

How individualised are the Individualised Education Programmes (IEPs): an analysis of the contents and quality of the IEPs goals

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(Received 4 June 2013; accepted 1 July 2013)

The Individualised Education Programme (IEP) is a fundamental document that describes all educational responses to the additional support needs of students, setting up the guideline for their learning and developmental experiences. Specifically, the IEP goals represent the personal destination translated into desirable behaviours and skills that will enable students with additional support needs to meet their educational and functional needs. This paper analysis the quality of the 2497 IEP goals established for 135 Portuguese students with additional support needs and their fit to the students' level of severity and educational level. The quality of IEP goals was measured using the *Revised IFSP/IEP Goals and Objectives Rating Instrument* and the content was categorised in reference to the *International Classification of Functioning, Disability and Health, version for Children and Youth*. Findings showed that goals are generally poorly written, particularly in terms of their measurability and that their quality decreases as students' progress in education. Results also showed that IEP goals for students with a highly individualised curriculum do not attend to their needs of more functional contents. The results are discussed in terms of their implications for teacher training.

Keywords: Individualised Education Programme; IEP goals; students with additional support needs; ICF; R-GORI

Introduction

It is widely accepted that students with additional support needs benefit substantially from the implementation of individualised, intentional and planned interventions (e.g. Pretti-Frontczak and Bricker 2000; Wolery 2000). These interventions are usually reported in the Individualised Education Programme (IEP) that constitutes the educational map for students with disabilities (Ruble et al. 2010) and contributes to ‘bridge (...) “what is” and “what can be” in students’ life (Thompson et al. 2009, 138). These geographical metaphors are pertinent because they suggest a parallel between a journey and the three central dimensions of an IEP (Bateman and Herr 2006; Lee-Tarver 2006): (a) *a specific* departure point – the child’s present level of performance; (b) *a personal* destination – measurable goals; (c) *an individualised* route and vehicle – needed supports and services. *Individualisation*, therefore, has been described as the nuclear factor for intervention effectiveness (Wolery 2000).

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Nevertheless, many professionals have long regarded the IEP as a bureaucratic procedure with little impact and utility (Wilson, Michaels, and Margolis 2005), therefore constituting the first vehicle of segregation. In fact, whilst a strong relationship between assessment, goals and service provision has been ascertained as the best practice to meet the students' needs (Bagnato, Neisworth, and Munson 1997), several studies evidenced a mismatch between students' assessments and services, interventions and supports provided (e.g. Silveira-Maia and Lopes-dos-Santos 2009). Frequently, the focus has been on the person's deficits and type of disability and not on the supports they need to live a fulfilling life in their environments (Thompson et al. 2009). Thus, in order to align the IEP design with the students' special educational needs it is fundamental to comprehensively identify and analyse their functioning and disabilities (Bagnato, Neisworth, and Munson 1997), constituting the baseline from which the intervention will be developed, including the goals setting and services allocation. Specifically, the IEP goals represent the personal destination translated into desirable behaviours and skills that will enable students with additional support needs to meet their educational and functional needs (Bateman 2011). Moreover, it permits students, professionals and parents to monitor progresses and evaluate interventions' effects and, if the case, redefine strategies in order to enhance educational and functional outcomes (Ruble et al. 2010). The adequate design of IEP goals is seen to promote the efficacy of intervention, and therefore, the education and development of students with needs for additional supports (Dragow, Yell, and Robinson 2001; Bateman and Herr 2006).

The Portuguese special education law, the Decree-Law No. 3/2008, requires an IEP for every student with additional support needs, and describes the target group for the provision of special education services as students with 'significant limitations in terms of activity and participation in one or more areas of life due to permanent functional and structural issues, which result in continued difficulty in terms of communication, learning, mobility, autonomy, interpersonal relationships and

social involvement' (European Agency for Development in Special Needs Education 2009). This definition transferred the emphasis of the eligibility decision-making from a clinical diagnosis to the student's functioning profiles. Hence, the IEP is developed according to the student's functioning profile in which a multidisciplinary team describes student's limitations and restrictions in activities and participation according to the interaction between personal and environmental factors. The Decree-Law also established the *International Classification of Functioning, Disability and Health, version for Children and Youth* ([ICF-CY]; WHO 2007) as the required framework to describe the functioning profile of students applying for special education services and supports. The students' functioning profile is described based on a specialised assessment conducted by the multidisciplinary team and constitutes the baseline for developing the IEP that includes: (a) student's identification; (b) summary of student's school history and other relevant background; (c) description of student's functioning, difficulties and acquisitions; (d) description of environmental factors that are hindering or facilitating student's participation and learning; (e) definition of educative measures to adopt; (f) specification of contents, general and specific goals to be achieved and strategies and resources to be provided to student; (g) level of student's participation in school activities; (h) schedule of planned activities; (i) identification of who participates in the implementation of educative measures; and (j) definition of how and when the student's progress in his/her IEP will be measured.

