Integrating Multiple Intelligences into Assessment in our classrooms: An educational proposal using e-portfolios in a secondary Social Sciences classroom / Integrar Inteligencias Múltiples en la Evaluación en nuestras aulas: Una propuesta educativa utilizando e-portafolios en Ciencias Sociales en la ESO

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Resumen

El propósito de este artículo es sugerir el uso de portfolios electrónicos como una alternativa al método de evaluación tradicional y por tanto ser una buena respuesta a la necesidad de combinar inteligencias múltiples y evaluación en el aula con el principal objetivo de responder a los diferentes estilos de aprendizaje y necesidades de nuestros alumnos para fomentar el pensamiento crítico y prepararles para aprender de forma activa, independiente y autorregulada.

Palabras Clave: inteligencias múltiples, evaluación para el aprendizaje, evaluación basada en e-portafolios, evaluación auténtica, metacognición, Renacimiento, Humanismo, 2º ESO.

Abstract

The purpose of this article is to suggest the use of electronic portfolios as one alternative to the traditional assessment method and thus it may be a good answer to the necessity of combining both multiple intelligences and assessment into the classroom with the main aim of addressing our students' different learning profiles and needs in order to foster critical thinking and prepare them to become active, independent and self-regulated learners.

Key words: multiple intelligences, assessment for learning, e-portfolio-based assessment, authentic assessment, metacognition, Renaissance, Humanism, 2º ESO.

1. Introduction

Assessment has been –and still is- one of the main aspects of the constantly changing Spanish educational laws. However, if we are eventually to see assessment as the key for student and school success, we must switch to a new perspective. Annual standardised tests that pretend to increase both student and teacher achievements are also perceived as an intimidating tool for both of them. Besides, these tests are usually just centred on linguistic and logical-mathematical abilities, leaving aside other important skills for success not only in school but also in life. Moreover, and most importantly, they consider and treat students as if they were exactly the same, not taking into account their individual profiles or needs.

These kinds of tests, each of which intend to measure students' intelligences and academic success, do not show in a clear way what our students have learned and what they have understood in the different subject areas.

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Wiggins (1989b) pointed out some time ago that "assessment in education has clearly become such a problem since every state reports above-average scores on norm-referenced achievement tests and since everyone agrees (paradoxically) that such tests should not drive instruction but that their number and influence should nonetheless increase". Even though he was talking about the United States in the eighties, this reality still persists nowadays and has been reinforced since the creation in 2000 of the Programme for International Student Assessment (PISA), a worldwide educational survey developed by the Organisation for Economic Co-operation and Development (OECD), which is modifying the educational laws in many countries that take part in these tests. Spain is actually one of these countries, where standardised tests have increased during the last years and have been reinforced with the new educational law –LOMCE-.

For the same reasons explained by Wiggins in the late eighties, a great deal of research has been conducted over the last decades in the Anglo-Saxon world –mainly the United States- as regards assessment. Unfortunately, there has not been that much investigation in Spain.

Multiple intelligences have been another important focus of research in recent times, also in the United States principally, as a way not only to assess students' intelligence in a broader way but also to engage students with instruction by strengthening their preferred learning styles according to their multiple intelligences.

However, there is not a great deal of research yet about the integration of multiple intelligences into assessment as a way to help students to construct their own learning in a more meaningful way by tracking their own learning process.

This article includes three main parts, and each addresses one research question:

Research Question #1: Is it worth embedding multiple intelligences into assessment?

Research Question #2: If so, how can we do it?

Research Question #3: How might an e-portfolio-based assessment be put into practice in a Social Sciences classroom within the Spanish curriculum? To what extent may it be effective?

2. Methods

The data used to develop this article on theoretical review and good practices has been collected through extensive research and review of the existing literature, eventually leading to a thesis. Some of the sources reviewed in this paper were obtained through the snowballing method by checking the references lists of the existing sources.

3. Is it worth embedding multiple intelligences into assessment? Literature review

3.1. Multiple Intelligences and the holistic approach

Since the publication of Darwin's Theory of Evolution in the second half of the 19th century up to the late 20th century, the idea of intelligence was one of the main focuses of investigation within the field of psychology. Nevertheless, this research was mainly centred on the development of intelligence across different species, as well as its measurement using standardised tests based on linguistic and logical-mathematical aspects.[1]

It was in the late 1970's when Gardner pointed out that schools were also putting the emphasis on these two capacities –linguistic and logical-mathematical- (Gardner, 1979) He started to consider intelligence as a broader concept, including not only cognitive capacities but also different skills or abilities. Hatch (Gardner and Hatch, 1989) pointed out how schools usually do not take into consideration other skills such

[1] As regards these investigations, see Galton (1870), Romanes (1892), Baldwin (1895), Hobhouse (1915), Binet (Binet & Simon, 1916), Terman (1916), Yerkes (Yerkes, Bridges & Hardwick, 1915), Whechsler (1939), Spearman (1927), Thurston (1938), Guilford (1967), Sternberg (1977, 1982,1985)

as the ability to fashion a product -"to write a symphony, execute a painting, stage a play, build up and manage an organisation, carry out an experiment"- simply because "the aforementioned capacities cannot be probed adequately in short-answer tests". From that moment on, the creation of new methods to assess our students' intelligences has been one of the main goals of Gardner's Multiple Intelligences Theory.

