

Rethinking Assessments: Creating a New Tool Using the Zone Of Proximal Development within a Cultural-Historical Framework

V.J. Minson*,
Monash University, Australia,
Victoria.Minson@monash.edu

M. Hammer**,
Monash University, Australia,
Marie.hammer@monash.edu

N. Veresov***,
Australia Monash University, Frankston, Australia,
nveresov@hotmail.com

This paper presents a picture of the current theoretical positions and methods used to assess children's development. A maturational understanding of development is seen to be predominately used to inform the assessment tools which track how children develop across the 0–5 age group. This paper proposes that with the movement towards a cultural-historical understanding of development, a tool following from this standpoint should be developed. It is envisaged that a new assessment tool will be developed from this analysis. A theoretical rationale is given to support why the Zone of Proximal Development can be used to identify the indicators of children's actual and potential levels of development, moving away from age/level based testing. Developing an assessment tool aligned to the principles of the ZPD can offer alternative method to assess children's development in a theoretically robust way, providing empirical evidence to rethink the methodologies of child development assessments.

Keywords: Cultural-historical theory, developmental assessments, Zone of Proximal Development, genetic research methodology.

Introduction

One of the key issues currently being discussed across educational forums is the assessment of children's development. The varying approaches to assessing development means that there is much conflicting information on this topic. Some of the discussions emerging from the literature include; how do assessment tools account for the social and cultural variations in children's lives? The National Research Council [24] suggests that some testing practices assess children on concepts they have not had the opportunity to learn. The standardisation of testing children's development is also raising questions around how authentic and accurate this approach is. With the Northwest Evaluation Association [25] deeming it concerning to assign young children to static assessments. And for cultural historical theorists, a more critical question in this discussion

includes, where is Vygotsky in assessment approaches? As his work from the problem of age advises against classifying development based on symptoms [39]. This question, where is Vygotsky in assessment approaches, frames the intent for this paper, where you will be introduced to a study which proposes the development of a new assessment tool within a PhD study. This paper outlines the background research that investigated the current state of developmental assessment tools in Australia. To introduce the topic, this paper will begin by providing an overview of developmental assessment practices.

Where is Vygotsky?

Theoretical approaches to child development spread vast and wide and are subjective to the nature of their

For citation:

Minson V., Hammer M., Veresov N. Rethinking assessments: creating a new tool using the zone of proximal development within a cultural-historical framework. *Kul'turno-istoricheskaya psikhologiya = Cultural-historical psychology*, 2016. Vol. 12, no. 3, pp. 331–345. (In Russ., abstr. in Engl.). doi: 10.17759/chp.2016120320

* *Minson Victoria*, PhD Candidate, Australia, Monash University. E-mail: *Victoria.Minson@monash.edu*

** *Hammer Marie*, PhD, Lecturer, Australia Monash University. E-mail: *Marie.hammer@monash.edu*

*** *Veresov Nikolai*, PhD, Associate Professor, Australia Monash University, Frankston, Australia. E-mail: *nveresov@hotmail.com*

paradigm. A maturational understanding of child development has been identified as having a dominating presence in the ongoing debate about the appropriateness of child development measures [21]. This strong maturational presence can be seen in the focus being on universal 'levels' in the assessment of children's development. This domination was supported by the work of three significant influences Piaget; psychoanalysis and learning theory [15]. These influences have played a huge role in the assessment methods we use today, as they have established a tradition of level based testing, due to the maturational perspective of development which sees children's development to be innately determined.

In recent years, Vygotsky's collected works (1987–1997) and the cultural-historical legacy has acted as a catalyst to rethink the philosophical validity of the maturational approach to child development, and the correlating assessment approaches. The movement away from this approach has been validated by cultural-historical theory, which has progressively gained more attention over the past 10 years [16; 19; 29; 32; 33]. Cultural-historical theory is believed to have made significant epistemological and methodological contributions to how we make sense of children's development [5; 11; 19; 26; 28; 33]. Due to this shift, it is now acknowledged that there is more to development than just biology [1] and that the maturational approach to development limits understanding when used exclusively.

