



Fernández-Barrionuevo, E.; Villoria, J.; González-Fernández, F. T.; Baena-Extremera, A. (2022). Do students enjoy when they learn through a foreign language? : ISC-LE validation and sex and age differences. *Journal of Sport and Health Research*. 14(2): 247-256.

Original

¿DISFRUTA EL ALUMNADO CUANDO APRENDE A TRAVÉS DE UNA LENGUA EXTRANJERA? VALIDACIÓN DEL CUESTIONARIO ISC-LE Y DIFERENCIAS DEL SEXO Y LA EDAD

DO STUDENTS ENJOY WHEN THEY LEARN THROUGH A FOREIGN LANGUAGE? ISC-LE VALIDATION AND SEX AND AGE DIFFERENCES

Fernández-Barrionuevo, E.¹; Villoria, J.²; González-Fernández, F.T.³; Baena-Extremera, A.⁴

¹ *Consejería de Educación. Junta de Andalucía*

² *Universidad de Granada. Departamento de Didáctica de la Lengua y la Literatura*

³ *Universidad Pontificia de Comillas. Departamento de Ciencias de la Actividad Física y del Deporte*

⁴ *Universidad de Granada. Departamento de Didáctica de la Expresión Musical, Plástica y Corporal*

Correspondence to:
Francisco Tomás González-Fernández
Universidad Pontificia de Comillas. Departamento de
Ciencias de la Actividad Física y del Deporte.
Tel. +34 686 966 235
Email: ftomas@cesag.org

*Edited by: D.A.A. Scientific Section
Martos (Spain)*



Received: 03/09/2020
Accepted: 11/03/2021



RESUMEN

Objetivos: Este artículo contempla dos grandes objetivos. El primero ha sido la adaptación y validación de un cuestionario para medir la satisfacción intrínseca cuando se aprende a través de una segunda lengua (inglés). Para ello, los ítems satisfacción/diversión y aburrimiento fueron adaptados a este nuevo contexto. El segundo objetivo ha sido el análisis en un contexto AICLE (aprendizaje integrado de contenidos y lenguas extranjeras) de las diferencias en las dos variables estudiadas en cuanto al sexo y edad.

Método: para desarrollar este estudio, 3355 estudiantes fueron encuestados en la comunidad autónoma de Andalucía (sur de España) con un nivel de confianza del 99% y un margen de error menor al 2%. Tras el análisis, se comprobó la validez y fiabilidad de los instrumentos, lo cual implica que esta nueva herramienta estaría disponible tanto para futuros estudios como para la práctica docente a través de nuevos enfoques para el aprendizaje de lenguas extranjeras tales como la gamificación.

Discusión: En cuanto a las diferencias entre sexo y edad, el principal hallazgo ha sido el valor significativamente superior en aburrimiento en chicos, así como la satisfacción/diversión en chicas en AICLE.

Conclusión: Esto puede arrojar luz sobre el diferente desempeño dependiendo de la edad y/o sexo lo cual resulta útil para otros estudios y para la adecuación metodológica en AICLE.

Palabras clave: Motivación, ISC-LE, FLL, Validación, sexo, edad, CLIL.

ABSTRACT

Objectives: This article has had two main objectives. The first has been to adapt and validate a questionnaire to measure intrinsic satisfaction when learning through a second language (English). To do so, the items satisfaction/enjoyment and boredom were adapted into this new setting. The second goal has been to analyze, in a CLIL context, the sex and age differences within these two variables (satisfaction/enjoyment and boredom).

Methods: In order to fulfill this study, 3355 students were surveyed in the region of Andalucía (South of Spain) with a statistical confidence level of 99%, and a margin of error below 2%. After the analysis performed, the instrument proved to be valid and reliable, which implies that a new tool would be available for future studies, and even for actual teaching in new approaches of the FLL, such as gamification.

Discussion: Regarding sex and age differences, the main finding has been the significant higher boredom values in boys, as opposed to enjoyment in girls in CLIL contexts.

Conclusion: This might shed light on performance depending sex and age which could be useful in other studies, and CLIL practice adaptation.

