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**THE INCORPORATION OF THE ECOSOCIAL
PERSPECTIVE AS CROSS-CURRICULAR
CONTENT IN EFL
AN EXPLORATORY ACTION RESEARCH EXPERIENCE**

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Abstract

This research aims to humbly contribute to address one of the most important challenges humanity faces: the ecosocial global crisis. With a critical view of education, this paper analyses from both education theory and praxis the feasibility of the incorporation of an ecosocial perspective as a key cross-curricular element for the EFL subject in the Spanish secondary compulsory education. The paper describes the process and results obtained from an action research experience developed in a public high school in Valencia in March 2019, in which EFL teaching sessions with an ecosocial perspective were designed and implemented to explore their possible contribution to fulfil students' language and ecosocial learning needs.

Key words: content-based language teaching, cross-curricular issues, EFL, ecosocial education, environmental education.

Resumen

Esta investigación pretende modestamente contribuir a hacer frente a uno de los retos más importantes a los que se enfrenta la humanidad: la crisis global ecosocial. Con una visión crítica de la educación, el trabajo analiza desde la teoría y la práctica educativa la viabilidad de la incorporación de una perspectiva ecosocial como contenido transversal de la asignatura de Inglés como Lengua Extranjera en la Educación Secundaria Obligatoria en España. El trabajo describe el proceso y los resultados obtenidos en una experiencia de investigación en la acción en el ámbito educativo desarrollada en un instituto público de Valencia en marzo de 2019, para la que se diseñaron y llevaron a cabo clases de Inglés como Lengua Extranjera con una perspectiva ecosocial, explorando así su posible contribución a las necesidades de aprendizaje de los estudiantes, tanto en materia lingüística como ecosocial.

Palabras clave: enseñanza de lenguas a través de contenidos, temas transversales, inglés como lengua extranjera, educación ecosocial, educación ambiental.

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List of Abbreviations and Acronyms

AR – Action Research

CBLT – Content-Based Language Teaching

CLIL – Content and Language Integrated Learning

EE – Environmental Education

EFL – English as a Foreign Language

EP – Ecosocial Perspective

ESO – Educación Secundaria Obligatoria

LOGSE – Ley Orgánica de Ordenación General del Sistema Educativo

LOMCE – Ley Orgánica para la Mejora de la Calidad Educativa

SCE – Secondary Compulsory Education

UNECE – United Nations Economic Commission for Europe

UNESCO – United Nations Educational, Scientific and Cultural Organization

1. Introduction

Many factors indicate that our planet is changing. Thousands of species, bees among them, are disappearing at an alarming rate. More people have breathing problems. Ice reservoirs in the poles are decaying faster than scientists envisioned a couple of decades ago. Some experts state we have already transcended the *no return* limit. Others, however, think that we still have time to reverse the severe consequences climate change is generating not only on the planet but in *Life* as a whole. In any case, there is no doubt our planet is experiencing radical changes and the threat is so astonishing that UN has decided to place it as a core element for its 2030 Sustainable Development Goals (SDG).

In addition to the imminent climate crisis, we face a world with increasing social-economic inequalities. Thus, we know climate change will bring us more of them: those who are more socially and geographically vulnerable will suffer more its consequences, but none of us will be free of them. For Spain, scientists predict increasing temperatures on the following decades, which will lead to a tropical climate and the arrival of more frequent extreme natural phenomena (floods, droughts, hurricanes, etc.), impacting, among others, our agricultural ecosystems and way of life.

As a member of this self-destructive human race the future does not seem optimistic, but as a future teacher, as someone being part of the education of young citizens, I am well aware there is no margin for despair: we need to provide our students with the adequate tools to creatively and purposely survive and readapt in this changing and challenging world. Furthermore, we need to empower and assist them to become actively and sympathetically engaged in being part of the solution, rather than being part of the problem, either from passivity, neglect or denial.

From this transformative perspective of education, the aim of this master's degree Final Project is to explore the feasibility of the incorporation of the Ecosocial Perspective (EP) as a key cross-curricular element of the Spanish Secondary Compulsory Education (SCE) official curricula. The issue needs to be addressed as such an urgent matter that in the

following pages of the Project I will closely explain why it should be a key element which transgresses subjects and unavoidably should become a core cross-curricular content, scaffolding the entire curriculum.

Particularly, I will defend the EFL subject as the perfect learning environment to include and develop ecosocial contents, in addition to the motivation and engagement opportunities they offer to students. In order to defend this hypothesis about the need and feasibility of the inclusion of the EP as a cross-curricular element of the EFL subject, I conducted an exploratory educational research process on March 2019 with a group of 3rd ESO students from a public high school in Valencia.

The Masters Final Project which follows is divided into four sections. Firstly, the Literature Review, where the need of an EP on education is justified, reviewing the concept of environmental education through previous research, exploring its main characteristics and analysing the contributions EFL could make to the implementation of this perspective as a core cross-curricular content on SCE through specific methodologies. It also includes the Research Objectives, with a brief description of the aims of the Project and the reflections which led to the goals set.

Thirdly, the Method, which describes the research context, the research design instruments designed and used to collect data and how the latter was analysed. The next section, Results and Discussion, portrays the most relevant results extracted from the research and gives context to their meaning within their context and the theoretical framework previously detailed. The last part of the work is devoted to the research Conclusions, which also suggests further steps to properly implement a cross-curricular EP on EFL in SCE based on the current research experience.

Finally, I like to highlight the relevancy of this Project to face one of the biggest challenges Spanish public education has encountered for decades: the need to provide students with proper education, one which prepares them for real life and its challenges. I hope I can somehow contribute to it.

2. Literature Review

2.1. An Ecosocial Perspective of Education

Environmental Education (EE) has long been a matter of discussion within the educational community. As specified by Gutiérrez Bastida (2019, p. 4), the first time the term was used and described was 50 years ago, in the article *The Concept of Environmental Education* (Stapp et al., 1969, p. 30):

Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution.

In order to create this citizenry, Stapp et al. highlighted four goals which could be understood as the EE *general learning objectives* (Stapp et al., 1969): 1) the understanding that humans are “an inseparable part of a system, consisting of man [*sic*]¹, culture and the biophysical environment”; 2) the understanding that “the existence of any civilization is dependent upon man’s use of natural resources”; 3) the understanding that “biophysical environment problems result from the interactions between man, culture and the biophysical environment”, hence the need that citizens understand “how to work towards solutions” and their responsibility in building those solutions; 4) “Attitudes of concern” and action “which will motivate citizens to participate in biophysical environment problem-solving”.

Both the definition and the objectives set by Stapp et al. from the University of Michigan emphasize the idea that EE is not only a matter of study about the “biophysical environment” itself but about the interaction between human beings (hence, society) and nature. This social side of the equation, which is frequently forgotten when dealing with environmental problems, points out that humans, in fact, do not only interact with nature but also change and adapt it for their own needs, while undoubtedly needing nature to exist and survive. Hence, issues related to environmental crisis deeply impact, as well, on human lives

¹ Considering here the use of *man* as revising, following the reflections of the *English Grammar Today*, Cambridge Dictionary Online: <https://dictionary.cambridge.org/grammar/british-grammar/man-mankind-or-people>

and their survival. So, this crisis is a problem caused by human interaction with the environment, which both affects the environment and humans and needs a solution which necessarily would need to come from humans.

Even though clearly underlining the social perspective as an undeniable, unbreakable part of the concept, the development of EE on formal education from the beginning has mainly been linked to the Natural Sciences branch of knowledge, maximized by the traditional fragmented school curricula, which classifies knowledge in separated areas and subjects:

La mayoría de los y las docentes identifican la EA [Educación Ambiental] con el amor a la naturaleza, con las salidas fuera del aula, generalmente al campo, con la recogida de muestras o la realización de análisis o reciclado de papel. A esto cabe añadir, que se ve la EA como algo ajeno a las demás materias que se lleva a cabo en algunas determinadas fechas y que debe tener un currículo establecido y diferente del de otras materias, a excepción de las ciencias naturales, con las que de alguna manera se liga la EA (Flor, as cited in Gutiérrez Bastida, 2018, p. 91).

One of the side-effects of this fragmented vision of education concerning environmental problems is that even though the climate change emergency discourse is well-known by our secondary school students they mainly identify environmental problems with those related with nature destruction, thus having a simplistic vision of the real problems, an inaccurate identification of the causes and consequences of the ecological crisis and a lack of involvement for the possible solutions (Moreno-Latorre, Molins-Palanca, Padilla-Bautista and Boisset-Castells, 2017, p. 3348; Padilla-Bautista, 2015, p.364). Nevertheless, not only the educational system configuration has biased our students' mental frameworks regarding the relationship between them (as human beings) and the biological environment. Discourse analysis research shows evidence that textbooks from a wide range of subjects and which currently are used by the Spanish education system include environmentally unfriendly hidden content (Ecologistas en acción, 2007).

Among other characteristics, authors of this research highlight textbooks content is based on an anthropocentric vision of the human relations with the environment, in which technology seems to be the solution to all existing problems and the natural environment is envisaged as a plane resource, ready to be extracted and transformed for the sake of human development and progress. In addition to this, some other contents, are completely ignored or overshadowed by textbooks, such as women (because of the traditional reproductive roles assigned to them, historically ignored by the scientific knowledge) or environmentally sustainable practises. As for foreign languages textbooks, the research concludes:

Presentan en general un mundo sin problemas, contemplado desde una visión marcadamente etnocéntrica... Para estos textos no suele existir la desigualdad, el desarraigo, la destrucción, la enfermedad o los conflictos. Es habitual presentar en los ejercicios de conversación debates superficiales e irrelevantes. Fomentan el consumo acrítico mientras muestran una cara del mundo centrada en el ocio y el entretenimiento... Realizan una exaltación de la tecnología aún mayor que la media de los textos de otras materias... Casi todos hacen alguna referencia a alguna problemática ambiental, pero luego no establecen relación alguna con la tecnología, la movilidad o la producción (Ecologistas en acción, 2007, p. 229-230).

As the authors of this research conclude, textbooks are not the only source of learners' mental frameworks, but this diagnostic does help teachers and researchers to realise which vision of the world, often by unawareness, we are still teaching to our students. Thus, in order to contribute to problem-solving of the ecological crisis we face, changing textbooks content would be a slight part of a deeper, structural change education demands in order to prepare students to live in the Anthropocene² era.

This necessary change would come with an education which has an EP as its core element. This perspective would make education flip from an anthropocentric understanding of knowledge to a systemic conception of *the world* (in a way that considers what makes life

² Even though the scientific community has not officially accepted the term to design a new geologic time subdivision, steps are being taken in this path, as for May 2019: <http://quaternary.stratigraphy.org/working-groups/anthropocene/>

feasible in our planet). The EP pays attention to a factor we have widely forgotten about: human beings are both ecodependent and interdependent living creatures, and our existence is threatened if any element of the socio-ecological system is unbalanced. Hence, “adopting the EAW [Ecosocial Approach to Well-Being] helps us to maintain both the human and the non-human world and to understand their interdependences” (Salonen & Konkka, 2015, p.27).

The Ecosocial education rises from the development of the EE. Both share the same goals, but the former attempts to solve one of the main problems EE has faced on its half-century lifetime:

De esta manera, podríamos considerar la educación ecosocial como la evolución natural de la propia EA que aprovecha, por fin, un adjetivo que aclara su enfoque y su objeto de estudio y acción, ya que *ambiental* se ha confundido erróneamente durante décadas exclusivamente a *naturaleza* (Gutiérrez Bastida, 2018, p. 84-85).

The main goal of an ecosocial education is, then, to transform societies in order to face the ecological crisis we are facing in the Anthropocene era. In order to achieve it, it proposes to incorporate the main socio-ecological problems existing in our planet to the formal curricula, pointing out their interconnections and joining students in the search for feasible, creative and urgent solutions, which necessarily will have to address social, political and economic structural changes:

La educación es fundamental para el cambio ecosocial. No podemos aspirar a una sociedad ecológica sin personas profundamente ecologistas. La formación de este tipo de sujeto humano requiere un trabajo educativo tenaz y una catarsis antropológica muy fuerte.... hemos pasado de una visión que reduce los fines de la educación al aprendizaje de conocimientos y destrezas para el éxito profesional a otra visión mucho más amplia relacionada con el *bien ser* y el *buen vivir* personal y social, y no con el *bien tener* y el *bien estar* (Díaz-Salazar, 2016, p. 30).

Due to this transforming nature the EP on education has many visions in common with the critical pedagogy approach and matches Freire’s (2003) emancipatory education

perspective: an education which aims to empower citizens as active change agents of their own learning processes and lives, and, finally, take action in order to transform the world, fostering collective equality, social justice and well-being (which necessarily is, as we have previously seen, linked to a balanced relationship with the physical environment).

Since the debate on Ecosocial education is in the present moment still working on its ontology and philosophical background, hereby I will present the key paradigms that environmental teacher, pedagogical adviser and researcher Gutiérrez Bastida finds, combined, essential in order to evolve to an education with an EP (Gutiérrez Bastida, 2018, p. 103-111):

- *Ethical ecosocial paradigm*, scaffolded in three thinking frameworks: life centrality (reflecting on the deepest meaning of being interdependent and ecodependent beings), ethical thinking (to be able to collectively transform societies to fairer ways of living) and values understanding and clarification (through discussing and revising the current system of social values);
- *Sociocultural constructivism*, which considers social and cultural factors determine the teaching-learning process. Thus, education with an EP would pay attention to variables such as the knowledge construction process, significant learning achievement process and proper learning contextualization, emotional connection and questioning thinking (vs. education as plane information transmission), among others;
- *The Paradigm of Complexity*, guiding teaching-learning processes through complex thinking schemes (rather than simplistic explanations), holistic and systemic perspectives of life and the world, and fostering a Dialogue of Knowledge (understanding and accepting cultural and opinion diversity);
- *The socio-critical perspective of both the societal model and the education*, based on critical thinking and critical pedagogy frameworks, questioning the structural capitalist logics learnt as mainstream *common-sense* (as described by Gitlin, 2008), such as they were both *natural* and *neutral* logics, and enhancing creative thinking to find alternative solutions for change.

2.2. A Cross-curricular Ecosocial Perspective through EFL

This section is devoted to explaining *what* EFL as a subject in SCE in Spain can contribute with to the construction of an ecosocial education, justifying *why* the implementation of a cross-curricular EP through the EFL subject is both feasible and adequate for the current learners' educational needs. The *how* to implement this perspective will be addressed at the end of the section, concerning methodological strategies to be implemented in the EFL classroom.

Among the key elements of an ecosocial education, interdisciplinarity is an essential one. Following the *Paradigm of Complexity* mentioned above, life (and, thus, ecosocial problems and knowledge) is based on interconnected and complex interactions. Bearing this in mind, every knowledge area has something to contribute with, since it is part of the life configuration: “La realidad ecosocial no tiene asignatura, las disciplinas aportarán su rigor científico y su saber a la explicación de fenómenos y a la viabilidad de propuestas alternativas. Nuestra labor será entretrejer las asignaturas y configurar un todo global, acercándonos a la manera de pensar de quien aprende” (Gutiérrez Bastida, 2018, p. 155-156).

To prove this educational systemic conception, some comprehensive cross-curricular ecosocial proposals have already been designed in Spain. Is the case of FUHEM's (2018) guiding recommendations in order to incorporate the EP within the whole official curriculum, as the core element from which learning objectives and school subjects are developed. Nevertheless, as the authors' of FUHEM's proposal highlight, the development of a comprehensive cross-curricular ecosocial education as a priority of the Spanish education system will need of a strong political commitment for the cause and new, innovative legislation which sets ecosocial problems as the umbrella for the whole curriculum design.

While this happens and since ecosocial crisis needs of an educational approach in the present time in this paper I will analyse and present some of the contributions the EP as cross-curricular content can make to the EFL subject in SCE in terms of learning advantages, learning goals and learning objectives, while being aligned with the demands of the current

official curriculum. These guidelines and critical reflections led to the design and development of the three teaching lessons I created for this research, contributing to the setting of the exploratory research objectives.

2.2.1. SCE Learning Objectives and Cross-curricular Content

Current educative legislation in Spain (LOMCE) establishes within the SCE overall objectives the development of capabilities that allow students to “...Valorar críticamente los hábitos sociales relacionados con la salud, el consumo, el cuidado de los seres vivos y el medio ambiente, contribuyendo a su conservación y mejora” (Ministerio de Educación, Cultura y Deporte, 2015a, art. 11). In addition to this, among other topics, LOMCE states SCE curricula “incorporarán elementos curriculares relacionados con el desarrollo sostenible y el medio ambiente” (Ministerio de Educación, Cultura y Deporte, 2015a, art. 6) as cross-curricular content.

However, the regional legislation Decret 87/2015 (Generalitat Valenciana, 2015), which details SCE curricular content for Comunitat Valenciana, includes environmental content (“Medio ambiente, clima y entorno natural”) in the EFL curriculum in each of the four language skills in every SCE grade, but does not consider it as part of the “cross-curricular” content to be developed in the subject. Besides what legislation establishes, recent research reveals that a high percentage of SCE teachers ignore that environmental content is part of the EFL subject curriculum (Padilla-Bautista, 2015, p.207). Indeed, one of the conclusions of the research states: “se confirma el fracaso de los programas de transversalidad e inclusión de la EADS [Educación Ambiental para el Desarrollo Sostenible] de las reformas educativas de las últimas décadas” (Padilla-Bautista, 2015, p.353), evidencing a more structural approach is needed to work with such an urgent and sensitive dimension.