Theoretical congruence

The Australian national early childhood education (ECE) curriculum document 'Belonging, Being, Becoming; Early Years Learning Framework' emphasises that educators should draw on a range of theories to inform their pedagogical practice including developmental theories (this term is used interchangeably with maturational theories), socio-cultural (based on a cultural-historical underpinning), behaviourist, post-structuralist and critical theories [30, p. 11]. Although it is an advancement for the field to see other theories listed alongside the maturational approach, the combination of maturational and socio-cultural attributions to the understanding of child development introduces a disharmony in theoretical underpinnings. In our view, the combination of these approaches is conflicting as cultural-historical theory can also be considered one of the developmental theories since it takes the development of human higher mental functions as its subject matter [38].

For example; when using different theories to understand children's development, an incongruence can emerge when employing a socio-cultural approach to "*emphasise the central role that families and cultural groups play in children's learning*", and also "*developmental theories to focus on understanding the process of change in children's learning and development over time*" [30, p. 11]. Understanding the process of change in children's learning and development from a developmental perspective is very different from that of a socio-cultural approach. In this example, there is a mismatch between theoretical perspectives and teaching and assessment approaches [18].

Health and Education

A mishmash of theoretical underpinnings is also evident between child development assessments in health and education. In health contexts, quantitative methods are generally utilised to fit standardised norm-referenced tests, which feed into population-level measures [24]. In educational contexts, curriculum frameworks encourage the use of qualitative assessment methods, to assess each child's development individually [17]. In ECE individual developmental assessments aim to assess how a particular child is developing. By contrast, health assessments use population-level measures to compare how children are developing, in relation to other groups of children [31], hence the testing must be standardised methodologically.

The incongruence between health and educational assessments of development is particularly difficult for ECE professionals, as the maturational health approach to development feeds into educational contexts in the form of 'developmental milestones', which are based on western middle-class culture [29]. This is problematic as ECE settings in Australia are not a homogenous group of western middle-class children [1]. An example of a health approach to measuring educational factors is the Australian Early Years Developmental Index (AEDI). This study is being implemented nationally by the Melbourne Royal Children's Hospital Centre for Community Health, to gauge the development and skill level of children when entering their first year of school. This provides a snapshot of child development in Australia to governments, policy makers and school leaders etc., which in part evaluates the efficacy of prior ECE. School teachers are required to complete an online questionnaire (both nominal and Likert Scales) of approximately 100 questions related to physical health and wellbeing; social competence; emotional maturity; language and cognitive skills; communication skills and general knowledge [7]. The results of this index provide a snapshot derived from 'development' being condensed into a Likert Scale.

The tests assess children based on developmental milestones from a maturational perspective of development. Although these measures are agreed upon in a health context as valid indicators of developmental success, research demonstrates that indicators of children's cognitive-language and socio-emotional development are rarely agreed upon in different cultural contexts [2]. Agbenyega [1, p. 37] suggests that:

"For those designing assessment tools for measuring how children are developing, new conceptual and theoretical understandings about development will need to be examined in light of contextual understandings and practices, and with regard to how those understandings might be interpreted and applied in their particular environment and communities".

This study takes Agbenyega's [1] advice and proposes that by applying cultural-historical theory to assessment approaches, the sociocultural origins of development [38] can be substantiated in the form of an assessment tool.

Learning Stories

Fortunately in ECE progress has been made in assessment approaches, along with the cultural–historical shift. There has been significant research done to offer assessment approaches with an embedded socio-cultural approach. Learning Stories were developed in this endeavour [12; 13; 14] and have generated much praise as an assessment tool [4]. When taking a critical perspective on the theoretical focus of Learning Stories, a combination of theories can be used. In some theoretical approaches a combination of theories can complement each other, however in cultural-historical theory, this is not the case. The significance of development as sociocultural genesis [38] in cultural-historical theory can be lost in the mishmash of combining theories. It can be confusing to acknowledge development as socially precipitated, and also add a developmental perspective, as there is an epistemological incongruence. The actual nature of what is being assessed can easily revert back to a maturational understanding of development, as educators are encouraged to draw on a range of theories from curriculum directives.