The provision of supports in Portuguese schools – legally defined as *educative measures* – ranges from adaptations and accommodations to access the general curriculum to a highly individualised curriculum (HIC), prescribing students' involvement in functional contents based on life contexts (Decree-Law No. 3/2008, article 21, point 3). Curriculum with increased functional contents addresses students with a broader spectrum of disabilities (Sanches-Ferreira et al. 2010) and means that the school must prepare the students in life skills required for all aspects of an independent everyday functioning and foresee the student's transition for daily environments after they leave school (Pretti-Fontczak and Bricker 2000).

Beyond the required components established by the legislation, the central services of the Ministry of Education created an IEP model to support the implementation of the Decree-Law No. 3/2008 (Capucha et al. 2008). Though, despite these general guidelines, each school may determine the IEP format and procedures, creating heterogeneity across the country (Sanches-Ferreira et al. 2010, 2013). Furthermore, there is little information on how to write goals and objectives in an IEP and a previous study with Portuguese pre-schoolers showed that individualised goals are often poorly written (Boavida et al. 2010).

The importance of an adequate definition of goals in the construction of the IEP and the recent changes in the Portuguese legislation underline the importance of understanding the current quality and contents of IEPs' goals, and identifying relevant factors to be targeted in initial and in-service teacher training.

Research questions

The aim of this paper is to examine the quality of the goals established for students with additional support needs and their fit to the students' level of severity and educational level. Four research questions translate that aim: (1) What is the quality of written IEP goals? (2) What aspects of functioning are included in IEP goals? (3) To what extent the

IEP goals quality and content vary as a function of students' educational level or educative measure they receive? (4) Do the IEP goals of students with the more restrictive educative measures address life skills identified as essential for their development?

Methods

Sample

This study was conducted in the north of Portugal and was based on the analysis of the IEP's provided by 135 special education teachers. These teachers had applied to an in-service training programme about IEP development, and they were working in 41 schools ranging from primary to secondary schools, that covered the five districts of the region. Each teacher was asked to present an IEP that should be randomly selected from the children with additional support needs that they were working with, therefore constituting the sample of 135 IEP's. The mean age of students was

10.2 years (SD = 3.9) ranging from 8 to 18 years; 72.2% ($N = 98$) of students were male and 27.4% ($N = 37$) were female. The sample was divided into two groups according to their educative measures. Group 1 ($n = 56$) included students supported by a combination of educational supports to access the general curriculum and group 2 ($n = 74$) included students supported by a HIC.

Measures and procedures

Twenty goals were selected from each IEP covering each intervention area that it contained. The number of intervention areas was determined for each IEP (e.g. *communication; social interaction ...*) and consequently, the number of goals to be selected from each area was calculated. In a second phase, the goals from each area were numbered and then randomly selected. Therefore, if an IEP encompassed five areas of intervention (e.g. *communication; social interaction ...*), four goals were randomly selected per area.

The general quality of the intervention goals was determined through the *Revised IFSP/IEP Goals and Objectives Rating Instrument* (R-GORI), originally proposed by Notari-Syverson and Shuster (1995) to support the development and evaluation of educational goals in early intervention. The R-GORI considers four dimensions of analysis: (1) functionality/participation; (2) generality; (3) measurability; and (4) instructional context (Notari-Syverson and Shuster 1995). Each dimension contains a set of quality indicators (Table 1). The presence or absence of the nine quality indicators was rated for each goal. Scores range between 0 for absence and 1 for presence of the quality indicator. The overall quality of a goal is obtained adding the scores assigned to the quality indicators, so the higher R-GORI score means the higher quality of a goal. In this study, a simple composite measure – the R-GORI overall mean score – was computed as the mean of scores across all goals, since the *Cronbach α coefficient* for all nine indicators ($\alpha = 0.71$) indicated its acceptability (Kline 1999).

