Analysing the relationship between reading fluency and reading competence in Secondary Education

Explorando la relación entre fluidez lectora y competencia lectora en Educación Secundaria

Cristina Amiama-Espaillat
http://orcid.org/0000-0002-8222-1530
Universidad de Sevilla

Cristina Mayor-Ruiz
http://orcid.org/0000-0001-7101-044X
Universidad de Sevilla

Abstract

An adequate level of reading competence is essential to exercise fundamental rights in the hyperconnected information society of the 21st century. Reading fluency is one of the components that influences reading comprehension. This article explores the relationship between reading fluency and reading competence, and it also provides a reliable instrument for measuring it at the secondary level. The investigation is descriptive-correlational. The sample consisted of 382 Secondary School students, to whom two instruments were applied: CoLeP, based on the texts released from PISA and the Reading Fluency Scale adapted for the secondary level. The results establish a positive, yet weak, relationship between fluency and reading competence. The relationship is not unidirectional. On the other hand, it is considered that reading fluency is an essential component in itself, independently of its level of relationship with comprehension and, therefore, should be considered in teaching processes, even at the secondary level.

Resumen

Un nivel adecuado de competencia lectora es esencial para ejercer los derechos fundamentales en la sociedad de la información hiperconectada del siglo XXI. La fluidez lectora es uno de los componentes que influye en la comprensión lectora. En este artículo se explora la relación entre la fluidez lectora y la competencia lectora, además de que aporta un instrumento confiable para su medición en el nivel secundario. La investigación es descriptiva–correlacional. La muestra estuvo compuesta por 382 estudiantes de cuarto de Educación Secundaria, a los que se les aplicaron dos instrumentos: CoLeP, basado en los textos liberados de PISA y la Escala de Fluidez Lectora adaptada para el nivel secundario. Los resultados establecen una relación positiva, aunque débil, entre la fluidez y la competencia lectora. La relación no es unidireccional. Por otro lado, se considera que la fluidez lectora es un componente esencial por sí misma, independientemente de su nivel de relación con la comprensión y, por tanto, debe considerarse en los procesos de enseñanza, aún en el nivel secundario.

Ocnos: Revista de Estudios sobre lectura. Editada por CEPLI; Universidad de Castilla-La Mancha se distribuye bajo una licencia Creative Commons Atribución-NoComercial-SinDerivar 4.0. Internacional

21

Introduction

Reading competency is undoubtedly a key competence to exercise our rights as citizens. The ability to access, comprehend and reflect on all kinds of information is essential for people to fully participate and achieve their own goals in the hyper connected society of the 21st century (The Organisation for Economic Co-operation and Development [OECD], 2009), but also has a significant impact on the economic growth of the countries (Lynch, 2015).

The Dominican Republic has one of the poorest levels in terms of reading competency in the Latin American region: it is in last place according to the results of the PISA -Programme for International Student Assessment- test; 70.7% of Dominican students are below the minimum level required in the subjects assessed -Science, Reading and Mathematics - (OECD, 2016); this data coincide with the results of the Third Regional Comparative and Explanatory Study -TERCE- in the field of Language and Mathematics (United Nations Educational, Scientific and Cultural Organization [UNESCO] - Regional Bureau for Education in Latin America and the Caribbean [OREALC/UNESCO], 2016) and certain national studies (Amargós, 2016; Amiama-Espaillat & Mayor-Ruiz, 2017).

This study is part of the research called *Reading competency of secondary students in the Dominical Republic: assessment guidelines and their pedagogical intervention* of which one of the objectives is to describe the level of reading fluency and its relationship with the reading competency of students, as well as to be a reliable measurement tool in secondary education.

The report issued by the National Reading Panel (2000) sets forth that reading fluency is one of the main components of reading competency. Other researchers confirm that reading disfluency prevents them from progressing to a higher level (Castejón, González-Pumariega, & Cuetos, 2011; Cuetos, 2009; Etxebarria, Gaminde, Romero & Iglesias, 2016; Fuchs, Hosp & Jenkins, 2009; Guthrie, Klauda & Ho, 2013; Kuhn, Schwanenflugel, Meisinger, Levy & Rasinski, 2010; Wolf & Katzir-Cohen, 2001) even in secondary education (Baker *et al.,* 2014; Paige, Rasinski, Magpuri-Lavell, & Smith, 2014; Rasinski *et al.,* 2005, 2016).