Identifying the gap

This discussion presents a binary between the maturational understanding of development, and the measurement of development in ‘levels’, which is seen to dominate throughout child development assessments [31]. Vygotsky’s work on the problem of age identified an issue with these practices and suggested, “we must reject attempts of symptomatic classification of age levels and move on, as other sciences have done in their time, to classification based on the internal essence of the process being studied” [39, p. 189]. Vygotsky’s statement synthesises the focus of this study’s research intent, which proposes a new way is needed to think about assessing children’s development. Moving away from developmental assessments that use a ‘*symptomatic classification of age levels*’, and towards studying the ‘*process*’ of development to increase the validity and vigour of developmental assessments.

Where is the Problem?

There is a problem with the methodology that surrounds the assessment of children’s development in ‘levels’ when applying cultural-historical theory. Child development is such a complex process that it cannot be determined according to one trait alone at any stage [39]. Taking a critical perspective on this matter, one must ask, what is the purpose of assessing the ‘level’ of development... what does this actually tell us about the process or potential of development? To assume that the child’s ‘level’ of existing development can indicate a developmental trajectory is incomplete, as when measur-

ing a ‘level’ we are measuring an endpoint [33]. Furthermore, once this end point is reached, we have missed all sensitive periods and opportunities to create conditions that extend development, through the Zone of Proximal Development (ZPD) [39].

Why is there a problem?

The Age and Stage approach to development has established societal norms for the way we expect children’s development to progress. The problem of focusing on the existing dispositions of development means that the internal process behind the attainment of skills is difficult to be fully understood. Marx & Engels explain further, “In theory, the internal essence of things and the external form of their manifestation do not always coincide... If the form of manifestation and the essence of things coincided directly, then all science would be superfluous” [39, p. 188]. The following examples are all ‘level-based’ structures which symptomatically classify children’s development e.g. reading ages, writing ages, numeracy ages, class year levels, childcare age grouping, school start age, talking age, developmental milestones etc.

Similarly, in the deficit model, the use of age indicates a developmental setback and reclassifies the age level that the child’s existing development reflects. For example, if a child was diagnosed with a speech delay, they would be given an age measure for the level of delay [9]. These societal norms reveal a lack of understanding and inclusion of the role of the Social Situation of Development¹ (SSD). The existing ‘level’ of development does not provide an opportunity to account for the role of the SSD.

Children’s development is often portrayed as a health concern, with social and cultural factors seen as a secondary consideration. A report [20] estimated that 200 million children are not meeting their developmental potential in developing countries. The most prevalent developmental risk factors worldwide include insufficient cognitive stimulation, linear growth retardation and iodine- and iron-deficiency anaemia. In these findings, we can interpret insufficient cognitive stimulation as the lack of the SSD created for the child. It is interesting to see this factor presented as an equal risk factor to health factors such as iodine- and iron-deficiency anaemia. This means that the SSD that is created for children’s cognitive development and stimulation is just as important as health factors that are measured. This is a vital point in justifying why the SSD needs to be so robustly accounted for in child developmental assessments.

What can we do about addressing the problem?

The first step in addressing this problem is to generate other evidence-based ways to think about how develop-

¹ The Social Situation of Development (SSD) is an important concept in this paper, however it is not a main or focal concept. The reason for its importance is due to the fact that there cannot be a ZPD without a SSD, as the ZPD exists within the SSD. The theoretical positioning of the SSD will be discussed in the theoretical tools and analytical framework section of this paper.

ment can be assessed in ECE. Another way to approach developmental assessments could be to shift the focus away from the 'level' of existing development and towards the process of development itself. Focusing on the process itself will reveal a SSD, which is conducive to furthering developmental potential. As it is the 'social' that becomes the 'individual', it makes sense to focus on the source of development [39]. The opportunity for change lies in exploring the potential of development within the SSD.