In addition, goals were categorised in reference to the *International Classification of Functioning, Disability and Health, version for Children and Youth* (WHO 2007) which, as mentioned, supports the assessment and eligibility processes for the provision of special education services in Portugal. Thus, each goal could be assigned to one ICF-CY component: *body functions and structures, activities and participation* and *environmental factors*. Figure 1

demonstrates the domains embodying each ICF-CY component.

We used the ICF linking rules developed by Cieza et al. (2005) to link the goal's content to the ICF codes. According to them, each goal was linked to the most appropriate corresponding ICF category, identified with its alphanumerical code. If the goal's content was not represented in the ICF, it was 'Nc' (*not covered* by the ICF). For example, the goal 'being able to identify the Portuguese's organisation in

Table 1. Revised IEP/IFSP Goals and Objectives Rating Instrument, R-GORI (adapted from Notari-Syverson and Shuster 1995).

Dimension	Indicator
Measurability	1. The target behaviour have a beginning and an end and can it be seen and/or heard
	2. Inclusion of performance criteria
	3. The performance can be counted and measured
Functionality	4. The child needs the target behaviour to participate in all/most daily activities
	5. The child need the target behaviour to complete all/most daily activities
Generality	6. The skill represent a general concept or class of responses
	7. The skill be generalised across a variety of settings, materials and/or people
Instructional context	8. The skill be taught across daily activities
	9. The target behaviour be taught/addressed by various team members

Body functions	Activities and participation	Environmental factors
b1 – Mental functions	d1 – Learning and applying	e1 – Products and technology
b2 – Sensory functions and pain	d2 – knowledge	e2 – Natural environment and human-made changes to environment
b3 – Voice and speech functions	d3 – General tasks and demands	e3 – Support and relationships
b4 – F. cardiovascular, ... respiratory systems	d4 – Communication	e4 – Attitudes
b5 – F. digestive, metabolic and endocrine systems	d5 – Mobility	e5 – Services, systems and policies
b6 – Genitourinary and reproductive functions	d6 – Self-care	
b7 – Neuromusculoskeletal and movement-related functions	d7 – Domestic life	
b8 – F. of the skin and related structures	d8 – Interpersonal interactions and relationships	
	d9 – Major life areas	
	d10 – Community, social and civic life	

Figure 1. ICF-CY components and domains.

the thirteenth century in terms of king and spaces' approached essentially academic contents and had been assigned 'Nc'.

Reliability

Four researchers rated 15% of all IEPs to establish interrater reliability. The reliability of the decisions made during the data analysis obtained an interrater agreement of 85% for the R-GORI rating process and above 90% for the categorisation process in reference to the ICF-CY components and domains.

Data analysis

We examined descriptive data on R-GORI and ICF-CY categories to identify the quality of the IEP goals and the functioning domains covered by the intervention goals. The percentage of each R-GORI indicator was computed through the analysis of the percentage of goals per IEP rated positively on it. Non-parametric tests were used to analyse the variation of the quality and functioning domains within IEP goals and the two variables established: multivariate analyses of variance (*Kruskall-Wallis test*) with the students' educational level and the *Mann-Whitney U test* for independent samples with the two groups of educative measures.

Results

The total number of examined goals within the 135 IEPs was 2497. The number of analysed goals per IEP ranged from 5 to 20 ($M = 18$; $SD = 3.8$) with 81.48% (110) of IEPs including more than 20 goals.

The R-GORI overall mean score was 4.31 ($SD = 2.2$), ranging from 0 to 9. The frequency of each R-GORI indicator ranged from 9.37 to 74.81%.

