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EDUCATION FOR HEALTH IN SPANISH EDUCATION LAWS: COMPARATIVE BETWEEN THE LOE AND THE LOMCE (*)

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ABSTRACT

Background: The current Organic Law for the Improvement of Educational Quality (LOMCE) incorporates substantial changes from the previous law, in particular a new curricular configuration with a higher prevalence of optionality, which may affect the development of health competencies by students. The objective was to address health education in the last two years, according to the amount and variability of Health related terms.

Methods: A comparative quantitative analysis was performed based on the presence of 281 terms related to eight areas of Health Education in both laws and for the two compulsory education stages (Primary and Secondary).

Results: Overall, no significant differences were found in the number of terms, or in the treatment of the health areas between laws. However, the increase in optional subjects in the LOMCE increases differences in training in Health Education. The difference in the number of terms studied by a student depending on the curricular itinerary is 28% in Primary and ESO in the LOMCE, compared to 0% and 7% in the LOE.

Conclusions: The LOMCE does not represent an improvement in Health Education in terms of the number of health terms, and allows considerable asymmetry in the training of young people depending on their curricular itinerary. The results suggest that it would be necessary to reinforce the contents of Health Education in compulsory subjects.

Key words: Health education, Educational law, Transversality, Compulsory secondary education, Primary education.

RESUMEN

La educación para la salud en las leyes de educación españolas: Comparativa entre la LOE y la LOMCE

Fundamentos: La actual Ley Orgánica para la Mejora de la Calidad Educativa (LOMCE) incorpora cambios sustanciales con respecto a la ley anterior, especialmente una nueva configuración del currículum con mayor optatividad, que puede afectar al desarrollo de las competencias de Salud por parte del alumnado. El objetivo fue evaluar el tratamiento de la Educación para la Salud (EpS) en las dos últimas leyes educativas españolas, en base a la variabilidad y cantidad de términos relacionados con Salud que recogían.

Métodos: Se realizó un análisis cuantitativo comparativo basado en la presencia de 281 términos relativos a ocho ámbitos de la EpS en ambas leyes y para las dos etapas de educación obligatorias (Primaria y Secundaria). Las diferencias en el número de términos entre leyes se comprobaron con un test de independencia. El efecto de la ley, el ámbito de salud y el nivel educativo se testó con una regresión logística, y las diferencias entre configuraciones curriculares con un test de Wilcoxon.

Resultados: La LOE recogió 156 términos frente a 153 en la LOMCE. El nivel educativo y el ámbito de salud influyeron en la presencia de términos (p -valor $< 0,001$). La diferencia en la cantidad de términos cursados por un alumno dependiendo del itinerario curricular fue del 28 % en Primaria y ESO en la LOMCE frente al 0 % y del 7 % en la LOE.

Conclusiones: No se han encontrado diferencias significativas entre leyes en el número de términos, ni en el peso de los diferentes ámbitos. Sin embargo, el aumento de optatividad en la LOMCE, introduce una asimetría considerable en la formación de los jóvenes dependiendo de su itinerario curricular.

Palabras clave: Educación para la salud, Legislación, Currículum, Evaluación educativa, Transversalidad, Educación basada en competencias, Educación primaria y secundaria.

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INTRODUCTION

Health Education (HE) is a key element in the formation of responsible citizens⁽¹⁾, and therefore, with greater or lesser visibility, it has always been present in Compulsory Teaching. Article 27 of the Spanish Constitution recognizes the fundamental right to Education and art. 43 states that “Public authorities shall promote health education...”. The Organic Law of the Right to Education (Ley Orgánica del Derecho de Educación: LODE, 1985) established the participation of the Autonomous Communities in the training of citizens. But it was not until the Law of General Regulation of the Educational System (Ley de Ordenación General del Sistema Educativo: LOGSE, 1990)⁽²⁾ that HE acquired full entity and came to be considered a cross-curricular subject with implications in all subjects and that served as an element of cohesion for developing interdisciplinary projects⁽³⁾. With the enactment of the Organic Law on Education (Ley Orgánica de Educación: LOE, 2006)⁽⁴⁾ the cross-curricular subjects disappeared and HE with them. Instead, competences (knowledge, skills and attitudes essential for participation in society)⁽⁵⁾ appeared. This incorporation of competences was the response to the priority educational orientations in the European Common Educational Space⁽⁶⁾. In the LOE, only the competence called “Knowledge and interaction with the physical world” directly considered aspects of Health, whereas the competence “Social and citizenship” did it indirectly^(7,8). The old cross-curricula subjects such as Health Education, Environmental Education, Consumer Education, etc., were not mentioned by name and their contents were scattered among the subjects that make up the compulsory curriculum, but without the integrating and globalizing vision conferred by being a cross-subject.

