

# A Critical Evaluation of EPs' Cognitive Assessment Work with Children and Young People with English as an Additional Language

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Conducting culturally and linguistically fair assessments is an ethical requirement for educational psychologists, particularly when working with children and young people with English as an additional language (EAL). Despite a number of existing professional guidelines and frameworks for practice, the evidence base on how to address cultural and linguistic bias when working with this population is still limited, especially in the UK context. Findings from an interview with three experienced educational psychologists highlight an increased awareness around this issue and the need for further studies and guidance on non-discriminatory assessment practice for children and young people with EAL.

*Keywords:* cognitive assessment, English as an additional language, children and young people, educational psychology

## Introduction

Deciding how to gather comprehensive and accurate information is not always easy, especially considering the time constraints and budget limitations educational psychologists (EPs) must deal with. This is even more complicated when working with children with English as an additional language (EAL), due to the impact of cultural and linguistic factors.

The first part of this paper concerns the cognitive assessment process, with the second being dedicated to issues of bias and fairness, specifically considering culturally and linguistically diverse (CLD) children and young people (CYP). The third part critically discusses the evidence around cognitive assessment of children with EAL, alongside current gaps in the literature. Reflections on the assessment practices of three experienced EPs end the article.

## The Process of Psychological Assessment

In educational psychology, psychological assessment can be defined as a dynamic process consisting of “a comprehensive set of activities that identify a child’s strengths and challenges and the family’s concerns and priorities as well as chart a course for the next steps for the child and the family” (Crais, 2011, p. 341). It is, therefore, a process that happens over time, that implies stakeholders’ direct involvement and that is guided by psychology-informed hypotheses (Boyle & Fisher, 2007).

These features have been highlighted in professional guidelines (British Psychological Society [BPS] 2009; British Psychological Society, Division of Educational and Child Psychology [BPS, DECP], 2002; Health and Care Professions Council, 2016) and in the Special Educational Needs and Disability code of practice (Department for Education,

Department of Health, 2014), which states that the views and aspirations of CYP and their parents must guide assessment and decision-making processes.

As suggested by Frederickson and Cline (2009b), before carrying out any psychological assessment, EPs need to consider not only its purpose but also what information is needed for that purpose, what methods will provide this information and how the results will be interpreted and used.

Psychological assessment includes a number of different methods, such as observations, interviews, gathering existing information (e.g., portfolios of the learner’s work) and professional judgement, and tests (Boyle & Fisher, 2007).

Different theories of intelligence have historically led to different approaches to cognitive assessment. A comprehensive exploration of this topic is beyond the scope of this work; therefore, only the two main approaches to cognitive assessment will be addressed.

The traditional approach relates to a static view of intelligence and is characterised by the use of psychometric tests (Frederickson & Cline, 2009b).

The approach underpinning Dynamic Assessment (DA) considers cognitive functioning as modifiable and derives from Vygotsky’s social constructionist concept of zone of proximal development (Frederickson & Cline, 2009c). As DA focuses on the potential for learning, it is considered to be fairer towards ethnic and linguistic minorities (Feuerstein, 1979, as cited in Frederickson & Cline, 2009b; Sternberg & Grigorenko, 2008) and towards children with learning difficulties (Lauchlan, 2001)

Despite the differences mentioned above, DA is seen as a complementary way to gather different information (Kaufman, 1994, as cited in Lauchlan, 2001).

## EPs' Assessment Practices

Findings from a questionnaire survey of 142 EPs in England and Wales (Woods & Farrell, 2006) indicate that EPs were using and valued a considerable variety of assessment methods, including interviews, observations and psychometric tests. Partial psychometric testing was preferred to full psychometric assessment, which could be explained by an increasing popularity of other approaches, such as DA, and by the hypothesis that in certain contexts the purpose for assessment might have been related to intervention planning rather than classification or diagnosis (Woods & Farrell, 2006). Considering that twelve years have passed from the time this study was published, more updated findings on current EPs' assessment practices are needed.

## Frameworks for Practice

Psychological assessment is inevitably affected by socio-political changes (Wood, 2015). The current thinking in the UK seems to have shifted from a within-child explanation of children's needs (Wood, 2015) to a more social constructionist stance (Kelly, 2017), with the eco-systemic model, which explains children's needs in terms of interactions between the child and the environment, being generally preferred.

This theoretical shift is supported by the development of relatively recent practice frameworks, which consist of "a series of steps, stages or actions that support the application of a theoretical model or models" (Kelly, 2017, p. 14). For example, the constructionist model of informed and reasoned action (COMOIRA), (Gameson et al., 2003, as cited in Gameson & Rhydderch, 2017), links the social constructionist theoretical model with practice guidance, as it consists of a set of core principles, concepts and theories as well as of eight decision points. As can be seen in Figure 1, the theoretical underpinnings of the model are closely linked to the key decision points, showing how theory needs to inform practice at every step of the process. The focus on co-constructing issues and opportunities for change, as well as the emphasis on facilitating change, reflect the fundamental role of EPs in empowering people by helping them make sense of problematic situations and involving them in identifying, achieving and evaluating the desired outcomes.

Another framework that reflects the thinking shift mentioned above is the framework for psychological assessment and intervention developed by the Division of Educational and Child Psychology (BPS, DECP, 2002). As shown in Figure 2, it highlights the impact of values, ethics and politics on EPs' practice, which is deeply embedded in the context in which it takes place. It also illustrates the link between assessment and intervention as well as the dynamic nature of the assessment process. Moreover, BPS, DECP (2002) emphasises the need for assessment and intervention to be based on up-to-date psychological theories and research, making

the framework adaptable to current evidenced-base psychology.

