data gathered to assure the validity of the conclusions?
	4. Is the context of the research clear (e.g. country, participants)?
Method	5. Do the researchers state the research methods used?
	6. Do the authors justify the research methods chosen?
	7. Do the researchers take into account other variables that might be of influence?
Data analysis	8. Is the data analysed in an adequate and precise way?
	9. Are the results clearly presented?
	10. Do the researchers report on the reliability and validity of the research?
Conclusion	11. Is the research question answered using empirical evidence from the research that was undertaken?

Adapted from Petticrew alnd Roberts (2006).

Table 3
Quality criteria for non-empirical articles.

Category	Criteria
Introduction	1. Is the purpose of the article explicitly stated?
	2. Is the importance of the topic made clear by the author(s)?
Content	3. Are the claims clearly stated?
	4. Is the discussion adequately positioned within the current literature?
	5. Are the claims/arguments supported with evidence?
	6. Are the arguments advanced in the article valuable for the field?
Presentation	7. Is there a clear and logical structure?
	8. Is the language intelligible?
Conclusion	9. Does the conclusion adequately address the purpose of the article?
	10. Do the authors explain how the key ideas contribute to the field?

Adapted from Hirschheim (2008).

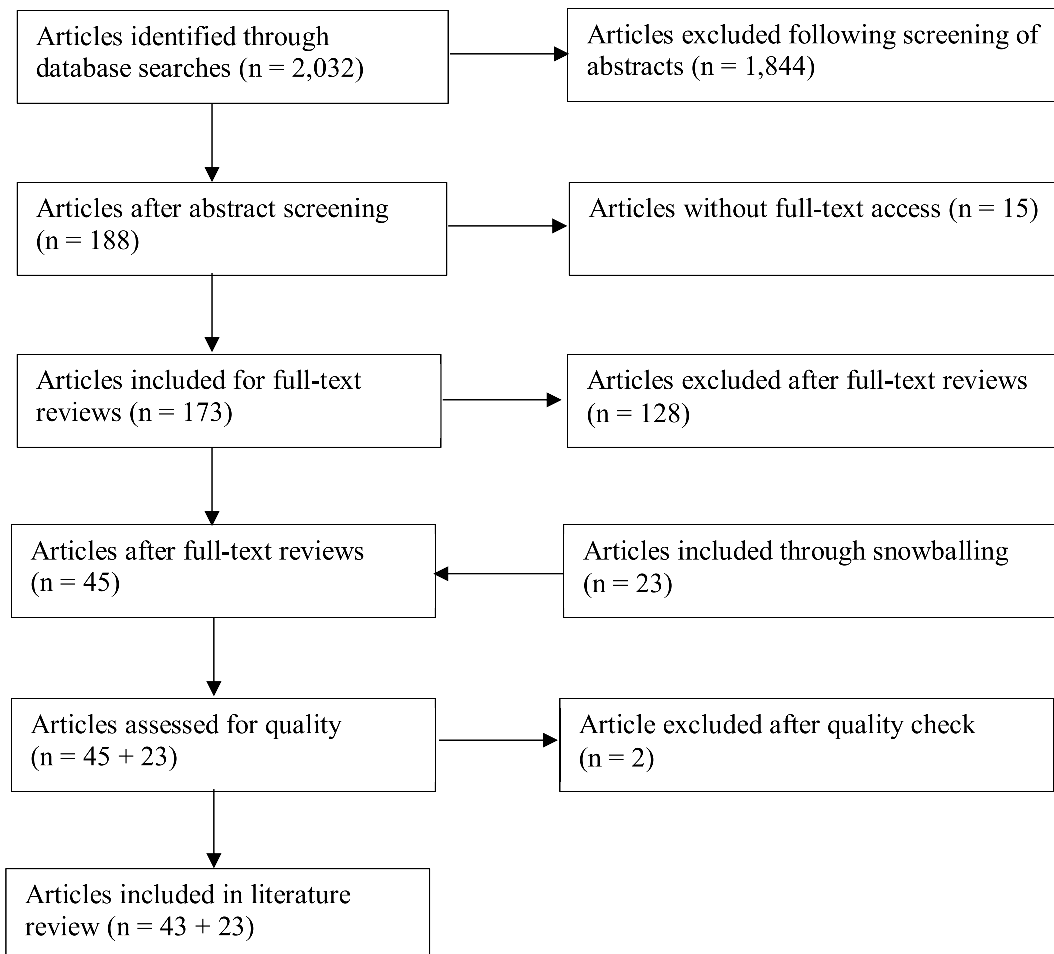

Fig. 1. Article selection process.

impact student learning. It was also perceived as a barrier to meaningful student reflection by the clinical supervisors in Thomson et al.'s (2019) investigation.

Reflective practices were found to be an additional burden to students who had to juggle other academic work at the same time (O'Reilly & Milner, 2015; Tsang & Walsh, 2010). Hence, students tended to perceive reflections as "more workload" (Power, 2012), "tedious" (O'Reilly & Milner, 2015), "tiring" (Mortari, 2012), and a "pain" (Jindal-Snape & Holmes, 2009). Furthermore, some students did not find the reflection models prescribed by their teachers helpful (Ahmed, 2020; Jack & Illingworth, 2019), while others commented that writing was not their preferred mode of expression (Dyke, Gidman, Wilson, & Becket, 2009; Fernández-Peña et al., 2016; Power, 2012; Wilson, 2013). In other words, journal writing does not suit all learning styles (Glaze, 2002; O'Connell & Dyment,

Table 4
Themes and categories.