Reading fluency is a construct that has changed significantly since 1886, when Cattel and Huey conducted their first studies on automation of reading and its advantages, and this line was maintained until the first decade of the 21st century. There are many definitions. For example, Fuchs *et al.* (2009) define it as "the oral translation of the text with pace and accuracy " (p.39), a concept embraced by other researchers such as Castejón *et al.* (2011) and *The* National Reading Panel (2000); nevertheless, other researchers (González-Trujillo *et al.,* 2014; Kuhn *et al.,* 2010; Rasinski, 2004; Valencia *et al.,* 2010; Wolf & Katzir-Cohen, 2001) believe the preceding definition is not complete, as it only includes two components, pace and accuracy, and there is one essential component missing: prosody or expressivity. "Prosody is the ability to read with expression, tone, intonation contour and segmentation that reflects and enhances the text when it is read orally" (Rasinski *et al.,* 2016, p. 2).

Some researchers, such as Kuhn *et al.* (2010) include prosody in the definition of reading fluency: ""the ability to read properly, with expression, intonation contour and appropriate pauses keeping the comprehension of the text" (p.44). Fluency is shown when reading orally through the ability with word recognition, appropriate pace, segmentation and intonation contour; therefore, prosody is a multidimensional component where intonation, as a feature of expressivity, is more correlated to the level of reading comprehension (Gaminde, Etxebarria, Romero & Eguskiza, 2017).

Reading fluency is assessed using two procedures: spectrographic analysis and rating scales. The first one is a more complex technique which requires a laboratory and more time for it to be applied and analysed, while rating scales

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

can be used in the school context, they are more accessible and require less training to be used. González-Trujillo, Calet, Defior & Gutiérrez-Palma (2014) concluded that both instruments can be equally reliable. These authors designed a multidimensional rating scale of reading fluency in Spanish based on the rating scale created by Rasinski, on the most relevant prosodic features related to reading according to the findings of Miller and Schwanenflugel and on the prosodic features of Spanish language.

The Reading Fluency Scale in Spanish -EFLE as per its Spanish acronym- designed for primary education assesses four main components: pace, precision and prosody -tone, intonation, pause and segmentation- and an additional element of reading quality. The sample to validate this scale was made up of Spanish children from year 2 and 4 of Primary Education. The EFLE scale offers great reliability, Cronbach Alpha Coefficient .91, and also great convergent and criterion validity, which presents it as "an efficient instrument to assess reading fluency" (González-Trujillo *et al.,* 2014, p. 127), both in the school context and for research purposes.

Method

This research is descriptive-correlational, as it describes the level of reading fluency of its elements in youngsters aged between 13 and 18 and relates it to their level of reading fluency.

2.1. *Participants*

The population of secondary students in the Dominican Republic amounts to 574,574. 78% attend state schools, 2% attend state-funded schools and 20% attend private schools. 382 students of year 4 from state and private schools of Secondary Education of two main provinces, Santo Domingo and Santiago, aged between 13 and 18 years (*M* =15,15; *DT*= ,85). 41% were men (*n*= 156) and 59% were women (*n*= 226). 71% attend state schools and 29% attend private schools. The stratified sample was selected

based on the percentage of population and its characteristics using the non-probability quota sampling method. A confidence level of 95% (Z= ± 1.96) was established, with a margin of error of ± 5. A total of 13 educational establishments were selected: 8 state- and 5 private schools. The class group of each educational establishment was randomly selected by drawing lots.

Instruments

Two instruments were used, each one for each variable of the study. Both of them were submitted to expert judgement and a pilot phase.

Reading competency -RC-

Reading competency is assessed through an *ad hoc* test based on the texts issued by the Programme for International Student Assessment (PISA), which uses the *Rasch* model. The parameter value and other technical specifications were taken from other technical OECD reports (2000, 2003 and 2012) and included in the style manual designed for this study. A percentage of 80% of correct answers was established for each level. The individual capacity in terms of reading competency is divided into 5 levels; level 3 is average or acceptable, level 1 is unacceptable and level 5 is optimal.

The test allows identifying performance in three activities: location, integration and assessment. It is made up of 5 texts: three continuous texts -descriptive, explanatory, argumentative- and two non-continuous texts -expository and schemes-. The final version, upon validation by judgment expert and the pilot phase, was made up of 22 items. Its Cronbach alpha is .81, which means its reliability is acceptable. Each text has between four and five questions. Thirteen multiple-choice questions, six open-ended questions and three double entry tables.

Upon applying the instrument, an analysis was performed to identify any aberrant values, i.e., those that do not comply with the condition

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

set forth in the *Rasch* model. 4.5% of the sample was withdrawn (*n* = 18), which is within the reasonable and valid range.

The test is made up of two booklets, one including the five texts and another one for the answers, at the end of which the assessment for the EFLE scale is included.