The proposed study

Research aims, "Discovering undiscovered Vygotsky is still the task for future" [33, p. 290]. This study intends to offer an alternative assessment tool to gauge children's developmental potential, and provide empirical evidence of the tools use in the ECE field. It aims to redevelop the Learning Story assessment tool to include the ZPD concept to identify the actual and potential levels of child development. This study aims to begin a movement that focuses on documenting and reflecting on the process of children's development, created through teaching practices and facilitation of the ZPD. Research questions of this study are: (1) What are the current pedagogical practices and theoret underpinnings that are used in ECE services to formulate a Learning Story as an assessment of children's learning and development?; (2) How can Learning Stories be redesigned to become a valid tool for measuring the ZPD, firstly by indicating the actual level of development, and secondly indicating potential levels of development?, and (3) What might be the indicators in the tool that show the actual and the potential levels of the child's development, how does the tool indicate two levels of development?

Theoretical framework and Analytical tools

Cultural-historical approach to development

The ZPD will be the main concept employed as an analytical tool in this research. However, as concepts do not work in isolation, they must be understood within their wider theoretical framework. It is important to situate the concept within the theoretical roots as it was originally intended, to ensure that full integrity of the ZPD concept is upheld. To authentically understand the ZPD, we must understand what Vygotsky means by development itself [10], as the ZPD is about development specifically. Palinscar [27, p. 370] suggests that in the context of teaching and learning the ZPD is "probably one of the most used and least understood constructs to appear in contemporary educational literature"). When applying this concept in other paradigms of study, the essence of the ZPD is lost, as it was only intended for a cultural-historical climate. For example, some interpretations of Bruners [8] scaffolding have become simplified versions of the ZPD where its theoretical perspective has been stripped [33 p. 287]. For this reason, it is important to highlight what child development means from a cultural-historical perspective, so we can understand the methodological unity [33] as Vygotsky intended.

General genetic law of cultural development of higher mental functions

Vygotsky's theory deals with higher mental functions in humans, and his point of difference is that he believed that the answers to understanding one's psychology lay in the historical analysis of one's cultural environment [33]. For Vygotsky, the dialectical relationship between the being and the becoming of higher mental functions were in focus, and the nexus between old and new psychological systems working together in accordance with each other (38; 36). For Vygotsky, the subject matter was "higher mental functions, not as they are, but in the very process of their development" [33].

Vygotsky's theory is based on a general law known as the general genetic law of cultural development of higher mental functions: "Every function in the cultural development of the child appears on the stage twice, in two planes, first, the social, then the psychological, first between people as an intermental category, then within the child as a intramental category" [38, p. 106].

The most important aspect of this law is what separates Vygotsky from all other theorists, and epitomises his unyielding devotion to the social origins of development. When comprehending this law, it is important not to confuse higher mental functions as something that appears *in a* social relation, higher mental functions *are* social relations; "every higher mental function was external because it was social before it became an internal strictly mental function; it was formerly a social relation" [38, p. 105]. With this in mind, it must be noted that not every social relation becomes a higher mental function, it is only the social relations that are "emotionally and mentally experienced that later become an individual intra- psychological category" [32, p. 39].

Cultural-historical approach to development, Social environment as a Source and not a factor

Traditional understandings of development are categorised as the result of two factors, known as biological (nature) and social factors (nurture) [3]. Reels of research debating as to which 'factor' is most important exist throughout history, with the 'truth' of the matter being highly subjective to the paradigm of their study. This is especially evident, in these post-postmodernist times, "when every opinion is correct, every truth is the truth and at the same time, it is not" [33, p. 268].

Within the domain of child development, it is generally accepted that a two-factor model (the interaction of biological and social factors) is what precipitates child development. This is echoed by the Australian Early Years Learning Framework, emphasising that educators should draw on a range of theories to inform their pedagogical practice including developmental theories (maturational theories), socio-cultural theories (based on a cultural-historical underpinning), behaviourist, post-structuralist and critical theories [30 p. 11]. For many of the theories listed above, the environment is only considered to be an influence on children's developmental trajectory. From a cultural-historical standpoint

the environment is not *a factor* in development, but *a source* of development. This is the work of Vygotsky, and all his work stems from his general standpoint [35].