As shown in Table 2, almost three-fourths of the goals could be generalised across a variety of settings, materials and people (74.81%). Of the goals analysed, 68.92% were judged as behaviours needed to participate in most daily activities, 62.72% as teachable across daily activities, 60.71% as a skill representing a concept or class of responses and 55.91% as behaviours with a beginning and an end that

Table 2. Percentage of goals rated positively on each R-GORI quality

indicator. Dimension		
	Indicator	%
Measurability	1. The target behaviour have a beginning and an end and can it be seen and/or heard	55.91
	2. Inclusion of performance criteria	21.27
	3. The performance can be counted and measured	9.37
Functionality	4. The child needs the target behaviour to participate in all/most daily activities?	68.92
	5. The child need the target behaviour to complete all/most daily activities	41.89
Generality	6. The skill represent a general concept or class of responses	60.71
	7. The skill be generalised across a variety of settings, materials and/or people	74.81
Instructional context	8. The skill be taught across daily activities	62.72
	9. The target behaviour be taught/addressed by various team members	35.88

can be seen and/or heard. Very few IEP goals included the quantitative criteria to measure the performance (9.37%). Other areas poorly represented were the descriptions of qualitative criteria to measure the goal (21.27%), the clear description of goals to allow various team members to teach/address it (35.88%) and the relevance of the target behaviour for the students' daily activities (41.89%).

Concerning the focus of IEP goals, our analysis involved the ICF-CY component found in each goal. Figure 2 presents the distribution of goals across the ICF-CY components.

The majority (83.14%) of goals reflected descriptions of *activities and participation* domains. Of the goals analysed, 12.37% reflected descriptions of *body functions* domains and 4.49% of 'Nc' domains. The analysis of these *not covered* domains revealed that they addressed specific academic goals related to each subject concepts.

Quality and content of the IEPs goals as function of students' educational level The IEPs goals analysed belonged to 25 students in

kindergarten ($n = 460$ goals), 58 students in first level ($n = 1094$), 26 students in second level ($n = 465$) and 26

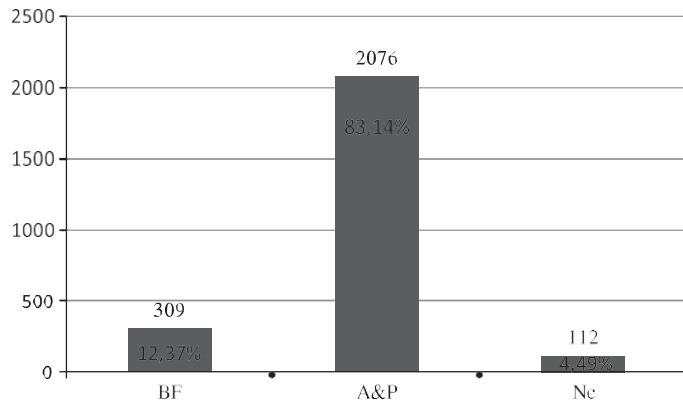


Figure 2. Distribution of IEP goals across the ICF-CY components.

students in third level ($n = 478$). The results of the quality analysis and linking procedure of the IEPs goals over each educational level are presented in Table 3.

The mean quality of goals decreased with the educational level. The goals written for students in kindergarten registered the higher mean quality and the goals written for students in third level of education registered the lower mean quality. The computation of *Kruskal–Wallis test* with the educational level as independent variable and R-GORI mean quality as dependent measure indicated that the IEP goals quality varied as a function of the student's educational level: $\chi^2(3) = 94.72$, $p < 0.001$.

Pairwise comparisons, using *Mann–Whitney U tests*, indicated small and medium differences between kindergarten and all the others educational levels (Table 4). The R-GORI quality mean is also significantly different for students in first level comparing to students in second and third levels. These results corroborate that teachers are less comfortable writing goals for students from advanced levels, what can be explained by the increased complexity of the academic contents.

Concerning the goals' contents, there were concepts linked to *body functions* and *activities and participation* to be developed in students in all educational levels. *Not covered* domains were also found in all educational levels. Computation of *Kruskal–Wallis test* indicated that the IEP contents also varied as a function of students' educational level: *body functions*, $\chi^2(3) = 36.28$, $p < 0.001$; *activities and participation*, $\chi^2(3) = 18.62$, $p < 0.001$; *not covered*, $\chi^2(3) = 67.28$, $p = < 0.001$.

Pairwise comparisons and effect size (r) on ICF-CY contents within the IEPs goals by educational levels are shown in Table 4. Examination of effect sizes shows small differences, although their comprehension can help in addressing teachers' difficulties in developing the IEPs. In the second level, the moment when the number of academic subjects substantially increases, the attention given to the *body functions*

component is significantly lower than in the other educational levels. Kindergarten is the educational level where the IEPs content registers the higher incidence of the *activities and participation* component and it is significantly higher than in the first and third levels. As expected, the proportion of *not covered* domains is significantly higher for students in advanced educational levels – second and third levels – than for students in earlier educational levels – kindergarten and first level.