Reading fluency

Reading fluency was assessed through adaptation of the EFLE scale of González-Trujillo *et al.* (2014) which "takes the concept of multiple components of fluency -pace, accuracy and prosody- and an additional aspect that aims at assessing reading competency comprehensively." (p. 123). Prosody is assessed through three dimensions: pause, segmentation and intonation. The scale underwent a pilot phase with secondary students of the Dominican Republic, its level of reliability being appropriate, Cronbach alpha .86. Nevertheless, two dimensions were withdrawn after the pilot phase: tone and pace. The first one was appropriate in 99% of the students, which confirms that "…the 'tone' dimension loses its informativeness in year 4", (González-Trujillo et al., 2014, p. 124). As far as the second one is concerned, some authors state that pace should be regular depending on comprehension; therefore, low reading pace combined with an appropriate level of accuracy and prosody is not always negative and, on the contrary, "appropriate pace" without intonation may distort the findings on an appropriate reading fluency that prioritises the prosody components. "It is essential that the student is encouraged to read fluently rather than to read quickly during assessment and teaching (Kuhn *et al.*, 2010, p. 246).

A quantifiable measurement of errors was added to the "accuracy" dimension. In last place, the adaptation of the EFLE scale was made up of the following dimensions:

– **Accuracy:** It covers the range from many decoding errors to no errors and/or self-correction.

– **Prosody:**
  • Intonation The range fluctuates between reading in a monotone voice, without marking the end of the sentence using a louder or a lower tone, and melodic reading according to the type of sentence, marking the dialogues and the change of tone at the end of the sentences clearly.
– **Pauses:** The assessment covers from intrusive pauses, often in the middle of words and without observing syntactic units, hesitating repeatedly, to constantly observing punctuation marks and syntactic limits when making pauses.
– **Segmentation:** This subdimension is complementary to the "pauses" dimension. It fluctuated between reading word by word, without paying attention to syntactical limits that define the meaning of the sentence or to punctuation marks, to observing these two variables.

Each one of the components and elements is assessed using a numerical scale from 1 to 4, 1 being the poorest performance and 4 being the best performance. In this assessment, each score is specifically described, aiming at making it easier and objective. The maximum score is 16.

The confirmatory factor analysis (CFA) was obtained using AMOS, v.24. of the SPSS. v. 21 software. Figure 1 presents the latent endogenous variable called (η) reading fluency with its four exogenous variables (ξ): accuracy, intonation, pause and segmentation and the standardised regression weights (λ).

All the indexes obtained using AMOS software show that the EFLE scale created by González-Trujillo (2014) have a high level of adjustment: goodness of fit indexes -GFI- = .99, AGFI –0.97, as well as the Comparative Fit Index –CIF– in .99. On the other hand, the model did not need any adjustment. As shown in figure 1, the weight of each one of the components was (λ) determined through the Critical Ratio (CR) method. All of them are between .67 and .96,
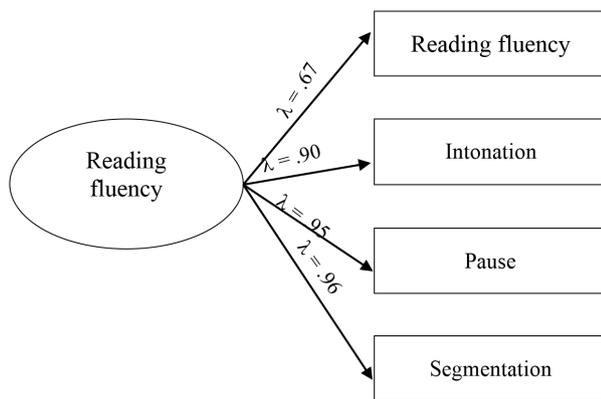
Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

Figure 1: Diagram of the Confirmatory Factor Analysis

accuracy is the component that contributes the least (λ = .67), and the components of prosody -intonation, pause and segmentation- make a great and homogeneous contribution. An exploratory factor analysis using the SPSS v.21 software was also conducted. The four components may explain the fact that total variance amounts to 97.6 %.

The text used in the pilot phase was replaced by an easier one, due to the difficulties encountered by the students from the state schools. The book selected was *Hazardous games*, published by Santillana in the Language and Literature Textbook of Year 4 of Secondary Education, which is distributed free in state educational establishments. The *Flesch-Szigiszt* readability formula was used in the text analysis through the free version of *Inflesz* v. 10 software. The index obtained amounted to 73.69, which means the book is fairly easy to read. It is made up of 27 sentences, 279 words and 550 syllables. In the second version, the Cronbach alpha was .92.