The frameworks presented here exemplify the importance for EPs to link their practice to solid theoretical basis. However, when interviewed about their theoretical approaches to psychological assessment, 40 per cent of the 142 EPs involved in the study did not reply to the question, and the majority of those who did indicated particular methods rather than theoretical frameworks (Woods & Farrell, 2006). Moreover, Kelly (2017) argued that this lack of evidence still applies to the current scenario.

## Issues of Bias, Fairness and Equal Opportunities

In referring to the British context, Newland and Patel (2005) affirmed that we live in a racist society, as can be seen in the "over pathologizing bias" (Lopez, 1989, as cited in Newland & Patel, 2005): people from a diverse ethnicity (especially from an Afro-Caribbean background) are likely to receive more severe diagnoses and clinical judgements than White people. A similar position is taken by Frederickson and Cline (2009c), who found evidence of ethnic disproportionality of pupils from minority communities in SEN provision.

Disparities have been found also on achievement measures in English and maths: culturally and linguistically diverse (CLD) pupils in European countries achieve lower results than children born in the country (PISA, 2012, as cited in Geva & Wiener, 2014b).

The British Psychological Society (2017a) provides relevant recommendations on addressing the complexity that characterises working with people from diverse backgrounds. EPs need to be mindful of the history of racism linked to various forms of discrimination, such as culturally biased testing in favour of white-middle-class children. Moreover, they should be aware of the impact of cultural factors in the assessment process, as well as of their own ethnocentricity and possible personal biases. For example, EPs need to consider that cultures vary in terms of expectations on children's academic achievement, family structure, gender roles and explicit/implicit expression of emotions (Geva & Wiener, 2014c).

Life experiences are another fundamental aspect EPs should address. For example, older age at immigration and low proficiency in the second language (L2) have a negative impact on academic achievement and wellbeing (Geva & Wiener, 2014c). Additionally, refugee CYP often suffer from the consequences of poverty, discrimination, separation from family members and trauma (Geva & Wiener, 2014b), which might affect their cognitive functioning and wellbeing.

## Bias and Test Fairness

Regarding the use of psychological tests with individuals from minority groups, the guidelines provided by the Inter-

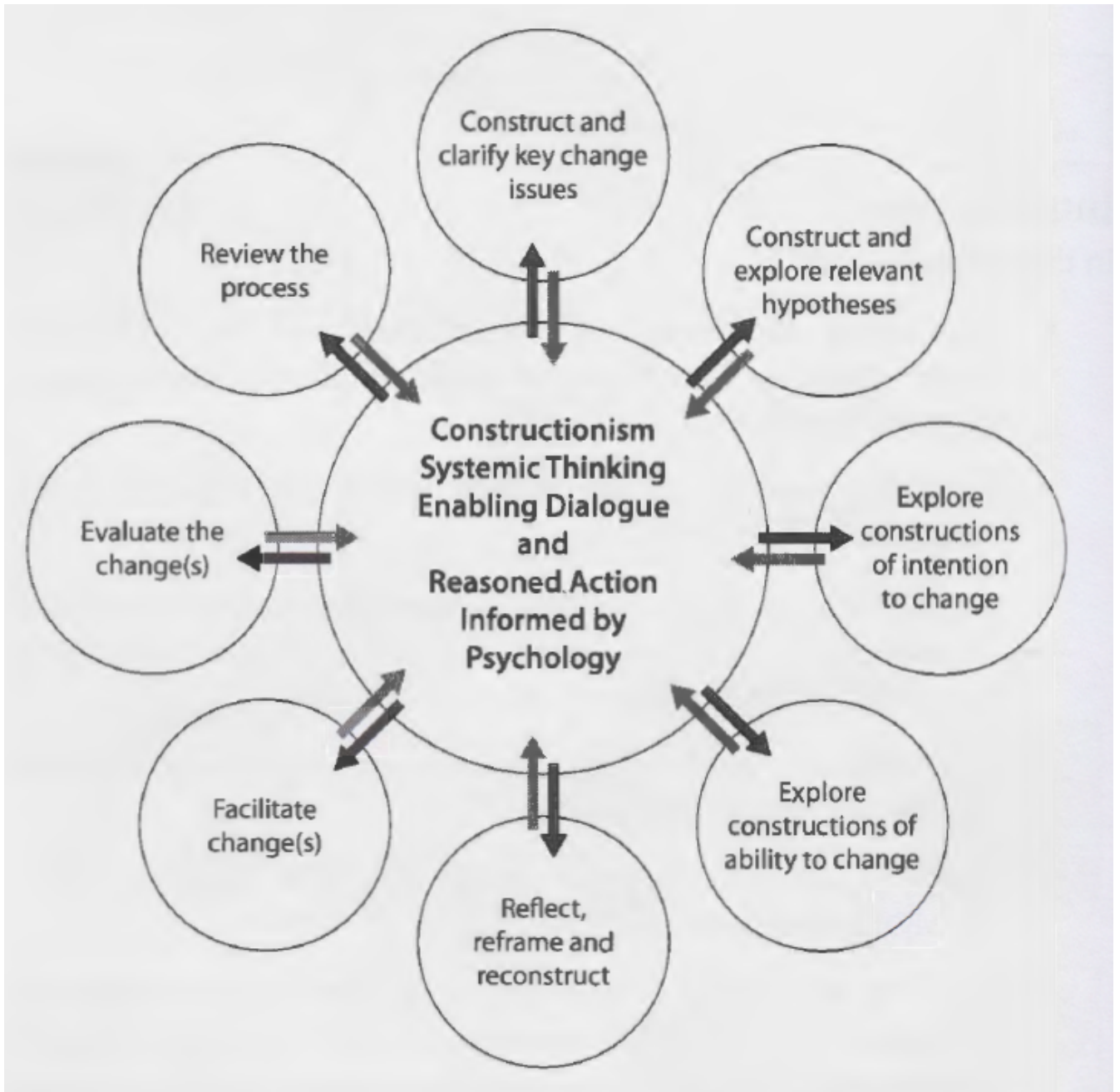


Figure 1. COMOIRA.