Keywords: Motivation, ISC-LE, FLL, validation, sex, age, CLIL.



INTRODUCCION

In the last years, the Common European Framework of Reference for Languages (CEFRL), has led Foreign Language Learning (FLL) to develop towards a more communicative approach. One of the consequences is that Content and Learning Integrated Learning (CLIL) programmes have flourished to the point that in most of the European countries they have implemented this methodology (Eurydice, 2008). Specifically, Spain rapidly became one of the European leaders, not only in it research but also in it application (Coyle, 2010). Therefore, many of the Spanish region have created a legal framework to foster the CLIL implementation, (e. g. Orden de 14 de mayo de 2013, de la Consejería de Educación, Formación y Empleo Región de Murcia, Orden de 19 de mayo de 2009, de la Conselleria de Educación de la Generalitat Valenciana, or Decreto 79/2010, de 20 de mayo de la Xunta de Galicia).

Within the study of the CLIL methodology, the motivation as a quality factor, has been widely researched (Hewit & García-Sánchez, 2012; Hunt, 2011; Lasagabaster, 2011; Mearns, 2012; Seikkula-Leino, 2007; Sylvén & Thompson, 2015). However, there little research that analyce one of the aspects that define the motivation itself: the enjoyment or/and satisfaction. For that matter, Gardner (1985) links satisfaction and motivation when defining the latter as “the extent to which an individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity” (p. 10). In this regard, Dörnyei (1998) points that the Gardner’s concept of motivation refers to a “central mental engine” that includes effort, willingness and task enjoyment. Afterwards, Crookes y Schmidt (1991) designed a model that synthesized the motivation research in the field of foreign language learning. That framework included four components: interest, relevance, expectation and satisfaction. The authors related the satisfaction with a combination of external rewards and internal such as the pride or the enjoyment. Regarding the Self Determination Theory, the concepts of motivation and enjoyment are also connected as Ryan and Deci (2000, p. 70), associate the intrinsic motivation to “a principal source of enjoymen, vitality throughout life”. Therefore, from various perspectives, the notion of enjoyment or satisfaction is an inherent part of the motivation construct.

Within school context, several studies have tackled the intrinsic satisfaction as a factor related to different variables such as life satisfaction (Huebner, Valois, Paxton, & Drane, 2005), stress (Hui & Sun, 2010), academic performance (Huebner & Gilman, 2006) or student engagement with schoolwork (Danielsen, Breivik, & Wold, 2011). This would indicate the relevance of this variable in investigations associated with the teaching practice.

In foreign language learning, enjoyment plays a critical role as this factor has been linked with task effectiveness (Green, 1993) active and communicative participation (Schmidt, Boraie, & Kassabgy, 1996), or anxiety reduction (Dewaele & MacIntyre, 2014). Furthermore, some studies highlight the importance of satisfaction and enjoyment in CLIL settings, indicating cooperative work as fundamental aspect for their improvement (Hunt, 2011; Mearns, 2012). Consequently, student satisfaction or enjoyment can be relevant in foreign language learning practices, and specifically in the CLIL framework.

Regarding sex comparison, Williams, Burden, and Lanvers (2002) found differences among boys and girls in FLL educational contexts. So as for enjoyment, their study showed higher values in girls showing that they tended to fulfill more tedious works, while boys had the need to find enjoyment during their performance.

In terms of measure instruments of enjoyment/satisfaction and boredom (Castillo et al., 2001), developed a scale for the school domain in Spanish based on the ISC (Intrinsic Satisfaction Scale)(Nicholls et al., 1985; Nicholls et al., 1989). Except for one version aimed for bilingual Physical Education (Baena-Extremera & Granero-Gallegos, 2015), we have not found ISC adaptations aimed at FLL or CLIL settings.

In consequence, the objective of this study is to validate the ISC adapted for FLL (hereafter ISC-FL) in Spanish. This would allow researchers and teacher to have a valid instrument that with only a few items would provide a very precious information about how students perceive the FLL or CLIL programmes. In addition, as part of the construct validity analysis, sex and age differences are explored in order to obtain a



student profile regarding satisfaction/enjoyment and boredom.