Theme	Category	Code	Distribution of articles	
			Empirical	Non-empirical
Student learning level	Student motivation	Time and effort	Ahmed (2020), Bruno and Dell'Aversana (2017), Cheng and Chan (2019), Chong (2009), Fakazli and Gönen (2017), Jindal-Snape & Holmes, 2009, Kis and Kartal (2019), Knowles et al. (2001), Mahlanze and Sibiya (2017), Mälkki and Lindblom-Ylänne (2012), Mortari (2012), O'Reilly and Milner (2015), Olson et al. (2016), Power (2012), Roche and Coote (2008), Ryan (2013), Smith and Trede (2013), Thomson et al. (2019), Tsang and Walsh (2010)	Hubbs and Brand (2010)
		Student needs and preferences	Ahmed (2020), Cheng and Chan (2019), Dyke et al. (2009), Fernández-Peña et al. (2016), Glaze (2002), Jack and Illingworth (2019), Power (2012), Wilson (2013),	O'Connell and Dyment (2011)
		Negative attitudes	Cheng and Chan (2019), Dyke et al. (2009), Fernández-Peña et al. (2016), Glaze (2002), Hobbs (2007), Oakley et al. (2014)	
	Understanding of and ability to engage in reflection	Knowledge and skills	Ahmed (2020), Bharuthram (2018), Bulman et al. (2014), Cheng and Chan (2019), Chong (2009), Fakazli and Gönen (2017), Fullana et al. (2016), Jack and Illingworth (2019), Kis and Kartal (2019), O'Reilly and Milner (2015), Oakley et al. (2014), Richards and Richards (2013), Smith and Trede (2013), Thompson et al. (2005), Thomson et al. (2019)	Hubbs & Brand (2010), O'Connell & Dyment (2011), Levett-Jones (2007)
		Understanding of task purpose	Fullana et al. (2016), Glaze (2002), Kuswandono (2014), Lutz et al. (2017), Mahlanze and Sibiya (2017), O'Reilly and Milner (2015), Power (2012), Sutton et al. (2007)	Creme (2005), Dyment and O'Connell (2010)
		Language proficiency	Bharuthram (2018), Cheng and Chan (2019), Fullana et al. (2016), Mahlanze and Sibiya (2017), Ono and Ichii (2019), Rai (2006), Rarieya (2019)	Ryan (2011)
	Ethical concerns and emotional impact	Stress, anxiety, and fatigue	Bharuthram (2018), Bulman et al. (2014), Cheng and Chan (2019), Fernández-Peña et al. (2016), Fullana et al. (2016), Hobbs (2007), Jindal-Snape and Holmes (2009), Mortari (2012), O'Reilly and Milner (2015), Power (2012), Stewart and Richardson (2000), Sutton et al. (2007), Thomson et al. (2019), Wong-Wylie (2007)	Ghaye (2007), Levett-Jones (2007)
		Privacy and safety	Fakazli and Gönen (2017), Fernández-Peña et al. (2016), Fullana et al. (2016), Jindal-Snape & Holmes, 2009, Lutz et al. (2017), O'Reilly and Milner (2015), Olson et al. (2016), Power (2012), Risquez et al. (2007), Smith and Trede (2013), Sutton et al. (2007), Wong-Wylie (2007), Xie et al. (2008)	Creme (2005), Dyment and O'Connell (2010), Fook and Askeland (2007), Ghaye (2007), Ross (2011)
		Feedback and support	Bharuthram (2018), Roche and Coote (2008), Sutton et al. (2007), Wilson (2013), Wong-Wylie (2007)	O'Connell and Dyment (2005) Dyment & O'Connell (2010), Gibbons (2019), O'Connell & Dyment (2005), Levett-Jones (2007)
	Student-teacher relationships	Teachers as assessors	Fullana et al. (2016), Cheng and Chan (2019), Jindal-Snape & Holmes, 2009, Olson et al. (2016), Smith and Trede (2013), Stewart and Richardson (2000)	
		Trust	Cheng and Chan (2019), Stewart and Richardson (2000), Wong-Wylie (2007)	
Teacher pedagogical level	Difficulties with pedagogical logistics	Large group settings	Bulman et al. (2014), Chan and Luo (2020), Clarke (2011), Olson et al. (2016), Burchell et al. (2005), Richards and Richards (2013)	
		Workload	Butani et al. (2017), Chan et al. (2020), Esposito and Freda (2016), Kuswandono	

(continued on next page)

Table 4 (*continued*)

Theme	Category	Code	Distribution of articles	
			Empirical	Non-empirical
			(2014), Lo (2010), Ryan (2013), Strydom and Barnard (2017), Xie et al. (2008)	
	Conceptualisation of terms, purposes, and processes	Reflection knowledge and skills	Butani et al. (2017), Chan and Luo (2020), Rarieya (2005), Thomson et al. (2019)	Hubbs and Brand (2010)
		Expectations and attitudes	Butani et al. (2017), Chan and Luo (2020), Lau (2016), Rai (2006)	
	Reflection approaches	Task design	Esposito & Freda, 2016), Fakazli and Gönen (2017), Power (2012), Xie et al. (2008)	O'Connell and Dyment (2011)
		Teacher's role	Rarieya (2005)	Smith (2011)
	Assessment and feedback	Subjectivity	Chan et al. (2020), Fakazli and Gönen (2017), Jindal-Snape and Holmes (2009), Kuswandono (2014), Stewart and Richardson (2000), Thomson et al. (2019)	Gibbons (2019), Hubbs and Brand (2010)
		Standards and criteria	Bruno and Dell'Aversana (2017), Butani et al. (2017), Cheng and Chan (2019), Fernández-Peña et al. (2016), Threlfall (2014)	Bourner (2003), Hubbs and Brand (2010), Smith (2011)
Institutional level	Teaching and learning priorities	Focus on assessment and student satisfaction	Chan and Luo (2020), Lo (2010), Richards and Richards (2013)	Davis (2003)
		Lack of appreciation	Threlfall (2014)	Davis (2003)
	Institutional support	Resource allocation	Chan et al. (2020), Threlfall (2014)	Davis (2003)
		Bureaucracy	Thomson et al. (2019), Wong-Wylie (2007)	
Sociocultural level	Educational norms	Passive learning	Chan and Luo (2020), Kis and Kartal (2019), Lo (2010), Richards and Richards (2013)	Richardson (2004), Smith (2011)
		High power distance	Chan and Luo (2020), Lo (2010), Smith and Trede (2013)	Richardson (2004)
		Emphasis on rationality	Lutz et al. (2017)	Fook and Askeland (2007)
	Societal norms	Individualism		Fook and Askeland (2007)
		Collectivism	Kuswandono (2014)	