From “The Constructionist Model of Informed and Reasoned Action (COMOIRA),” by J. Gameson and G. Rhydderch, in B. Kelly, L. M. Woolfson, & J. Boyle (Eds.), *Frameworks for practice in educational psychology: A textbook for trainees and practitioners* (Second Edition, p. 124), 2017, Philadelphia: Jessica Kingsley Publishers. Copyright 2017 by Jessica Kingsley. Reprinted with permission.

national Test Commission (2013) and British Psychological Society (2017b) recommend to use tests which are unbiased, that measure a construct meaningful in the individual’s cultural background and for which the use has been proven valid

in the intended group.

It can be argued that developing completely culture-free methods might be unrealistic, as they are unavoidably embedded in the cultural context in which they originate (Fre-

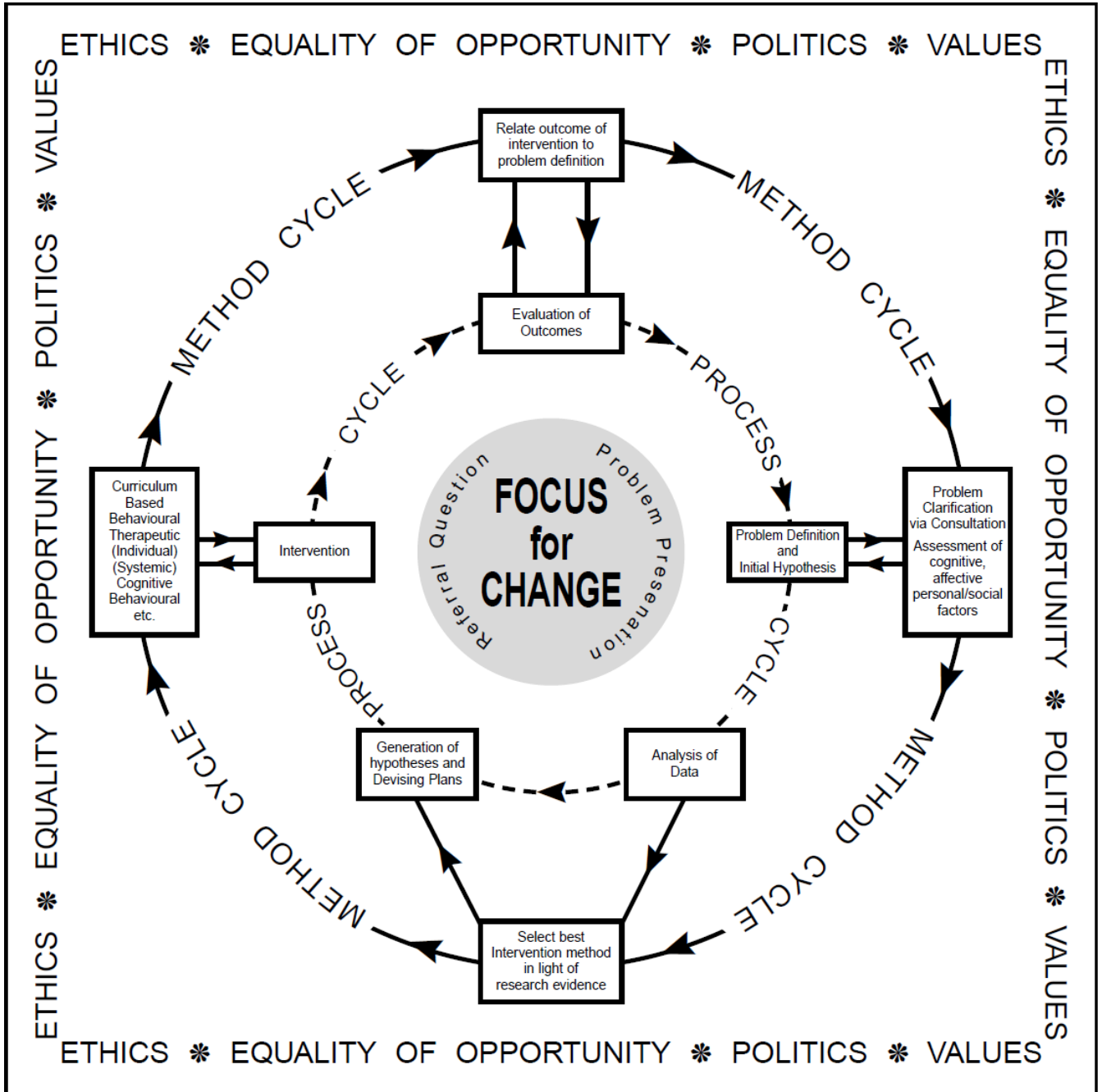


Figure 2. DECP framework for psychological assessment and intervention developed

From “Professional practice guidelines,” by the Division of Educational and Child Psychology, 2002, p. 27. Copyright 2002 by British Psychological Society. Reprinted with permission.

derickson & Cline, 2009a). However, recognising and reducing possible sources of bias is paramount.