In his book *Frames of Mind* (1983), Gardner maintained that there is not just one intelligence but eight different kinds[2] (logical-mathematical, linguistic, visual-spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and naturalistic), and "all normal individuals possess each of these skills to some extent, individuals differ in the degree of skill and in the nature of their combination" (Gardner, 1983 and 1993) Gardner's Multiple Intelligences Theory (hereafter MI Theory) has had a great impact on education around the world over recent decades. According to him, the school objective should be to develop the intelligences and help people reach their vocation (Gardner, 1993).

This idea of the necessity of developing a holistic approach in our classrooms which considers not just the cognitive dimension but also the physical and affective sides of pupils is supported by neuroscientists such as Schuman (1994) who affirms that "brain stem, limbic and frontolimbic areas, which comprise the stimulus appraisal system, emotionally modulate cognition such that, in the brain, emotion and cognition are distinguishable but inseparable. Therefore, from a neural perspective, affect is an integral part of cognition" and Hannaford (1995) when she claims:

> Intelligence, which is too often considered to be merely a matter of analytical ability –measured and valued in I.Q. points-, depends on more of the brain and the body than we generally realize. Physical movement, from earliest infancy and throughout our lives, plays an important role in the creation of nerve cell networks which are actually the essence of learning.

In order to achieve Gardner's ambitious goal of developing intelligences and helping people reach their vocation, schools and teachers should carry out a holistic approach to education, leaving old narrow approaches aside and thus bearing in mind not just the development of learners' cognitive skills but also other capacities. Nowadays it is crucial to carry out student-centred and constructivist learning approaches in order to support this "whole-person" development. In this sense, the major perspective of constructivism is based on learning as a self-directed process where the teacher's role is just a facilitator (knowledge is constructed rather than directly received) (Tobin and Tippins, 1993), and student-centred learning which is grounded in creating multiple experiences for constructing this knowledge by building authentic and complex sociocultural learning environments to facilitate learning (Land and Hannafin, 2000). Indeed, multiple intelligences integrated not only in instruction –understood as daily activities in class- but also into assessment would help to create these multiple experiences as a way of constructing students learning and making it far more meaningful.

3.2. Students diversity and consciousness of their own learning styles

When we think about multiple intelligences, one of the very first things that cross our minds are the different learning profiles our students have. Snyder (2000) points out that "to be successful in educating all of our students, we need to be aware of their individual learning styles and multiple intelligences". As we realise our students learn in many different ways according to the MI Theory, we cannot just offer them different activities integrated into instruction and later assess them using only traditional methods. Instead, if we integrate these activities into an on-going assessment method, our students would achieve greater success.

[2] At first he talked about seven, adding, years later, an eighth one –naturalistic-. Nowadays the theory is still under revision and consideration is being given to adding new sorts of intelligences, such as "existential", which would be the ninth one.

Therefore, a great deal of new thinking and research has been done in this field lately, focusing mainly on the idea of establishing "differentiated classrooms". As reported by Heacox (2012), "differentiated instruction enhances learning for all students by engaging them in activities that better respond to their particular learning needs, strengths, and preferences", whereas authors such as Hattie and Tomlinson (Hattie, 2012 and Tomlinson, 2014) go further, claiming that it has to do more with addressing learners' different phases of learning rather than providing them with different activities.

As I see it, we must combine both ideas to get the most out of our students' learning. If we use multiple intelligences integrated in both instruction and assessment we would help our students, who learn in very different ways, to reach the same level of understanding but using diverse techniques. When we take into account where they are in their process of learning, what the learning targets are and how to close the gap, learning and understanding would emerge meaningfully.

Thus, metacognition is the key to helping our students to be aware of their own learning styles. Metacognition, or "thinking about one's own thinking", helps us to know how to learn, what we have learned and how to direct our own future learning. There are two aspects of metacognition: 1) reflection on cognition –thinking about *what* we know; and 2) self-regulation of cognition –managing *how* we go about learning-, thus helping us to acquire specific learning strategies (Darling-Hammond, Austin, Cheung and Martin, 2003)

If we include metacognition, our pupils would be aware of their own learning styles and, as a result, of their growth through the learning process. Investigations within the field of cognitive psychology applied to education have reinforced the importance of making our students reflect upon their own learning process (Marzano et al., 1988; Reid, 1999). Reid (Ibid.) noted how important the students' awareness of their own learning styles is: "higher interest and motivation in the learning process, increased student responsibility for their own learning, and greater classroom community. These are affective changes, and the changes have resulted in more effective learning".