Vygotsky believed that development was perpetuated from the child's all-encompassing environment and the changing relationship that the child had to it [37]. This line of thinking brings us to the next important aspect, being the process of the environment inverting to the children's intra-psychological plane. This process is understood in cultural-historical theory as development as sociocultural genesis, where the environment is considered as a source of the child's development through the SSD.

Cultural-historical approach to development, Development as sociocultural genesis (social to individual within social situation of development)

The social worlds in which children are immersed encompass all social, cultural, and interpersonal experiences. Participating in cultural experiences illustrates how the social environment acts as a source of development. For example, human beings are not born culturally proficient, they must be taught the appropriate cultural practices in any given society (Rogoff, 2003). Moreover, Vygotsky [37] gives the example of how children living with deaf parents, will not be able to learn language beyond the hereditary babble, as there is no ideal form of development in the environment. Children learning to babble from their deaf parents, or maybe learning to sign to them is a perfect example of how development comes from the social plane initially.

Development as sociocultural genesis is a poignant point in cultural-historical theory, as it details the process of how the environment becomes part of the child's individual psychological functions. Bozhovich [6] suggests that a child's relationship to the environment is critical, as the nature of a child's experiences must be understood by the effect of the environment on the child. In recognising the social environment as the source of development, we arrive at the theoretical structure for this, known in cultural-historical theory as the social situation of development (SSD). The SSD is characterised as a system of relations between the child of a given age and social reality [39]. Just like the mechanical systems of a machine, the SSD also has a system to organise and process the child's relations and interactions to the environment. Unlike a mechanical system however, this is an organic system that is only visible through the child's behaviors.

The Social Situation of Development

Vygotsky refers to the social canvas as the SSD [39]. The SSD represents "the initial moment for all dynamic changes that occur in development during the given period" therefore, to study the dynamics of any age, one must first explain the SSD [39, p. 198]. The SSD is not a central focus point in this study, other than to frame the theoretical position of development from a cultural-historical perspective. The SSD has a central link to

the ZPD, which is a key theoretical framework for this study, so to correctly understand the ZPD the SSD must also be theoretically explained. Vygotsky's accounts the SSD for the qualitative change in children's development, explaining it as the child's specific, but comprehensive relationship to the environment [10].

The SSD holds a crucial place in the development of immature functions to higher mental functions, through a system of relations in a system of interactions. The SSD enables children to participate in a social space where they can relate, interact and experience drama. The SSD can be seen as a source of development as it enables not only the ZPD to occur, but it is also the facilitator of the dramatic collisions and drama in children's lives. Drama and dramatic collisions are essential for the SSD and the ZPD, and will be elaborated on further in the next section.

Drama

Emotionally and mentally experienced social relations present in the form of drama, which can be characterised as dramatic events, collisions, contradictions and confrontations between people. Drama is often perceived as something negative, however, the drama of life is essential for the development of human personality [35]. Drama is essential in this research as this is the source for the development of higher mental functions. Reflecting on children's daily experiences in ECE settings, there are many opportunities for drama to occur, including drama in play with their peers as well as dramas in their everyday interactions. But how do we identify the dramatic/social relation that becomes a 'category'? The ZPD begins with drama as it starts with something that the child cannot do (and this can often be the dramatic part)! For example: the child can't swing themselves on the swing like their friends, or they are not able to finish the craft activity as their parent arrives early to collect them from childcare, or their paper aeroplane doesn't fly as high as their friends. These examples may not cause drama in every child's life, as it depends on the child's SSD. In the case where drama occurs, it is in the moments of the 'can't do' that children become part of a social relation that is emotional and dramatic, opening possibilities for the ZPD to occur.

The Zone of Proximal Development

The ZPD is not a main or central concept in Vygotsky's theory of child development, however Vygotsky's intent for this concept aligns with the intent of this research, by focusing on the process of development; "pointing to an important place and moment in the process of child development" [10, p. 45]. As mentioned previously, there have been many applications of the ZPD, unfortunately however, their application is often in isolation from the rich theoretical roots that have been discussed above. Mercer & Fisher [22, p. 342] suggest that the "ZPD term is used as little more than a fashionable alternative to Piagetian terminology or the concept of IQ for describing individual differences in attainment or potential". As outlined above, the true essence of the ZPD is in the con-

cept of what development means from a cultural-historical perspective, in the sociocultural genesis of inverting the social to the individual through the SSD.