A major source of bias comes from the use of psychometric tests: the way the test construct is devised is culturally determined, and so is the choice of items, tasks and administration procedures (Cline, 2000; Frederickson & Cline,

2009a). For instance, underlying most of the Western standardised intelligence tests is the assumption that intelligence is a universally defined natural phenomenon (Newland & Patel, 2005; Sternberg & Grigorenko, 2008).

Moreover, there are validity issues in testing CLD children against most psychometric tests’ normative samples. First,

these do not include a representative proportion of individuals from minority groups (Hill, Hennessy & Hennessey, n.d.). Secondly, even when they do, they only include diverse ethnicities, without considering the complexity of different cultural experiences of CLD children (Vazquez-Nuttall et al., 2007).

Due to its relevance for EPs' practice, this topic will be further investigated focusing on one subgroup of CLD children: those with EAL. This subgroup is also referred to as English Language Learners (ELL), therefore both acronyms will be used interchangeably.

### Children with English as an Additional Language

The Department for Education (2017) defines children with EAL as those who "are exposed to a language at home that is known or believed to be other than English" (p. 10).

In January 2017, the percentages ELL in the UK were 20.6 per cent in primary schools and 16.2 per cent in secondary schools, and both have been steadily increasing in the last ten years (Department for Education, 2017).

The UNESCO Convention Against Discrimination in Education (1960, as cited in Geva & Wiener, 2014b) sets out important directives regarding the rights of all children to education, regardless of their ethnicity, SES, refugee status, language, gender or disability. However, over-representation of ELL in SEN provision is still a current issue (Sanatullova-Allison & Robison-Young, 2016).

As "difficulties related solely to learning English as an additional language are not SEN" (Department for Education, Department of Health, 2014), the main challenge for EPs in assessing children with EAL's needs is the differentiation between learning needs and linguistic and cultural barriers.

### Systematic Literature Review

This systematic review aimed to further explore the issue of assessment of ELL, focusing on the assessment of cognition.

Firstly, the methodology used in the search will be addressed. Secondly, there will be a critical appraisal of the main findings. Finally, the quality of the evidence and identified gaps in the literature will be discussed.

**Methodology.** A selection of relevant databases was used to search for peer-reviewed, English-language studies published in the last twenty years (1998 to February 2018), applying key terms related to cognitive assessment, learning disabilities, CYP, refugees and EAL. Four different searches revealed a total of 244 articles. Abstracts were examined to exclude those irrelevant for the scope of this work. Appendix A provides a detailed summary of the databases used for the search, the keywords utilised and the inclusion/exclusion criteria applied.

Seven peer-reviewed articles were identified for review. A description of these papers, alongside their main findings and limitations, is provided in Appendix B.

To promote a deeper understanding of the topic, a wider range of evidence was included. References from the selected papers provided further articles. Additional searches for grey literature were also conducted on the Internet and through the University of East London Library.

The following section summarises and critically discusses the main findings of all the identified evidence.

#### Critical appraisal.

**Language proficiency and acculturation.** Language proficiency and acculturation have been identified as the main factors influencing diverse individuals' performance (Cummins, 1984).

When learning a second language, children follow the natural pathway of language development (Cummins, 1984). The first abilities to develop are Basic Interpersonal Communicative Skills (BICS), in one to two years, followed by Cognitive Academic Language Proficiency Skills (CALPS), which require at least five to seven years to be fully acquired (Cummins, 1984). As many cognitive assessment tools include a verbal component which is based on CALPS, the results of utilising them with children who are still learning English are a measure of CALPS rather than of cognition (McCloskey & Athanasiou, 2000).

Moreover, Cummins (1984) hypothesised that after being exposed solely to the L2 for an extended period, the first language (L1) will regress. If so, also assessing in L1 might be problematic (McCloskey & Athanasiou, 2000).

Kettmann Klingner (2008) argued that understanding the process of L2 acquisition is fundamental in differentiating ELL from those with learning disabilities, as they might present similar observable behaviours, such as difficulties in following directions and concentrating, confusion with figurative language and apparent poor auditory memory. Consequently, best practices in testing suggest establishing the child's language proficiency in each language before proceeding to any other form of assessment (O'Bryon & Rogers, 2010, as cited in Duarte, Greybeck, & Simpson, 2013).

The level of acculturation (which comprises several factors, such as age at immigration, desire for assimilation, etc.) may also affect assessment, as ELL have not been equally exposed to the mainstream culture (Duarte, Greybeck & Simpson, 2013; Vazquez-Nuttall et al., 2007).

**Effects of trauma and language acquisition in refugee children.** Refugee and asylum-seeker CYP will often have experienced many different traumas and suffered from psychological problems (British Psychological Society [BPS], 2018). A recent literature review revealed that these traumatic experiences, alongside the quality of family functioning and L2 limited proficiency, influence cognitive functioning, learning and academic performance (Kaplan, Stolk,

Valibhoy, Tucker & Baker, 2016). Although the evidence on this population is limited and does not consider the important role of coping strategies, it highlights how refugee children are even more at risk of discriminatory assessment practices. For example, symptoms of TSD, the effects of poverty, deprivation and social isolation might add to the linguistic difficulties experienced by non-refugee children with EAL (Kaplan et al., 2016).