FUHEM’s ecosocial proposal, on the other hand, reflects on how a core ecosocial cross-curricular perspective would change the teaching-learning frameworks, enhancing a *real* cross-curricular ecosocial dimension through the whole teaching system (Rodríguez & Herrero, 2017, p.342):

Se trata, por tanto de construir colectivamente una herramienta que, sin eludir los planteamientos oficiales, sirva de base real a cada de una de las programaciones que se realizan en cada una de las áreas y materias a lo largo de la escolaridad... Consideramos que el abordaje de transversal en el aula de las competencias ecosociales es necesario ya que: i) es el único capaz de llegar a todo el alumnado, ii) permite colocar estas competencias en el lugar central del proceso de aprendizaje y darles con ello la importancia que tienen, iii) las dota de más sentido; iv) posibilita trabajarlas en profundidad y con continuidad entre asignaturas y cursos, v) en el momento actual, más que nunca, son necesarios aprendizajes que sean capaces de enlazar múltiples perspectivas, y vi) de esta forma, los objetivos ecosociales se pueden abordar sin menoscabo de los reglados.

2.2.2. Key Cross-Curricular Competences

Following the Recommendation of the European Parliament and the Council of the European Union (Official Journal of the European Union, 2006), LOMCE establishes the key curricular competences for Primary and Secondary Education (Ministerio de Educación, Cultura y Deporte, 2015b). Beyond the obvious linguistic communication competence in a foreign language, EFL offers a set of wide content and cross-curricular development which allows working on any other of the key competences.

Nevertheless, the EP, as a holistic and systemic perspective, might add an extra value to specifically work on three other key competences: learning to learn, social and civic competences and cultural awareness and expression. Even so, in the ecosocial education sector, critics arouse about the concept “competence” itself, as a concept linked to productivity and access to the labour market. Gutiérrez Bastida proposes, instead, the use of “capabilities”, following economist and Nobel Prize Amartya Sen conceptualization as “las diversas combinaciones de estados y acciones que una persona puede desarrollar que, a su vez, reflejan la libertad del individuo para elegir su modo de vida” (as cited in Gutiérrez Bastida, 2018, p. 150)”. From the capabilities approach what matters are not particular competences which an individual has acquired or not, but a wider understanding on what

these *competences* allow that person to have more living options to choose from, thus enabling the chance to choose to perform differently.

Besides the European legislation, a far more interesting proposal about learning competences is the one from the United Nations Economic Commission for Europe (UNECE, 2012), based on the ambitious and completely forgotten (Díaz-Salazar, 2016, p. 23) UNESCO education proposal by Delors et al. (1996). In this case the four competences are to be acquired by teachers, as multiplying agents for a sustainable development through their educative praxis: 1) Learning to know (the educator understands the challenges both locally and globally, and the potential role of educators and students); 2) Learning to do (the educator is able to develop practical skills and action competence); 3) Learning to live together (the educator works with others in ways that care about interdependence, pluralism, mutual understanding and peace); 4) Learning to be (the educator is someone who guides the learning process to students acquisition of autonomy, judgement and personal responsibility).

Moreover, each one of the competences complies three dimensions or characteristics: a holistic approach (seeking integrative thinking and practise), envisioning change and achieving transformation (exploring alternative futures, learning from the past and inspiring engagement in the present). UNECE (2012) competences set introduces two key elements for the EP on education: 1) teachers' vision of education as an essential factor; 2) the need for transformative action, triggered from school. Some authors call this latter element a "political competence", based on a group of pieces of knowledge, skills and values which make students willing-to-do and empowered-to-do, as an individual and collective commitment, leading to a knowing-to-act, "saber denunciar, resistir, elegir, proponer, crear" (Sauvé, 2013).

2.2.3. A Content-Based Language Teaching Approach

In order to implement an EP as cross-curricular core content in EFL subject in SCE and considering language teaching theories the approach that better fits the established learning objectives is the CBLT³ Approach.

As we have reviewed in the previous section, current legislation (both national and regional) establishes the cross-curricular content that needs to be addressed by EFL and any other SCE subject but does not indicate the path or methodology to do so. Previous research (Fernández Fontecha, 2001; Padilla-Bautista, 2015) on the topic reflects about the same lack of orientation (even in older national legislation on education, such as LOGSE) from the educative authorities, but however, leaves freedom for schools and teachers to determine how to implement this cross-curricular content.

Brinton, Snow and Bingham Wesche (1989, preface) defined Content-Based Second Language Instruction (CBSLI) as “the integration of content learning with language teaching aims”, whilst pointing out any teaching framework aiming to teach a foreign/second language through content would fit in the definition. From this definition we could, then, infer this proposal for the incorporation of the EP in EFL subject fits in the CBLT approach proposal. Nevertheless, since Brinton et al. (1989) made their definition, the CBLT framework has clearly expanded, including many variations which consider the relationship between content and foreign/second language teaching. The CLIL approach, for instance, has become in the last decades the most promoted content-based approach in the European Union educational framework. However, we shall not forget CBLT approaches include a wide range of teaching proposals, from more content-driven to more language-driven ones.

Following Met’s continuum of language-content Integration, Banegas (2012, p. 118) establishes the main characteristics that would differentiate both driven models. While in

³ Due to the proliferation and diversity of terms the academia has used to describe the teaching approaches that deal with the integration between content and language for second/foreign language instruction I have chosen Walenta’s (2019) terminology, Content-Based Language Teaching, since from my point of view perfectly describes the object of the analysis and offers a wide scope for including the main traditions on the approaches which deal with this integration, as the researcher intends to.

language-driven approaches content is incidental, used to learn the foreign/second language; in content-driven, one's content is the learning priority and students are evaluated on its mastery. Walenta (2019, p. 37), meanwhile, applies a more visual continuum based on Met's one and Cummins' matrix, adding the time intensity of the programme. Bearing both proposals in mind, I feel the EP cross-curricular one would fit in the language-driven continuum, somewhere in between the *content-related language classes* (where “the language teacher incorporates content from the regular school curriculum” (Walenta, 2019, p. 38) to promote engagement) and the *theme-based language classes* (in which the topics “do not necessarily correspond to their current school curriculum” (Tedick & Cammarata, 2012, p. 34). Our EP proposal, then, could be categorised in the language-driven CBLT approaches, but adding a necessary holistic amend: the cross-curricular content should also be assessed and considered as a relevant, core element for the learning-teaching process.

2.2.4. Bloom's Taxonomy and Significant Learning

Even though from an EP fragmenting and labelling knowledge as a taxonomy would risk forgetting its complexity and comprehensive nature, Bloom's Taxonomy of Educational Objectives (Bloom, 1956) offers a rather *new* way of understanding the teaching-learning process and the learning objectives regarding cognitive (mental) skills as something as a process further more complex than plane memorisation or information recalling. In this sense, Anderson and Krathwohl (2001) revised Bloom's Taxonomy currently offers a useful curriculum and learning objectives design tool for teachers when considering not only the knowledge dimension (or “knowing what”) but the students' cognitive process (“knowing how”). The aim is, through activities design, assist learners to develop High Order Thinking Skills (HOTS) rather than only sticking to the traditional education pursued Lower Order Thinking Skills (LOTS): Remembering, Understanding, Applying.

From this point of view, the same learning content can be explored and learnt by students in such ways that more complex thinking skills (Analysing, Evaluating and Creating) are set into motion. No need to say, HOTS are the kind of thinking skills an ecosocial education aims to enhance in learners. Key verbs such as *analyse*, *deconstruct*, *appraise*,

criticise, defend, justify, create, devise, design, invent, plan or reconstruct, used by the Taxonomy to design learning objectives and their related activities, definitely contribute to an education that wants its learners to take action in order to face the ecosocial crisis and lead the transformations needed.

Bloom's Taxonomy proposal, nevertheless, has evolved to a more complex paradigm, adding more dimensions ("kinds of learning") which transcend the "cognitive learning itself" and which contribute to achieving significant learning. This new *Taxonomy of Significant Learning* (Dee Fink, 2013) considers the development of learners' skills, thinking ways (critical, creative and practical), knowledge integration, feelings, interests and values, learning how to learn and learning about oneself and the others. Thus, the proposal looks for a more relational and interactive based concept of learning (Dee Fink, 2013):

In the process of constructing this taxonomy, I was guided by a particular perspective on learning: I defined learning in terms of change. For learning to occur, there must be some kind of change in the learner. No change, no learning. And significant learning requires that there be some kind of lasting change that is important in terms of the learner's life (p. 34).

2.2.5. Motivation and Engagement

Students' motivation and engagement towards teaching-learning processes is one of the main worries of current educational systems since research eventually indicates both are part of the core elements behind significant learning achievement (Becerra & McNulty, 2010). Within the applied linguistics framework, this interest becomes even more relevant: evidence that both motivation and engagement are key factors for foreign language learning has widely been discussed within the academia (Lightbown & Spada, 2013). In this sense, from a holistic point of view of education, many of the aspects we have already mentioned concerning the EP as cross-curricular content on the EFL also support and contribute to the learners' motivation and engagement to the subject. If, for instance, we take Dee Fink's (2013) definition on Significant Learning, as "some kind of change in the learner" (p.34)

motivation and engagement within the EP should work as an embedded, interconnected *change* loop: towards both the EFL subject and the ecosocial problems presented as cross-curricula contents.

Motivation and engagement, then, is linked to learning something *signifying* (Gutiérrez Bastida, 2018, p. 107), something which makes sense, connects and matters to students, since “exposure by itself does not guarantee language learning, unless it be also accompanied by meaningfulness” (Villacañas de Castro, 2013, p.103). This might be related to students’ feelings and interests (as described in the *Taxonomy of Significant Learning*, Dee Fink, 2013, p. 55) concerning *what* they are learning (a language through relevant content, in this case), but also with the learning environment; one which takes into account those feelings and the students’ opinions, making them part of the teaching-learning process as active, significant actors of what happens inside the classroom, but also what transcends it: the *real* world and its ecosocial problems, as Castillo and Rojas (2014) were able to depict in their research).

Critical pedagogy within EFL reflects on how foreign languages, and particularly English, often reproduce historical imperialistic trends. If we analyse EFL from an EP, socio-constructivist perspective, there is no doubt the language is linked to a colonising past (and *present*) at the core centre of the human development practises that have led us to the ecosocial crisis. The *linguistic imperialism*, then, “encompasses socio-economic as well as cultural and educational dynamics, the effects of which extend both globally and locally... It thus hypothesizes a connection between the way an empire conceives of itself and behaves in relation to other countries...” (Villacañas de Castro, Cano Bodi & Hortelano Montejano, 2018, p. 945). The challenge, then, is to be able to transform a colonising language into a tool able to make students’ identify with it, strengthening the communicative competence (in the whole spectrum of its meaning), complex thinking skills and students’ learning on ecosocial problems and the building of solutions. These characteristics can be developed within every language learning process, as an L1, L2 or foreign language. Finally, as we will see later

motivation and engagement in a foreign language subject are closely linked to active and participatory methodologies and the concept of agency, both core elements for the EP.

2.2.6. Critical Thinking & Transformative Action

As previously mentioned, an EP on education necessarily aims to achieve a social change. If we take the four general objectives of an ecosocial education (Rodríguez & Herrero, 2017, p.341) we can establish a reflection and action path leading the EP teaching: from a critical analysis of reality (“Ser capaz de realizar un análisis complejo y crítico de la realidad presente e histórica”), through the *tools’ building* (“Tener herramientas para gozar de una vida buena”) to social transformation (“Poder transformar la realidad” and “Desarrollar actitudes y valores para la transformación ecosocial”).

This educational process emerges from Freire’s proposal, who understood learning as a process of empowerment “que favorece que las personas implicadas en las problemáticas ecosociales..., primero, tomen conciencia de sus derechos, facultades e intereses, y de cómo éstos [*sic*] se relacionan y conectan con los de sus semejantes. Segundo, adquieran y desarrollen su poder, esto es, que conozcan y accedan al uso de los recursos materiales y simbólicos necesarios para participar desde una posición más sólida en la toma de decisiones en el cambio personal y social” (Gutiérrez Bastida, 2018, p. 116). This educative vision from critical pedagogy supports students to become active actors in both their learning process and in life through the development of their Agency Capability (Walker, 2012).

We can establish, then, *tools* or “recursos materiales o simbólicos” are all those capabilities (beyond the academic competences, as previously explained in section 2.2.2.) learners might acquire on their compulsory education time. At this point, the rest of elements we have described as characteristics to implement an EP, combined, make possible those *tools’ building*: thinking skills, motivation and engagement, the communicative *dialogic* competence, etc. are the scaffolding from which the transformative action should take place.

2.2.7. Coherent & Comprehensive Methodologies

A specific perspective on education undoubtedly needs an implementation approach or model which is coherent with the pedagogical paradigm. Even though through this detailed section we have already given some tips on the kind of methodologies needed to implement an EP on the EFL I consider necessary to explicitly mention them since they were the guide to prepare the sessions that the object of study of the present research. As Banegas and Villacañas de Castro (2016) expose classroom procedures, content, assessment criteria and “the design of curricula that address issues such as multiculturalism, interculturality, gender, identities...” can be part of a critical pedagogy education for any subject. Which matters, then, are the learning objectives pursued behind the didactics and the teachers’ ability to find the adequate tools to implement them.

Gutiérrez Bastida (2018) adds, from a socio-constructivist dimension, “el uso de metodologías flexibles que trabajen problemáticas abiertas y complejas cercanas a sus intereses, motivaciones y preocupaciones... con resultados que pueden ser previstos o no por el o la docente, pero asegurando que sean significativos, próximos a la realidad y con sentido de cambio” (p. 108). Only with the application of those methodologies complex and interconnected problematics (as the ecosocial ones) can be exposed, felt as signifying (thus, interpellating students), critically analysed, debated and reconstructed by students. In this sense, the combination of the CBLT and the inductive approach as learning framework gives students the opportunity to get in contact to relevant, significant content whilst learning a language which is connected to real problems, affecting their lives (Becerra & McNulty, 2010, p.118). The inductive approach, on the other hand, supports the content and language learning through opening knowledge to the opportunity of being discovered by students, rather than *simply* transmit it to them.

With these two approaches as a general framework, methodologies for their implementation need to be participatory and active (vs the traditional, passive role of students in the classroom), triggering reflection-action-reflection processes which contribute to progressive learners’ empowerment. From this point of view, active and participatory

methodologies may include every activity which allows students to and experiment the exchange of ideas, decision-making and responsibility assumption (*Características metodológicas de la EA*, by García & Nando (2000), as cited in Padilla-Bautista (2015, p. 44)). Moreover, cooperative knowledge building becomes a key element to teach students to discuss, compare ideas, reach agreements and defend their points of view. Methodologies such as games, role-playing, cooperative learning or the flipped classroom fit here.

Complementarily, an advanced EP needs of a systemic dimension that enhances students to be active actors in their learning process through student-centred approaches. Research methodologies such as Project-Based Learning or Problem-Solving Learning Gutiérrez Bastida (2018, p. 159-160) give students autonomy from an inductive approach, values their knowledge building and opinions, activates complex thinking skills and contributes to motivation and engagement thanks to the learning process appropriation.

3. Research objectives

Since the topic of the research and the lessons' methodology is at this moment arising in popularity and starting to focus the attention of both the educational and research community at one certain point, I realised the research required to be an exploratory one.

Exploratory research (Dörnyei, 2007), mainly in the tradition of qualitative studies, focuses on determining what needs to be researched rather than conducting research with a previous clear theoretical framework set. In topics like the present one, with no relevant or substantial previous research, the exploratory perspective allows the researcher to start the research without having determined the focus of the research, neither the hypotheses nor the research questions. In fact, particularly the latter, the exploratory research allows to build up the questions once the researcher has had the chance to explore the topic and its empirical implications, realising which questions can be answered.

In this particular research, it started to be clear which questions would need to be answered once the students had filled the questionnaires and the writing composition activity and I started analysing all the data I had collected, extracting from it the relevant information

students were *telling* me. In addition to all this, the fact that the mentioned exploratory research was developed on a classroom while I adopted the role of a teacher who establishes learning objectives and outcomes, designs her own activities sequence and looks for original material and readapts it to the students' learning needs and learning objectives makes of this research an school Action Research (AR), since it “equips teachers with systematised reflections and rich data to transform, change, improve, and contest their own classroom practises” (Banegas & Villacañas de Castro, 2019, p. 570).

As stated from the introduction of this research it aims to prove the feasibility and adequacy of the incorporation of an EP as cross-curricular content in the EFL subject. Hence, the following research questions arose during the research design, as questions that a teacher would ask himself/herself when implementing at the classroom new pedagogic approaches:

1. Which is the level of previous knowledge, concern and commitment 3rd ESO students have regarding ecosocial problems, particularly food consumption ones?
2. Does the cross-curricular incorporation of EP in the EFL subject curriculum increase the level of knowledge, concern and commitment of 3rd ESO students for ecosocial problems, particularly food consumption ones?
3. Does the cross-curricular incorporation of the EP increase the motivation and engagement of 3rd ESO students for the EFL subject?
4. Are the pedagogical methodologies proposed effective for the cross-curricular incorporation of the EP in the EFL subject?

4. Method

4.1. Study Design

In order to develop the research and due to its exploratory nature, a mix-method (Dörney, 2007) design was implemented. The research required the collection and analysis of both quantitative and qualitative data from the students, following a QUAN → qual (Dörney, 2007) model. For the matter of quantitative data collection, two questionnaires for the students were designed.

As for the collection of qualitative data, researcher observation through a journal was considered, in addition to a written composition activity for students that was specifically developed for the matter.

4.2. Participants

The research was developed with 3rd ESO students from a secondary education public school located in Valencia, in the framework of the compulsory two months practicum experience (January to March 2019), as part of the learning process of the Master's Degree in Secondary Education Teaching by the University of Valencia.

The high school is in a southern area of Valencia which has traditionally been considered a working-class area, with a significant number of migrant families living there. Nowadays the high school has around 600 students and is a multilingual centre, as recognised by Conselleria d'Educació. No CLIL or similar content and language integrated programme is implemented in the school.

Since my practicum mentor in the high school taught English in four groups (two 1st ESO groups, in addition to a 3rd ESO and a 4th ESO group) we had to choose one of them in order to develop the research. We both agreed that target students needed to have at least a basic level of linguistic communicative competence. She felt 3rd ESO students had both the level of language (A2+) and attitude so the research could be relevant. Besides, since she was

the group's mentor, I could get better to know the students through the weekly mentoring session (their group dynamics, personalities, motivations, etc.) to prepare for the research.