Unlike other intelligence theories, MI Theory offers an important advance in this sense: it is a theory we can teach our students in a simple manner so that they can benefit as they become aware of their own learning styles. Armstrong (2000) gives us an example about how to explain MI to our students –even primary students- using a "MI pizza" (a circle divided into eight slices) drawn on a blackboard and student-friendly pictures and vocabulary such as word smart, logic smart, picture smart, body smart, music smart, people smart, self-smart and nature smart.

To sum up, when we address our students' different learning styles embedding multiple intelligences into assessment and pupils reflecting on their own learning process, learning becomes more effective.

4. If so, how can we do it?

4.1. A step forward from Assessment *of* learning to Assessment *for* learning

When it comes to assessment, very little has changed in our classrooms over the last decades: assessment is still perceived by students as an intimidating tool used by teachers to judge and grade them as a final step on their learning process. On the contrary, many authors have pointed out lately the importance of assessment understood as an instrument to enhance students' motivation and, thus, achievement, rather than simply to measure them (Shepard, 2000; Stiggins, 1992 and 2001; Crooks, 2001; Chappuis and Stiggins, 2002; Assessment Reform Group, 1999)

This kind of assessment, known as "assessment for learning" –and also formative assessment- takes place during the learning process rather than after it with the main purpose of increasing students' learning. Besides, to make it more meaningful, it is necessary to provide our

students with accurate, descriptive and immediate feedback, focusing on their accomplishment rather than mistakes so their confidence and motivation are boosted. Assessment is then perceived more like teaching than judging and, as a consequence, students' motivation increases (Stiggins, 1999 and 2001; Davies, 2000; Black and Wiliam, 1998; Assessment Reform Group, 2002; Dweck, 2003)

So as to achieve these ambitious aims, teachers need to know students' prior knowledge before starting a unit; set clear goals and explain them to the students using student-friendly language; differentiate instruction offering higher support to those students who need it; revise on a day-to-day basis their teaching practices, always keeping an eye on results; give accurate, effective and immediate feedback to students, highlighting their strengths and the aspects they need to improve; enable peer tutoring between students who master understanding with those who do not; and last but not least, involve students on their own learning process (Chappuis and Stiggins, 2002; Stiggins, Arter, Chappuis, and Chappuis, 2004)

In this sense, self and peer assessment emerge as really useful tools to get students involved in assessment and increase their own learning awareness. To do so, students should assess both high and low quality actual work samples and develop, together with their teacher, an assessment rubric. In the same way, they can revise anonymous work samples to point out their strengths and areas for improvement. According to Sadler (1989), students need first to know where they have to go –in this case by the establishment of clear goals using these sample pieces of work-, where they are, and then how to close that gap.

These kinds of activities, far from being a waste of time, help the students to reflect upon what high-standard work looks like, what they need to do to get there and, thus, grow in their own learning process.

Assessment for learning also prepares our students in a better way for a summative assessment understood as assessment of learning: many studies at different levels prove the high impact of assessment for learning as regards students' achievement in standardised tests in the United States (Bloom, 1984; Black and Wiliam, 1998; Meisels, Atkins-Burnett, Xue, Bickel and Hon, 2003; Rodriguez, 2004) As stated by Chappuis and Stiggins (2004), "in the case of assessment for learning, assessment becomes not only the measurer of impact, but also the innovation that causes change in student achievement".

5. How might be an e-portfolio-based assessment put into practice in a Social Sciences classroom within the Spanish curriculum? To what extent may it be effective?

5.1. Embedding Multiple Intelligences into Assessment for the 21st Century

MI Theory offers us a new way of understanding our students' potential as being something than can be taught, enhanced and thus, learned rather than something static established at birth. As a multidimensional phenomenon, it should not be understood as just cognition anymore but also as a balance together with body, mind and feelings. For these reasons, it requires not only a new way of instruction but also different assessment methods. This is not criticising tests; I just think that they show us a small part of the whole story. If, according to many educational experts from all around the world, we agreed that there are not standard students but students who are different from each other and therefore with different learning styles, then we might come to the conclusion that these students should not be assessed in just one way.

Following the same path previously mentioned, where we should go a step forward from assessment of learning to assessment for learning, we also have to move on into an authentic assessment.