METHODS

Participants

The sample represented the universe with a statistical confidence level of 99% and a 2% margin of error. Therefore, the sample of this study was compounded by a total of 3.355 students ($n_{\text{girls}}=1.797$ (53.6%); $n_{\text{boys}}=1.558$ (46.4%) that coursed CLIL studies in secondary schools in Andalucía. Their ages ranged from 11 to 17 (Mean (M)=13.77; Standard deviation (SD)= 1.483), being the M age of girls 13.75 (SD=1.486) and 13.79 (SD=1.479) for boys. The course distribution was: 1051(31.3%) for CSE (Compulsory Secondary Education) 1st grade, 595 (17.7%) for CSE 2nd grade, 571 (17.0%) for CSE 3rd grade, 681(20.3%) for CSE 4th grade, and 457 (13.6%) for 1st bachillerato (Pre-University Secondary Education).

Instruments

On the basis of the original instrument (Castillo et al., 2001; Nicholls et al., 1989) developed a translation into Spanish of the Intrinsic Satisfaction Classroom Scale (ISC) which has been de adapted for the FLL domain in this study. The new version is called Intrinsic Satisfaction Classroom Scale- Foreign Language (ISC-FL). The Spanish ISC included the factors “satisfaction/enjoyment” ($\alpha=.80$) with 5 items, and “boredom” ($\alpha=.76$) with two items, where the respondents indicate the extent to which they agree with each item by using a 5-point Likert scale ranged from 1 = Strongly disagree to 7 = Strongly agree.

Adaptation process

The ISC was adapted from a school context to a context of learning “through” a FL by rephrasing some items when required (e. g. study a second language was replaced by study “in” English). Subsequently, a qualitative evaluation (content validity) of the work was undertaken by five experts (Osterlind, 1989): two in scale design and three in the construct assessed. They were provided with an items’ specification table (Calabuig & Crespo, 2009; Spaan, 2006), which included the semantic definition of the construct, its components and a list of the original and adapted

items. These experts judged each item’s univocality and suitability, and they had the opportunity to write any concern, annotation or an alternative wording of any of the items.

The items that scored mean values <2.5 in suitability (Nuviala Nuviala, Tamayo Fajardo, Iranzo Llopis, & Falcón Miguel, 2008) were revised according to the experts’ reviews, and if four out of five experts did not classify any item within its theoretical dimension, it was readapted again so it would clearly and accurately express the theoretical dimension. The overall item concordance of comprehensibility and suitability was measured through the Intraclass Correlation Coefficient (ICC) from a Two-way mixed model, assuming an absolute agreement. The values obtained were ICC=.933 for item univocality and ICC=.625 for item weightiness.

The new version was administered to 55 CSE and pre-university students aged between 12 and 18 using various options of density, item separation and general formatting (Dörnyei, 2003) that conducted to minor modifications. The final version of the LLOS-IEA was obtained after an analysis of the psychometric results, and one last revision carried out by the research team.

Procedure

After the permission from the school administrators, the questionnaire was administered informing the anonymous and voluntary nature of participation. Also, this research has ethical approval. The participation took part between January and March 2016, and lasted about twenty minutes, and concerns about comprehension were attended throughout that time. According to the Declaration of Helsinki (2008), all the respondents were briefly informed about the purpose of the study and their rights as participants, apart from being given the opportunity to give up the survey at any time.

Data analysis

First, an item and homogeneity of the scale analysis was performed, which included: each dimension Cronbach’s alpha (α); and each item M, ST, corrected item-total correlation coefficient (CITC-c), correlation between the item and its dimension (CC), the Cronbach’s alpha if item were deleted, Kurtosis and



Skewness. For this analysis, the SPSS v. 21 for Mac OS X was used.

Afterwards, as part of an exploratory factorial analysis (EFA), an extraction method of principal components (PCA) was performed extracting a fixed number of seven factors following the structure of the original instrument (Noels et al., 2000). Subsequently, a second PCA analysis was conducted with no fixed factors to extract.