Focusing our attention on research's subjects, 3rd ESO students, quantitative data collected on the first questionnaire designed for it arose some relevant information about their linguistic profile and their likeness to learn English at school. The group was formed by 23 students (12 women, 11 men), with ages between 14 to 15 years old. In addition, we may consider it a multicultural, multilingual group, since 65% of the students (Annexe I, Figure 1) consider they speak three or more languages: 11 students state they speak three languages, 2 students state they speak four languages and 2 more students say they speak five. Moreover, 6 students state they speak two languages and 2 more that they only speak one language. This research item focuses in their subjective conception of "speaking a language": since the educational system in Valencia states three compulsory languages to be studied for Secondary Education Students (Spanish, Valencian and English) the logical expectation would have been the whole group answered that, at least, they speak those three languages.

In fact, Spanish is the only language all the students speak (Annexe I, Figure 2), followed in the number of speakers by Valencian (21 students) and English (14 students). In addition, 5 of the students speak at least one more language different from the three compulsory ones (Romanian, Chinese, Arab, French, Yoruba, Portuguese and Guaraní). However, only 3 of these students specified that one of these non-compulsory languages is their L1. If we quantify these results focusing our attention in English, we can realise 39% of students feel they do not speak this language. This reality contrasts with the perceptions I had during the two months of practicum I spent with them, where I was positively surprised by the group's level of English and the fluency with the speaking skill they showed. The fact they answered in a negative way makes me wonder if there are any kind of identity or neglecting issues linked to the use of English. Concerning the students' likeness to learn languages in general and particularly at school (Annexe I, Figures 3 and 4) their opinions do not vary much, showing a slight decreasing on the likeness to learn the language at school: 17%-22%

of students manifest a tendency on not liking it, whereas 22%-26% state they like it and 13% like it “a lot”.

Concerned about how I could design the EP cross-curricular lessons and adapt the methodology so it could be more appealing and engaging for students, following the parameters previously established in section 2.2.8. I also asked them about the most difficult activities and the one they enjoyed the most when learning English at school, bearing in mind textbooks mainly focus their content syllabus on the four skills development, in addition to grammar and vocabulary exercises. 87% of the students (Annexe, Figures 5 and 6) pointed out that “Listening” activities were the most difficult for them, followed at a great distance by “Grammar” activities (22% of students). However, when being asked about the activities they enjoy the most when learning English at school 87% of the students of students unsurprisingly chose “Games”, followed by “Culture and Entertainment” activities (60%). “Speaking” (48%) and “Vocabulary” activities (43%) also received numerous supports from learners, leaving “Grammar”, “Reading”, “Writing” and “Listening” activities only fancied by a tiny group of students.

4.3. Instruments

As introduced in section 4.1. in order to collect the data three instruments were developed: two questionnaires and a writing composition exercise, all of them addressed to 3rd ESO students. In addition to this, I kept an observation journal during the whole time the practicum experience lasted.

The first questionnaire had 15 items, divided into three different parts, which aimed to collect: 1) sociolinguistic aspects under the title “Questions about English” (items 1-5), which allowed me to further know the students’ linguistic profile. The data collected with these questions is the origin of the figures previously showed in section 4.2.; 2) previous level of concern of students on social and environmental issues, and their ability to identify their interconnection as topics and the educational context in which they learnt or reflected on this link, under the title “Questions about environment and social issues” (items 6-9); 3) the

students' particular knowledge and level of commitment on sustainable food consumption, under the title "Questions about food consumption" (items 10-15).

First questionnaire items can be divided into two categories: Likert items (items 2, 3, 6 and 7) and multiple-choice items (items 1, 4, 5, 8, 9, 10, 11, 12, 13, 14 and 15). Likert items were designed with a five-grading scale, where 1 was "nothing at all" and 5 "a lot". In this sense, there was a balance between positive and negative answers, with a neutral central value (3). The objective when designing these questions was comparing the students' level of likeness to learn languages different from their L1 with their likeness to learn English at school (items 2 and 3), and their level of concern regarding environmental and social issues (items 6 and 7). With regards to multiple-choice items, asked students about their preferences concerning the way they like/dislike learning English at school (items 4 and 5), if their knowledge on environmental and social issues came from the school context (items 8 and 9), and their level of knowledge, awareness and level of commitment on sustainable food consumption, through a set of questions on the topic (items 10-15).

In addition to providing relevant data to create a linguistic profile of students, this questionnaire helped me to prepare the sessions I had to conduct on food consumption, considering which was their level of knowledge and awareness on the topic. A sample of this questionnaire can be found in Annexe II.

The second questionnaire was a 15 items, more complex one and included a wide range of questions focused on the food consumption EP cross-curricular sessions I conducted with the students. Thus, it included open questions that could provide some qualitative input to the research, involving students' perceptions of the sessions. This second questionnaire mainly aimed to collect data in order to observe the evolution students had during the sessions, under the single title of "Food consumption lessons": what they had learnt, how much they fancied learning with active and inductive methodologies and to what extent they were able to connect environmental and social issues as consequences of a common, global problem. A sample of this questionnaire can be checked in Annexe II.

The second questionnaire items were divided into three categories: Likert items (items 1 and 12), multiple-choice items (items 3, 5, 7, 8, 9, 11, 13 and 14) and open questions (items 2, 4, 6, 10 and 15). Likert items were designed using the same five grading scale than in the first questionnaire. In this case, these questions asked students about their overall feelings on the lessons (item 1, “How much did you like the three lessons about food consumption?”) and about their level of likeness to learn more about environmental and social issues on the English lessons (item 12).

In addition, multiple-choice items asked students about their preferences concerning the activities developed during the lessons (item 3), the main difficulties they found while the lessons took place (item 5), to what extent lessons had worked and changed their level of concern and awareness about environmental and social issues (items 7, 8 and 9), their likeness to learn more in the future about environmental and social issues on the English lessons (item 11), the level of agency capacity the lessons had activated in them (item 13) and the possible evolution on the knowledge of particular food consumption topics (item 15). Lastly, open questions were designed to have additional, qualitative information that complemented quantitative items (both Likert and multiple-choice questions) about the food consumption sessions (item 2), the activities they liked the most (item 4), the new knowledge they acquired (item 6), in which way they could connect environmental and social issues (item 10) and any comments they could have in order to improve the lesson (item 15).

Both questionnaires were developed in English, whilst considering the difficulties 3rd ESO level students could have dealing with vocabulary and expressions in the language. To that matter, for some words, the Spanish translation was given and open questions could be answered in English, Spanish or Valencian. In addition to this, to preserve students’ anonymity, they were asked to insert a unique code of identification, based on their date of birth, first letter name and surname.

The third instrument developed was a writing composition students had to elaborate at home as homework. The exercise utterance they had to follow as instructions for completing the activity was:

On the three days we spent together we have seen some of the environmental and social consequences hiding behind the food that we eat.

Write a text explaining the most shocking consequence you have discovered. Explain why it was so shocking, how it made you feel and what ideas you can think about to solve the problem. Try to use some of the vocabulary you have learnt these days. Write at least 100 words.

This instrument was designed as a non-aggressive tool to collect qualitative data from students concerning food consumption lessons. As the exercise utterance shows, the data collection aimed at three dimensions: 1) knowing the most shocking environmental and social consequence students found out, and why they found it so shocking; 2) the feelings (and not only the opinions) those consequences arouse in students; 3) possible solutions students could think or imagine in order to solve those problems. In this sense, qualitative data extracted from the writing composition could provide a more detailed view on how the sessions had impacted students, considering their feelings, previous knowledge and its evolution, reflections, values and possible actions (agency capability) students would take concerning environmental and social issues. Some research samples of the writing composition instrument can be found in Annexe II.

Since the instrument managed to convey the qualitative data extraction with a regular writing composition exercise my practicum mentor suggested that, in addition to being included in the research, it could be graded as a writing exercise. Hence, she asked me to freely establish the assessment criteria and grade the exercise. The assessment criteria, following a CBLT content-language balanced approach, I established were (the students' composition grades can be checked on Annexe I, Figure 7):

- Content relevancy: students' proper understanding and answers, concerning what was asked to them by the exercise utterance (40%);
- Grammar and vocabulary accuracy (30%);
- Cohesion and coherence, as a descriptive-argumentative text. Writing style. (30%)

The fourth instrument which nourished this research was an observation journal I kept for the time the practicum experience lasted. It included notes and reflections on observing the mentor's teaching praxis, my own teaching sessions and the students' behaviour and performance during the whole time (checking what Dörnyei (2007, p. 160) links to the teachers' *personal agency*). This qualitative instrument has mainly been used in the research to complement the opinions and feelings students expressed within the other instruments, in order to have a more completed vision of the research's findings. Sample pages of the observation journal can be found in Annexe II.

4.4. Procedure

Since the research took place during my practicum experience all the instruments were administered during March 2019 to students in different sessions of the 3rd ESO English subject. Hence, this section will focus on describing both the instruments timing implementation and the content of the ecosocial cross-curricular teaching sessions I conducted. A detailed research schedule, with the steps followed, can be found in Annexe III.

In order to develop both the research and the teaching lessons connected to it, my practicum mentor asked for a single formal requirement: that I was able to connect the lessons' design with the following 3rd ESO textbook didactic unit 5: *A Plate of Food* (Marks & Devlin, 2016), which was related to food (vocabulary, cultural culinary traditions, learning to order in a restaurant, etc.). At this point was when the choice of content for the teaching lessons' development among the wide range of topics included under the EP (as reviewed in the Literature review section) found a solution: lessons would be focused on critical and sustainable food consumption.

The first questionnaire was administered on March 5th. After students were closely informed about the research process we were starting with this questionnaire and the instructions to complete it (which were also carefully described at the beginning of the questionnaire) we spent around fifteen minutes of the English lesson in its completion. Some questions about how to fill in the questionnaire arose but were easily solved. Once the first

questionnaire was completed, I devoted the next days conducting the first approach to data analysis in order to readapt the pre-designed food teaching lessons I had to develop next week. At this moment I realised a third instrument (the writing composition), besides the questionnaires, could be needed in order to have richer research results, since I felt I could lack qualitative data from students: their opinions, feelings and impressions of the lessons, beyond what quantitative data might arise.

Food consumption teaching lessons were carried out in three consecutive sessions: March 11th – 13th. A detailed script of the sessions and their content, linguistic and cross-curricular objectives, skills, key curricular competences, teaching approach, methodology and materials (original and adapted ones) can be found at Annexe IV.

The writing composition exercise was administered to the students at the end of the third session, to be collected as homework on the next session, March 20th. Due to the Fallas break, many students did not complete the assignment and the deadline to hand in the paper was extended up to March 25th, the next English lesson day for 3rd ESO. The second questionnaire was administered on March 25th. Once again, we spent the first thirty minutes of the English class asking the students to answer it, thus checking the progress of the learning experience after some days. Since this questionnaire was a more complex one and it included some open questions students needed more time to complete it, with more questions arising during the time devoted to this duty.

4.5. Data analysis

Concerning the quantitative data, since many of the questions of both questionnaires were designed to use Likert and multiple-choice items in order to measure questions' results the data analysis was conducted by manual insertion of the data in an Excel and the creation of graphics in order to easily represent the results.

Comparison between relevant items, particularly those between the evolution depicted on answers comparing the first and second questionnaire, was carried out through a detailed analysis of graphics' data. Finally, a "qualitising" process of all this data was performed, in

order to compare and complete the results qualitative data was arising. The labels which were designed for the data analysis and later comparison between quantitative and qualitative elements followed the logic of the key elements identified in the research questions:

Label 1: Level of knowledge on ecosocial problems, particularly focused on food consumption ones;

Label 2: Level of concern on ecosocial problems, particularly focused on food consumption ones;

Label 3: Level of commitment to sustainable food consumption, in addition to the presence of Agency Capability showed by students.

As for the qualitative data analysis in the writing composition an initial coding content analysis was performed, in order to extract the first, superficial conclusions and reassure research questions were adequately formulated. Further analysis required a complete data transcription of the students' works, splitting and coding their answers. Firstly, they were classified on the three main questions the exercise utterance asked them to answer (as seen in section 4.3.): 1) the most shocking environmental and social consequence students found out, and why they found it so shocking; 2) the feelings those consequences arouse; 3) possible solutions to solve those problems. After that, in order to access a deeper coding analysis, answers were labelled by the key elements stated by the research questions, as previously it had been performed by quantitative data:

Label 1 (Knowledge): new content discovered by students (most shocking consequence they had learnt);

Label 2 (Concern): how they felt about the discoveries (emotions triggered by the new content) and its possible contribution to desirably increase concern on the topic;

Label 3 (Commitment & Agency Capability): What students will do about it, how the sessions helped to create a desirable evolution to commit to the cause; Action

possibilities: solutions imagined, created and proposed to solve the problems, and which would imply personal or collective action.

Moreover, while performing the data analysis other EP key educational elements were identified as enhanced on the sessions:

Label 4, Significant learning: what significantly changed on learners after the sessions, understanding “learning” as “changing”;

Label 5, Critical Thinking: deep reflections on what they had learnt, giving opinions from a critical perspective;

Label 6, Thinking Skills activated: measuring the ability to create and relate ecosocial problems interconnections).

This complex step helped to interpret the qualitative data, giving meaning, purpose and structure to what it was showing. As for the open questions data analysis, it was performed after the writing composition analysis. It was mainly used as a tool to complement and compare students’ reactions in relation to the writing composition ones and the results from the quantitative data analysis. Finally, in order to elaborate on the research results, qualitative data was quantified. Once this was performed, due to the mix-method nature of the research, qualitative and quantitative data were compared and complemented in order to extract combined conclusions for the research questions. Observation journal reflections were considered at this stage in order to complete the students’ opinions.

5. Results and discussion

For a clearer understanding of the topic, research’s results are presented following the research questions. As for the writing composition sample, since 3 students did not hand out this writing exercise (even when they knew it was going to be part of the 3rd term evaluation process and when they had twenty-two days to do it), the real sample which has been established for this part of the content analysis was of 19 students.

5.1. Research Question 1: Which is the level of previous knowledge, concern and commitment 3rd ESO students have regarding ecosocial problems, particularly food consumption ones?

In order to check students' knowledge on sustainable consumption a set of concepts were prepared (first questionnaire, item 15), so students would mark the ones they knew and provided a definition: 9 students did not mark, not define, any of the suggested concepts, and none of them knew "local consumption groups". 13 of them either marked and/or defined "the 3 Rs" ("Reduce, Reuse, Recycle"), followed by "season vegetables" (8 of them). "Supply chain", "fair trade" and "European ecolabel" were only known by a few students (Annexe V, Figure 8).

15 students (65% of the group) also stated they had previously studied at school the link between environmental and social issues, either in primary or secondary education. When asked about the school context where they learnt it, conferences and workshops, in addition to special activities (visits, trips, World Environment Day, Human Rights Day, etc.) were both the most identified by students. At a wider percentage distance, some school subjects were also pointed out by students, such as "Valores Éticos", "Biología", "Ciencias Sociales" and "Geografía" (Annexe V, Figures 9 and 10).

From a first analysis, students showed a high previous level of concern regarding both environmental and social inequity issues, particularly on the second one. First questionnaire answers show 19 of them were clearly concerned about the first issue, while 17 of them felt interested in the second one. However, the percentage of students who answered "a lot" differed between both topics: 12 students stated they were very concerned about inequity issues, while only 5 did it when asked about environmental ones. (Annexe V, Figures 11 and 12).

Results concerning students' personal/familiar commitment on sustainable food consumption revealed recycling practices are quite settled in the students' family context since 16 students stated their families classify and recycle the waste they produce at home.

Moreover, students stated they check the origins of the food they consume at home, which would also point out the level of commitment students' have concerning the food they eat at home. Moreover, most of them specified they indeed know where adults at home buy food for the daily menus consumed. In fact, supermarkets were the most regular place where their families buy them.

Hence, results show students' real previous knowledge on food consumption ecosocial issues tend to be low, even if students had specified to be concerned about environmental and social inequity issues. In addition, students' families seem to be involved in this committed in the recycling activities, since they are the ones responsible for the recycling processes taken at home. However, all of them, as stated by students, keep following the mainstream, widespread food consumption patterns, without approaching more sustainable, environmentally friendlier and fairer consuming practices.

These pre-sessions' results confirmed by the initial hypothesis about the students' low level of real knowledge and commitment to the matter and prepared me to elaborate a significant teaching proposal on the three sessions I had to conduct. As described in previous sections these results about previous knowledge helped me to focus the session's content, in order to convey them with the students' learning needs on the topic and the level of concern and commitment they had stated.

5.2. Research Question 2: Does the cross-curricular incorporation of EP in the EFL subject curriculum increase the level of knowledge, concern and commitment of 3rd ESO students for ecosocial problems, particularly food consumption ones?

Under this question, we can see the new knowledge students acquired, up to which extent the topic was new for them and if the lessons activated thinking skills, critical thinking or significant learning. Students' sustainable food consumption knowledge significantly evolved from the first questionnaire (Annexe V, Figure 13) to the second one: after the sessions students were able to identify and define basic sustainable consumption concepts such as "supply chain", "local consumption groups", "season vegetables" and "fair trade". In

addition to this, students were also able to identify and define new concepts that had been introduced to them on the sessions as context vocabulary, such as “monthly wages”, “zero-mile food” and “pounds” (weight measuring unit) (Annexe V, Figure 14).

Specifically asked about what they had learnt on the sessions, 7 students pointed out the food origins and its supply chain, while other 5 students reported learnings related to pollution, the environment and the need to take more care of it. 5 other students pointed out they had learnt more English, such as vocabulary, the relative pronouns, the defining relative clauses or “a desenvolvuparme [sic] mejor en inglés”. Only 3 students pointed out reflections concerning social inequities issues.