The ZPD has two purposes when analysing development, firstly to identify the kinds of maturing psychological functions (and the social interactions associated with them) and secondly to identify the child's current state in relation to developing these functions [10]. This study intends to use these two purposes to identify the two levels of the child's development, their actual level (current state) and their potential levels of development (maturing functions).

Drama during children's everyday lives in ECE settings will be used as facilitator for the ZPD. The ZPD will be used in the form of a tool that follows children's developmental process from the moment that they enter into the ZPD through dramatic events of what they 'can not do alone'. The tool will include teaching and pedagogical practices that are used to support the child through the ZPD in the SSD. The tool will illustrate the development of higher mental functions, and how they have been developed on the stage of development, appearing first between people on the social plane, and then inverting into an individual plane and a developed higher mental function [33].

Methodology and Methods

Cultural-historical theory is distinctly different from other research approaches, as its theory and methods are cut from the same cloth. When researching within a cultural-historical framework, a genetic² research methodology is necessary to ensure integrity of the theoretical and experimental tools [34]. This study aims to follow the methodological and theoretical unity that Vygotsky intended, using Vygotsky's non-classical genetic research methodology.

What is Vygotsky's Genetic Research Methodology (GRM)?

Vygotsky's GRM provides a non-classical alternative to the study of child development [34]. Vygotsky uniquely developed this research strategy, in a custom where the research methodology follows on from the theoretical guidance of the research, meaning, that there is a cultural-historical underpinning of the research across ontology, epistemology, methodology and methods. This binding of theory and methods provides a research methodology to study the development of higher mental functions both theoretically and experimentally [34].

References

1. Agbenyega A. The Australian early development index, who does it measure: Piaget or Vygotsky's child? *Australasian Journal of Early Childhood*, 2009. Vol. 34 (2), pp. 31–38.
2. Bartlett K., Zimanyi. Early Childhood Indicators. (n.d) [Electronic resource]. URL: <http://www.globalchilddevelopment.org/sites/default/files/resources/cn25indicators.pdf> (Accessed 10.09.2016).

Within Vygotsky's GRM, there are theoretical tools derived from the theoretical framework, and experimental tools derived from the experimental methodological principles. This approach ensures that the methodology interacts with theoretical concepts (and vice versa), to understand the process of development in light of the theoretical and experimental tools [34]. It is in the interaction of these theoretical and analytical tools, that the research methodology is generated to be theoretically and methodologically sound. This study will use the ZPD concept as a theoretical tool, and the principle of interaction of 'ideal and real form' as experimental tools. This principle can be used to artificially reconstruct the process of development [34], and can then be unpacked in light of the theoretical tool.

The principle of ideal and real form challenges traditional understandings of development, from a model of two interplaying factors, to a model of the social interaction being the source of development. Through interaction the child is exposed to the adults' ideal form, so if there is no ideal form, there is no interaction, and consequently no development [34]. When there is development, there is an ideal form presented, which then interacts with the real form and the child's rudimentary nature. This principle has specific applications when using it experimentally. Veresov [34] suggests that ideal forms must be present in the beginning of experimental study, and that the interaction between the ideal and real forms should be specially created the experimental procedure. This study will follow this guidance in the future development of the tool and experimental design.

Conclusion

Cultural-historical theory offers an opportunity for educational assessments to move into the space that looks at children's developmental trajectory, as part of the process.... to see the fruit from the buds, "like a gardener who in appraising species for yield would proceed incorrectly if he considered only the ripe fruit in the orchard and did not know how to evaluate the condition of the trees that had not yet produced mature fruit" [39, p. 200]. The significance of this study is it imposes the potential to lead the way in relation to reinvigorating the way child development assessment are conceptualised. If this tool can be validated and theorised, there is scope to shift current thinking around what is important to assess in a child's development. This new assessment tool has the potential to be used throughout the education system and beyond. We hope to lead the way in rethinking and redeveloping a better way to undertake child developmental assessments, guided by Vygotsky redoubtable legacy.

ment.org/sites/default/files/resources/cn25indicators.pdf (Accessed 10.09.2016).