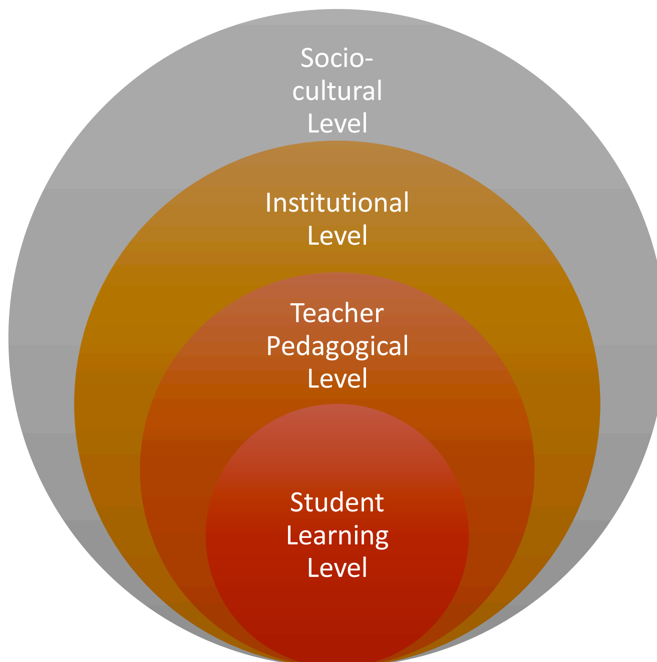

Fig. 2a. Conceptual Guide with 4 levels for the literature review.

2011); therefore, it may not be perceived as motivating and engaging by everyone.

Students' negative attitudes towards reflection affect their motivation and engagement in reflective practices (Oakley, Pegrum, & Johnston, 2014). If students do not view reflection as beneficial or relevant to their learning experience, they are more likely to treat it as a routine activity. Hobbs (2007) studied the effect of teaching certificate courses on novice teachers' belief systems and concluded that students who viewed reflection as a waste of time tended to display an insincere outlook in their journal entries. In Fernández-Peña et al.'s (2016) study of nursing students' perceptions on value of reflective learning methodology in Spain, 47 out of the 107 participants remarked that they did not find the approach motivating and one of the most frequently cited reasons was that "it [was] not necessary to learn how to reflect" (p. 63). In other studies, the participants did not consider reflection an important (Dyke et al., 2009) and legitimate educational activity (Glaze, 2002). Such negative attitudes can lead to partial engagement in or total withdrawal from reflective practices.

3.1.2. Understanding of and ability to engage in reflection

In the empirical studies reviewed, the students tended to find it difficult to understand the purpose of reflection (Creme, 2005; Dyment & O'Connell, 2010; Fullana, Pallisera, Colomer; Fernández Peña, & Pérez-Burriel, 2016; Lutz, Pankoke, Goldblatt, Hoffman, & Zupanic, 2017; Mahlanze & Sibiya, 2017; O'Reilly & Milner, 2015), the relevance of reflection to their learning (Glaze, 2002; Lutz, Pankoke, Goldblatt, Hofmann, & Zupanic, 2017; Sutton, Townend, & Wright, 2007). As a result, some of them viewed reflection as just another task to complete without maximising it as a learning opportunity (Kuswandono, 2014). Failure to recognise the purpose of reflection-related tasks and to exploit those tasks for developing deep thinking can produce "mechanical", poor quality reflections (Power, 2012).

The literature reviewed suggests that reflection does not occur naturally (Bulman, Lathlean, & Gobbi, 2014; Fakazli & Gönen, 2017; Hubbs & Brand, 2010) and that students need to be provided with appropriate training in order to be able to engage in meaningful reflection (Oakley, Pegrum, & Johnston, 2014; O'Connell & Dyment, 2011; Levett-Jones, 2007). In Cheng and Chan (2019) article, it was found that the mean score from three instructors grading 134 undergraduate reflective writings in a summer programme was way below average; students explained that they did not really understand how to reflect, they believed that "reflective writing simply meant describing what had happened". Students may find reflective practices unsettling if they lack the necessary knowledge and skills such as a sound understanding of reflective theories (Thomson et al., 2019), critical thinking skills (Kis & Kartal, 2019; Richards & Richards, 2013), the skills to explore the meanings of their experiences (Levett-Jones, 2007), the ability to write elaborately (Ahmed, 2020), and the ability to identify the opportunities for reflection (Fullana et al., 2016; O'Reilly & Milner, 2015; Smith & Trede, 2013; Thompson, Pilgrim, & Oliver, 2005). Besides, subject knowledge is also crucial as it provides the context for thinking and reflection (Bharuthram, 2018). As shown in Chong's (2009) research, 72.4% of the participants admitted that they had problem identifying relevant issues for reflection. In addition, students may have a limited understanding of the different forms of reflective practices. InJack and Illingworth's (2019) study, the student nurses were asked to express their feelings in poetry writing, but some of them questioned the value of the task as they failed to recognise poetry writing as an alternative form of reflective practice.

In learning contexts where the medium for reflection is not students' first language, a poor command of the language of instruction can be a major barrier to effective reflection. Furthermore, reflective practices—particularly reflective writing—require sophisticated rhetoric and linguistic skills (Ono & Ichii, 2019; Ryan, 2011), which is different from other types of academic writing that tends to call for an objective voice (Ono & Ichii, 2019; Rai, 2006). Hence, reflective writing can be challenging to both native speakers and non-native speakers alike. For example, 48% of the participants in Mahlanze and Sibiya's (2017) study involving South African student nurses reported low language proficiency as a barrier to reflective journal writing. In another context, a study by Ono and Ichii (2019) on undergraduate business students' experiences with reflective writing in Australia showed that while the activity posed linguistic challenges to the Chinese students, the local students found it equally difficult to master the appropriate writing style integrating a personal voice in the academic discourse. The challenges of coping with language issues in reflective practice were also reported by Bharuthram (2018), Fullana et al. (2016), and Rarieya (2019) who conducted their research in South Africa, Spain, and Pakistan respectively.