***Cross-linguistic and cross-cultural effects on working memory and vocabulary.*** De Abreu, Baldassi, Puglisi, and Befi-Lopes (2013) explored the impact of test language and cultural status on vocabulary and working memory in Portuguese immigrant children living in Luxembourg. Cross-linguistic effects were measured by testing in both L1 and L2. Cross-cultural effects were investigated by comparing the performances of the EAL group with those of monolinguals from Brazil and language-majority multilinguals living in Luxembourg. As expected, large effects emerged for measures of expressive vocabulary, while these were less pronounced for receptive vocabulary, with no differences when considering L1 words relevant to the home context. Interestingly, working memory measures based on digit recall were relatively independent of test language and cultural status, while for those based on non-word repetition an effect of language status was observed for high- but not low-wordlike L2 non-words. Despite small sample sizes, this study has the merit of devising a complex research design to thoroughly evaluate which abilities are more dependent on language proficiency and acculturation. Moreover, variables such as age, gender, non-verbal reasoning, exposure to L2, language proficiency and socio-economic status (SES) were also controlled.

***Cognitive assessment methods and approaches.*** Traditional cognitive assessment practices based on the use of psychometric tests are considered by many to be inadequate for the assessment of ELL (Hill et al., n.d.; McCloskey & Athanasiou, 2000; Vazquez-Nuttall et al., 2007). For example, a study of 154 Hmong American children (who come from an informal learning environment) demonstrated the inappropriateness of using psychometric tests with this population (Romstad & Xiong, 2017). Results showed that Hmong children performed one standard deviation below the national mean on both the Wechsler Intelligence Scale for Children — Fifth Edition (WISC-V) and the Kaufman Assessment Battery for Children — Second Edition (KABC-II). Although the ethnic group included in this study might be seen as extremely diverse (Hmong Americans typically have no history of literacy), this study represents a good example of the impact of CLD backgrounds on cognitive performance, even when assessed with a test which is defined as culturally fair, such as the KABC-II.

Other authors recommend the use of psychometric tests which minimise verbal comprehension and knowledge

(Branden & Athanasiou, 2005, as cited in Kranzler, Flores, & Coady, 2010; Páez, 2004), such as the Wechsler Nonverbal Scale of Ability (WNV), which is specifically designed for CLD children (Fiorello & Jenkins, 2018).

However, findings from Lakin (2012) do not support this position. The author conducted a study on the validity of the Cognitive Ability Test (CogAT) Form 6 in predicting maths and reading achievement in a group of CLD children. Results showed weaker predictive validity of the nonverbal measures compared to the quantitative and verbal reasoning measures, therefore not supporting the exclusive use of non-verbal tests with ELL. However, this test is standardised on a normative American sample, whilst the following version (CogAT Form 7) has been modified and standardised on an EAL and non-EAL sample (Lohman, 2011). This, of course, could lead to different results in the performance of ELL. Moreover, Lakin (2012) argued that although verbal reasoning measures have limitations for the EAL population, they are still informative and should, therefore, be appropriately interpreted and included in reports.

On the other hand, Blatchley and Lau (2010) and Vazquez-Nuttall et al. (2007) recommend caution in the use of nonverbal tests as they provide an incomplete profile of the learners' abilities and suffer from cultural bias.

An approach to evaluating the weight of cultural and linguistic factors of twenty psychometric tools known as the Culture–Language Interpretative Matrix (C-LIM) has been devised by Flanagan, Ortiz and Alfonso (2007, as cited in Kranzler et al., 2010). It consists of culture–language matrices in which the subtests of each tool are categorised according to their cultural and linguistic impact. However, through the administration of the Woodcock–Johnson III Test of Cognitive Ability to CLD students, Kranzler, Flores and Coady (2010) found no scientific evidence for the use of this approach. The same conclusion was reached by Romstad and Xiong (2017): the application of the C-LIM to the score interpretation of the Hmong American participants was inadequate and potentially misleading.

In response to the discussed limitation and lack of unequivocal evidence on cognitive testing practices in the assessment of ELL, several authors suggested using a variety of methods and approaches.

Frederickson and Cline (2009a) and Hill et al. (n.d.) recommended including a comprehensive process of gathering information which considers the impact of cultural, experiential and linguistic factors. This is even more relevant when working with refugee and asylum seekers CYP (BPS, 2018).

McCloskey and Athanasiou (2000) suggested alternative assessment methods, such as play-based assessment (particularly for younger children) and curriculum-based and portfolio assessment (to track pupils' progress).

An alternative approach suggested by many is DA, which as well as assessing the child's potential for learn-

ing (Vazquez-Nuttall et al., 2007) provides important information on the child's motivation, temperament, problem-solving strategies and self-control (McCloskey & Athanasiou, 2000).

Geva and Wiener (2014a) and Vazquez-Nuttall et al. (2007) suggested administering psychometric tests dynamically, for example by contextualising vocabulary, modifying instructions and suspending time limits or asking children to correct their mistakes, providing them with extra support. However, as this is not how psychometric tests are constructed and validated, it can be argued that in this way the results would be invalid, as would be future administrations of the test to the same child.

It has also been suggested recognising and making explicit test limitations when interpreting and communicating results. For instance, if appropriate norms do not exist, findings should be reported in a descriptive, qualitative way (Frederickson & Cline, 2009a; Geva & Wiener, 2014a).