Wiggins (1989a) defines authentic assessment as the assessment that the students carry out when they perform a task after they have mastered certain concepts of a specific subject or

discipline. Gardner (1993) adds that it must take place in context. Stefonex (1991) summarized some educational experts' ideas, pointing out some of the following features: it includes performance tasks that demonstrate different students' abilities; it is focused on inquiry so the students can construct their own knowledge, putting the accent on thinking skills; tasks have to be both challenging and meaningful; there is a more positive interaction between the teacher or assessor and the students or the assesses.

Besides, and following some of Lazear's "intelligence-based assessment guidelines" (2004), we should add a multiple intelligences-based assessment whose focus is not only on cognition itself but also on mind, body and feelings to develop the whole child.[3]

As reported by Gardner (1983, 1993), the most important element to develop authentic assessment is observation by spotting the students manipulating each intelligence symbols. Armstrong (2000) adds another important aspect: documentation of what has been produced by the student. Here is where portfolios emerge as an important tool for a multiple-intelligences assessment, as we will see further on.

Following these guidelines, some projects in different parts of the United States developed assessment models corresponding to MI Theory, most of them directed by Howard Gardner and his colleagues from Project Zero at Harvard Graduate School of Education. Some of the best well known are Project Spectrum, Key Learning Community, PIFS (Practical Intelligence for School), APPLE Project (Assessing Projects and Portfolios for Learning) and Arts PROPEL.[4]

5.2. Electronic-Portfolio-based assessment

An electronic portfolio or e-portfolio may be defined as a digital collection of work or evidence gathered together to demonstrate and thus measure students' learning process and human development over time (Butler, 2006; Barret, 2000; Challis, 2005; Abrami and Barret, 2005) They can store a great deal of different written, visual and auditory content such as writing samples, pictures, videos, audios, research projects, goal-setting, observations and comments from teachers or peers, as well as self-reflections on their own work. In fact, reflection is one of the key elements of portfolios, based on metacognition, and hence with the aim of increasing their own learning awareness. Kimball (2005) points out that "neither collection nor selection [of evidence to be included into a portfolio] are worthwhile learning tasks without a basis in reflection. Reflection undergirds the entire pedagogy of portfolios".

E-Portfolios are also based on constructivism, where the students do not just collect their final products but also the process of doing so, where the process is thus being scaffolded. As a matter of fact, it is this process of building up a portfolio, rather than the final result, where actual learning takes place[5]. As it offers the constant possibility of giving feedback to the student before the final product has been made, it emerges as an essential tool not only for summative assessment but also for formative assessment. Besides, the students are able to correct and therefore improve their own work. As students receive immediate and effective feedback, they "gain confidence by acknowledgments of their strengths, and gain insight into how to improve. And teachers' professional skills in direct observation and

[3] See Lazear (2004) for some examples of "intelligence-based assessment guidelines" on different subject areas.

[4] For more information about these projects, see Gardner (1993), Armstrong (2000) and Project Zero website (http://www.pz.gse.harvard.edu/index.php) Project Zero is currently developing some projects in and out of the United States, however they are not specifically linked to assessment.

[5] This is what Gardner (1991) calls "process-folios". However, it should be noted that when talking about e-Portfolios in the present article they are understood in this broader sense including not just the final product but also the different phases through which the students go when creating them.

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evaluation are emphasized in a way that is missing from test-driven curricula" (Grady, 1992).

Armstrong (2000) includes five main elements as important parts of portfolios as useful tools for assessment in a MI framework: Celebration of the students' achievements, Cognition understood as students' reflection on their own work, Communication with the whole school community, Cooperation among peers and Competence by comparing students' work with some standards of reference as well as other students' works.

Many schools in the United States and Canada have implemented e-Portfolios lately as recommended by their departments of education, pointing out some of the following benefits:

- Students take responsibility for their own learning, increasing their motivation as they demonstrate their effort and not just the final product;
- They create a structure that allows personalised and individualised learning;
- Students get involved in their own learning process through reflection on their strengths, weaknesses, goals and needs, enhancing their skills to self-assess their own work and thus understanding better themselves;
- They promote feedback and collaboration between teacher and students but also among peers, as well as parents in their children learning process;
- They show students' skills and competencies by tracking their performance over time.

(Ministère de l'Education du Québec, 2000; U.S. Department of Education, 2010)

For all these reasons, we can consider an e-Portfolio an effective tool for individualised learning that shows us –and also pupils themselves- student learning growth, and they are, therefore, an extremely personalised approach to assessment aligned with MI Theory.

5.3. Didactic proposal: Renaissance and Humanism in a 2º ESO classroom

Now I will approach a more practical connection to an authentic and multiple intelligences-based assessment in the framework of assessment for learning in a 2º ESO classroom. Conforming to the MI Theory, we have to offer our students what Armstrong (2000) calls different assessment experiences that allow them different ways of presenting and expressing the information.