Proceeding

All the students accepted to participate voluntarily after listening to the details of the research. RC was applied collectively in the classroom. The test lasted between 40 and 90 minutes. Once the written text was completed,

oral reading was assessed. The place where the assessment was conducted was different in each education establishment depending on availability of space, although all of them met the minimum conditions required. Upon verifying the reading competency assessment, they were asked to read the text in the following way: *"we are now going to read out loud; it is not about reading fast, but about reading well. Reading well consists on keeping the right pace and intonation, as well as on making pauses when appropriate. At the end, I am going to ask one single question, what is the text about? I am taking notes as you read but do not worry about it, it does not matter whether you do it right or not, I am just making a few remarks. If you agree, I would like to record you, as I will thus be able to analyse your reading more calmly. This recording shall be used for the purposes of this research exclusively"*. Only 8% (n = 31) of the participants did not agree to be recorded, although they agreed to be assessed.

The data were processed using the SPSS. v.21 statistical package and AMOS, V.24 software. The data were tested in order to detect the atypical cases per variable and to define their impact, to analyse the hopeless cases, to diagnose the randomness of missing data, to verify the assumption of normality of each variable, to verify the homogeneity of variance and to verify the linearity of the relationships. The sample analysed was made up of 364 individuals -41% (n=149) were men and 59% (n=149) were women. The data analysis was started using descriptive statistics through percentage distribution of the population.

Results

78% (n=282) of secondary students in the Dominican Republic have a level of reading competency below the average level: 9% (n= 33) is below the minimum level, 45% (n=164) is below level 1 and 23% (n=85) is in level 2. Only 16% (n=58) has an average level and 7% (n=24) has a higher level: 6% (n=21) is in level 4 and 1% (n=3) have the maximum level.

Ocnos (2018), 17 (1): 21-31

DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

As far as the level of reading competency is concerned, there is no significant difference depending on sex, ^{2} = (5, N= 364) = 6.77, p >.05; or age, ^{2} = (10, N= 364) = 17.115, p >.05, although all the students above age (those students who are two years older than the mandatory age for the relevant educational level) are below the level of reading competence. A significant difference depending on the type of educational establishment is identified, ^{2} = (5, N= 364) = 65.705, p < .01, which is found to be a mild positive relationship, r = .396

Reading fluency is made up of four components that are assessed in four different levels. Best performance is registered in accuracy (M = 3.42), and the highest difficulty in prosody (M = 2.76). There is not any significant difference between the intonation, pause and segmentation average (table 1).

Reading fluency was obtained by adding accuracy and prosody. Prosody was obtained by adding its three components: intonation, pause and segmentation. 30% (n = 110) of the students do not have an appropriate level. The biggest flaw is found in the level of prosody and in the level of accuracy to a lesser extent.

As far as the level of reading fluency is concerned, there are significant differences depending on sex c^2 = (3, N= 364) = 13.833, p < .01., age c^2 = (6, N= 364) = 12.793, p < .05 and the type of educational establishment c^2 = (3, N= 364) = 32.416, p < .01. Those students attending private schools have better performance in terms of reading fluency compared to those attending state schools; additionally, women have better performance than men and those students in the right age –15 years old– do better that those above or below such age.

Figure 2 shows a field with four quadrants and the relevant percentage of individuals

Table 1: *Statistics of the components of Reading Fluency*

| Statistics (*N*= 364) | | | | | | | | | |
| Central Tendency | | | Dispersion | | Distribution | | | | |
Variables	M	Md	Mo	DE	σ²	g1	g2	Q1	Q2	Q3
Accuracy	3.42	4	4	0.79	0.62	-1.17	0.46	3	4	4
Prosody	2.76	3	3	1.05	1.11	-0.47	-0.97	2	3	4
Intonation	2.97	3	3	0.79	0.62	-0.28	-0.57	2	3	4
Pause	3.01	3	3	0.78	0.61	-0.32	-0.55	2	3	4
Segmentation	2.99	3	3	0.78	0.61	-0.26	-0.63	2	3	4