The current Organic Law for the Improvement of Educational Quality (Ley Orgánica para la Mejora de la Calidad Educativa: LOMCE, 2013)⁽⁹⁾ incorporates substantial

changes with respect to the previous laws. For example, evaluable learning standards, which are specifications of evaluation criteria to design standardized and comparable tests, appear; the cross-curriculum subjects are replaced by cross-curriculum elements; and the role of competences increases. In addition a new configuration of the curriculum is designed with the inclusion of some subjects and elimination of others, a fall in the number of core and compulsory subjects, and an increase in optionality. The fact that many of the subjects are optional in the current LOMCE can affect training in HE due to its transversal nature. This transversality requires that its contents be distributed among the set of subjects, with greater emphasis in some subjects than in others, as is the case of *Biology and Geology*, and *Physical Education*, which may mean that there is a greater possibility of students completing their compulsory studies with a lower consideration of health issues and therefore with less development of their skills.

Despite the importance of a good training in HE, there are no studies that analyze its presence throughout the curriculum in the LOMCE, but some studies limited themselves to the subject of *Physical Education*⁽¹⁰⁾. Nor are there any studies on the trend in the treatment of HE in the curriculum along with the normative change. Some comparisons have been carried out in general terms^(11,12) or focusing on specific subjects^(13,14), which analyze the treatment offered by the current curriculum to various topics^(15,16) or which aspects of certain subjects should be included⁽¹⁷⁾. The study of the development of HE in the general curriculum is crucial. However, this information alone is not enough to predict the effective development of HE in the classroom - this would require studying the intervention of multiple variables, such as teacher training, agreements with the health administration, educational resources available to students, regional policies, etc ... -, it is necessary to understand what options the compulsory curriculum allows for that purpose.

The aim of this study was to evaluate from a quantitative point of view the different treatment of HE in the last two Spanish educational laws (LOE and LOMCE), based on the variability and quantity of terms related to Health that appear within the text of both laws.

MATERIAL AND METHODS

A quantitative comparative analysis of the curricular prescriptions in relation to HE was carried out. For this, the presence of terms related to Health in the LOE and the LOMCE was studied. These terms were used as indicators (*proxies*) of a series of contents to be acquired for the development of competences in Health in Compulsory Education⁽¹⁸⁾. The work took place in two stages: 1) choice of terms and 2) search and analysis of those terms in both laws.

1. Choice of search terms. The search terms were defined based on the previous work of the COMSAL research team consisting of 16 lecturers from the universities of Valencia, Alicante, Elche and the Basque Country, from different knowledge areas (Public Health, Experimental Sciences Didactics, Psychology, Pedagogy, Social Work, Speech Therapy and Physiotherapy) and 12 teachers of Primary, Secondary Education and Counsellors of Teacher Centers⁽¹⁸⁾. Based on the Health problems faced by students during Compulsory Education^(19,20,21,22,23), the COMSAL team grouped them into eight areas of Health (Health Promotion, Food and Physical Activity, Sexuality, Addictions, Accident Prevention, Hygiene, Environmental Health and Emotional Health) and defined for each problem the competence and the conceptual, attitudinal and procedural contents that students should acquire during Compulsory Education to face them⁽¹⁸⁾. Based on these contents, a list of terms was built for each of the eight areas of Health that served as a reference for this study.

2. Search for Health terms in the Education Laws. The search for terms was done in the

laws that regulate the minimum contents in Primary Education and Compulsory Secondary Education (ESO) in educational laws: the Organic Law of Education (LOE)^(7,8) and the Organic Law for the Improvement of Quality Educational (LOMCE)^(24,25). This search focused on the sections “Content” and “Evaluation criteria” in the LOE and “Contents”, “Evaluation criteria” and “Evaluable learning standards” in the LOMCE for each of the subjects. The subject of religion has not been included in the study since its contents are not regulated by these laws.

The search was carried out in an automated way through the use of a computer program implemented by the authors in Python language v.2.7. For each of the terms, a regular expression was derived (a search pattern) that allowed the identification of lexical families and / or verbal conjugations, eg *p[i|e]d/w{1,5}\sayuda* for *ask help, asking for help...* In those terms whose meaning is circumscribed to more than a specific area of health (eg *risk* referred to the area Emotional Health or Accident Prevention) or those polysemic terms (eg *depression*) the computer program extracted those lines of text and the result was manually reviewed by the authors. Due to the presence of optionality throughout Compulsory Education, the number of terms was calculated for each of the possible curricular itineraries that a student can take (i.e., all possible combinations of subjects allowed by law). For example, in Primary Education in LOMCE there are two possible itineraries, one in which the subject Social and Civic Values is studied and another in which it is not.