3.1.3. Ethical concerns and emotional impact

Another challenge of implementing reflective practice in higher education is the ethical issues surrounding such an activity and the resultant emotional impact it has on students. It is not uncommon for students to feel reluctant about sharing their personal feelings honestly (Dyment & O'Connell, 2010; Fernández-Peña et al., 2016; Fullana et al., 2016; Jindal-Snape & Holmes, 2009), since having to reveal their innermost beliefs, values, and thoughts to their teachers and sometimes peers make them feel vulnerable (Bharuthram, 2018; Bulman et al., 2014; Ghaye, 2007; Stewart & Richardson, 2000), uncomfortable (Fernández-Peña et al., 2016; Ghaye, 2007), and discouraged from participating in deeper levels of reflection (Jindal-Snape & Holmes, 2009; Sutton, Townend, & Wright, 2007; Levett-Jones, 2007). Cheng and Chan's (2019) study, students interviewed described reflection as "censorship", "being watched" and, having teachers as "mind-police". Bharuthram's (2018) study of first-year undergraduate students showed that reflective practices evoked unpleasant memories and feelings that the participants wished they had not had to recall. As a participant in Mortari (2012) said, reflection was a fearful process because it forced her to confront some of the painful events she had experienced. Consequently, students may choose to self-censor (Fook & Askeland, 2007; Olson et al., 2016; O'Reilly & Milner, 2015), fabricate their reflections (Fakazli & Gönen, 2017; Risquez, Moore, & Morley, 2007), and write what they perceive as appealing to their teachers (Creme, 2005).

Due to its intrusive nature, reflection tends to be viewed as a private activity that should not be publicly displayed (Fernández-Peña et al., 2016). With sharing of reflections being a common part of the learning process in universities, some students feel that the task is

"forced upon" them (Jindal-Snape & Holmes, 2009), and the experience is sometimes perceived as intrusive (Ross, 2011; Smith & Trede, 2013) and threatening (Wong-Wylie, 2007). Further, students may not trust their peers enough to share their thoughts openly with them (Lutz et al., 2017); hence, they tend to write what is deemed "presentable" to their peers (Xie et al., 2008). As part of ethical considerations in teaching and learning, Ghaye (2007) contends that students should have the right to decide whether they want to participate in reflection and to whom their reflections are disclosed.

Having the expression of their feelings and thoughts assessed can incur anxiety in students (Fullana et al., 2016; Hobbs, 2007; O'Reilly & Milner, 2015; Power, 2012; Stewart & Richardson, 2000; Thomson et al., 2019; Wong-Wylie, 2007) and limit genuine reflections (Levett-Jones, 2007). Reflections are personal, and assessing them raises questions about ethics (Creme, 2005; Ghaye, 2007) and objectivity in grading (Fernández-Peña et al., 2016; Sutton et al., 2007). There is also concern about the transparency of assessment process and criteria used to evaluate such personal, subjective disclosure (Fullana et al., 2016; Power, 2012). Feedback, an integral component of assessment, can inhibit students' reflective practice (Gibbons, 2019). Some of the empirical studies in this review show that the unfavourable feedback students receive on their reflections and overt scrutiny from others could be disempowering and damaging to their confidence and motivation (Roche & Coote, 2008; Wilson, 2013; Wong-Wylie, 2007). On the other hand, not receiving any feedback on their work could be equally demotivating to students and negate the importance of the task (Bharuthram, 2018).

When students do not receive the type of support and assistance they expect from their teachers, they may feel that they are left to their own devices (O'Connell & Dyment, 2005; Sutton et al., 2007). Teachers could ease students' anxiety of participating in reflective practices by providing a structured learning experience (Levett-Jones, 2007) and adequate training (Dyment & O'Connell, 2010). Clear articulation of task requirements can alleviate fear and uncertainty to ensure that students benefit from reflective practices (Sutton et al., 2007).

3.1.4. Student-teacher relationships

The student-teacher relationship was a potential obstacle to students' perceptions and uptake of reflective practice. Most of the time, students are aware of the dual roles teachers play as educators/mentors and assessors (Stewart & Richardson, 2000). Students who are sensitive to the dynamics of student-teacher relationships may feel hesitant or uncomfortable with divulging their thoughts and feelings, unmotivated to engage in deeper levels of reflection, and feel negatively towards having their personal remarks judged or evaluated by others (Fullana et al., 2016; Jindal-Snape & Holmes, 2009). This is further complicated when more sensitive and personal topics arise in reflections (Olson et al., 2016). Moreover, Smith and Trede (2013) found that student-supervisor relationships can negatively impact the reflective process when students become overly aware of the fact that they would be assessed. Findings in Cheng and Chan (2019) showed that students may submit a "polished version" of their reflection more aligned to what they think their teachers are expecting.

Lack of trust in the student-teacher relationship can discourage students from engaging in meaningful reflection. Teachers who disseminate conflicting information and display low interest in reflection induce doubt and anxiety in students concerning how their reflections would be assessed (Stewart & Richardson, 2000). In Wong-Wylie's (2007) study involving doctoral counselling students, a participant began "shutting down" towards her teacher after the teacher passed condescending comments on a student's video-recorded work with a client. The participant appeared to have lost trust in the teacher's ability and credibility as a mentor, causing her to withdraw from the reflection task.