found in each one: quadrant A, with students having an appropriate level of reading fluency and competency, 22% (n = 79); quadrant B, students with an appropriate level of reading fluency, but without reading competency, 48% (n = 175); quadrant C, students without an appropriate level in any competency, 29% (n = 107) and quadrant D, students with an appropriate level of reading competency, but without reading fluency, 1% (n = 3).
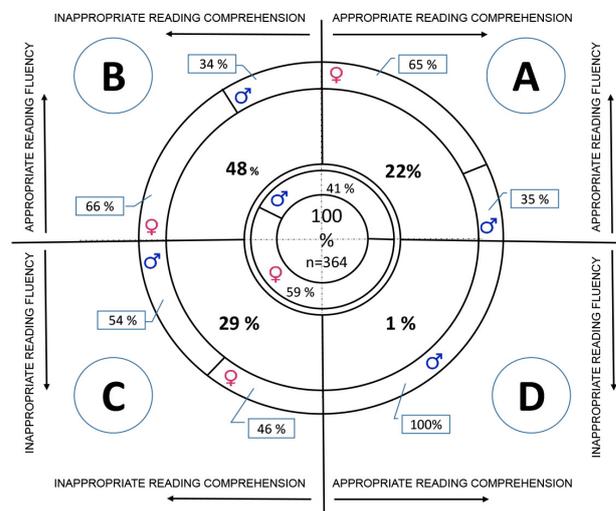

Figure 2. Percentage distribution by reading fluency and competency.

There is a difference between men and women in terms of reading fluency, F(1,7.65) = 9.46, p < .01; as well as depending on the type of educational establishment attended, F(1, 26.05) = 34.37, p < .01. Women (72.2%) have better performance than men (59%).

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

37% (*n = 98*) of the students attending state educational establishments have a level of reading fluency between not appropriate and fair, whereas those attending private establishments amount only to 12% (*n = 12*). Likewise, the best performances take place in private establishments, 43% (*n = 44*) compared to 19% (*n = 51*) in state establishments (table 2).

Table 2: *Percentage distribution of reading fluency depending on the educational establishment*

	Educational establishment	
Valuation	State (n=262)	Private (n=102)
Inappropriate	12	2
Fair	25	10
Good	43	45
Very good	19	43

Figure 3 shows the relationship between reading competency, fluency and their components. Reading fluency has a significant positive relationship with reading competency, although it is weak. Reading accuracy is the factor that has the least influence, whereas segmentation is the one that has the greatest.

Discussion and conclusions

The level of reading competence of Dominican students is significantly low, which coincides with the results of the PISA test (OECD, 2016). Most students have appropriate reading fluency but it does not affect their reading competency, i.e., they can decode graphic signs but cannot construct any meaning. This finding is not new, Salinas (1967) calls these individuals "passive readers". All the students having an appropriate level of reading competence also have an appropriate level of reading fluency, and they are deemed to be "readers"; nevertheless, only a few have an appropriate level of reading competency without appropriate fluency. The fact that virtually no student has an appropriate level of reading competency without appropriate reading fluency corroborates the hypothesis that a minimum level of accuracy, intonation, pause and segmentation is necessary in order to generate comprehension.
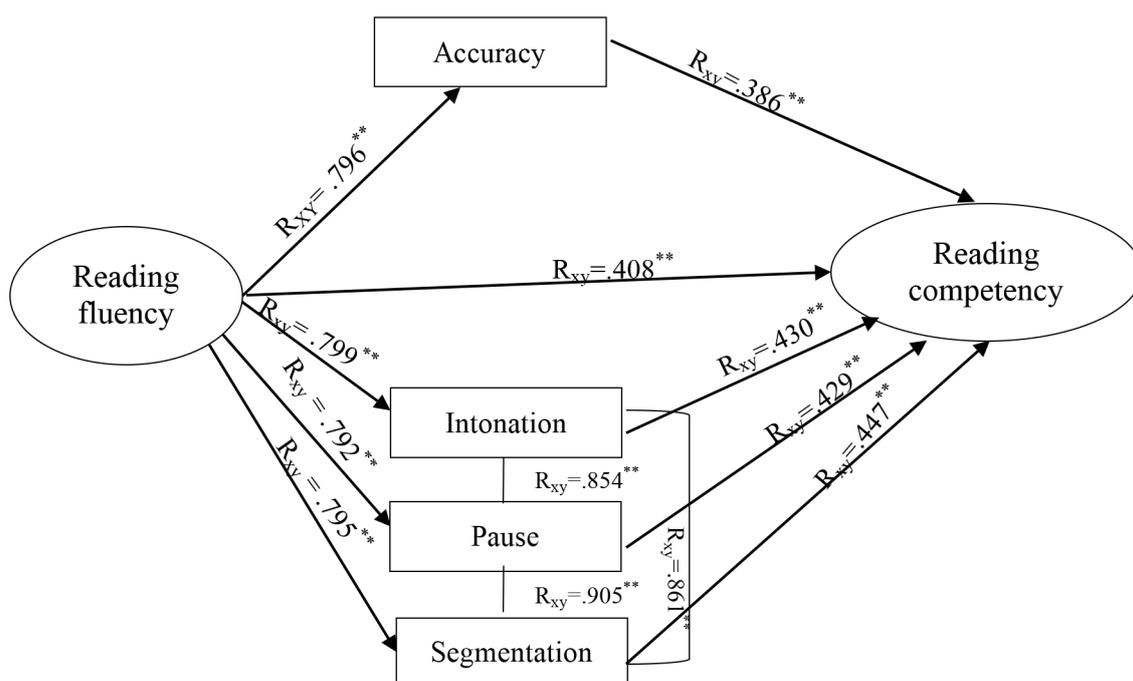

Figure 3. Pearson correlations of reading fluency and its components with reading competency.