Moreover, in the writing composition, whilst confirming the impressions I had during the sessions and the notes I took on the research journal, students were particularly shocked by the dead fishes floating on a river that the “Pineapples, luxury fruit at what price?” documentary portrayed during the second lesson. The documentary showed how a Costa Rican river had been deeply polluted by agrochemicals which were in storage near it, owned by the company which was producing and selling incredibly cheap pineapples in British supermarkets.

As I included on my notes: “In today’s session students were astonished while watching a documentary about the consequences of an agrochemical spill in a Costa Rican river. It seemed like they had never seen how these spills are highly polluting or, indeed, are able to kill animals or people living nearby”. This note shows that I was surprised by the students’ reaction: the goal of the activity was that they not only realised what was behind the food that we eat but to be able to link both the environmental and the social inequity consequences. Instead, I surprised myself discovering how for most of them it was the first time they were aware of the real damage severe pollution can cause on living beings. This shock can be seen on the students’ reflections on the writing composition: at least 7 of them explicitly commented on the river’s accident and the dead fishes (the complete set of answers provided by students about the most shocking consequence they identified can be found in Annexe VI).

Many students' texts (at least 5 of them) also mentioned as the most shocking discovery the first lesson's activity, the coffee Supply Role-Chain: in addition of being a funny and active speaking game, it seems it made them realise the dynamics behind the international trade chains and, thus, adopted a critical point of view on the issue:

"[...] I realised that the majority of the supermarkets buy some products for a higher price than in fact they cost, even though they never have paid the true cost to the growers".

"There are lots of people who work in the production of the food. Those who lost more are the growers. They work hard all the day and they don't earn enough money to bring to their families. Markets buy products from the growers at a very cheap price and then they sell them for a more expensive one".

Some reflections about the consequences also included worries about the workers working and living conditions (4 students commented on them on their writing compositions), both in the case of Costa Rica and Honduras experiences. At least other two students also expressed how they had realised people do not think on who is producing the food they eat and how their lives are: "[...] when we eat we don't stop to think the origins of the food and all the things that occur behind, for example, a pineapple".

When asked about if they had found any relationship between environmental and social inequity issues related to what we eat only 9 students stated they had found that link (Annexe V, Figure 17). Moreover, when students were asked to try to explain the link, they had found between both issues reflections mainly involved the link between environment and human health ("[...] el medioambiente forma parte del alimento y los animales/frutas que nos comemos. Si el medioambiente no es el adecuado (contaminación) nos pueden [sic] perjudicar a nosotros"). Few students got to reflect on the real relationship between environmental and social issues the sessions were aiming to establish:

“[...] if the environment is dirty or a river is polluted most people can't eat, and in consequence, they prepare less food than before. And with the social issues, the unfair way that most growers are working”.

“Ahora sé mucho más de la relación entre lo que comemos, las desigualdades y las enfermedades que pueden llevar el mal trabajo de los alimentos y es que hay muchísimas personas que trabajan en pésimas condiciones para su salud y para la naturaleza que los rodea y tan contaminada que está”

The fact that only a couple of learners were able to explain this relationship when asked about it contrasts with results showed by the analysis of the writing composition, in which at least 7 students mentioned environmental problems linked to social inequity ones. Some examples might be:

“[...] I didn't expect that a simple accident could ruin the lives of so many people by polluting the water and killing the animals that those people live from”.

“One thing that shocked me was the subhuman conditions that growers are suffering because of the contamination. Most of them can't eat as a consequence of the high pollution of the river's water”.

“The most shocking consequence I have discovered it's the way people and their families who obtain food for us are living. It is something we never think about and most of us will start doing it now. [...] They always have environmental disasters and agrochemical accidents around them”.

This indicates that even if learners can establish the connection between both environmental and social issues it does not seem to be obvious for them.

Students stated their level of concern after the sessions on environmental and social inequity issues had increased: 15 of them stated it had increased in both topics, while only 2 students answered their interest had not increased in environmental issues, nor in social inequity ones (Annexe V, Figure 15). The qualitative analysis, by the way, showed how the

emotions hiding behind this concern increase. Being able to explore, identify and express their own feelings concerning what they had learnt opened a path to link content knowledge emotions, a key factor to trigger significant learning (Dee Fink, 2013) and to explore students' ethics and values, as Novo (1995) explains:

Los conocimientos, la información, son necesarios pero no suficientes, del mismo modo que una experiencia o unos sentimientos no sometidos a la reflexión difícilmente pueden tener alcance ético. La vinculación entre la reflexión (lo que pensamos), la práctica (lo que hacemos) y la afectividad (lo que sentimos al confrontar el pensamiento con la acción) parece el camino más adecuado para el asentamiento de unos valores que, no sólo reflexionados sino «sentidos», puedan ir conformando la personalidad de cada alumno (p. 103-104).

However, we must consider that identifying and expressing feelings is something students, nor their adults, are used to do. Particularly, it is something unconventional within the formal education framework, where most of the knowledge established by the academic curriculum has a rational (vs emotional) point of view. This can easily be checked: quick word research on the EFL ESO and Bachillerato curriculum established by Conselleria does not find any match with words such as “sentiment”, “emoció”, “sentir”. In addition to this fact, we must consider that expressing one's feelings in a foreign language is even more complicated as a task. In the context of this research, students are at an A2+ level of language, and they mainly lack vocabulary and some essential language functions which assists them in this task.

The complete set of feelings expressed by students can be found in Annexe VII. It must be mentioned that only 9 students accomplished this task. The ones who did it expressed being “sad” (4 students), “upset” (3 students), “shocked” (2 students) or “bad” (2 students) about what they had found out. Besides expressing their feelings some reflected about unfairness and the inequalities between those collecting the food and those eating it:

“When I discovered all this I felt so bad, shocked, upset, etc. Because it is not fair that those people who obtain food for us to eat and even work hard have to live like that. Meanwhile, we people who enjoy the food don’t even have to move a finger to obtain it”.

Some students even specified their surprise to realise that “there are problems like that in the world”, while others highlighted that the facts “have made me worry even more about the environment”.

However, there was only one student who seemed to reflect on the direct responsibility he could play on the food system as a consumer, which was one of the goals of the activity, and had feelings about it: “When I read that I was feeling like an accomplice, because I often go to the supermarket to buy all my food”. Moreover, some learners criticised the production system (“La forma en la que producimos lo que consumimos no es adecuada para el medio ambiente”) or pointed out consumers’ responsibility on the matter (“We abuse of them [impoverished countries’ workers] knowing”). In addition, a clear sign of significant learning appeared in one of the learners’ opinions: “Cuando acabamos con todo esto, me sentí y me siento más relacionado con todo, porque me he dado cuenta de lo que pasa en el mundo y lo comprendo”.

If we analyse the level of future commitment (agency capability) students show after the sessions and the increasing knowledge they seem to have acquired, 9 students stated they would look for more information about the topics on the internet and 9 more that they would talk to family and friends about what is behind the food we eat. Finally, 7 students pointed out they would check the origins of the food they consume at home. On the other hand, 4 students did not express any future action, nor any of them pointed out any other action that was not included on the list. In addition to this, any student expressed the intention of investigating more about some of the consumer alternatives that were introduced to them of the last session (Annexe V, Figure 16). Hence, this last option was the one that involved a higher level of commitment and agency capability from the students.

When asked to propose possible solutions for the identified environmental and social consequences behind the food that we eat they had previously identified, only 11 of the 15 students provided ideas (a complete list of the students' answers can be found in Annexe VIII). The ones who talked about women's working conditions in Honduras provided answers linked to the responsibility of hiding behind the workers "bosses", "the stores" or the country's government. One student pointed out that "we need to elaborate new laws to protect the agricultural workers, like a better salary and social security coverage", in addition to "use natural fertilizers, which don't damage the environment or people, and provide protection equipment for the workers". The ones who selected the pineapple production in Costa Rica suggested to "report the companies and ban them from throwing it into rivers or anywhere there is vegetation" or "to ban the use of agrochemicals or at least ban it in areas near a river". Other ideas included asking the polluting companies to "provide those people, who are not responsible for the disaster, with what their products have ruined".

The diversity of answers portrayed above, however, have one element in common: most of them point out "others" as agents able to solve the problem. Is the case of "bosses", "governments", "companies", "stores", "people who", etc. Only the suggestions provided by 2 students (using, respectively, "we" and "each person" as the subject of the action) directly identify human groups or individual people as subjects able to change unfair or wrong situations, i.e. agency capability.

5.3. Research Question 3: Does the cross-curricular incorporation of the EP increase the motivation and engagement of 3rd ESO students for the EFL subject?

Concerning the level of motivation and engagement for students in the English subject after the food consumption sessions, students were asked about their likeness on them. None of the 23 students expressed a negative opinion of the sessions, with 12 of them showing their tendency to clearly like them and 2 more stressing they liked them "a lot" (Annexe V, Figure 17). Asked about why they liked them or not 5 students pointed out they had liked to learn about what is behind food production and its consumption ("[...] ha servido (por lo menos a mí) para darme cuenta de todo lo que hay detrás de un simple producto de alimentación"),

while 3 more students highlighted the idea of learning about something they did not know about.

Other 2 more students stressed the fact that was “different” to what they are used to do in school and other 2 more said they had enjoyed it. Other students also mentioned learning about environmental pollution, food origins and its consequences and the fact that we played “games”. On the other hand, 3 students stressed they found “difficult” some vocabulary and activities. Others did not like the grammar activity (defining relative clauses), the fact knowledge was too superficial (“Me pareció interesante, pero pienso que igual se podría explicar algo más” and that the topic “isn’t really interesting”).

Moreover, students were asked about their willingness to learn more about environmental and social inequity issues on the English subject. 18 of them gave a positive answer. Of those, 7 showed interest and 4 more high interest in keeping learning about the topic while learning English at school (Annexe V, Figure 18). For those 5 students who stated they would not like to keep learning the issues a detailed analysis of their data profiles provided by the instruments was performed, in order to look for a possible common explanation for their reluctance. No common characteristics for the five of them were found. However, in the first questionnaire, three of them had stated they don’t like or don’t particularly like learning languages. In addition to it, a fourth student had manifested in the first questionnaire no concern about environmental o social inequity issues. Hence, his concern did not change after de sessions. Moreover, 4 of them stated they had problems understanding the teacher during the sessions, while two of them considered they had been “boring”, another one pointed out the sessions lacked from structure (“Tendría que ser más “esquemática” para así retener más fácilmente la información”) and other student found the sessions “difficult”.

In any case, these profiles comparison did not arise conclusive data in order to find a common pattern that might explain this lack of interest. These results are even more surprising if we take into account 2 of these 5 students had qualified sessions with a good mark (one even stated they were “fun”) and 4 of them stated they concern, either on

environmental or on social issues or both, had increased after the sessions. The answers, however, might point out main issues would be related to the difficulty of following the sessions (either by the teacher way of speaking, the vocabulary or the topic), their lack of interest on the topics (even if their level of concern, knowledge and commitment increased), boredom or the fact that they do not like learning languages.

5.4. Research Question 4: Are the pedagogical methodologies proposed effective for the cross-curricular incorporation of the EP in the EFL subject?

In order to analyse the methodology approach implemented on the sessions, students were asked about the activities, they had liked the most on the sessions. The supply chain role-play was clearly the one they fancied the most, with 14 students pointing it out. The Costa Rican pineapples documentary (8 students) and the women working conditions text (7 students) also arose students' interest. Finally, both the grammar activity (defining relative clauses activity) and the matching consumer alternatives game were highlighted by 5 students each (Annexe V, Figure 19).

The most fancied activities (particularly the documentary) involved active listening comprehension, which shows how students liked it even when in the first questionnaire most of them had stated listening activities were the most difficult for them. In addition to this, even though in the first questionnaire only 3 students had stated they like reading activities the working conditions text seemed to attract their attention. Finally, the grammar activity received further support than expected, since more students than the ones which stated they liked them in the first questionnaire highlighted they did enjoy the activity.

6. Conclusions

Main results

This research aimed to explore from a critical, transformative perspective of education, the feasibility of the incorporation of the EP as a key cross-curricular element on the EFL subject within the Spanish SCE official curricula. Through an exploratory AR process with 3rd ESO students from a public high school in Valencia, I designed and implemented CBLT language and food consumption with an EP session in order to establish the impact they had on students concerning their level of knowledge, concern, commitment and agency capability for an ecosocial topic. In addition to this, I explored the positive contributions the EP could have on the students' motivation and engagement for the EFL subject and the effectiveness of the comprehensive active methodologies for a successful EP implementation.

As depicted in this research, students' previous level of knowledge on ecosocial problems tended to be low, even for the ones that had specified to be concerned about environmental and social inequity issues. In addition, real commitment was merely linked to recycling activities conducted by learners' families, with most of them being unaware of sustainable and alternative consumer practices.

The fact that the concern element seems to be higher than both the real knowledge and commitment show the possible risk of "politeness" discourses, in which students have learnt what is socially established as "right" or "wrong", but have not interiorised the ecosocial values, nor developed any agency capability to set into motion real changes or transformations in their lives. It is like the phenomena detected on gender-related issues, where widespread research shows how students know the gender equality discourse but do not know how to apply it to real-life situations in which they have an active role. Moreover, the research shows how ecosocial problems continue to be mainly approached by extracurricular activities, often conducted by school external agents, hence not integrated into

the knowledge students are asked to learn by the official syllabus and with little attention paid to them within the regular classroom context.

The research shows how indeed it was possible to successfully integrate both language learning and meaningful content while activating students' motivation and engagement not only for the cross-curricular content introduced but for EFL subject itself. Results showed how learners increased their level of knowledge and concern after the EP sessions on food consumption and showed clear evidence of significant learning, critical thinking and thinking skills processes being developed through a foreign language school subject and within a language classroom scenario. This evolution could mainly be perceived in their statements on what they had learnt, including relevant new content on food consumption problems and grammar, while being able to reflect, analyse and express their feelings concerning ecosocial matters.

Nevertheless, after the sessions, many learners still could not make an explicit connection between food consumption, social inequities and environmental impact. This fact shows the need to keep working on the development of high-level thinking skills, which would assist them to establish links within problematics with the same origins and thus activating *systemic ecosocial* thinking.

Moreover, the level of commitment and the agency capability associated to remained limited after the sessions, remaining focused on awareness, worry and passive involvement. Students had difficulties when asked to identify solutions for the previously identified problems, whilst showing a lack of the sense of agency capability: most of them pointed out possible solutions as others' responsibility, thus not conceiving or identifying themselves as citizens able to act with others, demand and transform in order to achieve common goals, in order to revert inequitable or environmentally harmful situations. This reality depicted both in the first questionnaire as a diagnostic analysis and in the analysis performed after the sessions reveals and justifies the real need to continue working on the ecosocial problems from an interdisciplinary, cross-curricular perspective which integrates both the syllabus requirements and relevant ecosocial content.

Concerning the possible increase of motivation and engagement for the EFL subject through the implementation of an EP, most of the students showed positive reactions. The CBLT showed a wide potential to engage them in the activities, due to content materials they found significant and interesting. In addition to this, research results show how regarding the methodologies implemented on the sessions students better responded to activities which either engage them from their content, their active participation on the activity or the emotional connection: in the case of the role-play students actively experienced *knowledge*, being able afterwards to debate and extract their own conclusions on the activity; as for the documentary, emotions and the new content discovery seemed to be the clue for triggering significant learning.

In this sense, the use of original and adapted foreign language materials selected by the teacher seemed to be essential. Even in the case of the grammar activity, the fact that the textbook was only used as support and that the theory was inductively extracted from a text with *meaning* (besides its grammatical purpose) predisposed students to a better understanding and integration of grammar as a natural, necessary component for communication.

Didactic implications

From an educative perspective, the research has shown the feasibility of the implementation of the EP in SCE as cross-curricular content in EFL. Even though the issue will clearly need of further theoretical and AR experiences and ideal commitment from the whole education community (as supported by Padilla-Bautista (2015) in her research conclusions), this research evidences how individual teachers can design an EFL-CBLT proposal which both includes a holistic EP and the curriculum compulsory content.

I can conclude the exploratory AR approach was truly enriching, since it proved researching within the classroom environment contributes to teaching reflection-implementation loops in order to adequate school subjects to students and society real learning needs. In addition to this, due to the research's exploratory character it became a

challenging and exciting process, in which as a future teacher I had to deal with the experimental implementation of a state-of-the-art educational perspective.

Research Limits

As many AR experiences within the education arena, many of the research difficulties encountered were connected to the fact it was developed during a brief practicum experience, inserted in a high school routine. Clearly, three teaching sessions were not enough time to work as deep as the content required from an EP and some topics remained uncompleted and vague, which could have contributed to the students' lack of commitment and agency capability development. In addition to this, to be meaningfully implement an inductive learning approach with cross-curricular content in a foreign language subject more working sessions might be needed: I had to improvise and re-adapt the sessions while they took place, acknowledging students needed more time to understand, connect ideas and induct consequences than I first have expected, and we did not have enough time to go through many activities previously planned. For an adequate EP implementation an entire didactic unit could be devoted to food consumption and probably the cross-curricular incorporation of the most relevant EP topics could fulfil an entire academic year syllabus.

Concerning the research method, having students' opinions through interviews for the collection of qualitative data could have been truly valuable for the development of the research. However, due to time constraints and difficulty to access students out of the English lessons interviewing showed to be a complex matter. This explains the design of the third instrument, the writing composition, which allowed me to collect relevant qualitative data by other means during the English lesson. Nevertheless, the development of this last instrument led, as Dörnyei (2007) points out as a common problem for qualitative research, to a great amount of data that slowed the analysis and decoding process. Only a detailed and deep data analysis led to the conclusions presented in this paper.

Future research lines

From a critical pedagogy perspective, *correctness and politeness discourses* need to be transcended in order to promote real transformative learning processes which lead to a meaningful ecosocial change. Future research might work in this direction, analysing how to deconstruct those discourses and set the basis on significant, transformative knowledge. In addition to this, long-Term AR on the EP in the EFL would be needed to establish whether the agency capability can be truly enhanced through CBLT and active methodologies, whilst developing adequate assessment criteria which balances both content and language content from a holistic, comprehensive perspective which considers not only what students learnt, but how they progress was, including the agency capability activation and development.