3.2. Challenges at the teacher-pedagogical level

3.2.1. Difficulties with pedagogical logistics

With regards to teachers and teaching practices, implementing reflective practices can be a challenging undertaking especially with large classes and tight teaching schedules. It is time consuming for teachers to plan, organise, and execute a well-structured lesson that offers opportunities for scaffolding as well as to provide constructive feedback for learning enhancement (Butani, Bannister, Rubin, & Forbes, 2017; Kuswandono, 2014; Chan, Wong, & Luo, 2020; Lo, 2010; Ryan, 2013; Strydom & Barnard, 2017, Xie at al., 2008). This is particularly the case for underachieving students who tend to have more difficulty with reflective practices, requiring more time and guidance from their teachers compared to high achievers (Esposito & Freda, 2016). Organising group reflections can be tedious as it involves finding a suitable space and time, as well as planning and structuring so that the meeting is productive for those who attend (Burchell & Dyson, 2005). Collective reflections can be difficult to coordinate when there are time constraints and lack of collaboration and communication between participants (Olson et al., 2016). Moreover, facilitating collective reflection requires sensitivity and pedagogical competence on the part of the teacher as open sharing of reflections needs to be conducted in a safe environment (Clarke, 2011) and effective reflection is difficult to achieve in a large group setting (Bulman et al., 2014). In addition, teachers need to possess a repertoire of strategies to engage reserved students to ensure that every student benefits from the learning experience (Richards & Richards, 2013).

3.2.2. Conceptualisation of terms, purposes and processes

Past literature has found that reflections are most valuable to students when their instructors are able to guide them through the "reflective process in an educationally meaningful way" (Hubbs & Brand, 2010, p. 69). However, teachers may not possess the knowledge and skills necessary for facilitating effective reflective practice (Rarieya, 2005). For example, in Thomson et al.'s (2019) study, the clinical supervisors were found to lack adequate knowledge of reflective theories. They admitted that they needed training in coaching and using reflective theories. Lack of skilled teachers was perceived by 52% of the respondents in Butani et al.'s (2017) study

as an obstacle to students' reflective practice.

Teachers may also have different understandings and expectations concerning reflective practice (Rai, 2006). In Chan & Luo's article, teachers exhibited a sound conceptual understanding of reflection as both a learning tool and as assessment, teachers believed that the process of reflection is valuable for students and formative assessment should be considered. In a qualitative study of English teachers in a Hong Kong university, Lau (2016) found that while some considered language use to be the most important component of reflection, others viewed it as the least important. The absence of an agreement on what is expected of students can impede effective facilitation of student reflection. Another barrier at the pedagogical level is teacher attitudes. Teachers who do not value reflection are not likely to motivate students to engage in reflection (Butani et al., 2017).

3.2.3. Reflection approaches

Several studies have found that the quality of students' reflections are influenced by the modes of reflection used (e.g., Fakazli & Gönen, 2017; Power, 2012). Some students may find that they are less inclined to reflective writing (e.g., Power, 2012; Xie et al., 2008), while others may dislike being video-recorded for reflective analysis (Fakazli & Gönen, 2017). It is necessary for teachers to carefully consider the approaches and modes used for reflection, which can be particularly challenging if they are unfamiliar with the perceptions and backgrounds of their students (Esposito & Freda, 2016). Tasks need to be properly structured to guide students through the complex thinking process in reflection (O'Connell & Dyment, 2011). This may entail teachers adopting the role of facilitators (Rarieya, 2005) and reflective practitioners themselves (Smith, 2011). Teachers find it difficult to assess students on their written reflection, they feel that maybe face to face reflection may be more effective (Chan et al., 2020).

3.2.4. Assessment and feedback

Teachers tend to find it challenging to set standards for grading reflections, which are students' subjective thoughts and feelings about their own personal experiences (Bourner, 2003; Butani et al., 2017; Fernández-Peña et al., 2016; Smith, 2011). The challenge is further compounded by the fact that reflection is emergent and thus it is difficult to determine learning outcomes in advance (Bourner, 2003). Furthermore, teachers may not be able to gauge students' improvement accurately without a sound understanding of students' past experiences (Bruno & Dell'Aversana, 2017; Hubbs & Brand, 2010; Threlfall, 2014). Without a clear rubric for assessing reflections, teachers will have to depend on their subjective evaluation and personal judgements (Cheng & Chan, 2019); Fakazli & Gönen, 2017; Jindal-Snape & Holmes, 2009; Kuswandono, 2014). In a study by Chan et al. (2020), they investigated teacher's literacy in assessing reflective writings, teachers were not confident in assessing and have not received appropriate support and trainings. It was also found that a variety of criteria was used to assess students including word count, grammar and writing comprehensibility, evidence of deep reflection, and referring to previous cases of assessed work. Teachers have indicated biased and subjective towards individual responses. For more on teachers' assessment literacy using reflection, Chan and Luo (2020) has adapted Pastore and Andrade (2019) conceptual, praxeological and socio-emotional dimensions on teacher assessment literacy to investigate teacher assessment literacy on assessing reflection.

In addition, teachers may have different interpretations of the assessment criteria given to them (Hubbs & Brand, 2020; Stewart & Richardson, 2000) and place greater emphasis on content over quality of reflection (Gibbons, 2019). Such subjectivity in assessment was identified as a "risk factor" for implementing reflective practices in Thomson et al.'s (2019) study.

3.3. Challenges at the institutional level

3.3.1. Teaching and learning priorities

There is a tendency for higher education institutions to prioritise academic achievements, student retention, and student satisfaction over innovative pedagogical approaches such as reflective practices (Davis, 2003; Lo, 2010; Richards & Richards, 2013). As Davis (2003) argues, particularly in the case of newer institutions, many universities have yet to give precedence to reflective practices and that "universal reflective practice may come in the long-term but only once the deeper-seated problems within the sector are resolved" (p. 243). Teachers were clearly pressured by the evidence required in an academic-oriented tradition in the university in Chan & Luo's study. They assessed "only to meet the administrative goas". As a result, teachers may not be accorded due appreciation and recognition for their efforts in less prioritised areas such as reflective practice (Davis, 2003; Threlfall, 2014).