The unit plan here proposed would be part of a whole academic year programme developed following the same methodology –this being MI Theory already explained to the students at the beginning- so that the results could be seen after a long period of time that may probably be longer than a course. However, some outcomes such as motivation might emerge sooner. The didactic unit has its focus on the Renaissance and Humanism in a 2º ESO classroom developed by means of an e-portfolio that could be carried out using several tools such as Microsoft Word, a blog or a wiki.[6] Any of them might be suitable, Word being the easiest one to use and organise, however blogs or wikis are more appropriate for receiving feedback because they allow not just teacher-student interaction but also among students, thus fostering peer-assessment.

As part of the unit, and reflection being one of the keys of portfolios so as to enhance metacognition, the students would have to complete a Reflective Journal in three different phases: before, during and after the unit.[7] These kinds of reflective journals would help students to know themselves better as learners and therefore grow in their learning process. Besides, they are useful tools for teachers in order to get to know students better and adapt instruction to their different learning profiles and needs.

The e-portfolio developed for the unit is understood to be a process-folio where the students would be able to include not just their final work but also the process they go through, ranging from initial brainstorming to problems they might face or different ideas they want to express. Students would also be asked to give feedback to their classmates' portfolios either during classes or by writing comments on their portfolios.

As regards assessment, both formative –or assessment for learning- and summative assessment –or assessment of learning- would be balanced. A rubric for assessment would be created by teacher and students all together by analysing strong and weak work samples either from previous groups of students or teacher made in the case of it being the first year of development.

Following backward-planning, the first step would be the creation of learning-targets in student-friendly language so the teacher can plan the unit bearing in mind what he or she is expecting from the students -what are main concepts that need to be understood and the important skills to develop- and also students would know what is expected from them. The main learning targets, presented to the students in this way, would be the following:

- Understand and explain in an organised way the main ideas of Humanism by means of a written essay.
- Show the mastery of concepts related to Renaissance art such as canon, perspective, proportion, harmony, balance and ideal beauty through the creation and explanation of a work of art.
- Synthesise the main concepts of the Renaissance and Humanism in a mind map to better organise your own ideas and summarise the most important concepts.

Session 1

The unit would start with an initial assessment brainstorming where the teacher projects some pictures representing Renaissance works of art, Gutenberg's printing press, Da Vinci's "Vitruvian man", etc. The students would comment orally what they know about the topic and should be asked what they expect of the unit and what they want to learn.

[6] The unit plan is presented in a nutshell and in a very flexible way: as it could be applied to different groups of students and schools, it just specifies the learning targets (so the objectives are implicit) and the methodology. See a chart summarising the main characteristics of the unit in Annex 1.

[7] See Reflective Journal template in Annex 2.

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Even though the teacher would have the unit planned, it should be done in a flexible way, leaving some space for any aspect related to the topic that might arise from the students' interests. When we give choices to our students we foster their interpersonal intelligence, and as they feel we value their ideas, their motivation and self-esteem increase. As not every student participates in the same way in class, they would be asked to reflect in the portfolio on every activity done in the lesson. They would have to include the following entries:

1. What I/we did (in the case of an explanation or activity developed in class).
2. The activity itself (in the case of a task they have to develop either by themselves or with their classmates).
3. What I learned.

After the session, the students would have to complete task 1, where they would be asked to reflect on the initial brainstorming and summarise their previous ideas about the topic.

During this lesson, the students would develop mainly their linguistic intelligence –they communicate orally with their classmates expressing their ideas in an organised way and summarise them in a written way-, the visual-spatial –they use pictures as a visual support that would help them to make connections- and the intrapersonal –they reflect on what they have done and how it has helped them to learn-.[8]

Sessions 2 and 3

The second and third lessons would have their main focus on Humanism.

The teacher would give some text to the students about some of the main Spanish and European humanists such as Thomas More, Erasmus or Luis Vives. Together with the texts, the teacher would project a picture of the author located on his corresponding country, helping the students to better recognise them and see the main countries where Humanism took place –it is linked to the visual-spatial intelligence-. The teacher would read the texts aloud, asking them some questions that may help the students reflect on the main ideas of the author using to do so a Think-Pair-Share strategy (TPS), a cooperative learning strategy in which students work together in pairs in order to solve a problem or, as in this case, to answer a question about an assigned reading. First, the students read the text and then they are given a couple of minutes to think about the question. Then, they share their ideas with their peers. This strategy might help students to focus on the reading, thinking individually and then, while they share their ideas with their peers, they enhance their oral communication skills –and thus their linguistic and intrapersonal intelligences-. With the teacher's help, the students would eventually understand the concept of Humanism as well as some of its main figures and characteristics.