Adopting an eco-systemic approach has also been recommended (Kettmann Klingner, 2008). For example, Geva and Wiener (2014a) asserted that assessment of ELL should include observations in different life contexts in order to identify strengths and needs that might be culture-related (e.g., storytelling or leadership abilities) and therefore may not be captured by standard assessment tools. Similarly, Cline (1998) advised investigating the learning environment to identify contextual factors that might hinder or support children's learning. He also recommended eliciting the views of the child on how they experienced the test's demands.

Finally, different authors stressed the importance for EPs to acquire cultural knowledge and competence, to develop expertise in assessing CLD children (Frederickson & Cline, 2009a; Vazquez-Nuttall et al., 2007) and to be aware of how they position themselves with regard to bias and fairness (Newland & Patel, 2005).

**Working with interpreters.** Working with interpreters is deemed necessary when the family has not yet acquired BICS (Geva & Wiener, 2014c) and highly recommended when not all family members are fluent in English (British Psychological Society [BPS], 2017c). Due to the limitations of norm-referenced measures for ELL, interpreters play a fundamental role in gathering information and eliciting the child's views (Blatchley & Lau, 2010; BPS, 2018).

It is particularly important not to ask family members to act as interpreters, due to the high level of competence required and to neutrality and confidentiality issues (Blatchley & Lau, 2010; BPS, 2017c, 2018; Páez, 2004). Moreover, it is paramount to carefully select appropriate interpreters, by verifying their qualifications and paying attention to differences such as ethnicity, language-subgroups (the use of the specific home language or dialect is recommended), culture, religion and social status (BPS, 2017c, 2018).

A possible change of dynamics needs to be considered:

the family might feel unease or have concerns about confidentiality and EPs might find depending on someone else to communicate with CYP unsettling (BPS, 2017c).

Furthermore, the BPS (2017c) highlights that the communication might be altered by the interpreter modifying or summarising messages conveyed by both parts (BPS, 2017c). This risk might be minimised by making sure that before any meeting there is allocated time for EPs to build a trusting relationship with the interpreter and to brief them on the goals and key issues of the session as well as on confidentiality concerns (BPS, 2017c; Geva & Wiener, 2014c).

Finally, it has been recommended not to use interpreters to translate psychometric tests, as this would invalidate the results (Hill et al., n.d.; Vazquez-Nuttall et al., 2007). Even when translated tests are available, their use and interpretation of results should be cautiously evaluated, as they might be culturally biased (BPS, 2017c).

**Gaps in the literature and final discussion.** Overall, the evidence around assessment of children with EAL is limited. Several publications provide important suggestions, but the amount of peer-reviewed studies on the matter is still insufficient to inform EPs' practice.

What strikes is the total absence of studies based on the UK context. The percentages of pupils with EAL reported above render the need for national findings a matter of utmost importance.

Studies investigating EPs' practices would also be welcomed. McCloskey and Athanasiou (2000) reported increased use of alternative practices in assessing ELL in the USA, but no information on the British context is available.

Moreover, due to the complexity of cultural and linguistic factors, generalisations should be avoided. It is fundamental to explore the validity of single psychometric tests in specific EAL populations, as in Romstad and Xiong (2017). Furthermore, variables such as language proficiency, time in the country, exposure to the language, level of acculturation and SES need to be rigorously controlled. In this respect, more studies like de Abreu et al. (2013) would be welcomed. This study also demonstrated the importance of investigating how different cognitive functions are affected by linguistic and cultural factors.

Furthermore, if on one hand re-norming and re-standardisation of psychometric tests are needed (Romstad & Xiong, 2017; Vazquez-Nuttall et al., 2007), on the other hand the investigation of the use of alternative practices is paramount. For example, although highly recommended, the use of DA assessment with ELL has been investigated in other domains (e.g., language) but not on cognition.

### Professional Views and Practices

The professional views and practices of three experienced EPs have been collected by utilising a semi-structured interview (Appendix C provides a list of the interview questions).

To ensure anonymity, interviewees will be referred to as EP1, EP2 and EP3.

### Interview Findings

All interviewed EPs stated they have a variety of experiences in assessing ELL.

EP1 and EP2 affirmed their assessment practices do not significantly vary when working with this population but believe more caution is needed. Therefore, both tend to use the same methods and approaches they utilise with native speakers but, for example, wait until the child has been in school for at least a year before using psychometric tests. Other key adjustments include observing how the child approaches the task through behavioural observations, using some of the WISC-V subtests dynamically (EP2), and being particularly reflective when interpreting the results.

EP3 said assessment is always very individualised, and therefore there are no prescribed ways of assessing ELL. She reported using a variety of methods and approaches, including home-school consultation, behavioural check-lists, DA and psychometric tests (although stating she would not engage in direct work with the child unless they were in the country for at least one or two years). She also provided “awareness training on good practices” to school staff.

Both EP1 and EP3 mentioned validity issues when using psychometric tests with children with EAL, whilst only EP3 said non-verbal tests are to be preferred. EP3 was also the only one who mentioned DA, saying it represents the most valid approach for this group.

All interviewees consider language proficiency a significant factor, although only EP1 said that would inform assessment choices.

There was unanimous agreement on the importance of also considering cultural factors, such as possible traumatic experiences, especially for refugees (EP1), level of acculturation (EP3) and family functioning and views (EP1 and EP3).

Regarding professional guidelines, EP1 and EP3 mentioned BPS’ guidelines, while EP2 does not refer to any guidelines when working with ELL. EP3 also refers to guidelines when explaining assessment choices in schools.