The comparison of the frequency of occurrence of terms between laws and fields was made by Chi-square tests. To test independence in the frequency of the terms between legislations and scopes, an exact Fisher test was used. The effect of the Health area, the legislative framework (LOE-LOMCE) and the educational level (Primary-Secondary) on the appearance of terms was evaluated with a generalized linear model (GLM) assuming

a binomial distribution and the logit function as identity function. The choice of the linear model for the GLM was made through a step-by-step process, eliminating one factor in each step from the complete model - including all double and triple interaction. The criterion of comparison between models was based on the Akaike information criterion (AIC). In ESO, the differences in the number of terms according to the curricular configuration were evaluated with the nonparametric test of the Wilcoxon rank test. The analyses were performed using the statistical program R v.3.3.0⁽²⁶⁾.

RESULTS

At the selection of terms stage, a total of 281 different terms were identified relative to HE (table 1). Of these, 41 appeared in more than one health field. For each area, an average of 35 terms (27-45) was selected. Of all the terms, 160 (56.9%) required manual supervision to ensure that the term corresponded to the area of interest and to avoid polysemic terms.

The terms found in the subjects of *Spanish Language* and *Foreign Language* were excluded since they largely made reference to the teaching of specialized vocabularies of daily use (eg “Written lexicon of common use relative to [...] time. free, leisure and sports, travel and vacations, health and physical care [...]”⁽²⁴⁾).

HE in Compulsory Education. Throughout Compulsory Education, the number of terms included in each of the laws was 156 different terms in the LOE and 153 in the LOMCE (Primary: 111 in the LOE and 104 in the LOMCE ESO: 134 in the LOE and 136 in the LOMCE). Within each educational level (Primary and Secondary), the difference in the number of global terms was not statistically significant between laws (Primary: $\chi^2 = 0.228$, $gl = 1$, $p\text{-value} = 0.663$, ESO: $\chi^2 = 0.015$, $gl = 1$, $p\text{-value} = 0.903$), nor in the number of terms per area between laws (Primary: $p\text{-value} = 0.994$, ESO: $p\text{-value} = 1,000$) (figure 1).

The effect of the Health area, legislation and educational level on the appearance of terms was tested by means of a generalized linear model with a binomial distribution (ie, logistic regression). The model chosen based on the AIC was that which exclusively incorporated the main effects. The results showed that, while the legislation did not influence the appearance of Health terms ($p\text{-value} = 0.759$), both the educational level and the health area did have a statistically significant effect ($p\text{-value} < 0.001$ in both cases). Regarding educational level, in the ESO, more terms appeared than in Primary in both laws (*odds ratio*, $OR = 1.4$, $p\text{-value} = 0.047$). As for Health, it was found that the appearance of a term in the areas of Health Promotion ($OR = 3.3$, $p\text{-value} < 0.001$), Food and Physical Activity ($OR = 2.4$; $p\text{-value} < 0.001$), Environmental Health ($OR = 2.4$, $p\text{-value} < 0.001$), Emotional Health ($OR = 1.8$, $p\text{-value} = 0.030$) and Accident Prevention ($OR = 1.8$; $p\text{-value} = 0.038$) was more likely with respect to the field of Addictions. However, there were no statistically significant differences between Addictions and the areas of Sexuality ($OR = 1.2$, $p\text{-value} = 0.387$) and Hygiene ($OR = 1.1$, $p\text{-value} = 0.829$). When observing the data by educational level (figure 1) it was possible to verify that the Hygiene field was the least represented in Primary, while in the ESO it was the field of Addictions.

Between both laws a broad overlap of terms was observed: 81.1% and 86.5% of the terms of the LOE and LOMCE respectively were shared in Primary and 82.8% and 81.6% in ESO. Out of the 281 selected terms, 101 (35.9%) were not found in any law. The subjects that had the greatest weight (more term contribution) in the treatment of HE were those related to Biology (i.e., *Knowledge of the Natural, Social and Cultural Environment, Nature Sciences, Biology and Geology ...*), *Physical Education* and social and ethical education (*Education for Citizenship* in the LOE or *Social and Civic Values / Ethical Values* in the LOMCE).