Later, in order to assess whether the data distribution was normal, an analysis based on the Relative Multivariate Kurtosis (RMK) of PRELIS through LISREL 8.80 programme was performed. In order to confirm the dimensionalization of the scale, the factor structure of the instrument was assessed with CFA using the Weighted Least Squares (WLS) estimation method for ordinal variables in the LISREL 8.80 (Jöreskog and Sörbom, 2003). In addition to the factor structure from the original instrument, two other 5 and 7-factor models were also compared. Regarding reliability and validity, in addition to the α value, the Composite Reliability and the Average Variance Extracted (AVE) for each dimension were also calculated.

Last, the convergent validity, the construct validity and the sex invariance were determined. To study the construct validity a multi-level analysis was performed. The ISC.FL factors were selected as an independent variable, and the students' sex and age were the factors of this mixed model multi-level analysis.

RESULTS

Items' analysis and scale homogeneity

The items' statistical analysis held the item-factor distribution of the original instrument. The criteria to maintain items was: CITC-c \geq .30, SD $>$ 1, and all the possible responses used at least once (Nunnally & Bernstein, 1995). The Kurtosis and Skewness should also be close to 0 and $<$ 7 (Curran et al., 1996). See table 1, for more information.

Table 1. Statistical analysis of each item of ISC-LE

Scale: ISC-LE (n = 3355)	M	SD	CITC-c	C	α without item	Skewness	Kurtosis
Satisfaction/enjoyment ($\alpha=.78$)							
1. Normalmente disfruto aprendiendo con las actividades en inglés.	3.50	1.17	.57	.80	.73	-.52	-.50
4. Normalmente encuentro el trabajo en inglés interesante.	3.48	1.12	.63	.79	.71	-.48	-.41
5. Cuando trabajamos en inglés noto que el tiempo vuela.	3.10	1.30	.55	.79	.74	-.10	-1.03
6. Normalmente participo activamente cuando trabajamos en inglés.	3.30	1.18	.37	.75	.79	-.24	-.77
7. Normalmente me divierto haciendo los deberes de asignaturas en inglés.	2.86	1.28	.65	.78	.70	.08	-.98
Boredom ($\alpha=.65$)							
2. Durante las clases bilingües normalmente me aburro.	2.51	1.24		.91	.48	.45	-.79
3. Normalmente deseo que se acaben rápidamente las clases que son en inglés.	2.53	1.30		.92	.48	.42	-.91

Items from factor 1 (satisfaction/boredom) showed mean values between 2.86 from item 7 and 3.50 from item 1. All the SD values were $>$ 1, and this dimension's internal consistency was satisfactory ($\alpha=.783$). All the CITC-c were \geq .38.

With regard the factor 2 (boredom), all the items presented mean values from 2.51 from item 2, to 2.53 from item 3. All the SD values were $>$ 1, and this dimension's internal consistency was almost satisfactory ($\alpha=.65$). However, as this factor contains only two items, this α can be acceptable (Taylor et al., 2008). All the CITC-c were \geq .58.

It is worth mentioning the fact that some of the items presented negative Kurtosis or Skewness values, which were taken into consideration for the studies mentioned later on.



Internal structure analysis

Following the validation process of the original instrument (Castillo et al., 2001), a EFA for the two-factor model was performed. A PCA method was conducted, requiring a minimum correlation of .40 in order to consider each item important within the factor (Stevens, 1992), the Kaiser-Meyer-Olkin (KMO) index was good (.869), and the Bartlett's sphericity test was significant ($\chi^2_{(21)} = 9477,900, p < .000$) concluding with the suitability of the implementation of the EFA. The results confirmed a 2-factors extraction accounting for 68.026% of the total variance explained (table 2).

Table 2. Factor saturation and communalities.