As a support for the explanation about the transition from theocentrism to anthropocentrism, Gregorian chants and Renaissance music would be played. The students would be asked to close their eyes and visualise what the music transmits to them, think about how they feel and try to identify and justify each musical style with the two different periods and ideas, fostering then musical, visual spatial and intrapersonal intelligences. In a similar way, some pictures and a map of Europe together with some statistics about the European output of manuscripts and printed books from the 6th to the 18th centuries would be useful for the students to understand the importance of the printing press. This activity may develop mainly their visual-spatial and logical mathematical intelligences. After these lessons, the students would have to complete their second task where they would be asked to explain what Humanism means to them.

[8] As part of the reflective component of the unit as regards the portfolio, the intrapersonal intelligence would be a constant. Thus, unless it is worked in a different way, I will not explain it again in every session. The same thing applies to the linguistic intelligence as writing skills are an important part of the portfolio.

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Session 4

The fourth session would have its main emphasis on court customs during the Renaissance so the students would understand how people lived in the European Renaissance courts as well as the multiplicity of areas of study.

To do so, three videos would be played. While playing the first video, "La música en el Renacimiento"[9], the teacher would invite the students to close their eyes and visualise how they imagine life during the Renaissance, representing their ideas with words and pictures or sketches. While watching the second video, "How to dance through time: the majesty of Renaissance dance", the students would imitate the Renaissance dances. Finally, the third video, "Renaissance man", represents in a fun way how Renaissance men and women were focusing mainly on court life and the multiplicity of areas of specialization of some of the Renaissance best figures. In order to support this idea, the teacher would also use a plant as an example to illustrate the different branches of study developed during the Renaissance.

After the session, the students would have to include three activities in the portfolio. In the first one, they would have to explain what they have done in class as well as what they have learned, including also pictures or videos. In the second task the students would have to put themselves in the shoes of a Renaissance man or woman and, from this imaginary point of view, write about how their daily life would be. To do so, they should do some research and they could choose to be a scientist, a king or queen, a farmer, etc. For the last activity, the students would write an entry talking about what they consider more suitable in our 21st century society, either to study many areas such a Renaissance man or to specialise just in one.

With these activities, linguistic, visual-spatial, musical, bodily-kinesthetic, intrapersonal and naturalistic intelligences would be heightened.

Sessions 5 and 6

These sessions would have their main stress on some concepts linked to Renaissance art, such as the human body, canon, ideal beauty, perspective, proportion, harmony and balance.

The fifth lesson would put the accent on the concepts of the human body, canon and ideal beauty in the Renaissance art. By means of Da Vinci's "Vitruvian Man", the students, in pairs, would test on themselves whether they match Renaissance canon or not in order to understand the concept. The students would then visualise several works of art to identify the canon and ideal beauty in the Renaissance.

After that, in groups, the students would have to search on the internet for some current advertisement, choosing one with a man as the protagonist and another one with a woman, to check whether the canons of beauty still persist or if they have changed, generating a debate in the classroom.

Through these activities the students may develop a wide range of intelligences such as linguistic –mainly through the debate-, logical-mathematical –measuring their bodies and thus using proportion and fractions-, visual-spatial –observing the canons on themselves and in photographs-, body-kinaesthetic –movement is an important component in the first activity- and intrapersonal –they work in groups with different tasks.

Once finished, the students have to answer a question as part of the task 4: "Does the Renaissance canon of beauty still persist nowadays or has it changed?". They would have to justify their answer and could include pictures or sketches and even their own concept of ideal beauty.

[9] The links of the videos are included in Annex 1.

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In the sixth session, the students would be asked to draw the classroom including some objects previously placed by the teacher to infer the concept of perspective. Then, the students would visualise both gothic and Renaissance photographs to understand the concepts of proportion, harmony and balance.

Later on, they would be asked to research and choose two pictures of Renaissance buildings and two paintings to illustrate and explain the ideas of perspective, proportion, harmony and balance in their own words. All these activities would enhance their visual-spatial and intrapersonal intelligences.

Summative assessment tasks

For the summative assessment, the students would be asked to do three performance tasks.

The first summative task would focus on Humanism, with the students being asked to do some research and write an essay about Humanism answering the following question: "To what extent did humanists change the conception of the world? Do you think they established a new relation with nature somehow?" This activity would let the students show their ability not just to research and select information but also to express it in an organised way and, as it includes some critical thinking skills, would develop not just the linguistic but also the logical-mathematical intelligence. Moreover, the fact of including some research about the way the scientists established a new relationship with nature would also enhance their naturalistic intelligence.