3. Berk L. *Child Development* (9th ed.). Boston: Pearson, 2013. 648p.
4. Blaiklock K. A critique of the use of learning stories to assess the learning dispositions of young children. *New Zealand Research in Early Childhood Education*, 2008. Vol. 11, pp. 77–87.

² By the word genetic, this application is intended to mean 'genesis' in line with Vygotsky's approach, and not a genetic meaning aligning to a biological or maturational underpinning.

5. Bottcher L. The power of motives: The dialectic relations between neurobiological constraints and activity in child development. In Fleer M., Hedegaard M., Tudge J. (eds.) *Childhood studies and the impact of globalisation: Policies and practices at global and local levels*. New York: Routledge, 2009, pp. 108–122.
6. Bozhovich L. The social situation of child development. *Journal of Russian & East European Psychology*, 2009. Vol. 47, pp. 59–86.
7. Brinkman S. et al. Data Resource Profile: The Australian Early Development Index (AEDI). *International Journal of Epidemiology*, 2014. Vol. 43 (4), pp. 1089–1096.
8. Bruner J. Vygotsky: A historical and conceptual perspective. In Wertsch J. (eds.) *Culture, communication and cognition: Vygotskian perspectives*. New York: Cambridge University Press, 1985, pp. 21–34.
9. Campbell T. F. et al. Risk factors for speech delay of unknown origin in 3-year-old children. *Child development*, 2003. Vol. 74 (2), pp. 346–357.
10. Chaiklin S. The zone of proximal development in Vygotsky's analysis of learning and instruction. In Kozulin A. (eds.) *Vygotsky's educational theory in cultural context*. New York: Cambridge University Press, 2003, pp. 39–64.
11. Chaiklin S., Hedegaard M. Radical-local teaching and learning: A cultural-historical perspective on education and children's development. In Fleer M. (eds.) *Childhood studies and the impact of globalisation: Policies and practices at global and local levels*. New York: Routledge, 2009, pp. 182–201.
12. Carr M. et al. Learning and teaching stories: Action research on evaluation in early childhood in Aotearoa. *New Zealand, European Early Childhood Education Research Journal*, 2002. Vol. 10 (2), pp. 115–125.
13. Carr M., Claxton G. Tracking the Development of Learning Dispositions, Assessment in Education. *Principles, Policy & Practice*, 2002. Vol. 9 (1), pp. 9–37.
14. Carr M. Kei tua o te pae: assessing learning that reaches beyond the self and beyond the horizon. *Assessment Matters*, 2009. Vol. 1(20).
15. Damon W. Preface to Handbook of Childhood Psychology. In Damon W. (Series Ed.) Lerner R.M. (Vol. Ed.) *Handbook of child psychology Vol. 1. Theoretical models of human development* (6th edn). New York, 2006, pp. 7–19.
16. Daniels H. Vygotsky and pedagogy. London: Routledge, 2001. 175 p.
17. Department of Education and Early Childhood Development. Maternal and Child Health Nurses Practice Guidelines, 2009 [Electronic resource]. URL: <http://www.education.vic.gov.au/Documents/childhood/professionals/health/mchsguidelines.pdf> (Accessed 15.09.2016).
18. Fleer M. Sociocultural Assessment in Early Years Education--myth or reality? *International Journal of Early Years Education*, 2002. Vol.10 (2), pp. 105–120.
19. Fleer M. Using digital video observations and computer technologies in a cultural–historical approach. In Hedegaard M., Fleer M. (eds.) *Studying children: A cultural–historical approach*. McGraw Hill: Open University Press, 2008, pp. 104–116.
20. Grantham-McGregor S. et al. Developmental potential in the first 5 years for children in developing countries. *Lancet*, 2007. Vol. 369 (9555), pp. 60–70.