Quality and content of the IEPs goals as function of students' educative measure

Differences in the IEP goals quality and content were examined between 61 students supported by a combination of educational supports to access the general curriculum

and 74 students supported by a HIC. Table 5 lists the number of goals and the results of the quality analysis and linking procedure of the IEPs goals over each educative measure – adaptations and accommodations to the general curriculum and HIC.

The computation of *Mann–Whitney U test* showed that the IEPs mean quality did not reflect significant differences between students with adaptations and accommodations to the general curriculum and students with HIC, $U = 751249.00$, $Z = -1.030$, $p = 0.303$, $r = 0.02$. Similarly, the goals' content – in terms of references to the ICF-CY components – did not vary as a function of students' educative measure, in terms of: *body functions*, $U = 765902.00$, $Z = -0.353$, $p = 0.724$, $r = 0.01$; *activities and participation*, $U = 764276.50$, $Z = -0.451$, $p = 0.652$, $r = 0.01$; and *not covered* domains, $U = 767880.50$, $Z = -0.253$, $p = 0.800$, $r = 0.01$.

Table 3. Quality analysis and linking procedure of the IEPs goals over each educational level.

	No. of student	Mean age	Min.	Max.	No. of goals	R-GORI mean quality	Body functions <i>Fi</i> , %	Activities & participation <i>Fi</i> , %	Not covered <i>Fi</i> , %
Kindergarten	25	4	3	7	460	5.12 (SD = 2.28)	48 10.43%	406 88.26%	6 1.30%
1st level	58	9	6	13	1094	4.36 (SD = 2.13)	173 15.81%	898 82.08%	23 2.10%
2nd level	26	13	10	14	465	3.92 (SD = 2.11)	24 5.16%	397 85.38%	44 9.46%
3rd level	26	15	13	18	478	3.82 (SD = 2.25)	64 13.39%	375 78.45%	39 8.16%

Table 4. Pairwise comparisons using *Mann-Whitney U tests* on IEP goals quality and content by educational levels.

	IEP goals R-GORI quality		Body functions		Activities & participation		Not covered domains	
	<i>U</i>	Effect size (<i>r</i>)	<i>U</i>	Effect size (<i>r</i>)	<i>U</i>	Effect size (<i>r</i>)	<i>U</i>	Effect size (<i>r</i>)
1st level vs. kindergarten	202075.50 ^{***}	0.16	238086.00 ^{**}	0.07	236078.00 ^{**}	0.08	249612.00	0.03
2nd level vs. kindergarten	75152.00 ^{***}	0.26	101310.00 ^{**}	0.10	103865.00	0.04	98225.00 ^{***}	0.18
3rd level vs. kindergarten	74721.00 ^{***}	0.28	106692.00	0.05	99156.00 ^{***}	0.13	102404.00 ^{***}	0.16
1st level vs. 2nd level	227799.00 ^{**}	0.08	227260.50 ^{***}	0.15	245981.00	0.04	235634.50 ^{***}	0.17
1st level vs. 3rd level	224407.50 ^{***}	0.11	255127.00	0.03	251969.00	0.04	245630.00 ^{***}	0.14
2nd level vs. 3rd level	106544.00	0.04	101991.00 ^{***}	0.14	103439.50 ^{**}	0.09	109686.50	0.02

^{**} $p < 0.01$; ^{***} $p < 0.001$.

Table 5. Quality analysis and linking procedure of the IEPs goals over each educative measure.

	No. of student	Mean age	Min.	Max.	No. of goals	R-GORI mean quality	Body functions <i>Fi</i> , %	Activities & participation <i>Fi</i> , %	Not covered <i>Fi</i> , %
Students without HIC	61	8 (SD = 3.74)	3	17	1108	4.37 (SD = 2.35)	140 12.64%	917 82.76%	51 4.60%
Students with HIC	74	12 (SD = 2.82)	7	18	1389	4.27 (SD = 2.11)	169 12.17%	1159 83.44%	61 4.39%

Despite these results, we scrutinised the individualisation property of IEP goals by conducting a detailed analysis of the proportion of the ICF-CY domains between IEP goals from students with and without the HIC.