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8. Annexes

Annexe I: Participants

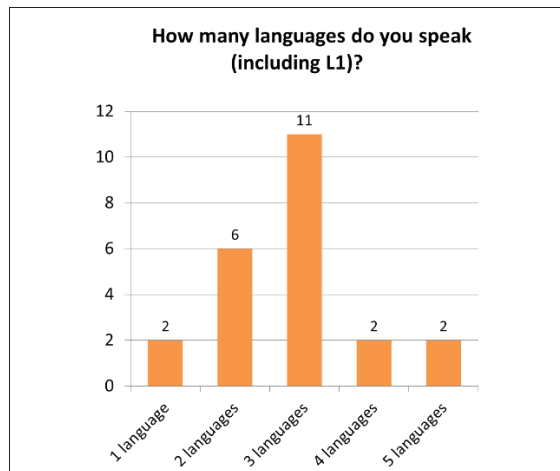


Figure 1

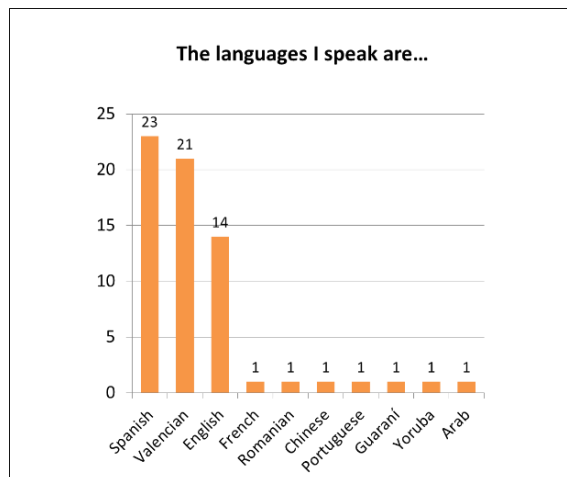


Figure 2

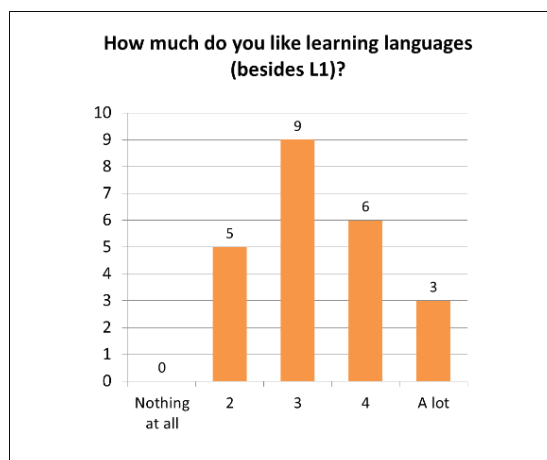


Figure 3

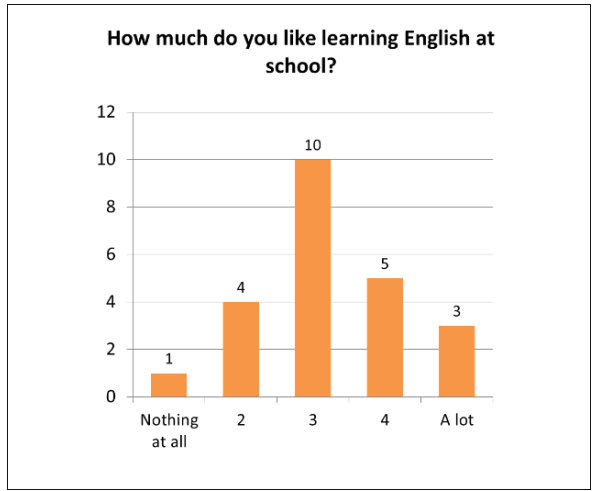


Figure 4

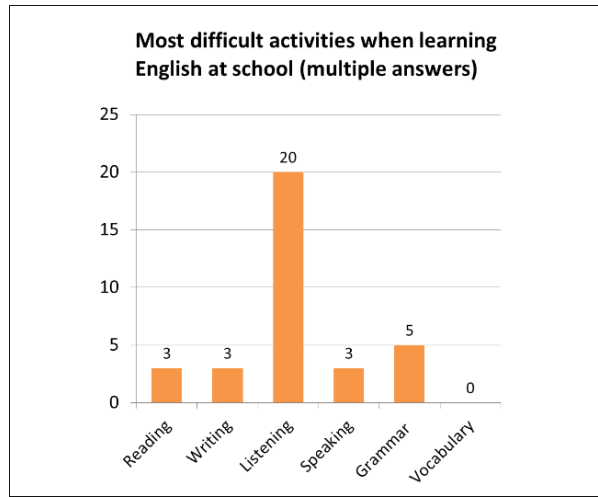


Figure 5



Figure 6

Writing composition students' grades
9
7
6
7
8
7
7
7
5,5
8
7
7
9
6
8
8,5
6
7
7
9

Figure 7, students' writing composition grades

Annexe II: Instruments

I. First Questionnaire

RESEARCH SURVEY ABOUT ENGLISH, ENVIRONMENT AND FOOD CONSUMPTION

3rd ESO – ██████████

March, 7th 2019

The purpose of this confidential survey is to collect data for a research of the Master's Degree in Secondary Education Teaching, English as a Foreign Language, of University of Valencia aiming to innovate and improve language teaching in secondary school.

- The answers collected will not be part of your assessment in the English subject.
- Answer the questions with honesty, since there are not any correct or incorrect answers.
- Please, feel free to ask at any point if you have any doubts about the survey.

Date of birth + First letter name + First letter surname (for example, if my name is Juan López: 2000/09/02 JL): _____ Age: _____

Gender: F M I don't want to answer

QUESTIONS ABOUT ENGLISH

1. How many languages do you speak, including your mother tongue?;

I speak _____ languages My mother tongue is: _____

The languages I speak are (mark only those you consider you do speak):

Spanish Valencian English French Other(s): _____

2. How much do you like learning languages, besides (además de) your mother tongue?
(from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

1 2 3 4 5

3. Be honest, how much do you like learning English at school? (from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

1 2 3 4 5

4. Which are the most difficult activities for you when you are learning English at school?
(please, mark one or multiple answers)

- Speaking activities
- Reading comprehension activities
- Grammar exercises
- Writing activities
- Listening activities
- Vocabulary exercises

5. And which are the activities you enjoy the most when you are learning English at school?
(please, mark one or multiple answers)

- Speaking activities
- Reading comprehension activities
- Grammar exercises
- Writing activities
- Listening activities
- Vocabulary exercises
- Games
- English culture & entertainment

QUESTIONS ABOUT ENVIRONMENT AND SOCIAL ISSUES

6. How much are you concerned (*preocupar, afectar, interesar*) about climate change and environmental issues? (from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

- 1 2 3 4 5

7. How much are you concerned (*preocupar, afectar, interesar*) about social inequity (*desigualdades*) issues? (from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

- 1 2 3 4 5

8. Have you ever studied at primary or secondary school the link (*la relación*) between environmental and social issues?

- Yes No

9. If the answer is yes, when or where did you study it? (please, mark one or multiple answers)

- In school subject(s) (*asignatura*). The subject(s) was/were _____
- In a conference, workshop (*taller*) or similar, *organised* at the school
- In special activities *organised* by the school (visits, trips, World Environment Day, Human Rights Day, etc.)
- Other: _____

QUESTIONS ABOUT FOOD CONSUMPTION

10. Do you know where the adults at home buy food for your daily menus?

- Yes No

11. If the answer is **yes**, where do they buy it? (please, mark one or multiple answers. Remember we are talking only talking about buying food for daily menus, not special days)

- Directly from local farmers or producers
- Corner shops (*tiendas de barrio*), such as the bakery, the grocery, etc.
- Supermarkets
- Take-away (*comida para llevar*) or delivery (*a domicilio*) food
- Other: _____

12. Do you ever check (*comprobar, examinar*) the origins (*la procedencia*) of the food you consume at home?

Yes No

13. Does your family sort (*clasificar*) and recycle the waste (*residuos*) you produce at home?

Yes No

14. If the answer is **yes**, what do you sort and recycle at home? (please, mark one or multiple answers)

- Not recyclable waste (grey bin)
- Paper (blue bin)
- Cans and recyclable plastic (yellow bin)
- Glass (green bin)
- Organic waste, compostable waste (brown bin)
- Electronic waste and oil (*Ecoparc*)

15. Are you familiar with any of the following concepts? If yes, please, try to explain what they are (please, mark one or multiple answers. You can try to explain yourself in English, Spanish, Valencian or a mix of them)

- Fairtrade label (*etiqueta*) _____
- European Ecolabel _____
- Local consumption groups (*grupos de consumo*) _____
- Season vegetables & fruits (*verduras y frutas de temporada*) _____
- The 3 'R's: Reduce, reuse, recycle _____
- Supply chain (*cadena de producción y/o distribución*) _____

Thank you for your time and cooperation in this research!

II. Second Questionnaire

RESEARCH SURVEY ABOUT FOOD CONSUMPTION LESSONS

3rd ESO – [REDACTED]

March, 25th 2019

The purpose of this confidential survey is to collect data for a research of the Master's Degree in Secondary Education Teaching, English as a Foreign Language, of University of Valencia aiming to innovate and improve language teaching in secondary school.

- The answers collected will not be part of your assessment in the English subject.
- Answer the questions with honesty, since there are not any correct or incorrect answers.
- Please, feel free to ask at any point if you have any doubts about the survey.

Date of birth + First letter name + First letter surname (for example, if my name is Juan López: 2000/09/02 JL): _____ Age: _____

Gender: F M I don't want to answer

FOOD COMPSUMTION LESSONS

1. Be honest, how much did you like the three lessons about Food Consumption? (from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

1 2 3 4 5

2. Why did/did not you like them? (You can explain yourself in English, Spanish, Valencian or a mix of them)

3. Which of the activities did you like the most? (please, mark one or multiple answers)

- Supply Chain role-pay (1st day)
- Costa Rican pineapples documentary (2nd day)
- Women working conditions reading (2nd day)
- Defining relatives clauses activity (2nd & 3rd Day)
- Matching consumer alternatives concepts & definitions (3rd Day)

4. What did you like from them? (you can explain yourself in English, Spanish, Valencian or a mix of them)

RESEARCH SURVEY ABOUT FOOD CONSUMPTION LESSONS

3rd ESO – ██████████

March, 25th 2019

5. Which difficulties did you encounter during the lessons? (please, mark one or multiple answers)

- I did not find any difficulties
- I often did not understand the teacher when she was speaking or explaining something
- There was a lot of new vocabulary I could not understand
- I did not see the connection between the activities and they were difficult for me to follow
- I do not understand the purpose of these activities. I would prefer to stick to English grammar and follow the book
- Other. Please, explain it _____

6. As a whole (*en general*), what did you learn during the lessons? (you can explain yourself in English, Spanish, Valencian or a mix of them)

7. After the lessons, are you more concerned (*preocupar, afectar, interesar*) about the link between what we eat and environmental issues?

Yes No

8. After the lessons, are you more concerned (*preocupar, afectar, interesar*) about the link between what we eat and social inequity (*desigualdades*) issues?

Yes No

9. Have the lessons made you think about any link (*relación*) between environmental and social issues related to (*relacionados con*) what we eat?

Yes No

10. If the answer is yes, try to explain which link have you find: (you can explain yourself in English, Spanish, Valencian or a mix of them)

RESEARCH SURVEY ABOUT FOOD CONSUMPTION LESSONS

3rd ESO – ██████████

March, 25th 2019

11. From now on, would you like to learn more about environmental and social inequity issues on the English subject at school?

Yes No

12. How much would you like it? (from 1 to 5, where 1 is "nothing at all" and 5 is "a lot")

1 2 3 4 5

13. After the lessons I will...: (please, answer only if you think you really will do the following things or any other related to the topics we have seen)

- Look for more information about these topics on the internet
- Check (*comprobar, examinar*) the origins (*la procedencia*) of the food we consume at home
- Talk to my family and friends about what is behind the food that we eat
- Investigate more about some of the consumer alternatives we have seen these days
- Other _____

14. Try to explain the meaning of these concepts we have studied on the lessons (please, mark one or multiple answers. You can try to explain yourself in English, Spanish, Valencian or a mix of them)

- Fair trade _____
- Monthly wages _____
- Local consumption groups _____
- Season vegetables & fruits _____
- Zero mile food _____
- Supply chain _____
- Pounds (not the currency) _____

15. Please, write any comment about these lessons, so I can improve them!

Thank you for your time and cooperation in this research!

III. Writing Composition samples

What we eat – where does the food come from?
March 13th

3rd ESO

NAME

LAST ACTIVITY

On the three days we spent together we have seen some of the environmental and social consequences hiding behind the food that we eat.

Write a text explaining the most shocking consequence you have discovered. Explain why it was so shocking, how it made you feel and what ideas you can think about to solve the problem. Try to use some of the vocabulary you learnt these days. Write at least 100 words.

On the three days that we spent together, I have learnt a lot of things, one of them was the contaminated river where there were dead fishes due to highly toxic substances in the water.

This consequence was one of the things ^{that} surprised me.

In the video we watched the consequence of the pineapples production, this causes problems in people's lives and in many places in the world. At ^{that} the moment, I felt shocked, annoyed and upset ^{for} with our environment.

Little by little we are destroying everything: contaminated water, deforestation, toxic waste and litter in every place. All that affects both living things and humans.

One solution is that each person helps to save the planet where we live. This is very difficult, but there is a solution for everything.

NAME _____

LAST ACTIVITY

On the three days we spent together we have seen some of the environmental and social consequences hiding behind the food that we eat.

Write a text explaining the most shocking consequence you have discovered. Explain why it was so shocking, how it made you feel and what ideas you can think about to solve the problem. Try to use some of the vocabulary you learnt these days. Write at least 100 words.

I think that the most shocking consequence ^{is} the dead fishes. The people who live at the lake can't swim at the lake and they can't eat fish because it is contaminated. I feel bad because all these fish could be food for poor people but it is contaminated.

And another shocking thing is that the supermarket generates lots of money with the coffee. They increase the price for 1-3 € and it is a lot of money. If businesses ~~don't~~ ^{would} ~~disappeared~~ ^{stopped} pollution ^{ng} the fishes won't die. _{wouldn't}

What we eat – where does the food come from?
March 13th

3rd ESO

NAME _____

LAST ACTIVITY

On the three days we spent together we have seen some of the environmental and social consequences hiding behind the food that we eat.

Write a text explaining the most shocking consequence you have discovered. Explain why it was so shocking, how it made you feel and what ideas you can think about to solve the problem. Try to use some of the vocabulary you learnt these days. Write at least 100 words.

The Melons in Honduras are grown mainly by women who work on the melon's plantations.

The working day is very long and they aren't paid overtime.

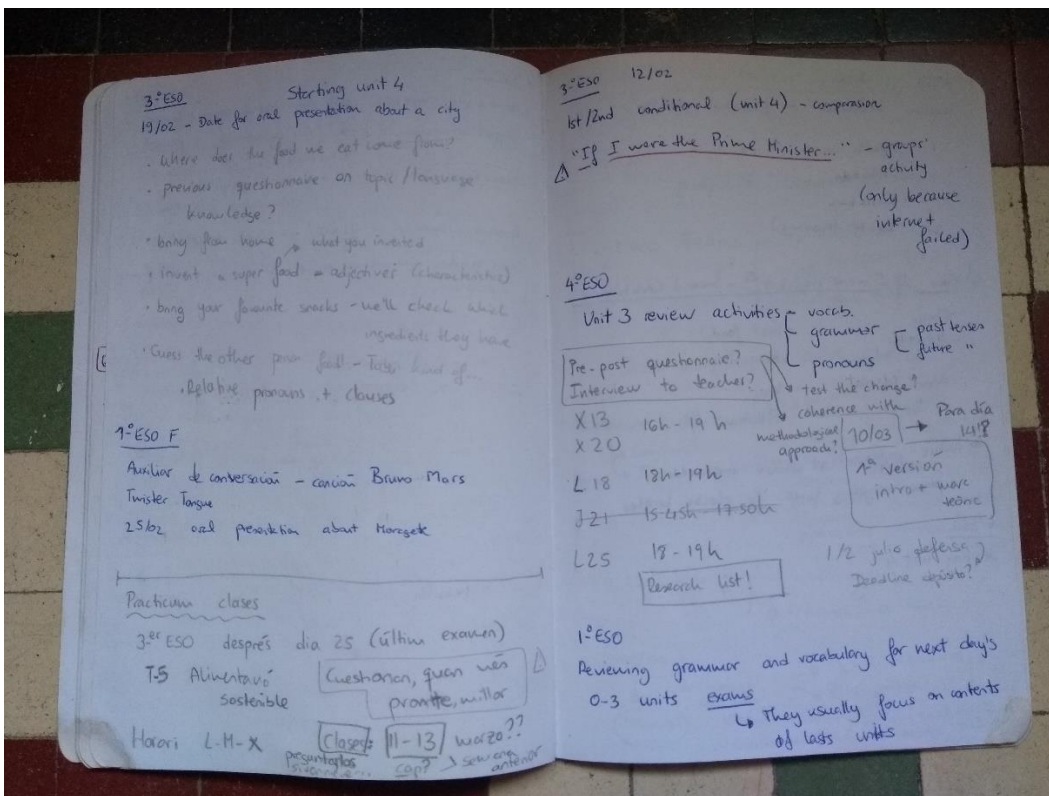
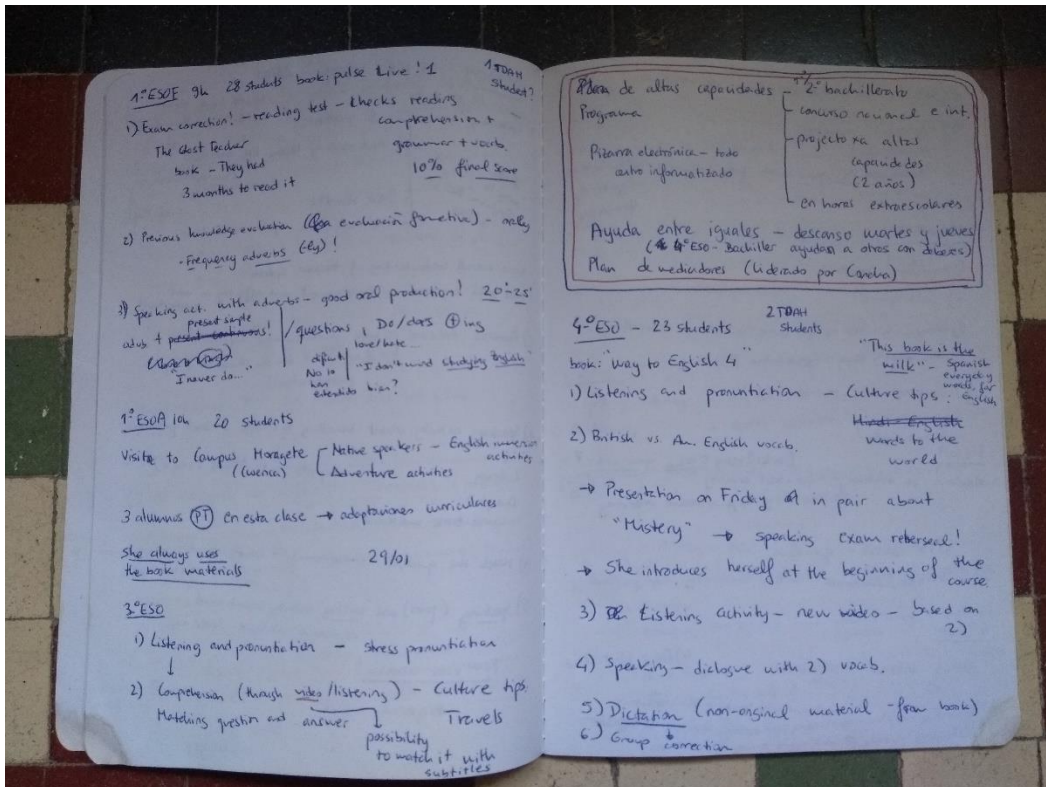
Accidents at work and health problems caused by the use of agrochemicals are common and made worse by the lack of protection.