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

At this educational stage, it is revealing that there are still students who do not have an appropriate level of reading competency and fluency; Salinas (1967) calls the "neo-illiterate", i.e., they are in contact with written language and society sees them as illiterate and nevertheless they are in a paradoxical situation: "...they are illiterate people who can read" (p. 276).

Reading fluency has traditionally been seen as a prerequisite for comprehension. Today, it is assumed that reading fluency contributes to reading comprehension significantly in primary and secondary education, although the magnitude of its impact is subject of debate today (Price, Meisinger, Louwerse & D'Mello, 2015).

Reading fluency in secondary education is rather a facilitator that does not work alone, and it is also difficult to determine its impact accurately, even using models of structural equations: the fact that most students can read with an appropriate level of fluency but without a minimum level of reading comprehension does not make it a good predictor, at least from today's concepts of reading, which involves constructing a meaning.

It is found that reading comprehension is not only influenced by the level of reading fluency, although in the assessment certain syntactic-semantic units such as the components of prosody are included; there are other factors that also contribute to comprehension, such as the reader's previous knowledge, the content and the characteristics of the text, the syntactic, semantic and pragmatic context where the word appears, among others, without neglecting the reader's socio-cultural context (Cassany & Castellà, 2010; Cuetos, 2010; Kucer, 2016; National Reading Panel, 2000).

The results show a positive relationship between reading fluency and competency, although it is weak. It is not a one-way relationship since a good level of reading fluency does not generate reading competency; it is rather a mutual feedback circular relationship, where

the level of reading competency in turn facilitates fluency in essential aspects such as making appropriate pauses (Kuhn *et al.,* 2010) and the latter also makes it easier to comprehend the text.

Reading fluency is an essential component of reading competency *per se,* regardless of its influence to comprehend the text; for this reason, some researchers believe it is an independent competency, the prosodic competency, strongly related to and influenced by the other linguistic, discursive, socio-cultural and pragmatic competencies (Etxebarria et al., 2016; Gaminde *et al.,* 2017).

Reading out loud is necessary in many contexts, for example, in new group learning environments, shared reading, digital contexts, etc. The fact that its assessment process is difficult should not act as a barrier to include it in diagnostic tests conducted by teachers or by international tests such as the PISA test of the OECD or in other teaching processes implemented in secondary education. The assessment of reading fluency must include all the essential components of prosody.

Although there is extensive research on reading fluency, many studies only take into account accuracy and automatisation -assessed through reading pace-, which is seen as a bias that may distort the relationship with reading comprehension and negatively affect the development of teaching processes. Pace, understood as the number of words read in a minute, must not be the main component or aspect on which the teaching process should focus, which involves transcending the views of the first researchers Cattell and Huey (Wolf & Katzir-Cohen, 2001), which are still present in certain definitions, such as that of Fuchs *et al.* (2009). "It is essential that we implement a type of assessment and instruction that help students become actual fluent readers instead of fast readers" (Kuhn *et al.,* 2010, p. 246). Reading fluency is a multidimensional concept and all its components are important, but prosody -intonation,

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

pause and segmentation- are more important than accuracy.

The results suggest that reading fluency is a factor to be considered in secondary education for the development of reading comprehension; therefore, it should be included as part of explicit teaching, in addition to other strategies promoting reading comprehension of a wide range of texts, modalities and levels.

Secondary school teachers must monitor their students' learning process individually trough progress sheets including the levels, not only of reading competency, but also of reading fluency and they should definitely be included in teaching planning as a cornerstone for all the subjects: "there is no better way to develop this than to apply reading practice itself through activities specifically conceived in the different content areas to respond the principles that mediate the different competencies" (García-Llamas & Quintanal, 2014, p. 74).

The EFLE scale (González-Trujillo *et al.,* 2014) adapted to secondary education is a very powerful tool that could be used by teachers in their classrooms as it allows assessing the level of reading fluency of their students, and thus implementing any suitable actions based on the results thereof. The scale is based on the essential elements of reading fluency, and it is easy to use and to understand.