The *Mann–Whitney U test* for independent samples (Table 6) showed that goals written for students with HIC focused, despite with small effects size, significantly more in the domains of *sensory functions and pain*, $U = 755523.50$, $Z = -4.010$, $p < 0.001$, $r = 0.08$, *general tasks and demands*, $U = 747434.00$, $Z = -3.105$, $p = 0.002$, $r = 0.06$ and *major life areas*, $U = 741003.00$, $Z = -5.129$, $p < 0.001$, $r = 0.10$. Students without HIC focused significantly more in *mental functions*, $U = 750570.50$, $Z = -2.096$, $p = 0.036$, $r = 0.04$, and *learning and applying knowledge*, $U = 735357.50$, $Z = -2.356$, $p = 0.018$, $r = 0.05$.

Discussion

Several noteworthy findings on the quality of IEPs of students in need of special education services were identified with evidences indicating that the IEPs quality – analysed using the R-GORI – was generally poor.

Table 6. *Mann-Whitney U tests* on ICF-CY domains included in IEP goals by educative measure.

Components	Domains	No. of	No. of	<i>U</i>
		goals students without HIC	goals students with HIC	
Body functions	Mental F. – b1	119 10.74%	115 8.28%	750570.50*
	Sensory F. and pain – b2	3 0.27%	29 2.09%	755523.50**
	Neuromusculoske. F. – b7	8 0.72%	17 1.22%	765644.00
	Voice and speech F. – b3	9 0.81%	4 0.29%	765471.50
	Others – b4; b5; b6; b8	1 0.09%	4 0.29%	–
Activities and participation	Learning and applying knowledge – d1	385 34.75%	421 30.31%	735357.50*
	Communication – d3	150 13.54%	184 13.25%	767267.00
	Mobility – d4	123 11.10%	126 9.07%	753886.50
	Self-care – d5	101 9.12%	141 10.15%	761536.50
	Interpersonal interactions and relationships – d7	99 8.94%	115 8.28%	764460.50
	Major life areas– d8	14	69	741003.00***
	General tasks and demands – d2	44 3.97%	95 6.84%	1.26% 4.97% 747434.00**
	Others – d6; d9	8 0.58%	9 0.68%	–

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

One indicator of quality that appeared with a high frequency was the generalisation across a variety of settings, materials and/or people. This was already observed in a previous study conducted in Portugal concerning the IEPs goals from preschoolers with disabilities (Boavida et al. 2010). Authors highlighted the higher frequency of generalisable goals as a reflection of vague and general outcomes, as Yell and Stecker (2003) had already described.

As in prior research (Boavida et al. 2010; Ruble et al. 2010) the least frequently observed quality indicator was the measurability of the IEPs goals, in particular, the quantitative criteria for goal measurement and success. Shinn and Shinn (2000) provided an argument that can explain this result: teachers feel difficulties in determining the important behaviours to measure and, therefore, write numerous goals to comply with the procedural requirement of developing an IEP. In fact, in our study, the number of goals per IEP is consistent with this argument, with more than 80% of IEPs including more than 20 goals. The problem emerged from non-measurable goals have been described by others and synthesised by Bateman, 'if we don't know where we're going, we probably won't get there' (2011, 98).

Findings also reveal that the quality of IEP goals varied as a function of students' educational level, suggesting that teachers have troubles describing high quality goals for students in advanced educational levels. These results were expected as a consequence of the diversity and complexity of academic subjects approached in these levels, as well as the number of professionals involved in the development and implementation of the IEP.

There is one further observation worth noting. The quality of the IEP goals did not vary as a function of the student's educative measure. This result apparently contradicts the study from Boavida et al. (2010) that showed that goals written for students with severe disabilities have higher quality, translated by increased attention to the measurability criteria, but we should also consider that this study was focused in

preschoolers, where the most restrictive measures are usually limited to very profound cases.

This study also examined the content of IEPs goals within the ICF-CY framework. The IEP goals mainly address the *activities and participation* component of the ICF-CY. In a smaller proportion, we could also encounter IEPs goals formulated in terms of the *body functions* component and *not covered* domains. Indeed, the *environmental factors* component was not included in any of the analysed IEP goals. This result suggests that interventions for students in need of special education services are mainly focused on students' skills and capacities, not considering the characteristics of the environment in which the student is embedded, which may be associated with the limitations in performing activities and restrictions in participation. It is essential to consider the student's environment for the individualisation and appropriateness of IEPs goals, as – in line with the ecological models of development – the environment represents an important focus of change. In order to acknowledge and reflect the role of the environment in the intervention planning, teachers need to assess the impact of the environment on the students' functioning, measuring the students' performance with and without environmental supports (Sanches-Ferreira et al. 2013).