The medical services are too far to respond in time.

I'm shocked because it's a serious problem as they are over-exploiting people. It's incredible that there are problems like that in the world, I'm very upset.

Some solution would be for the government of the country to worry about and stop these injustices that make the world worse.

IV. Researcher's Journal



Annexe III: Research Schedule

Research schedule			
January 2019	February 2019	March 2019	April-June 2019
Practicum deployment & context observation (January 28 th - March 1 st)			
	Study Design: questionnaires, lessons plan and writing composition (February 18 th - March 24 th)		
	1st questionnaire administered (March 5 th)		
	1st questionnaire data analysis (March 6 th - 10 th)		
	Food consumption lessons (March 11 th - 13 th)		
	Writing composition administered as homework (March 13 th)		
	Writing composition collected (March 20 th , March 25 th)		
	2nd questionnaire administered (March 25 th)		
	Writing composition assessment (March 26 th - 28 th)		
	Data analysis (March 26 th - May)		

Annexe IV: Teaching Sessions. Scripts & activities

1. Session 1 (55'). March 11th: Food Supply Chain Role-Play – Where does the food come from?

- Cross-curricular objectives: understand how the food supply chain works through a role-play with all the significant agents involved. Induce and analyse which agents are the most and less powerful in the food supply chain;
- Linguistic objectives: new vocabulary related to food, the supply chain agents, commerce, international weight and currency measures;
- Basic skills involved: reading, listening and speaking; critical thinking;
- Other curricular knowledge involved: maths and algebra;
- Learning approach: inductive, student-centred;
- Methodology: group work, active, participatory and dynamic, based on a role-playing model;
- Key curricular competences involved: competence in linguistic communication, competence in mathematics, learning to learn competence (be able to induct principles from a role-play example); social and civic competences (be able to discuss with peers and get to agreements on limited time);
- Materials needed: role-play photocopies, blackboard.
- Description of the session dynamic:
 1. Give each student a copy of the Session 1 Factsheet. Read the explanation and the description of the roles together, solving any vocabulary questions. Make sure they understand what a Supply Chain is. (15')

2. Ask a student to read for the rest of the classroom the first paragraph of Activity 1 from the worksheet (Activity 1 – Supply Chain role-play), containing the instructions of the role-play. Make sure every student understands the role-play dynamic and its goal, as explained in the paragraph. (15')
3. Make the groups and distribute a Supply-Chain role from Session 1 Worksheet 2 to each of them. Give them time to read the description of their roles and solve any doubt about vocabulary (5').
4. Ask them to perform their role, step by step of the supply chain. Make them discuss with other groups, trying to obtain what they are assigned to achieve. Act as a referee or game moderator, while writing on the blackboard the agreements they achieved to buy and sell the coffee. (15')
5. Reflect on the results collected on the blackboard, using the questions included in the “Questions for Discussion - Activity 1” on Session 1 Worksheet. (5' - 10')

Session’s didactic materials:

- Session 1 Worksheet (original material, self-elaborated). 1 copy per student:

What we eat – where does the food come from?

3rd ESO March 11th

Activity 1 – Supply Chain role-play

Each group has been assigned a different role from the coffee supply chain. You need to act out your role and get the coffee from the trees to the supermarket shelves. Each group should think about their own role and its interests. Remember that every person involved wants the supply chain to work but they also want to make a profit! It should be noted that the US dollar is the currency used for trading coffee.

Questions for discussion - Activity 1:

- Who do you consider are the most powerful actors within this supply chain? Why?
- Do you think the growers are treated fairly? What about the growers’ workers? How much do you think they earn for their work?
- Do you think the final price paid by the consumers is reasonable, compared to the original price?
- How can the growers protect themselves and ensure they get a better deal?

Activity 2 – Documentary: “Pineapples, fruit at what price”? (The Guardian)

Questions for discussion - Activity 2: Following the documentary, write a list of the consequences the pineapple production is causing in people’s lives and the local environment.

Homework – getting to know the “food miles”

This activity will only take you a few minutes! Think about the food you ate at home this past weekend. If you don’t know the ingredients included ask the adult who prepared the meal (rice, tomato, etc.). Where does the food come from? You can check the packages labels you have at home, since often the origin of the food is included. In case you don’t find it check on Wikipedia for the top five world producers of that product and note them down. Then check how many miles the ingredient travelled to get to your plate. Remember, 1 mile = 1,6 km

FOOD (INGREDIENTS) I ATE DURING THE WEEKEND	WHERE DOES IT COME FROM?	HOW MANY MILES (OR KM, IF YOU PREFER) TRAVELLED?
TOTAL “FOOD MILES”:	MILES/KM	

- Session 1 Worksheet 2 (original material, Nationwide Education UK). 1 copy per student. 1 copy, to be cut and distribute the roles by groups of four or five students.

 **ENERGY AND RECYCLING: Supply Chain** cont'd

Growers/processors 1:

You own a coffee plantation in Ethiopia. It is a family-run plantation and is your only source of income. You employ around 15 workers, whose job it is to tend to the coffee trees and pick the beans once ripe. You also have costly processing machinery at your plantation, which allows you to sort and pack all of the coffee you produce and sell directly to the exporters; however it is not cheap to run. Your workers are all from poor backgrounds and some have very large families to support.

In any one month you can pick and process 2,000 pounds of top quality coffee beans. You are going to a coffee auction with your produce and you need to make sure you get a good price for your coffee, as you have to pay all of your workers as well as make a profit for yourself.

Growers/processors 2:

You own a small coffee plantation in Ethiopia. The staff consist only of you and some extended family members but, between you all, you manage to pick and process around 500 pounds of regular coffee each month.

You are going to a coffee auction with your produce and you need to make sure you get a good price – hopefully 35 - 40 cents per pound.

Exporter:

You run a coffee export business and buy large quantities of coffee. You need to buy 1,500 pounds of high quality coffee and are not willing to pay more than 65 cents per pound. You also need 500 pounds of regular coffee for which you will pay around 30 cents.

Once you buy your coffee, you hope to sell it at auction to the highest bidder. Hopefully you can sell it for 75 - 90 cents per pound for the high quality coffee and 35 cents for the regular coffee.

Manufacturer 1:

You work for a large coffee manufacturer based in the USA. You have been buying coffee from exporters in Ethiopia and need to purchase 1000 pounds of high quality coffee. You are willing to pay no more than 85 cents per pound and once bought will arrange to have the coffee shipped to the USA, where it will be roasted, blended, packaged and sold. You sell the coffee to stores across the world and charge anywhere between \$2 - \$5 per pound.

Manufacturer 2:

You work for a small UK-based coffee manufacturer who has just entered the coffee market. You need to buy 500 pounds of high quality coffee for no more than 90 cents per pound and 500 pounds of regular coffee for no more than 35 cents per pound. Once you buy your coffee you will ship it to your roasting factory in Derby and will roast and package it for sale.

Large supermarket:

You own and run a chain of supermarkets across the UK. You stock and sell different coffee products and want to extend your range to include Ethiopian coffee. You want to buy good quality Ethiopian coffee for around \$3 a pound. You also might buy some regular quality coffee for \$1 - \$1.50 per pound but only if you can be persuaded that this is worth the time and money. You will then sell this coffee for £4 - £6 per packet.

- Session 1 Factsheet (original material, Nationwide Education). 1 copy per student

ENERGY AND RECYCLING: Supply Chain

A supply chain is the process of getting a product (or service) from the supplier to the customer. The supply chain includes all of the component parts that turn raw materials into a finished product.

Supply chains can be simple or complex depending on the different stages (links) involved. For a supply chain to work the relationship between each link must be based on fairness so that good business relationships are formed.

Coffee

The supply chain process involved in coffee is fairly complex and can vary from country to country but typically the chain will include the following:

Coffee growers: These individuals will tend to and grow coffee trees, picking the green beans from the tree once they are ripe (coffee beans do not turn brown until they have been roasted). Growers may also do some of the processing work.

Processors/farmers: These are usually individual farmers or farmers who have joined together to form a co-operative (a jointly owned enterprise in which each farmer has a stake). These processors sort the coffee beans so that they are free from foreign debris and are divided into separate grades ready for sale. Better grades are more expensive to buy.

Dealers: Dealers sell the coffee beans directly to the buyer (coffee manufacturer) at an agreed price, quality and quantity.

Exporters: These people or companies buy the coffee beans from the sellers (i.e. the farmers, co-operatives or government) and sell it to dealers.

Government: In some countries the government will control the coffee exports by buying the green beans from the processors and selling them on.

Manufacturers: These are the coffee manufacturers who take the green coffee beans and turn them into the roasted coffee you purchase in shops. Each manufacturer has a different roasting process to bring out different flavours in the beans. These companies are also responsible for the packaging, marketing and branding of the product, which are all designed to appeal to shoppers.

Distributor (wholesalers or retailers): These are the supermarkets, independent stores and catering outlets that sell the coffee products to consumers.

Consumers/shoppers: The end purchasers of the coffee from the retailers. As consumers it is our responsibility to think carefully about our purchases and also to think about how we use and dispose of them.



Cont'd

- Data for Supply Chain role-play collected (PowerPoint elaborated after students' role-playing and discussion):

Our supply chain price results

Grow. 1	Grow. 2	Exporter	Man. 1	Man. 2	Supermarket
15 workers High quality coffee	Family workers Regular coffee	1500 pounds high quality. Ideal buying price: up to 65 cents per pound. Finally bought for 45 cents	1000 pounds high quality. Ideal buying price: up to 85 cents per pound. Finally bought for 85 cents	500 pounds high quality. Ideal buying price: up to 90 cents per pound. Finally bought for 70 cents	High quality. Ideal buying price: 3 \$ per pound Man. 1: no selling agreement Man 2: finally bought for 2.8 \$ per pound
No ideal selling price	Ideal selling price: 35-40 cents \$ per pound	500 pounds regular. Ideal buying price: up to 20 cents per pound. Finally bought for 33 cents		500 pounds regular. Ideal buying price: up to 35 per pound. Finally bought for 35 cents	Regular. Ideal buying price: 1-1.5 \$ per pound Man 2: finally bought for 1.5 \$ per pound Finally sold for around 5.5 & 7 \$ per pound

**2. Session 2 (55'). March 12th: Environmental impact & Working conditions –
Where does the food come from?**

Costa Rican Pineapples (20') + women working conditions (35')

- Cross-curricular objective: get to know and analyse the social and environmental consequences behind the consumption of cheap food from impoverished countries; reflect on gender-based inequalities.
- Linguistic objectives: new vocabulary acquisition related to food, social inequalities, working conditions and environmental pollution; grammar (introduction to defining relative clauses using the women working conditions text);
- Basic skills involved: reading, listening and speaking; critical thinking;
- Learning approach: inductive, student-centred;
- Methodology: individual and group work, use of audiovisual materials, grammar acquisition through example analysis and induction;
- Key curricular competences involved: competence in linguistic communication, competence in science (use previous basic scientific knowledge to understand the impact of pesticides to the environment), learning to learn competence (be able to induct the relationship between environmental and social issues); social and civic competences (connect with the sense of common welfare; enhancing global citizenship);
- Materials needed: documentary (Youtube), women working conditions text photocopies, student's textbook for grammar support.
- Description of the session dynamic:
 1. Start the session recalling with the students the first session's conclusions about the inequalities we can find within food supply

chains and its most/least powerful actors. Introduce today's session topic: inquire more about the least privileged actors from the chain and other consequences hiding behind the food we eat. (5')

2. Watch the first five minutes of the documentary "Pineapples, luxury fruit at what price?", with automatic subtitles (5')
3. Watch the documentary again, now asking students to write down the consequences the pineapple production is causing in people's lives and the local environment, as indicated in Session 1 Worksheet, Activity 2 (5').
4. Hand in students a copy of Session 2 Worksheet. Read the text "Respect and dignity for women agricultural workers" together, solving any vocabulary questions and asking them for the meaning of particular expressions (10').
5. Briefly introduce students Defining Relative Clauses, either with the textbook's support or explaining in the blackboard (relative pronouns had already been studied in previous sessions) (5').
6. Ask students to individually complete activities 1, 2 and 3 from Session 2 Worksheet. One by one, give them time to complete them and correct them all together. (25')

Session's didactic materials:

- Documentary “Pineapples, luxury fruit at what price”? (Guardian Films & Consumers International):



Screenshot, documentary “Pineapples, Luxury fruit at what price?” on YouTube

- Session 2 Worksheet (text: original material, Bananalink; activities: original material, self-elaborated from the text). 1 copy per student

What we eat – where does the food come from?

3rd ESO

March 12th

Respect and dignity for women agricultural workers

Adapted from: <http://www.bananalink.org.uk/respect-and-dignity-women-agricultural-workers-0>

In Honduras, melons represent 11% of agricultural exports. They are grown mainly by women, who represent two thirds of workers. Human rights violations in the industry are widespread and include insecure contracts, long working days, wages below the national minimum level, discrimination, and almost non-existent access to health services.

Fyffes, one of the biggest multinational companies in the fruit sector and traditionally a banana producer and exporter, has extended its business to include melons and pineapples; these now represent a third of its income. Fyffes is proud to supply the first-class fruit it obtains, whilst respecting the environment and its producers. However, the women who work on the melon plantations which belong to its Honduran subsidiary, Suragro, wonder about the amount of respect they receive.

In August 2011, COSIBAH, a coalition of trade unions, initiated a research into the conditions the workers from 600 households work under in the main production areas.

The research revealed that the women are mainly young single mothers with 4-5 children to provide for. The melons are grown in greenhouses on a seasonal basis, from April to September, and all the women are employed on seasonal contracts. Only men have management contracts, the only opportunity for permanent employment in the sector. With little knowledge of women's rights, the unions are unable to organise themselves to defend them in this kind of insecure work, and business owners actively suppress the right to join a union.

Workers are paid less than 70% of the national minimum wage, which in itself is well below what could be considered a decent wage. The working day is very long – sometimes the women have to wake up at 3 a.m. to get to their place of work and do not get home until between 8 and 10 p.m. – and they are not paid overtime.

The overwhelming majority of women do not have access to effective social security cover. However, accidents at work (particularly those related to the use of machinery) and health problems caused by intensive use of agrochemicals (respiratory diseases, skin problems and sight) are common and made worse by the lack of appropriate protection equipment.

Although access to the national social security system is supposed to be guaranteed, workers often do not pay their contributions, so women are denied access to services, especially health services. Where access to private medical services is an option, the medical services are too far away to respond in time to accidents on the plantations.

Activity 1 – relative pronouns and defining relative clauses

1. How many relative pronouns can you find?
2. How many of them are part of defining relative clauses? Remember, defining relative clauses give essential information about the nouns they refer to: the sentence would not have sense or would be incomplete without them.
3. Make defining relative clauses for the following sentences:

Honduras is a Latin American country. Melons represent 11% of agricultural exports in there (where).

Women work on the melon plantations in Honduras. They are only employed on seasonal contracts (who).

Melons are produced and exported by Fyffes. Melons now represent a third of the company's income (which).

We need to stand up for the women. Their rights are being ignored (whose).