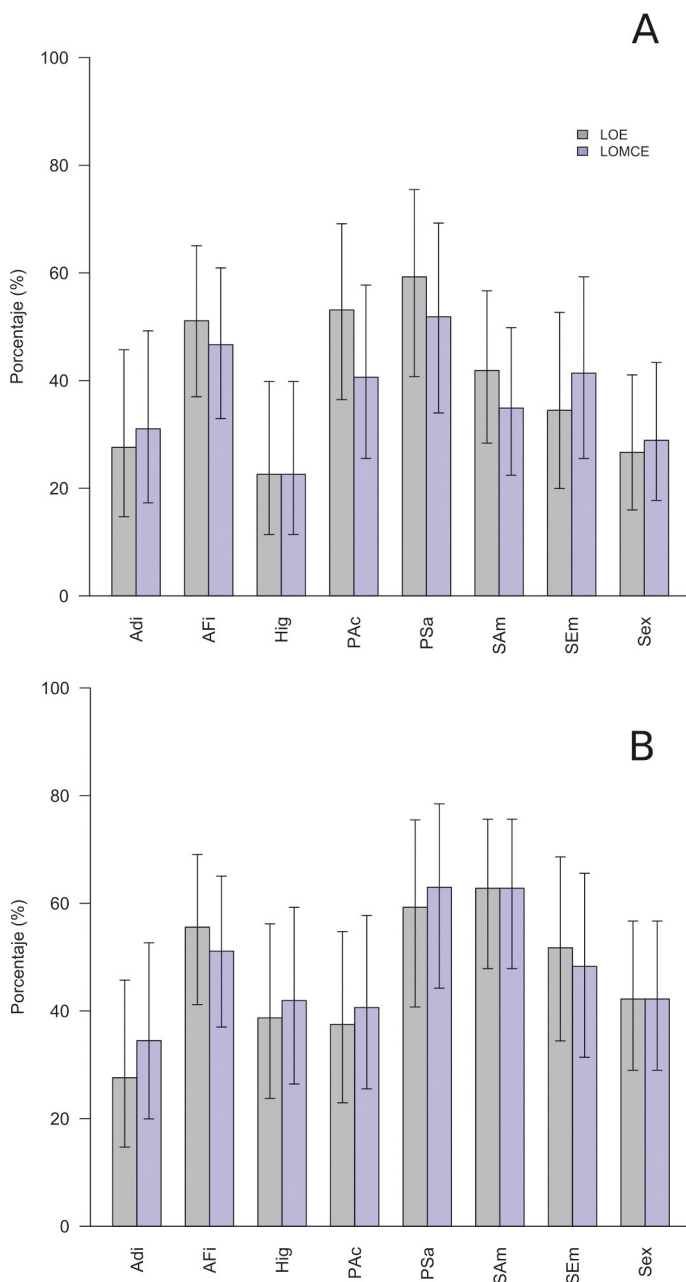
Table 1
List of terms used in the study grouped into health areas

Health area	Search term
Addictions	abstinence, abuse, critical attitude, addiction, alcohol, assertiveness, self-esteem, cannabis, cocaine, consumption, control, drug, party drugs, effect, smoker, hash, heroin, smoke, gambling, medicine, leisure, group pressure, recognition of danger, social and health resources, social relations, respect, civic responsibility, nervous system, tobacco, ICT
Food and Physical Activity	acceptance, critical attitude, positive attitude, physical activity, nutrition, assertiveness, self-esteem, autonomy, help, physical characteristics, perseverance, contagion, human body, care, culture, sport, diet, digestion, doping, physical exercise, diseases, family, habits, hunger, hygiene, personal image, (de) infection, intoxication, nutrition, obesity, leisure, pathology, pyramid, group pressure, first aid, respect, responsibility, risk factors, wheel, sanitary, sedentary lifestyle, overweight, solidarity, (in)tolerance, eating disorder
Hygiene	allergy, mouth, cancer, brushing teeth, backbone, behavior, contagion, dentist, tooth, environment, lifestyle, habits, hygiene, infection, intoxication, hand washing, cleaning, food handling, parasite, piercings, posture, prevention, (factors of) risk, public health, sensitivity, symptom, immune system, solidarity, tattoos, transmission, vaccination
Accident Prevention	accident, domestic accident, acceptance, action, drowning, suffocation, self-knowledge, falls, causes, collaboration, behavior, conscience, risk behavior, road behavior, consequences, human body, effect of drugs, emergencies, injuries, bites, danger, stings, prevention, first aid, dangerous products, prudence, respect, responsibility (civic), (situations of) risk, safety, health services, traffic
Health Promotion	literacy, help, welfare, quality of life, citizenship, collaboration, behavior, awareness, socio-environmental conditions, behavior, cooperation / cooperative work, (self) care, illness, environment, lifestyle, ability, habits, needs, participation, prevention, promotion, social and health resources, social networks, risk, health, health system, solidarity
Environmental Health	water, air, allergens, environmental quality, climate change, catastrophe, collaborates, fair trade, environmental awareness, consumption, pollution, noise pollution, light pollution, environmental cost, deforestation, degradation, purification, desertification, effects, environment, erosion, flood, environment, fashion, poverty, water treatment, precaution, concern, prevention, environmental problems, civil protection, publicity, radiation, resource, waste, responsibility, risk, drought, overexploitation, overpopulation, solidarity, sustainability, soil
Emotional Health	anxiety, assertiveness, self-concept, self-esteem, commitment, behavior, consequences, control, depression, emotion, empathy, stress, humor, leisure, optimism, asking for help, group pressure, prevention, problems, personal relationships, relaxation, risk, feeling, nervous system, conflict situations, sociability, solidarity, personal improvement, violence
Sexuality	abuse, acceptance, affection, contraceptives, genital-reproductive system, counselling, self-concept, self-esteem, help, understanding, communication, behavior, confidence, consequences, contagion, human body, decisions, doubts, pregnancy, emotions, empathy, illness, environment, STD, (self) exploration, gender, habits, hygiene, homophobia, identity, information, danger, pleasure, sexual practice, protection, social and health resources, reproduction, respect, responsibility, risk, safety, sex, transmission, treatment