3.3.2. Institutional support

With institutional focus being directed to priorities such as academic outcomes and student satisfaction, there may not be sufficient resources allocated for supporting the use of reflective practice in the classroom (Davis, 2003; Threlfall, 2014). As reflection necessitates the use of a deep learning approach, universities should provide appropriate curriculum structure, assessment policy, and student support and teachers' trainings to assist student uptake of reflective practice (Chan et al., 2020; Davis, 2003). Wong-Wylie (2007) identified systemic barriers such as standardising assessment and limited access to personal counselling support as "invisible, uncomfortable, and unnamed boundaries" that impede reflective learning initiatives (p. 67). Even if there are attempts to remove such boundaries, the bureaucratic structure in universities would make such changes a time-consuming process (Thomson et al., 2019).

3.4. Challenges at the sociocultural level

3.4.1. Educational and societal cultures

The sociocultural context, including norms that govern social interactions, relationships between students and teachers, and

acceptable ways of expressing oneself, influences how reflections are undertaken in a learning context. Individualist and collectivist cultures pose different challenges to reflective practice. In a culture where silence and individualism are valued, reflection can be viewed as "too confronting" or taken as "interrogation" (Chan & Luo, 2020; Fook & Askeland, 2007, p. 523). On the other hand, a collectivist culture such as that demonstrated in Kuswandono's (2014) study in Indonesia, tends to label expression of thoughts and emotions as "standing out" and "being distinct from other commonalities", which most students are reluctant to do.

In general, traditional educational systems encourage passive learning (Kis & Kartal, 2019; Lo, 2010; Richards & Richards, 2013; Richardson, 2004; Smith, 2011), focus on rationality rather than expression of emotions (Fook & Askeland, 2007; Lutz et al., 2017) and emphasise academic outcomes over capacity development (Lo, 2010), thus hindering the use of reflections which is deemed a less usual practice in teaching and learning. The perceived power distance between students and teachers can also influence teachers' willingness to implement and lead reflective discussions and students' willingness to share personal experiences and feelings (Chan & Luo, 2020; Lo, 2010; Richardson, 2004; Smith & Trede, 2013). For example, Richardson's (2004) study on reflective practices in Arabic-Islamic culture found that both the teachers and students were unwilling to engage in open and critical reflective discussions because of the perceived distance between them. In Chan and Luo's (2020) study, socio-emotional dimension was discussed, the study based in Hong Kong, with an academic exam oriented tradition, "students' privacy and emotions are largely downplayed, if not ignored". Teachers were found to lack the literacy to understand the struggle of power and personal relationship between students and teachers in reflection.

4. Discussion

Based on the review, a multilevel framework conceptualising challenges for university students to achieve deep reflection is proposed (Fig. 2b). In our findings, we have discussed how factors from each of the four levels pose challenges to students' efforts towards critical and intentional reflection. It is also important that we recognise the interrelationships among the different levels – indicated by the gradient in Fig. 2b – and how they influence each other in shaping the challenges of reflection. In this section, we provide a dynamic perspective to understand these challenges in a holistic way.

4.1. Understanding challenges: The reciprocal relationships between levels

Through top-down socialisation, macro variables (e.g., institutional and sociocultural) inevitably affect reflective practices by creating "a culture of certainty and compliance that is not easily challenged" (Scarino, 2013, p. 312). These macro influences could be tacit, arising as cultural norms and expectations (Lo, 2010; Richardson, 2004) and internalised by institutions and individuals (Erez & Gati, 2004); as stated by Boud and Walker (1998), reflective practices are "highly context-specific and that the social and cultural context in which reflection takes place has a powerful influence over what kinds of reflection it is possible to foster" (p. 191).

These influences may also be more explicit, such as in the form of institutional policies and established standards (Xu & Brown, 2017); with research-oriented universities often prioritising research outputs over teaching quality (Supiano, 2019), uses of innovative pedagogies like reflections may be seen as risky, especially with promotions and end-of-semester student evaluations on the line. It is thus unsurprising that, given the lack of institutional support available to them, the effort and time teachers can afford to invest in preparing and guiding their students for the reflective process is compromised (Davis, 2003; Threlfall, 2014).

Concurrently, micro variables have a bottom-up influence on higher-level challenges as well (Erez & Gati, 2004). For example, to

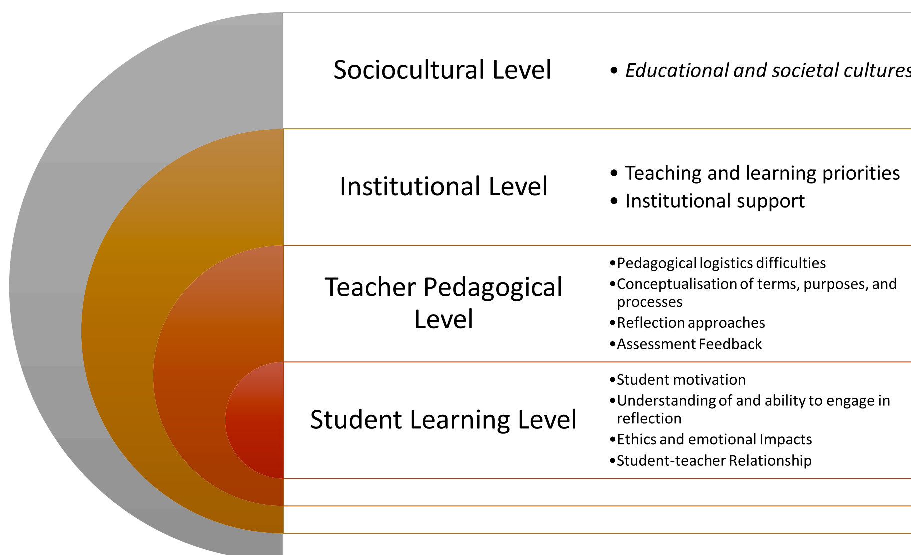

Fig. 2b. Challenges affecting students to achieve critical reflection in Higher Education at each level.

cope with the sociocultural challenges, change must start at the individual level as it is the mindsets and practices of teachers and students that constitute the overall educational culture. Hobbs (2007) has cautioned against "forced" reflections, which would raise aforementioned ethical concerns over personal rights and power (Cotton, 2001); the cultivation of a more supportive environment is needed to address these concerns and further enable deeper student reflection (Fernsten & Fernsten, 2005; Hobbs, 2007). Given that both top-down and bottom-up influences exist, the challenges identified in this review are all interconnected, and, in order for change to take place, efforts must be comprehensive and address each level with consideration of all others.