Through the second activity, where the students would have to create their own Renaissance work of art in groups and then record a video with the making-of and an explanation of its main features as well as how concepts such as perspective, classicism, harmony, etc. are represented, the students would demonstrate mastery of the most important concepts of Renaissance art. Thus, their linguistic intelligence would be enhanced by explaining orally and oral way the aspects demanded; the creation of a work of art with their own hands keeping an eye on concepts such as proportion and harmony would not just develop their visual-spatial but also their bodily-kinesthetic intelligence; and eventually, working in interdependent groups would boost their intrapersonal intelligence.

Finally, the students would have to create a mind-map to synthesise and summarise the main concepts of the unit as regards Humanism and Renaissance, and, in doing so, their linguistic and visual-spatial intelligences would enhanced.

6. Conclusions

If we want our students to be ready for the constantly changing world that we are living in, we have to prepare them in a more meaningful way. When students are asked to do a test, they are allowed neither to use any resources nor to ask for help from their peers because, in both cases, they would be cheating. However, when we become adults, the situation is completely the opposite: in almost any job we are asked to work with our colleagues in a cooperative way and we are supposed to be able to have access to as many resources as possible and have the capacity and the skills to manage them in an efficient way in order to solve any given problem. Moreover, traditional assessment methods have their main focus on the students' ability of memorising some information, so usually they just study and memorise as much information as possible for the test, forgetting it the next day. Furthermore, these methods only let our students show their learning and understanding as regards their linguistic and logical-mathematical abilities, leaving aside other important skills for success, -in school but also in life- such as critical thinking, creativity or the ability to fashion a product.

Therefore, why do not we let our students learn using a wider range of activities according to their multiple intelligences? Besides, why do not we allow them show us what they have learnt in different ways? Moreover, and most importantly, why do not we prepare our students in a more appropriate way for the future?

Education has moved in the past decades from the understanding of differentiation as adapting contents and instruction just for students with special education needs (SEN) –considering and

consequently treating all the rest of the students as if they were the same-, to a different model where we have become aware that every student is different and unique in many different ways. So, both instruction and assessment have to be extremely individualised in order to meet our students' different learning needs and personalities.

As we expect to address our students' diverse learning profiles, multiple intelligences burst forth as a useful tool, and if we use them in an efficient way, combined with assessment, we could better track our students' progress. In that way, the idea of embedding multiple intelligences into assessment emerges naturally. If we include multiple intelligences into assessment, the assessment process would become more objective: when we include multiple intelligences into the teaching and learning process, we are working for different students who learn in different ways. In this way, we would foster their strengths and, besides, from their main intelligence or intelligences we could also enhance others. When teachers use a wide range of activities and assessment methods taking into account students multiple intelligences, deep and durable learning takes place.

Assessment and instruction/learning experiences should start walking hand in hand in such a way that students would see assessment as a new opportunity for learning rather than an intimidating tool that shows their weaknesses instead of pointing out their strengths and the areas for improvement.

Portfolios offer, then, a more holistic portrait of pupils' development: they let students "show off" their different skills and abilities through a wide range of tasks, and are also linked to metacognition, so when the students reflect upon their own learning on a daily basis, also receiving feedback from the teacher and their peers, they start perceiving assessment as a learning process rather than a "final judgement". These, together with the integration of the new technologies to build up e-portfolios, foster students' motivation and confidence and thus encourage long-term impact on the students' learning.

Moreover, increasing students' motivation would give some teachers back the vocation that once made them (made us) enter this amazing profession of being educators.

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Therefore, and to sum up, the integration of multiple intelligences into assessment gives us the chance to help our students to go beyond their own limits through a highly complete range of experiences that allow them develop their own strengths and enhance their areas of improvement, thus realising their own potential not just as students but also as human beings.

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9. Annexes

Annex 1. Chart summarising the unit plan

FORMATIVE ASSESSMENT		
LEARNING ACTIVITIES	TASKS TO BE INCLUDED IN THE PORTFOLIO[10] (activities to be included on the portfolio)	MULTIPLE INTELLIGENCES DEVELOPED
- Initial assessment through brainstorming: pictures representing Renaissance works of art, Gutenberg's printing press, Da Vinci's "Vitruvian man", etc. - Ask students what they expect of the unit and what do they want to learn.	Task 1. Reflect briefly on the initial brainstorming and sum up your ideas (1 and 2)	▪ Linguistic ▪ Visual-Spatial ▪ Intrapersonal
Humanism: - Humanist texts together with a picture of their authors placed on a map of Europe. Answer questions about the texts using Think-Pair-Share strategy. - Use of Gregorian chants and Renaissance music to support the explanation about the transition from theocentrism to anthropocentrism. - Application of pictures, a map of Europe and statistics about	Task 2. Humanism. Read again the texts and your notes, and answer the following questions (1, 2 and 3): - What does Humanism means to you?	▪ Linguistic ▪ Logical-Mathematical ▪ Visual-Spatial ▪ Musical ▪ Interpersonal ▪ Intrapersonal

[10] As mentioned in the point 5.3., the students would have to include the following entries:
1. What I/we did (in the case of an explanation or activity developed in class).
2. The activity itself (in the case of a task they have to develop either by themselves or with their classmates).
3. What I learned.