Effect of optionality. The effect of optionality was evaluated by computing the number of terms for each of the possible curricular itineraries (combinations of subjects) included in each educational law for both Primary and Secondary Education. In Primary, in the LOE there is no type of optionality, so all students take the same number of subjects (111).

However, in the LOMCE there is the possibility of studying or not *Social and Civic Values*, therefore, there are two curricular itineraries (assuming that a student who does or does not attend the course during the 6 years of primary school). The itinerary with the subject of *Social and Civic Values* resulted in 104 terms of Health throughout all Primary, compared

Figure 1
Percentage of terms compared to the total number of terms per Health areas in Primary (panel A) and Compulsory Secondary Education (panel B) for each law



95% confidence intervals for the binomial distribution are shown. Adi: addictions; AFI: food and physical activity; Hig: hygiene; PAC: accident prevention; PSa: health promotion; SAm: environmental health; SEm: emotional health; Sex: sexuality

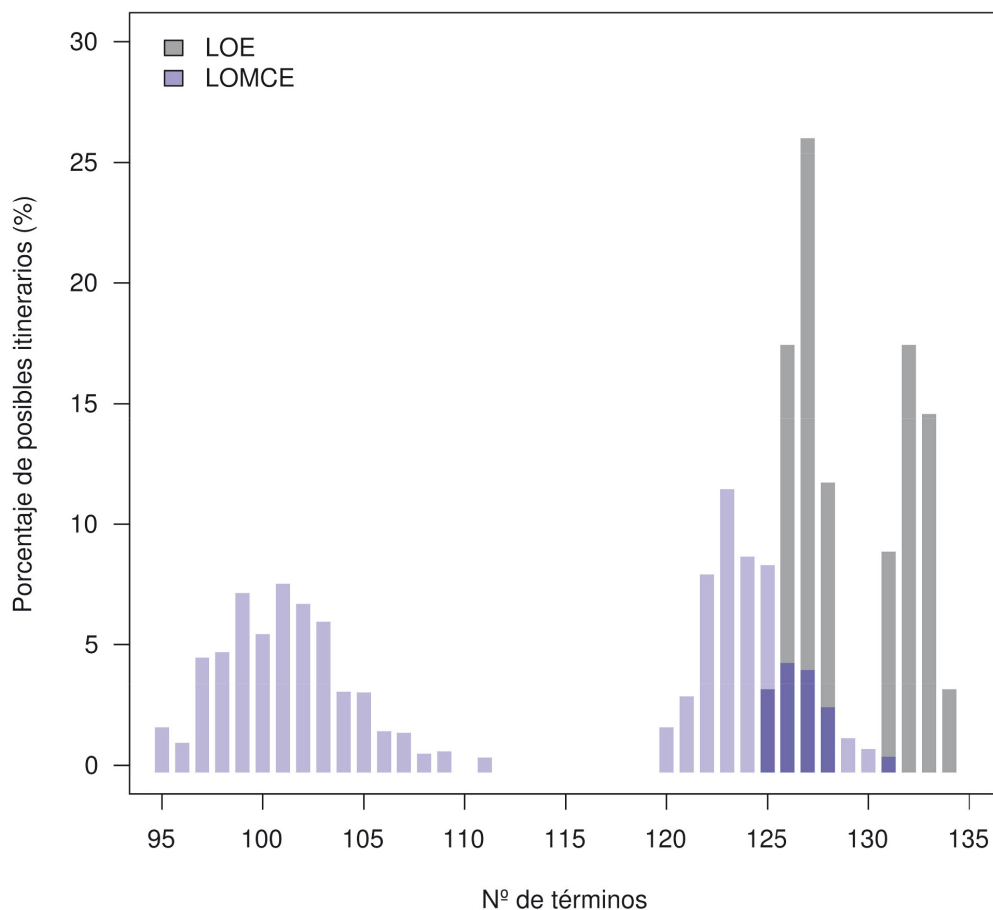
to 75 terms of those that do not choose it (27.9% less of Health terms).