In secondary education, where students have closer contact with written language, a higher level of correlation between the prosody components than that reported by González–Trujillo *et al.* (2014) than among primary students is found; nevertheless, a stronger relationship between segmentation and pause is maintained, as "both dimensions are allegedly complementary and dependent, and grouping syntagms with meaning must be accompanied by an appropriate pause pattern"(p. 124).

In the sample analysed, with a very low level of reading comprehension, the accuracy com-

ponent does not lose its level of discrimination, contrary to the findings of González–Trujillo *et al.* (2014). This shows that more longitudinal studies are necessary to reach more accurate conclusions.

The study has two limitations that should be taken into account in future research: different texts were used to assess reading fluency and reading comprehension. Additionally, the text used to assess reading fluency was adapted according to the level of those students with low reading competency, not to the requirements set forth in their school level.

References

Amargós, O. (2016). *Evaluación de resultados e impacto de la política de Educación Secundaria en República Dominicana*. Santo Domingo, República Dominicana. IDEICE. Retrieved from https://www.ideice.gob.do/cgid/publicaciones.html-set_1=3

Amiama-Espaillat, C., & Mayor-Ruiz, C. (2017). Lectura digital en la competencia lectora: La influencia en la Generación Z de la República Dominicana. *Comunicar, 52*(XXV), 105-114. doi: https://doi.org/10.3916/C52-2017-10

Baker, D. L., Biancarosa, G., Park, B. J., Bousselot, T., Smith, J.-L., Baker, S. K., ... & Tindal, G. (2014). Validity of CBM measures of oral reading fluency and reading comprehension on high-stakes reading assessments in Grades 7 and 8. *Reading and Writing*, 28(1), 57-104. doi: http://doi.org/10.1007/s1145-014-9505-4

Cassany, D., & Castellà, J. (2010). Aproximación a la literacidad crítica. *Perspectiva, Florianópolis*, 28(2), 353-374. doi: http://doi.org/10.5007/2175-795X.2010v28n2p353

Castejón, L., González-Pumariega, S., & Cuetos, F. (2011). Adquisición de la fluidez en la lectura de palabras en una muestra de niños españoles: un estudio longitudinal. *Infancia y Aprendizaje*, 34(1), 19-30. doi: http://dx.doi.org/10.1174/021037011794390139

Cuetos, F. (2009). La decodificación como elemento clave en el proceso de aprendizaje de la lectura. *Aula de Innovación Educativa (versión electrónica),*

Ocnos (2018), 17 (1): 21-31
DOI 10.18239/ocnos_2018.17.1.1278

Amiama-Espaillat, C., & Mayor-Ruiz, C.
Analysing the relationship between reading fluency and reading competence in Secondary Education

179, 17-20. Retrieved from http://www.grao.com/revistas/aula/179

Cuetos, F. (2010). *Psicología de la Lectura*. Madrid: Wolers Kluwer España.

Etxebarria, A., Gaminde, I., Romero, A., & Iglesias, A. (2016). Desarrollo de la competencia prosódica en la lectura en voz alta: importancia de las pausas. *Ocnos*, *15*(2), 110-118. doi: http://doi.org/10.18239/ocnos_2016.15.2.1047

Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2009). Oral Reading Fluency as an Indicator of Reading Competence: A Theoretical, Empirical, and Historical Analysis. *Scientific Studies or Reading*, 37-41. doi: http://dx.doi.org/10.1207/S1532799XSSR0503_3

Gaminde, I., Etxebarria, A., Romero, A., & Eguskiza, N. (2017). Características de la competencia prosódica de jóvenes bilingües vascos en la lectura en voz alta: las cumbres tonales. *Revista de Lingüística Teórica y Aplicada*, *55*(1), 35-52. Retrieved from https://scielo.conicyt.cl/pdf/rla/v55n1/0718-4883-rla-55-01-00035.pdf

García-Llamas, J. L., & Quintanal, J. (2014). El desarrollo lector y su relación con la mejora de las competencias básicas. *Ocnos*, *11*, 71-91. doi: http://dx.doi.org/10.18239/ocnos_2014.11.04

González-Trujillo, M. C., Calet, N., Defior, S., & Gutiérrez-Palma, N. (2014). Escala de fluidez lectora en español: midiendo los componentes de la fluidez. *Estudios de Psicología*, *35*(1), 117-136. doi: http://dx.doi.org/10.1080/02109395.2014.893651

Guthrie, J., Klauda, S. L., & Ho, A. N. (2013). Modeling the Relationships Among Reading instruction, Motivation, Engagement, and Achievement for Adolescents. *Reading Research Quarterly*, *48*(1), 9-26. doi: http://doi.org/10.1002/rrq.035