Scale: ISC-FL	FLS	h^2
Satisfaction/enjoyment ($\alpha = .78$)		
1. Normalmente disfruto aprendiendo con las actividades en inglés.	.70	.65
4. Normalmente encuentro el trabajo en inglés interesante.	.73	.63
5. Cuando trabajamos en inglés noto que el tiempo vuela.	.76	.62
6. Normalmente participo activamente cuando trabajamos en inglés.	.60	.60
7. Normalmente me divierto haciendo los deberes de asignaturas en inglés.	.77	.62
Boredom ($\alpha = .65$)		
2. Durante las clases bilingües normalmente me aburro.	.88	.83
3. Normalmente deseo que se acaben rápidamente las clases que son en inglés.	.87	.82

S=factor saturation, h^2 =communalities.

Confirmatory factor analysis

In order to study the psychometric properties of ISC original dimensionalization (Castillo et al., 2001), structural equation modelling was performed. Different absolute and relative fitness indices were calculated (Bentler, 2007; Markland, 2007), such as p-value associated with Chi-square test, χ^2 and degrees of freedom ratio (df; χ^2/df), goodness of fit index (GFI), normed fit index (NFI), non-normed fit index (NNFI), and comparative fit index (CFI). The estimated parameters were considered significant when the value associated with the t-value was higher than 1.96 ($p < 0.05$).

Firstly, RMK analysis was conducted with this scale which resulted with a Mardia-Based-Kappa value of

1.185. Test results showed that multivariate normality could not be accepted (upper limit=1.006; lower limit=.994), which implied the use of a robust estimator. Therefore, a weighted least squares (WLS) estimation method for ordinal variables in the LISREL 8.80 (Jöreskog and Sörbom, 2003) program was conducted. The polychoric correlations matrix and asymptotic covariance matrix were used as input for data analysis.

All the items presented individual reliability (R^2) values $> .5$, being the lowest value in item 6 ($R^2 = .615$), and in item 2 ($R^2 = .890$) the higher one. Table 3 displays the model goodness of fit, all the indices were ranged within the acceptable values in the hypothesized model (figure 1), being χ^2/df value was $< 5.00.890$.

Table 3. Fit indices for the ISC-FL scale

	χ^2	df	χ^2/df	p	GFI	NFI	NNFI	CFI	RMS EA
Scale:	405.	82	4.	<.00	.9	.9	.97	.97	.04
ISC-FL	9		95	0	9	7			

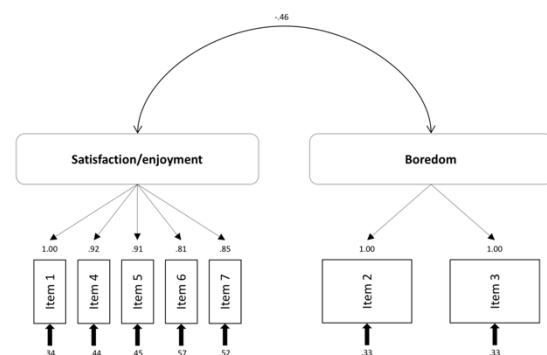


Figure 1. Path diagram of the CFA, with standardized weights and measurement errors of each one of the items

Reliability and validity

Table 4 shows the model 3 reliability and validity. Apart from α values, AVE (Average Variance Extracted) and composite reliability data was calculated, requiring minimum values of .70 y .50 respectively (Hair et al., 2009). Except for the factor 2 (boredom) Cronbach's alpha, the rest of the indices were acceptable.

**Table 4.** Reliability and validity of the scale

Dimensions	Composite reliability	AVE	α
Satisfacción/diversión	.89	.62	.78
Aburrimiento	.79	.56	.65

Construct validity: sex and age differences

At last, a multi-level model analysis was performed. Several models were tested considering province, school and grade, finally determining the model by school and grade as it got the best BIC (10224.732).

Table 5 displays the mixed model multi-level analysis outcome. The estimated mean values by sex and age (grouped in school cycles) adjusted to school and grade are presented. The student stipulated age for 1st cycle is 12–13 for, 14–15 for 2nd cycle and 16 for 1st bachillerato. This table also shows the standard error, the 95% confidence interval, and the statistical test corresponding to the model where the hypothesis of equal means in the dimensions between the independent variable categories is contrasted.