In the ESO the number of possible itineraries is greater: 35 in the LOE vs. 3,120 in the LOMCE. Figure 2 shows the percentage of all these possible itineraries for each of the laws according to the number of different Health terms they mention. As can be seen, at the end of ESO and depending on the chosen curricular itinerary, a student may have encountered 125 to 134 terms (129.2 on average)

in the LOE, while 95 to 131 (112.5) in the LOMCE. Thus, at the end of secondary education, the difference in terms of Health among students who have taken itineraries with the lowest and the highest number of terms was 6.7% in the LOE compared to 27.5% in the LOMCE.

In both legislative frameworks a bimodal distribution was observed: the LOE presented two modes in 127 and 132 terms and 101 and 123 terms in the LOMCE. In the case of

Figure 2
Distribution of curricular itineraries (combinations of elective subjects) based on the number of different health terms covered over the four years of ESO



Data for LOE in gray, for LOMCE in blue.

the LOE, bimodality occurred as a result of the subject optionality of the fourth year and both modes corresponded to the itineraries of humanities and work-oriented (left side of the distribution) and to the scientific-technical ones (right side). In the case of the LOMCE, the bimodal distribution arose in the first to third years depending on whether or not *Ethical Values* were taken. In the LOMCE, no such clear differentiation was observed between scientific-technical and humanities itineraries, in part, due to the high number of possible combinatorial subjects that dilute this division. The differences in the number of terms per Secondary itinerary between laws were statistically significant (p -value <0.001), even when restricting the comparison of the terms addressed in the LOE to those addressed in the educational and career paths that include *Ethical Values* of the LOMCE (p -value <0.001).

DISCUSSION

This study is the first quantitative comparative analysis of the presence of Health Education in the last two Spanish educational laws (LOE and LOMCE). Overall, the results show that the approach to Health Education has not improved with the regulatory change; there are no differences in the number of terms addressed between both educational laws in any of the two mandatory educational levels. In addition, the introduction of greater optionality in the LOMCE and the optional character of *Social and Civic Values / Ethical Values* considerably increases the differences in training in health education among students; in Primary in the LOMCE the difference between students who have studied more and less terms is 28% while in the LOE all students follow the same terms. In ESO, the difference this difference reached 7 % in the LOE versus 28% in the LOMCE.

Despite the importance of good training for Health in the mandatory stage, the regulatory change has not served to reinforce specific aspects of Health Education; therefore, the approach to different areas of Health does not

differ between laws. In fact, it is evident that the areas with less weight in the LOE, such as Hygiene in Primary or the Prevention of Addictions in Secondary continue to receive less attention in the LOMCE. This result is shocking as it is known that, for example, Hygiene is capital in Primary Education, because that is when hygienic behaviors are acquired. The same happens with Addictions in Secondary education, since the risks are more frequent in this stage. It is worrisome that terms of competences related to aspects of basic hygiene such as brushing teeth or hand washing do not appear in any law, even in Primary, where the acquisition of basic hygiene behaviors should be a priority. Or terms of competences related to the problems of drugs such as cannabis, cocaine, heroin, party drugs or leisure are not included in Secondary education, when young people are more exposed to these risks.

Our results show that, as opposed to an ideal scenario, there is also no tendency to increase transversality. Only a few subjects (those related to Biology, Physical Education and Ethical Values / Education for Citizenship) support almost the entire content of Health Education. In addition, the fact that general criteria such as “Know and describe healthy lifestyle habits” appear in the evaluation criteria or in the objectives of the subjects does not mean that there is a development of Health Education that includes the generation of attitudes and the acquisition or modification of behaviors, both of which are dimensions difficult to evaluate .