3. Session 3 (55'). March 13th: Matching consumption alternatives concepts and definitions

- Cross-curricular objective: get to know some of the existing consumption alternatives for a more environmentally and socially sustainable planet;
- Linguistic objectives: new vocabulary related to food, ecology and sustainable consumption;
- Basic skills involved: reading, listening and speaking; critical thinking;
- Learning approach: deductive, student-centred;
- Methodology: group work, active, participatory, cooperative and dynamic, matching game;
- Key curricular competences involved: competence in linguistic communication, competence in science (use previous basic scientific knowledge on environment and natural sciences), learning to learn competence (be able to deduct and interconnect principles and ideas from several sources); social and civic competences (be able to discuss and get to agreements on a limited time);
- Materials needed: concepts and definition photocopies.
- Description of the session dynamic:
 1. Start the session recalling with the students the conclusions of the first two sessions about the environmental and social consequences of food consumption. Introduce today's topic: discovering some fairer and more sustainable food consumption alternatives (5').
 2. Make groups and give them some food alternatives concepts and definitions from Session 3 Worksheet. Ask groups to read the ones

they have and make sure they understand their meaning, solving any vocabulary questions. (10')

3. Ask groups to move around the classroom, trying to find the match their concepts and definitions. Moderate the conversations and assist them if necessary (20')
4. Go one by one asking students to give you the answers, solving the correct matches while showing them on the whiteboard and giving some examples or further information on each of the food consumption alternatives. Lastly, give them their assignment (writing composition reflection on the sessions) (20').

Session's didactic materials:

- Session 3 Worksheet (adapted material from Oxfam Intermón (2013)). Cut and distribute concepts and definitions to students' groups:

Match the concept with the definition – some alternatives

SEASONAL AND LOCALLY PRODUCED FOOD

Food consumption is adjusted to seasonal rhythms. It avoids the energy consumption associated with distance, greenhouses and other installations. Summer fruit and vegetables are fresher and lighter and help us to consume more water (tomatoes, cucumbers, melon, etc.), whilst winter and autumn food has higher calorific content and properties which help us to protect ourselves against respiratory infections (antiseptic foods such as garlic).

ZERO-MILE FOOD

Refers to the distance food travels from where it is produced until it reaches our plates and, of course, it is not a literal expression; it means 'as near as possible, local'. This kind of food avoids unnecessary transport over thousands of kilometres, saving a lot of energy, as well as supporting the local farming economy.

CONSUMER COOPERATIVES

Groups of people who form associations for healthy and secure consumption. They order products direct from the producer, avoiding intermediaries and paying a fair price for the product, always using the principles of agroecology and fair trade as a basis. Some consist

of consumers and producers and others only of consumers. In addition to doing this, they usually promote critical, social and environmentally responsible consumption.

AGROECOLOGY

Agricultural concept which combines environmental and social considerations, focusing not only on production but on the sustainability of the production system. It believes factors such as a collapse in market prices or changes in land ownership can have serious consequences for agricultural systems.

FAIR TRADE

This is an alternative form of trade promoted by a number of NGOs, social movements and United Nations to establish a transparent and fair trading relationship between producers and consumers. It acts as a guarantee to consumers that the products they are buying have been processed in decent conditions, without exploitation, with fair wages and which are marketed without intermediaries or distribution chains which impose abusive rules.

In addition, part of the income from sales is usually devoted to supporting and empowering cooperatives and producer groups. They aim to expose the unfairness of the rules which govern commercial transactions and to set out the role citizens should play in this, contributing in this way to the fair development of commerce.

NOT THROWING FOOD AWAY

The food we habitually waste corresponds to between 10-15% of the energy used in food production annually. If we take this into account, we could cover the total annual electricity consumption of 112,600 Spanish households with the energy contained in the waste generated by the inhabitants of the city of Barcelona.

Far from just being individual consumers we are active agents, with a critical and informed attitude, and with the ability to organise ourselves collectively; this is the essential formula to be able to construct alternatives to our current food system, alternatives of cooperation, participation, solidarity and mutual respect leading to a fairer, more respectful and lasting relationship with our food, the people who make it possible and the environment which supports it.

ORGANIC FOOD

Food that is free of pesticides and other chemicals. This is less intensive in its energy consumption than conventional produce. If the food is fresh, locally-produced and seasonal, the energy costs associated with its distribution and maintenance are also reduced and a more humane food system in harmony with the environment is reinforced.

LESS MEAT AND ITS DERIVATIVES

Moderating the consumption of meat is good for our health as well as for the planet. The ecological footprint of meat is much bigger than that of other foods such as cereals. Even though it depends on the production methods and the kind of meat (beef has a largest footprint and chicken the smallest), in general it consumes more

energy and water, needs the largest land area and creates most pollution. To obtain 1 kilo of animal protein, between 3 and 20 kilos of vegetable protein are used. If the cereals used to feed animals which are then converted into meat fillets were used directly as food, it would provide food to many more people. As regards pollution, the livestock sector is responsible for 18% of polluting emissions. The land used to produce food for animals also results in the deforestation or conversion of land from traditional agriculture.

FRESH FOOD AND WITHOUT BAGS

The consumption of processed and ready-prepared food can increase energy costs by up to 30%, as well as containing substances which have little in the way of healthy qualities (preservatives, etc.). Much can be done to reduce the creation of unnecessary residues and the energy costs associated with their management, such as avoiding unnecessary packaging when buying food, especially Porexpan (expanded polystyrene) trays, or buying loose or by weight. Shopping trolleys, textile bags and baskets, etc. are a good alternative to plastic bags.

Packaging can have more than one life if it is reused. If the option exists, the best kinds are those that can be returned (glass bottles and jars which are returned to the shop) to avoid the high cost of manufacturing the packaging and the creation of residues. And if this option does not exist, they can be recycled.

FOOD SOVEREIGNTY

The right of each group of people and every country to ensure a food supply that is sufficient, healthy, and linked to their cultural traditions and local markets.

ECOLOGICAL FOOTPRINT

Represents the area of land needed to provide resources to a person or human group and the surface needed to absorb their waste. The human footprint is too big: the print we leave is at the moment more than a third bigger than the total surface of the planet, but we do not all have the same shoe size: the print left by industrialised countries is four times the size of the impoverished countries and double what would be sustainable. It is very difficult to calculate exactly each person's print, but it can help us to make decisions on our lifestyle: www.footprintnetwork.org/

ECO-FRIENDLY

Something helping, or at least not harming, the environment.

SUSTAINABLE

When something can be constantly maintained, for needs to be met now and in the future.

CONSCIOUS SHOPPING

Also called ethical consumerism. The practice of being aware of the products you are buying and making sure they have been created and distributed ethically.

EQUAL OPPORTUNITIES

The principle of making sure all people have the same opportunity to live, work and reach their potential, regardless of gender, race, religion, origins, etc.

FOOD TRACEABILITY

A system which allows the life cycle of food to be identified at all its stages: production, processing and distribution.

DEGROWTH MOVEMENT

A social movement which states that in order to stop the current environmental destruction and social inequalities is needed to reduce both the production and consumption at a global scale, but mainly by the richer countries. "Degrowth" aim to maximize well-being through non-consumptive means: sharing work with others, consuming less and devoting more time to art, music, family, nature, culture and community.

FOOD WASTE

Refers to food appropriate for human consumption being discarded, whether or not after it is kept beyond its expiry date or left to spoil. Often this is because food has spoiled but it can be for other reasons such as oversupply due to markets, or individual consumer shopping/eating habits.