Frameworks for practice are used by EP1 and EP3: the former refers to solution-focused practice, the latter to Bronfenbrenner and Ceci’s Ecological Model and to the Interactive Factor Framework.

All interviewees have had different experiences in working with interpreters and stated that crucial factors were working with a highly-skilled professional interpreter (all EPs), who keeps on task and respects communication turns and cultural differences (EP1, EP3). EP2 and EP3 also mentioned that it might be easier for the family to work with someone they trust, although this carries the risk of not relying on competent translators, ultimately hindering communication (EP3).

### Discussion

Overall, most of the interview findings seem in line with the evidence on cognitive assessment of ELL.

The fact that all interviewees reported having considerable professional experience reaffirms the importance of developing knowledge and expertise on working with ELL.

The choice of assessment methods and approaches seems to reflect the trend found in the American literature (McCloskey & Athanasiou, 2000): psychometric tests are still EPs’ first choice. In fact, although all interviewees demonstrated being aware of cultural and linguistic biases, only one mentioned utilising alternative assessment practices such as DA. One reason for this might be the fact that EPs are often under the pressure of Local Authorities in carrying out statutory assessments, especially in recent years, following the introduction of EHC plans. These assessments have been historically based on quantitative data and norm groups; therefore, using DA in this context would mean having to justify this new assessment choice. Further studies on the use of DA of cognition with ELL could contribute to a much-needed shift in culture.

Moreover, the fact that EP2 affirmed using psychometric tests dynamically is in line with some of the suggestions derived from the literature review (Geva & Wiener, 2014a; Vazquez-Nuttall et al., 2007). However, as argued before, by doing this the results will be invalidated, as will future administrations of the test on the same child. Although DA is more time-consuming and often requires additional training, it would be a more appropriate choice in gathering qualitative information on ELL.

Regarding the use of guidelines and frameworks, following ethical references and practice frameworks is paramount, especially when working with diverse cultural and linguistic needs. EP3’s framework choice (Ecological Model) provides a valid way of making sure that factors such as culture, life experiences, language, family history and school environment are investigated.

### Conclusion

A cautious approach to cognitive assessment is important for all children, but even more so for those with EAL as the consequences of mistaking linguistic barriers for learning needs can be detrimental. As stated by one of the EPs interviewed in the present work, “when working with ELL, we don’t think about non-discriminatory assessment practices enough, and we tend to rely on personal experience”.

The outlined challenges should not discourage EPs from engaging with CLD children, but rather increase their awareness around potential biases and how to reduce them.

EPs are called to draw upon their psychological knowledge in improving non-discriminatory practices, referring to ethical guidelines and evidence base. Although the latter



is still limited, valid suggestions and references are already available, and a shift towards the use of alternative practices of cognitive assessment is called for. Whilst these developments might take time, in the short-term EPs should increase awareness of these issues among stakeholders and policy-makers.

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## APPENDIX A

*Key terms utilised in different searches and rationale for term choice*

<b>Search #</b>	<b>Key Terms</b>	<b>Rationale for term choice</b>
1	<p>Cognitive assessment OR psychological assessment OR cognitive evaluation OR psychological testing OR cognitive abilities AND</p> <p>Children OR adolescents OR youth OR child OR teenager OR young people OR pupils AND</p> <p>English language learners OR ELL OR ESL OR English as a second language OR second language learning OR linguistically diverse children OR English as an additional language OR EAL.</p>	<p>The most common terms and synonyms for cognitive assessment have been selected, alongside synonyms for the targeted age range (children and young people) and the population (English language learners).</p>
2	<p>Dynamic or static or psychometric assessment or testing AND</p> <p>Children OR adolescents OR youth OR child OR teenager OR young people OR pupils AND</p> <p>English language learners OR ELL OR ESL OR English as a second language OR second language learning OR linguistically diverse children OR English as an additional language OR EAL.</p>	<p>As dynamic assessment is believed to be fairer towards individuals from cultural and linguistic diverse backgrounds, while psychometric tests are considered more biased, a specific search has been conducted to investigate studies exploring these two approaches.</p>
3	<p>Identification OR identify* learning OR intellectual disabilities AND</p> <p>English language learners or ELL or ESL or English as a second language or second language learning or linguistically diverse children or English as an additional language or EAL.</p>	<p>Cognitive assessment has been historically associated with intelligence testing for the identification of children with intellectual disabilities, hence the inclusion of 'learning or intellectual disabilities' in the search.</p>
4	<p>Cognitive assessment OR psychological assessment OR cognitive evaluation OR psychological testing OR cognitive abilities AND</p> <p>Children OR adolescents OR youth OR child OR teenager OR young people OR pupils AND</p> <p>Refugees or asylum-seekers.</p>	<p>Very often refugee and asylum-seeker children and young people have English as an additional language, therefore these terms have also been included in the search.</p>

Databases	Search #	Inclusion criteria	# Articles identified	Manual exclusion criteria
Academic Search Complete British Education Index Education Research Complete ERIC PsycARTICLES PsycINFO	1	Search for key terms in the <b>abstract</b> . From January 1998 to February 2018. Use of the ‘Apply related words’ option. Only full text available. Language: English. Only scholarly (Peer Reviewed) Journals.	135	Studies focusing on other domains of child development (e.g. language) or on academic achievement. Studies based on specific local areas outside the UK (e.g. studies investigating local policies in the USA). Studies discussing the historical perspective on over-representation of students from minority backgrounds in special education in the USA.
	2	Search for key terms in the <b>abstract</b> . From January 1998 to February 2018. Use of the ‘Apply related words’ option. Only full text available. Language: English. Only scholarly (Peer Reviewed) Journals.	89	
	3	Search for key terms in the <b>title</b> . From January 1998 to February 2018. Use of the ‘Apply related words’ option. Only full text available. Language: English. Only scholarly (Peer Reviewed) Journals.	18	
	4	Search for key terms in the <b>abstract</b> . From January 1998 to February 2018. Use of the ‘Apply related words’ option. Only full text available. Language: English. Only scholarly (Peer Reviewed) Journals.	2	