The Pan American Health Organization (PAHO) recognized that one of the main challenges of the health development programs for youth and adolescents⁽²⁷⁾ was to move from programs aimed at primary, secondary and tertiary prevention, to programs aimed at promoting health and encourage positive behaviors. That is to say, to transfer the focus from the individual behaviors to the familiar, social and environmental context in which such behaviors occur. Both the LOE and the LOMCE seem to pick up this spirit; Thus, in

the general provisions of both laws we can read statements along the lines suggested by PAHO (eg, “Educational Administrations will promote learning about the prevention and peaceful resolution of conflicts in all areas of personal, family and social life. “). However, when analyzing the specification of curricular contents, the absence of some terms clearly related both to the promotion of Health as well as to the implication of the social and family context is striking. Thus, the absence of terms such as *self-exploration*, *counseling*, *pleasure* (Sexuality); *hunger*, *culture*, *doping*, *family*, *physical characteristics* (Food and physical activity); *gambling*, *leisure*, *group pressure* (Addictions); *parasite*, *piercings*, *tattoo*, *brushing teeth* (Hygiene); *overpopulation*, *allergens*, *poverty*, *light pollution* (Environmental health); *stings*, *falls*, *prudence* (Accidents); *anxiety*, *depression*, *optimism*, *personal improvement* (Emotional Health); *health system*, *socio-environmental conditions* or *participation* (Health Promotion) is rather surprising. In cases such as *spine* or *teeth*, it could be understood that they are included in the existence of an evaluation criterion that indicates “locates the main bones of the human body in a scheme” although the mandate is situated at an informative level far from Health Promotion.

In this study, the terms have been used as indicators (*proxies*) of the conceptual, procedural and attitudinal contents that students must attain in order to cope with the most common health problems they face during their school years. This approach can present a series of limitations that should be borne in mind. The search for some terms does not provide information on the quality of competence development, for example, that the term *habit* appears in the evaluation criteria or in the objectives of the subjects such as “Knowing and describing healthy living habits” does not mean that there is a Competence development of Health Education that includes the generation of attitudes and the acquisition or modification of behaviors. Another limitation is that the non-occurrence of a specific term

is not always significant, for example, *spine* or *teeth* could be understood that are incorporated in the existence of an evaluation criterion that states “locates the main bones of the human body in a model”. However, this is unlikely to occur in more nuclear terms as *a critical attitude*. However, both problems tend to be minimized by using a high number of search terms. Our study shows that comparison based on term profiles, combined with a semi-automated search system that allows for the exploration of a large number of terms, has proven to be a powerful and simple tool for the comparative analysis of Health Education in both laws. This type of approach is complementary to more qualitative analyses and provides a solid vision of the general trends in the legislation.

The situation of Health Education in the classroom does not end with the study of the prescriptive curricula included in the royal decrees. The Autonomous Communities have the possibility of completing these curricular contents with their own proposals, which can extend the subject to be studied up to 45%. However, while in some cases the autonomous proposals complement the national legislation, in many occasions, the regional administrations hardly alter these proposals and their commitment to Health Education is even lower (Gavidia, 2016)⁽¹⁸⁾. In addition to this curricular situation, it is necessary to add the different agreements that the educational and autonomous health authorities carry out to bring health to the classrooms, the development of their own projects, the proposals of teacher training through the Teacher Centers or the irregular adherence to already established programs such as the Network of Health Promoting Schools or Network of Schools for Health in Europe (SHE). To all this we must add the different approach provided by textbooks for Health Education and the mixed sensitivity of teachers towards these issues in the development of their profession. All this means that the final education in Health Education of the students of compulsory education is unequal in the Spanish territory, where

the only common point of what happens in the classrooms concerning Health Education is the mandatory curriculum indicated by the royal decrees.

In conclusion, we can say that in general terms, regarding the contents of Education for Health, the LOMCE does not introduce improvements. In addition, this law allows a considerable asymmetry in the training of young people depending on the curricular itinerary. Our results show that it is necessary to pay special attention to the effect of increasing optionality, reinforcing the contents of Education for Health in compulsory subjects. This reinforcement, we think, should go in the direction of specifying as much as possible in the general compulsory curriculum the most important health terms of study, as well as establishing agreements between the regional educational and health authorities that develop Education and Health Promotion projects, including teacher training and facilitating their educational work.