Annexe V: Quantitative Analysis figures

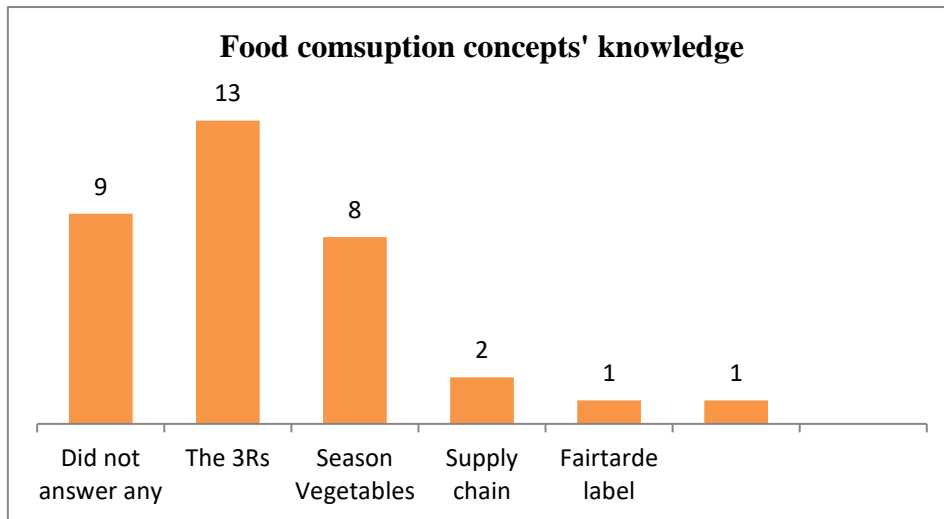


Figure 8

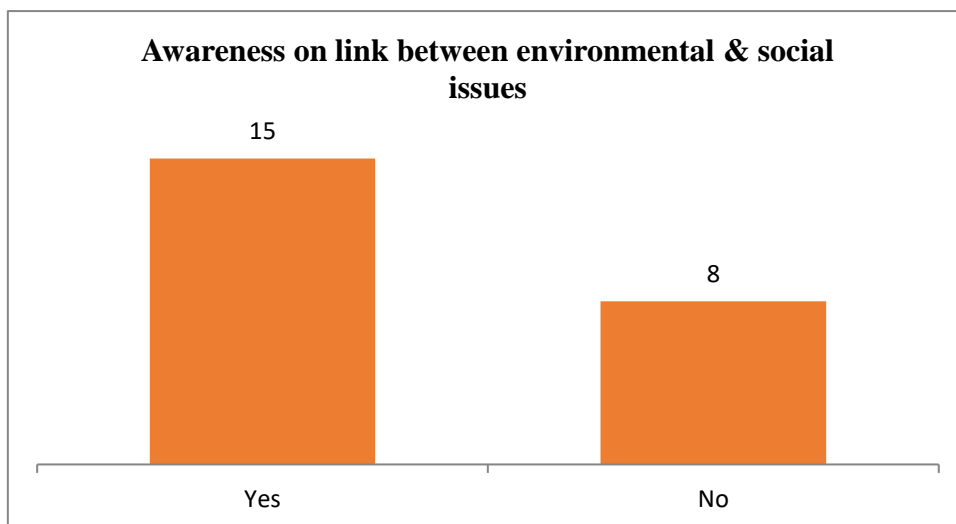


Figure 9

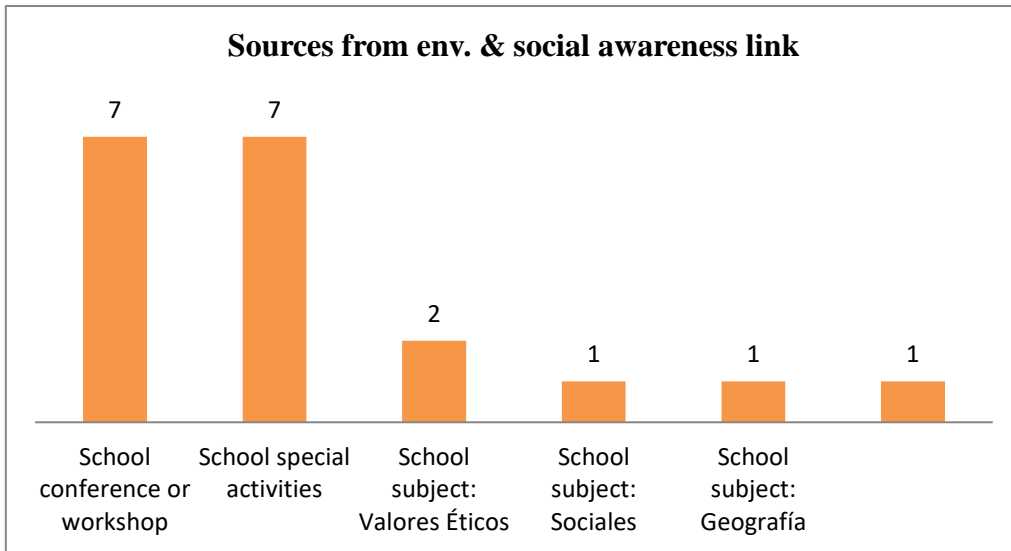


Figure 10

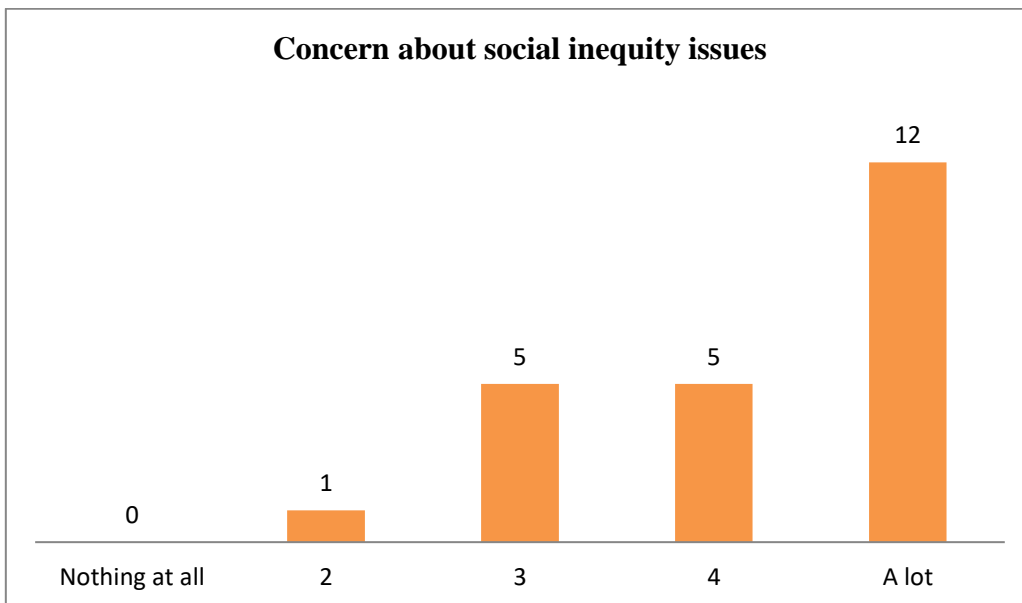


Figure 11

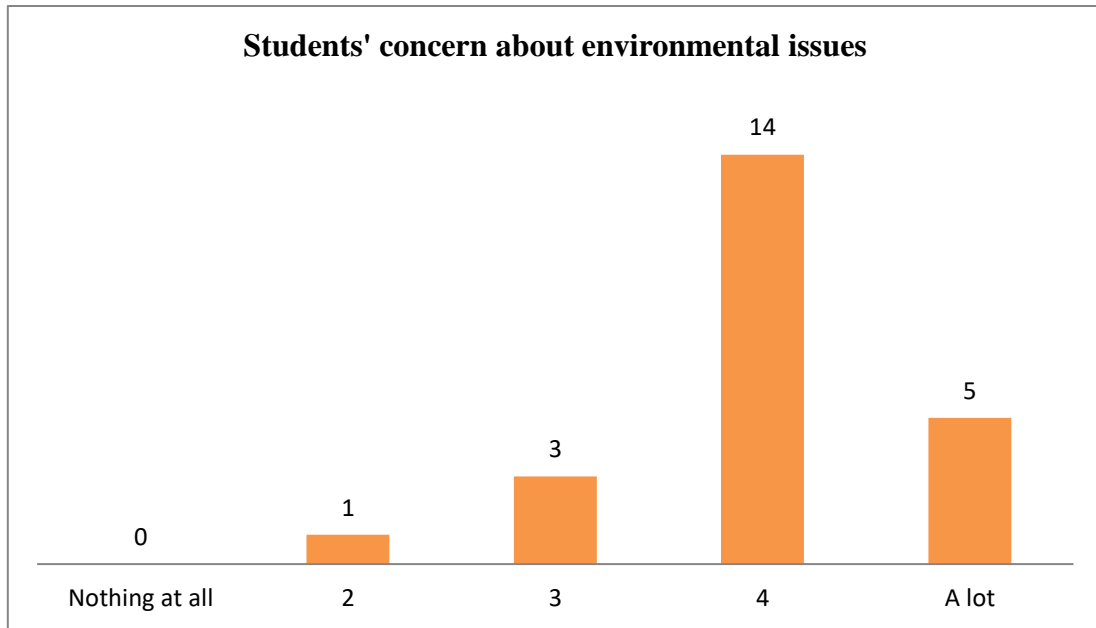


Figure 12

Students' evolution on concepts knowledge

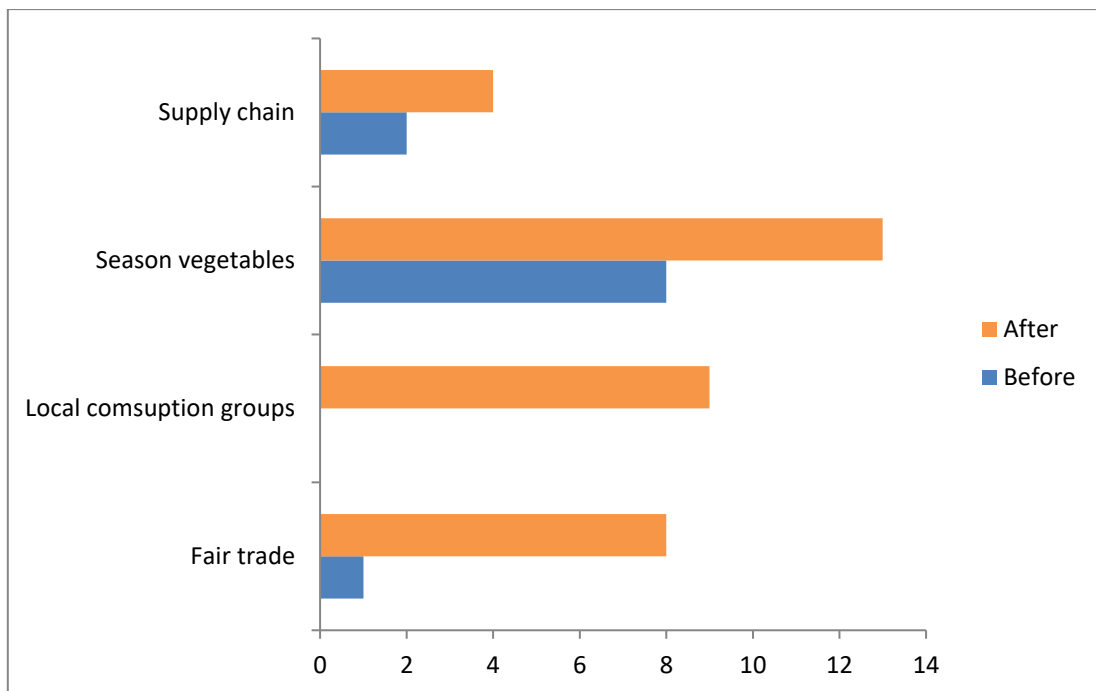


Figure 13

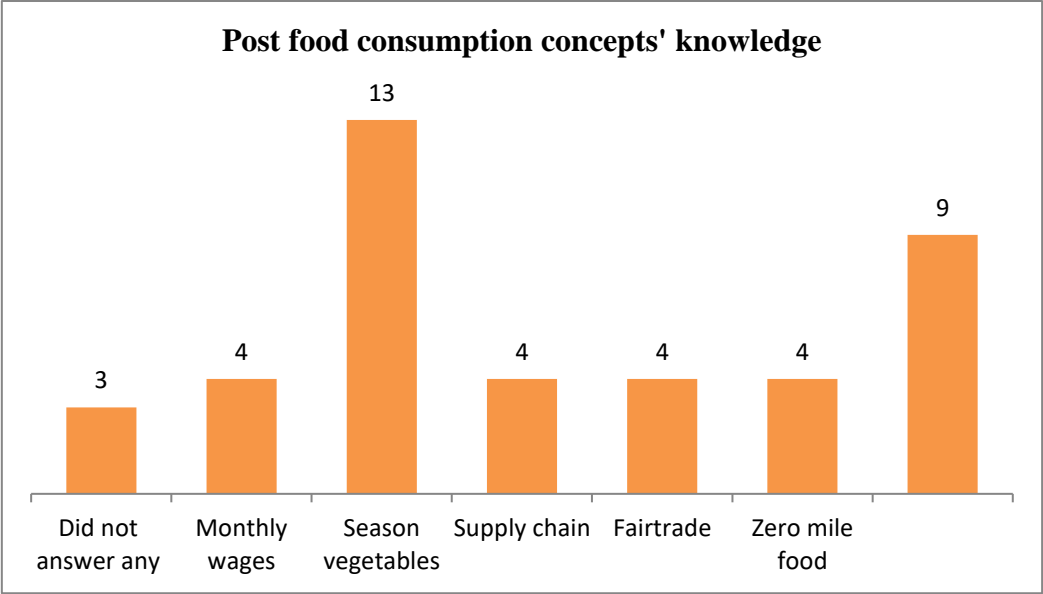


Figure 14

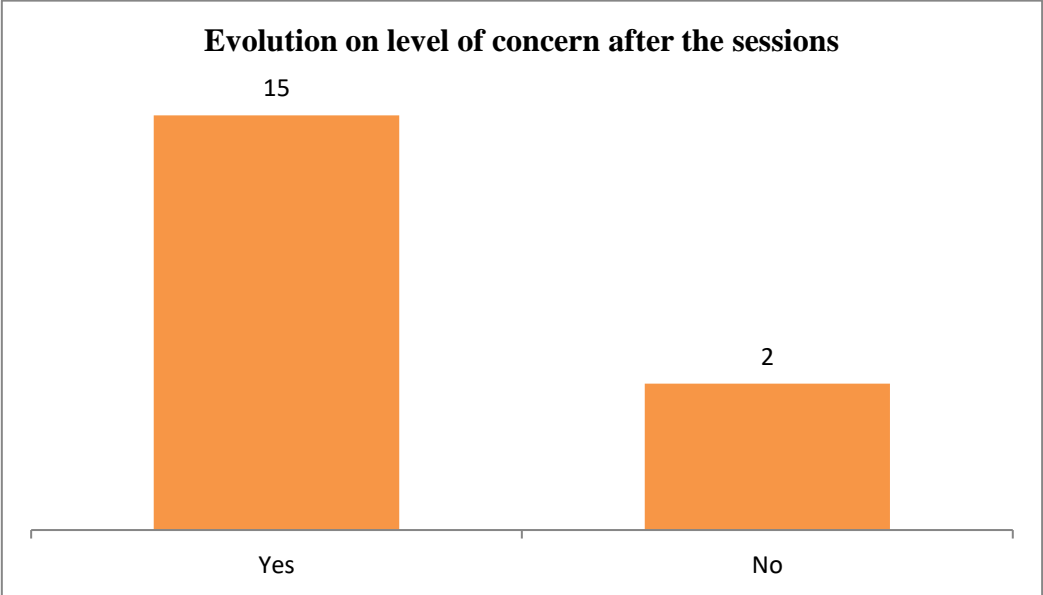


Figure 15

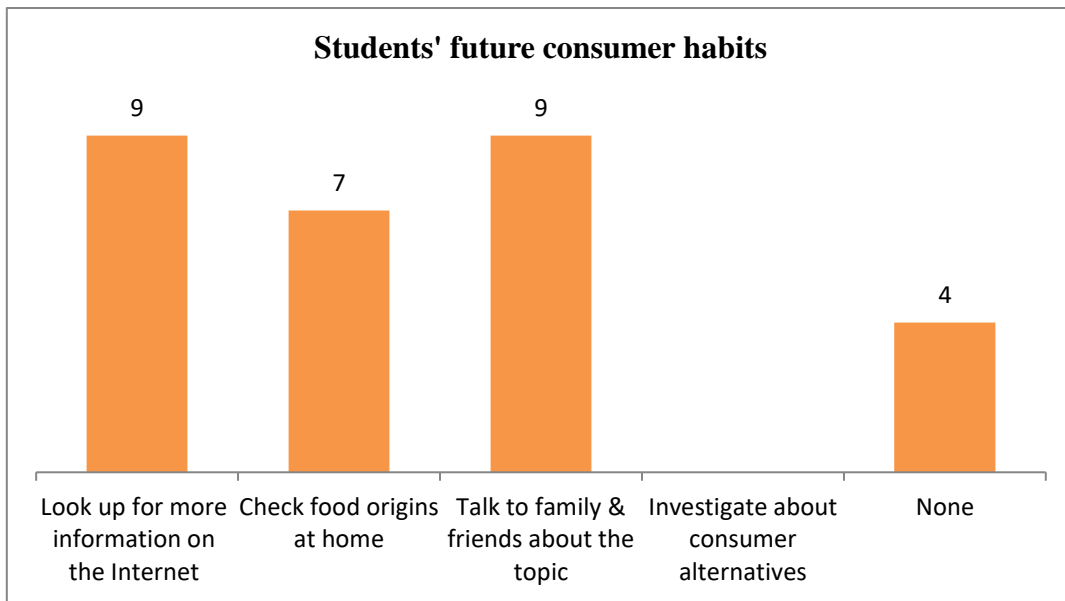


Figure 16



Figure 17

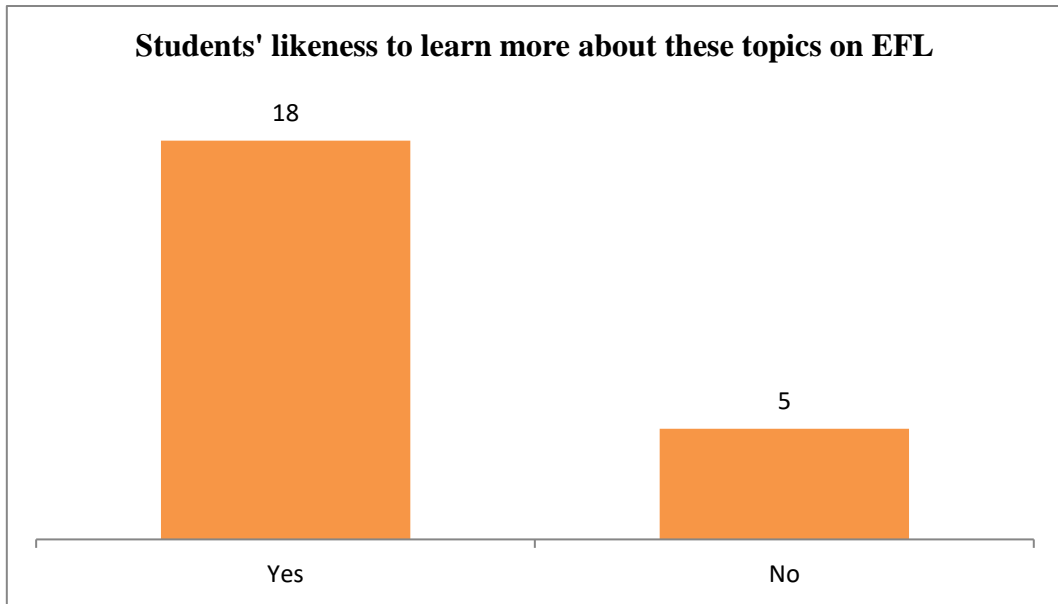


Figure 18

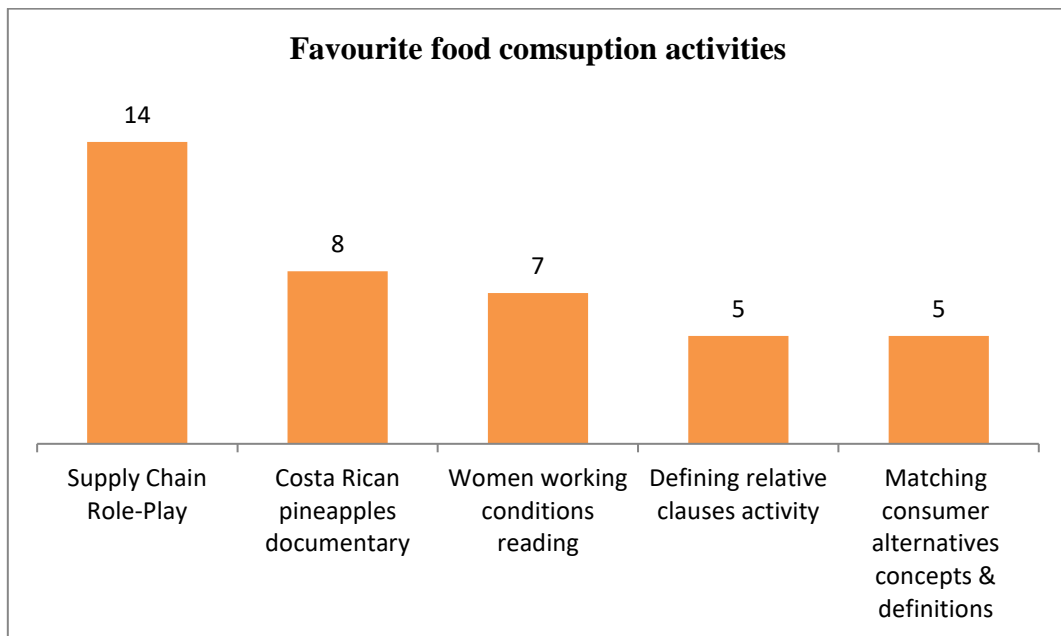


Figure 19

Annexe VI: Qualitative Analysis. Most shocking consequence identified

“The most shocking consequence I have discovered it’s the way people and their families who obtain food for us are living. It is something we never think about and most of us will start doing it now. Some of these people do not have a house where to live, food to eat, they always have environmental disasters and agrochemical accidents around them” (2004-3-15RJ).

“[...] What most caught my attention was the video that she put about the river contamination, [...] how the fishes died, etc. We saw how the industries contaminate the environment and how this affects the fishes”. (2004-11-24JK).

“These three days we learned about the pollution in the world. This problem occurs in poor countries and cities and also in other cities by factories and cars”. (2004-11-14EA)

“Another day we watched a video about pineapples and its price. We learnt that its production is causing terrible consequences in people’s lives and the local environment”. (2004-07-21SA)

“What surprised me the most were the working conditions of people and the little they earned. I was surprised because nobody protested about their salary and their working conditions”. (2004-07-09 MG)

“But one thing that has left me in shock is when we watched in the board a documentary about where the food comes from. [...] many chemicals got to the river and a lot of people couldn’t eat or swim in there. [...] they couldn’t fish in that river.” (2003-10-04DM)

“For me, the most shocking consequence was the contamination of the river in Honduras. [...] they can’t fish because all the fishes are dead or poisoned [...]”. (2004-05-28EV)

“I think that the most shocking consequence is the dead fishes [...]. Another shocking thing is that supermarkets generate lots of money with the coffee. They increase the price for 1-3€ and it is a lot of money”. (2004-11-03SM)

“What shocked me the most were the rivers of Costa Rica filled with pollution by a company that threw the waste there and killed many fishes, animals and vegetation”. (2004-09-23SF)

“[...] the transport and the sale of food [...] farmers change very little for many grains and the supermarket sells it very expensive compared to the farmers”. (2004-09-23SF)

“Melons in Honduras are grown mainly by woman who work on the melon’s plantations. The working day is very long and they aren’t paid overtime. [...] I’m shocked because it’s a serious problem as they are over-exploiting people”. (2004-03-16BL)

“Sadly, there are a lot of evil things behind the food we usually see at the supermarket. One thing that shocked me was the subhuman conditions that growers are suffering because of the contamination. Most of them can’t eat as a consequence of the high pollution of the river’s water”. (2004-03-14DF)

“[...] I realized that the majority of the supermarkets buy some products for a higher price that in fact they cost, even though they never have paid the true cost to the growers”. (2004-03-14DF)

“[...] I didn’t expect that a simple accident could ruin the lives of so many people by polluting the water and killing the animals that those people live from”. (2004-2-19MP)

“I really haven’t been very shocked because I already knew the serious problem we have tacking care of the planet”. (2004-07-19DP)

“I was shocked by all the consequences because when we eat we don’t stop to think the origins of the food and all the things that occur behind, for example, a pineapple”. (2004-12-20MV)

“There are lots of people who work in the production of the food. Those who lost more are the growers. They work hard all the day and they don’t earn enough money to bring to their families. Markets buy products from the growers at a very cheap price and then they sell them for a more expensive one”. (2004-12-20MV)

“Most of the agricultural workers are women. I was shocked by about the hard working conditions: they are paid less than 70% of the national minimum wage, the majority of them don’t have effective social security coverage, the working day is very long and they aren’t paid overtime. They have accidents at work and health problems caused by the use of agrochemicals. Also the agrochemicals destroy the environment”. (2004-5-25 FM)

“[...] I have learnt a lot of things. One of them was the contaminated river where there were dead fishes due to highly toxic substances in the water. This consequence was one of the things that surprised me. [...] we watched the consequence of the pineapples production. This causes problems in people’s lives and in many places in the world”. (2004-05-13SA)

“[...] Little by little we are destroying everything. [...] All that affects both living things and humans”. (2004-05-13SA).

Annexe VII: Qualitative analysis. Students’ feelings about the identified environmental and social inequity issues

“When I discovered all this I felt so bad, shocked, upset, etc. Because it is not fair that those people who obtain food for us to eat and even work hard have to live like that. Meanwhile, we people who enjoy the food don’t even have to move a finger to obtain it”. (2004-3-15RJ)

“I felt sad [...]”. (2004-11-24JK)

“I feel bad for people who live in places where there is pollution. I also feel bad for animals”. (2004-11-14EA)

“I felt sad, disappointed and angry. Sad because I couldn’t think that all the people who worked there were not valued as they deserved to be; disappointed to know that workers didn’t complain. And angry to see the high officials didn’t see that people worked for nothing”. (2004-07-09 MG)

“I feel bad because all these fish could be food for poor people but it is contaminated”. (2004-11-03SM)

“It’s incredible that there are problems like that in the world. I’m very upset”. (2004-03-16BL)

“When I read that I was feeling like an accomplice because I often go to the supermarket to buy all my food”. (2004-03-14DF)

“These facts have made me worry even more about the environment”. (2004-2-19MP)

“[...] That makes me very sad because one day we will end the planet”. (2004-07-19DP)

“At that moment I felt shocked, annoyed and upset for our environment”. (2004-05-13SA)

Annexe VIII: Qualitative analysis. Students' proposed solutions

About women working conditions in Honduras:

“I think the best solution to solve this problem is that their bosses should not abuse them.” (2004-3-15RJ)

“Some solution would be for the government of the country to worry about and stop these injustices that make the world worse.” (2004-03-16BL)

“I think that if the stores reduce the working hours of the growers they will rest more and the production could increase because they are more rested.” (2004-12-20MV)

“To solve these problems we need to elaborate new laws to protect the agricultural workers, like a better salary and social security coverage. Other solutions would be to use natural fertilizers, which don't damage the environment or people and provide protection equipment for the workers. [...] the best solution is the equality between women and men. In this way we can help people and the environment.” (2004-5-25 FM)

About pineapple production (and river contamination) in Costa Rica:

“I think to solve the problem it is necessary to separate a part of the river for the people who need to feed from it and the other for the chemicals that they throw, because everybody knows that it is impossible not to throw chemicals anywhere.” (2003-10-04DM)

“I think one way to solve the problem is to ban the use of agrochemicals or at least ban it in areas near a river.” (2004-05-28EV)

“If businesses stopped polluting fishes wouldn’t die.” (2004-11-03SM)

“[...] I think that the best idea is to report the companies and ban them from throwing it into rivers or anywhere there is vegetation. For example, put the pollution into boxes and bury this or store it in warehouses.” (2004-09-23SF)

“To sum up, I feel that all this unfair things must change. And we can do it if people who are selfish and discriminatory become more generous and kind.” (2004-03-14DF)

“The company responsible for the substances should at least provide those people, who are not responsible for the disaster, with what their products have ruined. In any case, there shouldn’t be polluting products near where people live (or in any place, actually).” (2004-2-19MP)

“One solution is that each person helps to save the planet where we live. This is very difficult, but there is a solution for everything.” (2004-05-13SA)