21. McLachlan C. et al. Early Childhood Curriculum. New York: Cambridge University Press, 2010. 231 p.
22. Mercer N., Fisher E. How Do Teachers Help Children to Learn? An Analysis of Teachers' Interventions in Computer-Based Activities. *Learning and Instruction*, 1992. Vol. 2(4), pp. 339–55.
23. Monk H. Intergenerational Family Dialogues: A Cultural Historical Tool Involving Family Member as Co–researchers Working with Visual Data. In Fleer M., Ridgway A. (eds.) *Visual methodologies and digital tools for researching with young children: Transforming Visuality*. Switzerland: Springer International Publishing, 2014, pp. 73–88.
24. National Research Council. Early childhood assessment: Why, what, and how, 2008. [Electronic resource]. URL: http://www.acf.hhs.gov/sites/default/files/opre/early_child_assess.pdf (Accessed 15.09.2016)
25. Northwest Evaluation Association. Early Childhood Assessment: Implementing Effective Practice, 2013. [Electronic resource]. URL: <https://www.nwea.org/content/uploads/2014/07/EarlyChildhoodAssessment-ImplementingEffectivePractice.pdf> (Accessed 15.09.2016)
26. Nsamenang A. B. Cultures in early childhood care and education. In Fleer M., Hedegaard M., Tudge J. (eds.) *Childhood studies and the impact of globalisation: Policies and practices at global and local levels*. New York: Routledge, 2009, pp. 23–45.
27. Palincsar A.S. Keeping the metaphor of scaffolding fresh – A response to C. Addison stone's 'The Methaphor of Scaffolding: Its utility for the field of learning disabilities'. *Journal of Learning Disabilities*, 1998. Vol. 31(4), pp. 3–370.
28. Quiñones G., Fleer M. A Cultural–historical reading of 'children as researchers'. In Fleer M., Hedegaard M., Tudge J. (Eds.). *Childhood studies and the impact of globalisation: Policies and practices at global and local levels*. New York: Routledge, 2009, pp. 86–107.
29. Rogoff B. The Cultural Nature of Human Development. New York: Oxford University Press, 2003. 434p.
30. The Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments. Belonging, Being Becoming, 2009. [Electronic resource]. URL: https://www.coag.gov.au/sites/default/files/early_years_learning_framework.pdf (Accessed 15.09.2016)
31. Tinajero A.R., Loizillon A. Review of care, education and child development indicators in ECCE. 2010. [Electronic resource]. URL: <http://unesdoc.unesco.org/images/0021/002157/215729E.pdf> (Accessed 15.09.2016)
32. Veresov N. Marxist and non–Marxist aspects of the cultural-historical psychology of L.S Vygotsky. *Critical Practice Studies*, 2005. Vol. 7(1), pp. 31–49.
33. Veresov N. Forgotten methodology: Vygotsky's case. In Valsiner J., Toomela A. (eds.) *Methodological thinking in psychology: 60 years gone astray?* Charlotte, 2010, pp. 267–295.
34. Veresov N. Refocusing the Lens on Development: Towards Genetic Research Methodology. In Fleer M., Ridgway A. (eds.) *Visual methodologies and digital tools for researching with young children: Transforming Visuality*. Switzerland: Springer International Publishing, 2014, pp. 129–149.
35. Veresov N., Fleer M. Perezhivanie as a theoretical concept for researching young children's development. *Mind, culture and activity*, 2016. (in press).
36. Veresov N. Duality of categories or dialectical concepts? *Integrative psychological and behavioural science*, 2016. Vol. 50(2), pp. 244–256.
37. Vygotsky L.S. The problem of the environment. Valsiner & R. Van der Veer (eds.). *The Vygotsky reader*. Oxford: Blackwell, 1994, pp. 347–384.
38. Vygotsky L.S. The collected works of L.S. Vygotsky, Vol. 4. New York: Plenum Press. 1997. 294 p.
39. Vygotsky L.S. The collected works of L.S. Vygotsky. Vol. 5. New York: Plenum Press, 1998. 362 p.