Kucer, S. B. (2016). Accuracy, Miscues, and the Comprehension of Complex Literary and Scientific Texts. *Reading Psychology*, *2711*(May), 1-20. doi: http://doi.org/10.1080/02702711.2016.1159632

Kuhn, M., Schwanenflugel, P., Meisinger, E., Levy, B., & Rasinski, T. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody, and definitions of fluency. *Reading Research Quarterly*, *45*(2), 230-251. doi: http://doi.org/10.1598/RRQ.45.2.4

Lynch, R. G. (2015). *The Economic and Fiscal Consequences of Improving U.S. Educational Outcomes*. Retrieved from http://equitablegrowth.org/research-analysis/achievement-gap/

National Reading Panel (2000). Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction. *NIH*, *00-4769*, 7, 35. doi: http://doi.org/10.1002/ppul.1950070418

Organisation for Economic Co-operation and Development (2000). *PISA 2000 Technical Report*. Retrieved from http://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/pisa2000technicalreport-publications2000.htm

Organisation for Economic Co-operation and Development (2003). *PISA 2003 Manual de análisis de datos*. Retrieved from http://evalua.educa.aragon.es/documentos/internacional/pisa/2012/pisamanualdatos.pdf

Organisation for Economic Co-operation and Development (2009). *Assessment Framework Key Competencies in Reading, Mathematics and Science*. Retrieved from http://www.oecd.org/pisa/home/

Organisation for Economic Co-operation and Development (2012). *PISA 2009 Technical Report*. doi: http://doi.org./10.1787/9789264167872-en

Organisation for Economic Co-operation and Development (2016). *PISA 2015 Resultados clave*. Retrieved from http://www.oecd.org/

Paige, D. D., Rasinski, T., Magpuri-Lavell, T., & Smith, G. S. (2014). Interpreting the Relationships Among Prosody, Automaticity, Accuracy, and Silent Reading Comprehension in Secondary Students. *Journal of Literacy Research*, *46*(2), 123-156. doi: http://doi.org/10.1177/1086296X14535170

Price, K. W., Meisinger, E. B., Louwerse, M. M., & D'Mello, S. (2015). The Contributions of Oral and Silent Reading Fluency to Reading Comprehension. *Reading Psychology*, *2711*, 1-35. doi: http://doi.org/10.1080/02702711.2015.1025118

Rasinski, T. (2004). *Assessing Reading Fluency. Handbook of reading research*. Honolulu, Hawai:

Ocnos (2018), 17 (1): 21-31

DOI 10.18239/ocnos_2018.17.1.1278   *Analysing the relationship between reading fluency and reading competence in Secondary Education*

Amiama-Espaillat, C., & Mayor-Ruiz, C.

Pacific Resources for Education and Learning. Retrieved from http://www.education.ucf.edu/mirc/Research/PREL_assessing-fluency.pdf

Rasinski, T., Chang, S.C., Edmondson, E., Nageldinger, J., Nigh, J., Remark, L., ... Rupley, W. (2016). Reading Fluency and College Readiness. *Journal of Adolescent & Adult Literacy*, *0*(0), 1-8. doi: http://doi.org/10.1002/jaal.559

Rasinski, T. V, Padak, N. D., McKeon, C. A., Wilfong, L. G., Friedauer, J. A., & Heim, P. (2005). Is reading fluency a key for successful high school reading? *Journal of Adolescent and Adult Literacy*, *49*, 22-27. doi: http://doi.org/10.1598/JAAL.49.1.3

Salinas, P. (1967). *El defensor*. Madrid: Alianza Editorial, S.A.

United Nations Organization for Education, Science and Culture (UNESCO). Regional Bureau for Education in Latin America and the Caribbean. (2016). *Reporte técnico. Tercer Estudio Regional Comparativo y Explicativo, TERCE*. Santiago, Chile. Retrieved from unesdoc.unesco.org/images/0024/002471/247123s.pdf

Valencia, S., Smith, A., Reece, A., Li, M., Wixson, K., & Newman, H. (2010). Oral Reading Fluency Assessment: Issues of Construct, Criterion, and Consequential Validity - ProQuest. *Reading Research Quarterly*, *45*(3), 270-291. doi: http://doi.org/dx.doi.org/10.1598/RRQ.45.3.1

Wolf, M., & Katzir-Cohen, T. (2001). Reading Fluency and Its Intervention. *Scientific Studies of Reading*, *5*(3), 257-288. doi: http://dx.doi.org/10.1207/S1532799XSSR0503_2