## APPENDIX B

*Country, design, description, findings and limitations of the selected studies*

References	Country	Design of Study	Description	Findings	Limitations
de Abreu, Baldassi, Puglisi and Befi-Lopes (2013)	Luxembourg	Quantitative data analysis (descriptive and inferential statistics).	Exploration of the impact of test language and cultural status on vocabulary and working memory performance in multilingual language-minority children. The performance of 20 Portuguese language-minority children living in Luxembourg was compared to those of 20 Luxembourgish language-majority children and of 20 monolingual children living in Brazil.	Large effects on expressive vocabulary. Small effects on receptive vocabulary (no effect when L1 words relevant to the home context were considered). Digit recall independent of test language and cultural status. Non-word repetition: effect of language status on high- but not low-wordlike L2 non-words.	Small sample sizes.
Fiorello and Jenkins (2018)	USA	Review article	Recommendations on best practices in intellectual disability identification with regard to cognitive and adaptive behaviour assessment.	Recommendation of a list of psychometric tests which minimise language and cultural load.	Very short analysis of best practices in intellectual disability identification, with exclusive focus on Cattell-Horn-Carroll theory and the use of psychometric tests.
Kranzler et al. (2010)	USA	Quantitative data analysis (descriptive and inferential statistics).	Examination of the utility of a new approach (Culture-Language Interpretive Matrices, C-LIMs) through the administration of the Woodcock-Johnson III Test of Cognitive Ability to 46 bilingual and culturally diverse students.	The use of C-LIMs for the Woodcock-Johnson III Test of Cognitive Ability is not supported by scientific evidence.	Small sample size. Investigation of only one of the 20 psychometric tests for which C-LIMs are available.

References	Country	Design of Study	Description	Findings	Limitations
Lakin (2012)	USA	Quantitative data analysis (descriptive and inferential statistics).	Evaluation of the validity and fairness of the Cognitive Ability Test (CogAT, Form 6) in predicting reading and math achievement in a group of 124 Hispanic English Language Learners (ELL), 161 Hispanic non-ELL and 72 White non-ELL students.	Lower correlations between ability measures and future academic achievement for ELL (consistent with previous research). Correlations between non-verbal scores and academic achievement were lower than correlations between verbal scores and reading and between quantitative reasoning and maths for the ELL group.	White non-ELL students under-represented in the sample. Language proficiency was not directly tested, data derived from school evaluations. Only ethnicity was considered, no information on time in the country, exposure to L2 or socio-economic status.
McCloskey and Athanasiou (2000)	USA	Quantitative data analysis (descriptive statistics).	Discussion of the issues around assessment and intervention practices with second-language learners and analysis of the assessment instruments and procedures and intervention practices used with this population by a sample of 96 school psychologists.	Psychometric tests were school psychologists' first choice. The use of alternative approaches to assessment such as curriculum-based assessment was more frequent than expected. Inservices and journals as main source for acquiring new knowledge. Lack of introduction on alternative approaches in training programs. Lack of knowledge of guidelines.	The sample represents only 33% of the state school psychologists. Not all respondents answered all questions. No information on frameworks for practice school psychologists might refer to.

*Country, design, description, findings and limitations of the selected studies*

<b>References</b>	<b>Country</b>	<b>Design of Study</b>	<b>Description</b>	<b>Findings</b>	<b>Limitations</b>
Romstad and Xiong (2017)	USA	Report of results from psychometric testing.	Interpretation of the results of the cognitive testing of three groups of children: 154 Hmong American children, 51 Caucasian children (both assessed using the Kaufman Assessment Battery for Children — Second Edition) and 46 Hmong American children (assessed using the Wechsler Intelligence Scale for Children — Fifth Edition).	Hmong American students performed one standard deviation below the national mean on both KABC-II and WISC-V.	Small sample size. Non-representative sample of Caucasian students. Data reported is limited (not all subtests scores available, no raw scores). Participants only from few schools. Socio-economic status, immigration status and acculturation level were not considered.
Sanatullova-Allison and Robison-Young (2016)	USA	Review article	Overview of the issues surrounding the identification of ELL with learning disabilities and suggestions on the use of an ecological approach in evaluating ELL.	Suggestions on the use of an ecological approach to the assessment of ELL and on how to support their academic achievement.	Limited review of the available evidence. Exploration of the main topic based in large part on Kettmann Klingner (2008).

**APPENDIX C****Interview Questions**

1. Do you have any experience in cognitive assessment of children and young people with EAL?
2. Is your practice different when working with this group of children? How?
3. Which assessment methods and approaches do you use?
4. Is the level of language proficiency usually available and how does this inform your practice?
5. Which additional factors need to be taken into account apart from linguistic diversity?
6. Do you refer to any guidelines in assessing children and young people with EAL?
7. Do you refer to any framework for practice when carrying out psychological assessments?  
Is there any framework in particular you refer to when assessing children and young people with EAL?
8. Do you have any experience in working with interpreters? Can you describe your experience?