4.2. Confronting challenges: Tensions, compromises, and negotiations

Reflections are a complicated process involving the cognitive, affective, and social dimensions (Beauchamp, 2015; Boud, 2001; Chan & Luo, 2020). The multiple levels and interrelatedness of its challenges requires that stakeholders (e.g., students, teachers, policymakers) each negotiate and navigate through a range of factors in order to ensure that high-quality reflection can be achieved. For example, students will need to balance both external constraints (e.g., the exam-oriented culture; lack of guidance from teachers) and internal beliefs (e.g., motivation to reflect; ethical concerns) when engaging in reflection.

Concrete changes towards improving student reflective learning will need to start at the core – student learning – and that compromises be made across different levels. For example, if students are to take reflection seriously, teachers need to invest more time and effort in providing scaffolding and guidance (Hubbs & Brand, 2010), as well as in cultivating learner autonomy; meanwhile, teachers also need to decide how to use reflections, such as using it solely for assessment or solely for learning (O'Connor, Hyde, & Treacy, 2003).

To achieve lasting change at the institutional level, tensions within each stakeholder's beliefs, attitudes, and perceptions need to be addressed. Often, barriers to change tend to be individuals' existing hidden mindsets that contradict their intended goals, making them immune to change (Kegan & Lahey, 2009). The implementation of institution-wide change necessitates stakeholders to uncover, examine, and modify such underlying belief systems that deter them from making meaningful change in their professional practice (Helsing, Howell, Kegan, & Lahey, 2008). Therefore, efforts to encourage student reflection as an educational outcome require teachers and policymakers to become reflective practitioners themselves.

4.3. Responding to challenges: Towards reflection literacy at all levels

This review points to the importance of recognising and mastering the purposes, processes, and approaches for both implementing and assessing reflections, which we will henceforth refer to collectively as *reflection literacy*. This concept of literacy is borrowed from the well-acknowledged construct of assessment literacy, which is the "level of knowledge, skills, and understanding of assessment

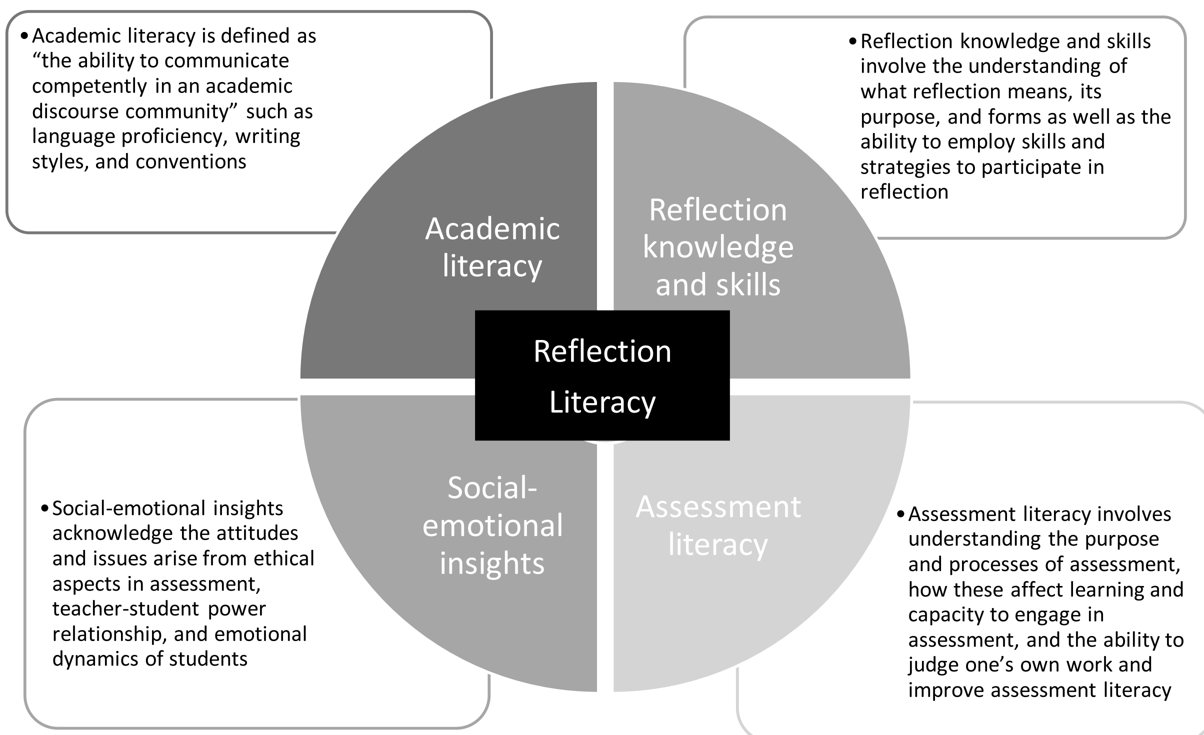

Fig. 3. Reflection literacy framework.

principles and practice" (Taylor, 2009, p. 24). While assessment literacy has existed for almost two decades (Stiggins, 1991), we argue that reflection, as a relatively new learning and assessment approach in higher education, also requires literacy from each level of stakeholder.