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the European output of manuscripts and books to help the students understand the importance of Gutenberg's printing press.		
Renaissance men: - The three following videos will be projected in class: ▪ "La música en el Renacimiento" https://www.youtube.com/watch?v=H8H5wJgOCuI ▪ "How to dance through time: the majesty of Renaissance dance": https://www.youtube.com/watch?v=45PBlB-nrH4 ▪ "Renaissance man" (https://www.youtube.com/watch?v=0CRX_mqpzdU - Use of a plant to represent the different branches of study developed by Renaissance men.	Task 3. 3.1. Explain what we have done in class, remember you can include pictures, videos, etc. (1 and 3) 3.2. Imagine you're a Renaissance man or women and write a short entry in your diary about your daily life. You can include pictures or sketches. (2 and 3) 3.3. Answer the following question (2 and 3): - What do you consider more suitable in our 21st century society, to study many areas such a Renaissance man or to specialise in one area? Justify your answer.	▪ Linguistic ▪ Visual-Spatial ▪ Musical ▪ Bodily-Kinaesthetic ▪ Interpersonal ▪ Intrapersonal ▪ Naturalistic
Renaissance art (I): human body, canon and ideal beauty. - Study of the concept of canon through the "Vitruvian man" comparing themselves with the canon represented by Da Vinci as well as several Renaissance works of art. - Research in groups and debate about the beauty canon in the 21st century.	Task 4. Explain briefly what we have done in class and answer the subsequent questions (1, 2 and 3): - Does the Renaissance canon of beauty still persist nowadays or has it changed? Justify your answer. Include pictures/sketches, even with your concept of ideal beauty if you want.	▪ Linguistic ▪ Logical-Mathematical ▪ Visual-Spatial ▪ Body-Kinaesthetic ▪ Interpersonal ▪ Intrapersonal
Renaissance art (II): perspective, proportion, harmony and balance.	Task 5. Research and choose two pictures of	▪ Linguistic

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- Drawing of the classroom to infer the concept of perspective. Visualisation by means of gothic and Renaissance photographs to understand the concepts of proportion, harmony and balance.	Renaissance buildings and two paintings, and illustrate and explain the ideas of perspective, proportion, harmony and balance in your own words. (1, 2 and 3)	▪ Visual-Spatial ▪ Intrapersonal
SUMMATIVE ASSESSMENT		
Humanism: research and write an essay	Task 6. Do some research and write an essay about Humanism so that you answer the following question (2 and 3): - To what extent did humanists change the conception of the world? Do you think they established a new relation with nature somehow?	▪ Linguistic ▪ Logical-mathematical ▪ Naturalistic
Renaissance art: create your own work of art	Task 7. You are going to become a Renaissance artist. Either in pairs or trios, you will have to create your own work of art. You can choose and reproduce the one that you prefer. Then, the pair or group have to record a video in which you will explain its main features and how concepts such as perspective, classicism, etc. are represented. Include pictures of your work of art and the video in your portfolios. (1, 2 and 3)	▪ Linguistic ▪ Visual-Spatial ▪ Bodily-Kinaesthetic ▪ Interpersonal ▪ Intrapersonal
Mind-map of the unit	Task 8. Create a mind-map with the main concepts and ideas of the unit. (2 and 3).	▪ Linguistic ▪ Visual-Spatial

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Annex 2. Reflective Journal template

REFLECTIVE JOURNAL

1. Before starting the unit
   - Something I would like to know about the topic is…
   - Some previous ideas I have about it are…
2. While teaching and learning the unit
   - What kind of intelligences do I think I am enhancing throughout the unit? Add to the left column the activities we are carrying out in class as well as the tasks you are being asked to include in your e-portfolio and complete the chart below little by little.

Activity	Multiple intelligences developed							
	Linguistic	Logical-mathematical	Visual-spatial	Bodily-kinesthetic	Musical	Interpersonal	Intrapersonal	Naturalistic

   - I understand with ease…
   - I am a bit confused about…
   - I can establish some connections with other subjects or things I already know…
3. After finishing the unit
   - I totally understood…
   - I am still confused about…
   - The activities that really helped me learn better were… because…
   - Two things I have done well in this unit are…
   - Something I could have done better is…
   - Two things I have enjoyed are…
   - Other activities I would like to have done are…
   - The main thing I will remember is…
   - I am different as a result of this unit because…
   - One aim for the next unit is…
   - Something I can use beyond school is…

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