This table also includes the difference between answer and reference categories, and the p-value associated to the statistical tests of margin corrected means comparison by multiple comparisons through SIDAK.

Table 5. Mixed model multi-level analysis outcome

		Adjusted mean	Standard Error	95% Confidence interval		Adjusted differences with reference value	F	df	p-value	p-value SIDAK
				Lower	Upper					
Satisfacción/enjoyment	Boy	3.085	.085	2.981	3.189	-.117*	12.981	33	.000	.000
	Girl	3.202	.052	3.100	3.305					
	1 st cycle	3.338	.020	3.298	3.378	.260*	30.233	33	.000	.000
	2 nd cycle	3.078	.027	3.024	3.132	.063				.965
	Bachillerato	3.015	.147	2.728	3.303	-.323				.085
	Boy	2.755	.065	2.627	2.882	.276*	48.241	33	.000	.000
Boredom	Girl	2.479	.064	2.353	2.604					
	1 st cycle	2.458	.025	2.409	2.507	-.192*	11.359	33	.000	.000
	2 nd cycle	2.650	.034	2.584	2.716	-.092				.943
	Bachillerato	2.742	.179	2.391	3.093	.284				.310

Concerning the dimension satisfaction/enjoyment significant differences were found in both sex and age ($p < .000$). With regard sex, the value was lower in boys ($M=3.085$; $SE=.085$; adjusted difference $=-.117$; $F=12.98$), and for age, the mean values were higher in the first cycle students ($M=2.755$; $SE=.065$; adjusted difference $=.276$; $F=48.24$).

On the other hand, significant differences were also found in the boredom dimension both sex and age ($p < .000$). Boys presented higher values ($M=2.755$, $SE=.065$, adjusted difference $=.276$; $F=48.24$), and first cycle students' lower values ($M=2.458$; $SE=.025$, adjusted difference $=-.192$; $F=11.359$).

Sex Invariance

In order to analyse the factorial invariance, Abalo, Lévy, Rial, and Varela (2006) recommendations were followed estimating the same model for both samples. No significant differences were found in χ^2 between models, rejecting the H_0 and accepting the invariance. However, due to χ^2 sensitiveness to sample size, Cheung and Rensvold (2002) criteria regarding the ΔCFI were also implemented. According to these authors $\Delta CFI \leq .01$ indicate that the null hypothesis should not be rejected, being $\Delta CFI=.005$ in the present study. Finally, the rest of the results state that measurement properties remain sex-invariant.

DISCUSSION

With regard this instrument, item-factor distribution of original instrument was maintained (Balaguer et al. 1997) where one of the items for the factor boredom had been eliminated in order to improve α value.

It should be noted that all the parameters in the items' analysis were within the acceptable values. It could be criticized the reduced alpha value the boredom factor, however, as it is only composed of two items it can be valid (Taylor et al., 2008). Moreover, the composite reliability is considered more suitable than the Cronbach's alpha, as it does not depend on the number of attributes associated to each concept (Vandenbosch, 1996).

Regarding sex differences, in line with other studies (e. g. Williams et al., 2002), boys were significantly more bored, while girls enjoyed more. In addition, due to the relation between motivation and enjoyment, this result is backed as much research of indicate higher



motivation values in girls (Kissau, 2006; Okuniewski, 2014).

Williams et al. (2002) describes two arguments to explain these differences. First, the feminized bias of the FLL school domain could be behind the sex distinctions. Second, the authors state that “comments elicited within individual interviews suggest that this [the positive attitude towards FLL] might be part of a more general orientation toward schoolwork rather than necessary relating only to learning languages” (p. 522).

Concerning the age analysis, first cycle students perform a higher satisfaction/enjoyment and a lower boredom in FLL. A more practical and less academic approach for the first cycle students might be the reason of this results.

As has been stated in the introduction of this study, the concepts of motivation and satisfaction and/or enjoyment has been theoretically linked by several scholars. In consequence, the validation of the ISC-FL, will allow to study the FLL student satisfaction/enjoyment as a trigger factor for their motivation. This would a very relevant in the research about current pedagogical approaches such as gamification, serious games or task-based instruction where enjoyment might be the cornerstone in language learning.