Another notable finding was that, although the overall proportion of the ICF-CY components showed no differences between students with different educative measures, they could be found on the proportion of the ICF-CY domains. This result suggest that the intervention planned for students with accommodations and adaptations to access the general curriculum is more directed to aspects of functioning related to learning – presenting higher proportion of IEP goals associated to *mental functions* and *learning and applying knowledge*. Although, this difference in the contents of the IEP goals is not clearly reflected in students with HIC because they only presented higher proportion of IEP goals in contents of *general tasks and demands* and *major life areas*. It was expected that the IEP goals written for students with a HIC, due to the nature and severity of their difficulties, presented

predominance of contents associated to independent living skills, such as *self-care*, *domestic life* and *interpersonal interactions and relationships*. This finding suggests that IEP goals of students with HIC do not appropriately focus on life skills required for all aspects of an independent life.

Conclusion

The purpose of this study was to examine the quality and content of the IEP goals using the R-GORI and the ICF-CY framework, respectively. The findings suggest the need for specific teacher training on the development of IEPs, particularly in terms of: (1) measurability of IEP goals, including clear descriptions of how the performance can be measured and the specific criteria for successful goal acquisition; (2) assessment of *environmental factors* that are facilitating or hindering the student's *activities and participation* and their relevance as key aspects to address students' needs; and (3) development of functional goals for students with a broader spectrum of disabilities. Training teachers to use the IEP as a functional tool in planning and implementing educational practices will not only promote the education of students – satisfying the IEP 'educationally appropriate' function – but also ensure that the IEP is 'legally correct' (Drasgow, Yell, and Robinson 2001, 360) meaning that it is complying with the policy regulations and procedural aspects of special education. The improvement of the combination between IEPs *function* and *form* (Wilson, Michaels, and Margolis 2005) seems to assume even more importance for students of advanced educational levels. It will be interesting to understand how the composition of the IEP team affects the quality of the goals established, and particularly how the active participation of the family and of the students with additional support needs in the development of the IEP may increase the quality of those goals. Future research based on direct observation and evaluation of the IEP goals implementation into practice should also be explored.

References

- Bagnato, S., J. Neisworth, and S. Munson. 1997. *LINKing Assessment and Early Intervention: An Authentic Curriculum-based Approach*. Baltimore, MD: Paul H. Brookes.
- Bateman, B. D. 2011. "Individual Education Programs for Children with Disabilities." In *Handbook of Special Education*, edited by J. M. Kauffman and D. P. Hallahan, 91–106. New York: Routledge.
- Bateman, B. D., and C. M. Herr. 2006. *Writing Measurable IEP Goals and Objectives*. Verona, WI: Attainment Publications.
- Boavida, T., C. Aguiar, R. McWilliams, and J. Pimentel. 2010. "Quality of Individualized Education Program Goals of Preschoolers with Disabilities." *Infants & Young Children* 23 (3): 233–243.
- Capucha, L., F. Pereira, A. Crespo, C. Correia, F. Cavaca, F. Croca, G. Breia, and M. Micaelo. 2008. *Educação especial – manual de apoio à prática* [Special Education - Manual to Support Practices]. Lisboa: Direcção-Geral de Inovação e de Desenvolvimento Curricular [Lisbon: Directorate-General for Innovation and Curriculum Development].