As shown in the findings, reflection literacy is made up of four components: academic literacy (e.g., Ono & Ichii, 2019; Rai, 2006), reflection knowledge and skills (e.g., Kis & Kartal, 2019; Rarieya, 2005; Richards & Richards, 2013; Thomson et al., 2019), assessment literacy (e.g., Hubbs & Brand, 2020; Stewart & Richardson, 2000) and social-emotional insights (e.g., Chan & Luo, 2020; Pastore & Andrade, 2019). Academic literacy is defined as "the ability to communicate competently in an academic discourse community" (Wingate, 2015, p. 6) such as language proficiency, writing styles, and conventions. Reflection knowledge and skills involve the understanding of what reflection means, its purpose, and forms as well as the ability to employ skills and strategies to participate in reflection. Assessment literacy, on the other hand, involves understanding the purpose and processes of assessment, how these affect learning and capacity to engage in assessment, and the ability to judge one's own work and improve assessment literacy (Smith et al., 2013). Social-emotional insights acknowledge the attitudes and issues arise from ethical aspects in assessment, teacher-student power relationship, and emotional dynamics of students (Chan & Luo, 2020). Reflection literacy, then, would refer to students' ability to reflect cognitively, express their thoughts and emotions through different means (including other than writing, which students tend to prefer; de Andrés Martínez, 2012), and understand reflections as both a learning and assessment tool. Ignorance to the importance of reflection could hinder their engagement in this process (Boud & Walker, 1998), such as if they are unable to reflect because they do not understand the reflective learning process itself (Dummer, Cook, Parker, Barrett, & Hull, 2008). Fig. 3 shows the diagrammatic form.

For teachers, failing to realise potential ethical and emotional risks of reflection could largely undermine students' reflective learning (Ghaye, 2007; Jindal-Snape & Holmes, 2009). There is a lack of understanding towards reflection assessment, with some teachers also failing to realise potential issues of consistency, appropriate assessment criteria, and fairness (Chan et al., 2020). Moreover, the inevitable subjectivity of reflections signifies the importance of training and literacy to ensure that teachers know how to apply general frameworks to reflective practices and assessment.

Illiteracy from these micro levels further links to illiteracy from the macro levels, as evidenced by the lack of institutional support and emphasis on enhancing student reflection in higher education (Davis, 2003; Threlfall, 2014). To thus effectively enable students' deep, reflective learning, reflection literacy must be promoted at all levels and its multidimensional nature (i.e. as an assessment and learning tool; its cognitive, social, and affective dimensions) acknowledged and understood, especially as this knowledge does not come naturally (Fakazli & Gönen, 2017; Hubbs & Brand, 2010). Achieving this across all levels would best enable joint efforts from all stakeholder to take the crucial steps towards responding to all these challenges.

The multilevel framework proposed in this review can serve as a guide for coordinating efforts to encourage reflection literacy across different levels. At the macro level, the framework can be used to engage key stakeholders through a shared discourse on issues related to the type of policy, training, and resources needed to support teachers' and students' reflective practice. The barriers identified in this review are implementation factors that need to be taken into consideration while devising implementation strategies, such as time, workload, as well as an individual's conceptualisation of and attitudes towards reflection. At the micro level, the framework provides key points for consideration in promoting reflective practice in the classroom. At the closing of this section, five main strategies synthesised from the findings are presented as guidelines for teachers:

- Articulate the purpose and expectations of the task clearly to students
- Provide structure and scaffolding for student reflection
- Give an option for students to choose whether to share their reflections with peers
- Allow ample time for students to engage in the process
- Provide constructive, sensitive feedback

5. Concluding remarks

This paper proposed a multilevel framework outlining the challenges for university-level students to achieve critical and intentional reflection, which provides a structured and dynamic overview of such challenges by emphasizing the interconnectedness between different macro (sociocultural; institutional) and micro (teachers; students) factors within higher education. The explanation of how the framework can be used to encourage reflection literacy by interested key stakeholders is provided in the previous section. For early adopters, especially those in a context where there is an emerging focus on reflective practice, the framework makes apparent the often subtle issues that Wong-Wylie (2007) refers to as "unnamed boundaries" to help them preempt challenges and navigate through those boundaries.

There are a number of important implications for improving reflective practices in higher education. The need for consolidated efforts from every stakeholder to achieve the goal of engaging students in deep reflective learning needs to be recognised; this will enable policymakers and senior management to reallocate resources and fine-tune relevant guidelines. For example, the promotion and recruitment of university teachers should not depend heavily, or even solely, on research output; they will also need more incentives and training to better guide student reflection. In traditionally exam-oriented regions, policymakers need to realise how national policies and the education system affects individuals and their learning, and should thus make greater efforts to enact new guidelines for change in cooperation with researchers, teachers, and students. Simultaneously, students themselves need to truly appreciate the value of reflections and strive towards building a safe and supportive environment with their teachers and peers where reflection can take place. As mentioned, the above challenges are all interconnected, and reflection literacy thus needs to be promoted

and cultivated across every level.

The review also demonstrates that much of the challenges are clustered at the teacher-pedagogical and student learning levels, which in no way suggests that institutional and sociocultural challenges are less significant. On the contrary, more research is needed to explore the interactions between macro- and micro-level factors. Stakeholders must actively negotiate these challenges and make compromises when necessary and, with the findings in mind, consider some important questions: whether the way reflection are used is truly beneficial for students; whether reflections must be assessed, and if formative feedback is sufficient; whether due dates are appropriate for reflective tasks; the extent to which teachers and students are aware of the ethical impacts of reflection; and so on. While these questions provide valuable food for thought, they also underline possible directions for future research.

One of the major limitations of this study is that we did not provide a comprehensive conceptualisation of the new construct of reflection literacy proposed. Still, it has important implications for improving professional training and student learning, and should be given due attention. Future studies may seek to better define and discuss this construct to help map out practical approaches for enhancing reflection literacy in higher education.

It is hoped that this paper has provided institutions, teachers, and students with insights that can guide them towards better understanding the complexities of reflection in higher education, and work towards improving their reflection literacy. Future research may continue studying this topic in further depth, such as reviewing literature on more specific areas like uses of reflections in certain disciplines, other ethical issues, and new platforms of reflection (e.g., audio, video, face-to-face). As there has yet to be any consensus on how reflective skills should be developed (Dekker-Groen, van der Schaaf, & Stokking, 2011), the authors also encourage continued research on existing methodologies to scaffold and facilitate their development.

Declaration of competing interest

None.

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