Lasagabaster (2011) concluded in his study that CLIL students enjoyed more the learning experience than the ones that received traditional teaching. The validation of this instrument will allow not only to deepen in the causes of this difference, but also to provide a useful instrument to evaluate the implementation of the CLIL programmes from the teacher and the institution perspective.

REFERENCES

1. Baena-Extremera, A., y Granero-Gallegos, A. (2015). Versión española del Sport Satisfaction Instrument (SSI) adaptado al aprendizaje de la Educación Física bilingüe en Inglés. *Porta Linguarum: revista internacional de didáctica de las lenguas extranjeras*(24), 63-76.
2. Balaguer, I., Atienza, F. L., Castillo, I., Moreno, Y., y Duda, J. L. (1997). *Factorial structure of measures of satisfaction/interest in sport and classroom in the case of Spanish adolescents*. Paper presented at the Abstracts of 4th European Conference of Psychological Assessment, Lisbon.
3. Bentler, P. M. (2007). On tests and indices for evaluating structural models. *Personality and Individual Differences*, 42, 825-829.
4. Calabuig, F., y Crespo, J. (2009). Uso del método Delphi para la elaboración de una medida de la calidad percibida de los espectadores de eventos deportivos. *Retos: nuevas tendencias en educación física, deporte y recreación*(15), 21-25.
5. Castillo, I., Balaguer, I., y Duda, J. L. (2001). Perspectivas de meta de los adolescentes en el contexto académico. *Psicothema*. *Psicothema*, 13(1), 79-86.
6. Coyle, D. (2010). Foreword. In D. Lasagabaster y Y. Ruiz de Zarobe (Eds.), *CLIL in Spain: Implementation, Results and Teacher Training* (pp. vii-viii). New Castle, UK: Cambridge Scholars Publishing.
7. Coyle, D., Hood, P., y Marsh, D. (2010). *CLIL Content and Language Integrated Learning*. Cambridge: Cambridge University Press.
8. Crookes, G., y Schmidt, R. W. (1991). Motivation: Reopening the research agenda. *Language learning*, 41(4), 469-512.
9. Curran, P. J., West, S. G., y Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1), 16-29.
10. Danielsen, A. G., Breivik, K., y Wold, B. (2011). Do perceived academic competence and school satisfaction mediate the relationships between perceived support provided by teachers and classmates, and academic initiative? *Scandinavian Journal of Educational Research*, 55(4), 379-401.
11. Dewaele, J.-M., y MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, 4(2), 237-274.
12. Dörnyei, Z. (1998). Motivation in second and foreign language learning. *Language teaching*, 31(03), 117-135.