- Cieza, A., S. Geyh, S. Chatterji, N. Kostanjsek, B. Üstün, and G. Stucki. 2005. "ICF Linking Rules: An Update Based on Lessons Learned." *Journal of Rehabilitation Medicine* 37 (2): 212–218.
- Decreto-Lei n.º 3/2008 (Decree-Law No. 3/2008). *Ministério da Educação. Diário da República* [Ministry of Education. Republic Diary] – *Série n.º 4 – 7 de Janeiro de* [de January] 2008: 154–164.
- Dragow, E., M. L. Yell, and T. R. Robinson. 2001. "Developing Legally and Educationally Appropriate IEPs." *Remedial and Special Education* 22 (6): 359–373. doi:10.1177/074193250102200606.
- European Agency for Development in Special Needs Education. 2009. "Identification of Special Educational Needs – Portugal." Accessed February 3. <http://www.european-agency.org/country-information/portugal/national-overview/identification-of-special-educational-needs>.
- Kline, P. 1999. *The Handbook of Psychological Testing*. 2nd ed. London: Routledge.
- Lee-Tarver, A. 2006. "Are Individualized Education Plans a Good Thing? A Survey of Teachers' Perceptions of the Utility of IEPs in Regular Education Settings." *Journal of Instructional Psychology* 33 (4): 263–272.
- Notari-Syverson, A., and S. Shuster. 1995. "Putting Real-life Skills into IEP/IFSPs for Infants and Young Children." *Teaching Exceptional Children* 27 (2): 29–32.
- Pretti-Frontczak, K., and D. Bricker. 2000. "Enhancing the Quality of Individualized Education Plan (IEP) Goals and Objectives." *Journal of Early Intervention* 23 (2): 92–105.
- Ruble, L. A., J. McGrew, N. Dalrymple, and L. A. Jung. 2010. "Examining the Quality of IEPs for Young Children with Autism." *Journal of Autism and Developmental Disorders* 40 (12): 1459–1470. doi:10.1007/s10803-010-1003-1.
- Sanches-Ferreira, M., R. Simeonsson, M. Silveira-Maia, S. Alves, A. Tavares, and S. Pinheiro. 2013. "Portugal's Special Education Law: Implementing the International Classification of Functioning, Disability

and Health in Policy and Practice.” *Disability & Rehabilitation* 35 (10): 868–873. doi:10.3109/09638288.2012.708816.

- Sanches-Ferreira, M., R. Simeonsson, M. Silveira-Maia, S. Pinheiro, A. Tavares, and S. Alves. 2010. *Projecto da Avaliação Externa da Implementação do Decreto-Lei n.º 3/2008: Relatório Final* [External Evaluation Project of Decree-Law No 3/2008 Implementation]. Lisboa: Direcção-Geral de Inovação e de Desenvolvimento Curricular [Lisbon: Directorate- General for Innovation and Curriculum Development]. Accessed February 3. http://www.dgidc.min-edu.pt/educacaoespecial/data/ensinoespecial/estudo_simeonsson.pdf.
- Shinn, M. R., and M. M. Shinn. 2000. “Writing and Evaluating IEP Goals and Making Appropriate Revisions to Ensure Participation and Progress in General Curriculum.” In *IDEA Amendments of 1997: Practice Guidelines for School-based Teams*, edited by C. F. Telzrow and M. Tankersley, 351–381. Bethesda, MD: National Association of School Psychologists.
- Silveira-Maia, M., and P. Lopes-dos-Santos. 2009. “The ICF-CY Use to Support Disability Documentation and to Plan Interventions on Individualized Education Programs.” Paper presented at 1st International Congress of Educational Research, Çanakkale, Turkey, May 1–3.
- Thompson, J., V. Bradley, W. Buntinx, R. Schalock, K. Shogren, M. E. Snell, M. L. Wehmeyer, et al. 2009. “Conceptualizing Supports and the Support Needs of People with Intellectual Disability.” *Intellectual and Development Disabilities* 47 (2): 135–146.
- Wilson, G. L., G. A. Michaels, and H. Margolis. 2005. “Form versus Function: Using Technology to Develop Individualized Education Programs for Students with Disabilities.” *Journal of Special Education Technology* 20 (2): 37–48.
- Wolery, M. 2000. “Recommended Practices in Child Focused Interventions.” In *DEC Recommended Practices in Early Intervention/Early Childhood Special Education*, edited by S. Sandall, M. E. McLean and B. J. Smith, 29–37. Longmont, CO: Sopris West.

World Health Organization. 2007. *International Classification of Functioning, Disability and Health – Version for Children and Youth*. Geneva: World Health Organization.

Yell, M. L., and P. M. Stecker. 2003. "Developing Legally Correct and Educationally Meaningful IEPs Using Curriculum-based Measurement." *Assessment for Effective Intervention* 28 (3–4): 73–88. doi:10.1177/073724770302800308.