BIBLIOGRAPHY

1. Sørensen K, Van den Broucke S, Fullam J, Doyle G, Pelikan J, Slonska Z, et al. Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health*. 2012; 12: 80.
2. Boletín Oficial del Estado. Ley Orgánica 1/1990, de 3 de octubre, de Ordenación General del Sistema Educativo. BOE núm. 238 de 04/10/1990.
3. Gavidia V. The construction of the concept of transversality. *Classroom of educational innovation*. 1996; 55: 71-77.
4. Boletín Oficial del Estado. Ley Orgánica 2/2006, de 3 de mayo, de Educación. BOE núm. 106 de 04/05/2006.5.
5. Rychen DS, Salganik LH. *Key Competencies for a Successful Life and Well-Functioning Society*. Hogrefe Publishing; 2003. 218 p.
6. Recommendation 2006/962 / EC of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. *Official Journal of the European Union*, 394 2006 p. 10-18.
7. Boletín Oficial del Estado. Real Decreto 1513/2006, de 7 de diciembre, por el que se establecen las enseñanzas mínimas de la Educación primaria. BOE núm. 293 de 08/12/ 2006.
8. Boletín Oficial del Estado. Real Decreto 1631/2006, de 29 de diciembre, por el que se establecen las enseñanzas mínimas correspondientes a la Educación Secundaria Obligatoria. BOE núm. 5 de 05/01/2007.
9. Boletín Oficial del Estado. Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa. BOE núm. 295 de 10/12/2013.
10. Pastor Vicedo JC, Gil Madrona P, Prieto Ayuso A, González Villora S. The contents of health in the area of physical education: Analysis of the current curriculum. *Challenges* 2015; 28: 134-140.
11. Saura G, Luengo Navas J. Global politics beyond the national. Educational reform (LOMCE) and the standardization regime (OECD). *Bordón Revista de pedagogía*. 2015;67:135-148.
12. Fernández-González N. La LOMCE: aportaciones para el debate sobre la política educativa. *Revista Educación, Política y Sociedad*. 2016;1:4-10.
13. Molina P, Valcárcel JV, Úbeda-Colomer J. El diseño curricular de la Educación Física en España: Una revisión crítica desde la LOGSE a la LOMCE. *CCD Cultura_Ciencia_Deporte*. 2016;11:97-106.
14. Méndez Alonso D, Méndez Giménez A, Fernández Río J, Prieto Saborit JA. Análisis de los currículos autonómicos LOMCE de Educación Física en Educación Primaria. *Retos*. 2015;28:15-20.
15. Fernández-González N, González Clemares N. La LOMCE a la luz de la CEDAW: un análisis de la coeducación en la última reforma educativa. *Journal of Supranational Policies of Education*. 2015;3:242-263
16. García Luque A. La LOMCE bajo una mirada de género/s: ¿Avances o retrocesos en el s. XXI? *Revista Educación, Política y Sociedad*. 2016;1:100-124.
17. Casas Jericó M, Ermeta Altarrriba L. El paisaje en la educación secundaria obligatoria. Una oportunidad educativa en el cambio curricular LOE-LOMCE. *Didáctica Geográfica*. 2015;16:45-71.
18. Gavidia V, editor. *Los ocho ámbitos de la Educación para la Salud en la Escuela*. Valencia: Tirant Humanidades; 2016. 444 p.
19. Puertas B, Cerqueira MT. Análisis situacional de la promoción de la salud en el ámbito escolar en varios países. Organización Panamericana de la Salud, División de Promoción y Protección de la Salud Washington, DC: OPS/OMS; 1996.
20. OMS. *Riesgos para la salud de los jóvenes*. Nota descriptiva. OMS; 2010.
21. IUHPE. *Health Promotion: Francophone Research and Perspectives*. IUHPE; 2008.

22. Díaz JA, Vall O, Ruiz MJ. Informe técnico sobre problemas de Salud y Sociales de la Infancia en España. Sociedad de Pediatría Social. Ministerio de Sanidad y Consumo; 2004.
23. Álvarez JC, Guillén F, Portella E, Torres N. Els problemes de salut infantil. Tendències en els països desenvolupats. Hospital Sant Joan de Déu; 2008.
24. Real Decreto 1105/2014, de 26 de diciembre, por el que se establece el currículo básico de la Educación Secundaria Obligatoria y del Bachillerato. BOE, 3 2015 p. 169–546.
25. Real Decreto 126/2014, de 28 de febrero, por el que se establece el currículo básico de la Educación Primaria. BOE, 52 2014 p. 19349-19420.
26. R Core Team. R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing; 2015.
27. Maddaleno M, Morello P. Salud y desarrollo de adolescentes y jóvenes en Latinoamérica y El Caribe: desafíos para la próxima década. Salud pública de México, 2003;45:S132-S139