13. Dörnyei, Z. (2003). *Questionnaires in Second Language Research Construction, Administration, and Processing* (2007 ed.). New Jersey: Lawrence Erlbaum Associates.
14. Eurydice Network. (2012). *Key Data on Teaching Languages at School in Europe: Education, Audiovisual and Culture Executive Agency*.
15. Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. Londres: Arnold.
16. Green, J. M. (1993). Student Attitudes Toward Communicative and Non-Communicative Activities: Do Enjoyment and Effectiveness Go Together? *The Modern Language Journal*, 77(1), 1-10.
17. Hair, J. F., Black, W. C., Babin, B. J., y Anderson, R. E. (2009). *Multivariate Data Analysis*. New York: Pearson Prentice Hall.
18. Hewit, E. C., y García-Sánchez, E. (2012). Evolución del Aprendizaje Integrado de Contenidos y Lengua (AICLE/CLIL) en España: Un Proyecto Empírico en la Universidad. *Latin American Journal of Content Language Integrated Learning*, 5(1), 57-67.
19. Huebner, E. S., Valois, R. F., Paxton, R. J., y Drane, J. W. (2005). Middle school students' perceptions of quality of life. *Journal of Happiness Studies*, 6(1), 15-24.
20. Huebner, E. S., y Gilman, R. (2006). Students who like and dislike school. *Applied Research in Quality of Life*, 1(2), 139-150.
21. Hui, E. K., y Sun, R. C. (2010). Chinese children's perceived school satisfaction: the role of contextual and intrapersonal factors. *Educational Psychology*, 30(2), 155-172.
22. Hunt, M. (2011). Learners' perceptions of their experiences of learning subject content through a foreign language. *Educational Review*, 63(3), 365-378.
23. Kissau, S. (2006). Gender differences in second language motivation: An investigation of micro- and macro-level influences. *Canadian Journal of Applied Linguistics/Revue canadienne de linguistique appliquée*, 9(1), 73-96.
24. Lasagabaster, D. (2011). English achievement and student motivation in CLIL and EFL settings. *Innovation in Language Learning and Teaching*, 5(1), 3-18.
25. Markland, D. (2007). The golden rule is that there is no rules: A commentary on Paul Barrett's recommendations for reporting model fit in structural equation modelling. *Personality and Individual Differences*, 42, 852-858.
26. Mearns, T. L. (2012). Using CLIL to enhance pupils' experience of learning and raise attainment in German and health education: a teacher research project. *The Language Learning Journal*, 40(2), 175-192.
27. Nicholls, J. G., Patashnick, M., y Nolen, S. B. (1985). Adolescents' theories of education. *Journal of Educational Psychology*, 77(6), 683-692.
28. Nicholls, J. G., Cheung, P. C., Lauer, J., y Patashnick, M. (1989). Individual differences in academic motivation: Perceived ability, goals, beliefs, and values. *Learning and Individual Differences*, 1(1), 63- 84.
29. Noels, K. A. (2001a). Learning Spanish as a second language: Learners' orientations and perceptions of their teachers' communication style. *Language learning*, 51(1), 107-144.
30. Nunnally, J. C., y Bernstein, I. J. (1995). *Teoría psicométrica*. Madrid: Mcgraw- Hill.
31. Nuviala Nuviala, A., Tamayo Fajardo, J., Iranzo Llopis, J., y Falcón Miguel, D. (2008). Creación, diseño, validación y puesta en práctica de un instrumento de medición de la satisfacción de usuarios de organizaciones que prestan servicios deportivos. *Retos: nuevas tendencias en educación física, deporte y recreación*(14), 10-16.
32. Osterlind, S. J. (1989). *Constructing Test Items*. Londres: Kluwer Academic Publishers.
33. Okuniewski, J. E. (2014). Age and Gender Effects on Motivation and Attitudes in German Learning: The Polish Context. *Psychology of Language and Communication*, 18(3), 251-262.



34. Ryan, R. M., y Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68.
35. Schmidt, R., Boraie, D., y Kassabgy, O. (1996). Foreign language motivation: Internal structure and external connections. *Language learning motivation: Pathways to the new century*, 2, 9-70.
36. Spaan, M. (2006). Test and item specifications development. *Language Assessment Quarterly: An International Journal*, 3(1), 71-79.
37. Seikkula-Leino, J. (2007). CLIL Learning: Achievement Levels and Affective Factors. *Language and Education*, 21(4), 328-341.
38. Stevens, J. (1992). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: Lawrence Erlbaum.
39. Sylvén, L. K., y Thompson, A. S. (2015). Language learning motivation and CLIL: Is there a connection? *Journal of Immersion and Content-Based Language Education*, 3(1), 28-50.
40. Taylor, I., Ntoumanis, N., y Standage, M. (2008). A self-determination theory approach to understanding antecedents of teachers' motivational strategies in physical education. *Journal of Sport and Exercise Psychology*, 30, 75-94.
41. Vandebosch, M. (1996). Confirmatory Compositional Approaches to the Development of Product Spaces. *European Journal of Marketing*, 30(3), 23-46.
42. Williams, M., Burden, R., y Lanvers, U. (2002). 'French is the language of love and stuff': Student perceptions of issues related to motivation in learning a foreign language. *British Educational Research Journal*, 28(4), 503-528.