# From the awareness on plurilingual competence to a case study in one Portuguese school revealing some inclusive features 

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## Plurilingualism

Around the world, the number of bilingual and plurilingual speakers exceeds the number of monolinguals, whereas monolingualism is often depicted as normative (Tucker, 1998).

Plurilingualism has been subjected to myth-making (Adescope et al., 2010; EC, 2009): it has been argued that bilingualism has negative consequences for individuals and societies, educated to mass numeracy and monolingual literacy.

There is not an unequivocal relation available between plurilingual proficiency and cognitive advantages such as a higher creativity, but between monolingualism and creativity either (Baetens Beardsmore, 2008; EC, 2009; Marsh, 2012).

Nevertheless, plurilingualism is an added value which prompts multi-competence and is associated with cognitive, relational and cultural benefits (EC, 2009; Adescope et al., 2010), in responding to present and future challenges.

In many European schools the number of L2-learners has been increasing because of migration flows (Adescope et al., 2010); also, learning via L1 is not the most usual way across the world (UNESCO, 2003). Teacher awareness is fundamental to develop strategies to benefit from different cognitive styles and promote plurilingual practices with students.

Concern of promoting plurilingualism in European citizens

## Content and Language Integrated Learning

CLIL as a form of bilingual education promoting L.2 learning (Jäppinen, 2005)
"Immersion and CLIL. in English: more differences than similarities" (Lasagabaster \& Sierra, 2010)

CLIL classrooms as learning environments to achieve communicative competence in non-L1 through everyday activities (Dalton-Puffer \& Nikula, 2006) CLIL as a meaning-focused content-oriented method, to improve FL. teaching (Xanthou, 2011)

> "A dual-focused educational approach in which an additional language is used for the learning and teaching of both C and L" (Coyle, Hood, \& Marsh, 2010, p. 1)
> Range of educational practices and settings using an additional Lin non-language classes
> (Escobar Urmeneta \& Evnitskaya, 2014)
plus
CLIL settings and strategies can renovate Science education (Blanchard, Masserot, \& Holbrook, 2014;
Grandinetti, Langellotti, \& Ting, 2013), developing academic literacies (Meyer et al., 2015)

Need for orienting Science education to develop scientific literacy

## Justification

## SCIENCE

- Scientific literacy development (Vieira, Tenreiro-Vieira, \& Martins, 2011)
- Importance of language for constructing and communicating knowledge (Scott, Mortimer, \& Aguiar, 2006; Wellington \& Osborne, 2001)
- PISA and PIAAC results in Science and Literacy

ENGLISH

- Necessary improvement of English learning in formal contexts
- Global language (Crystal, 2003), lingua franca (Seidlhofer, 2005)


## EDUCATION

- Need for"internationalization at home" (Beelen \& Jones, 2015)
- Integrated (cross-curricular, transdisciplinary, etc.) education
- CLIL as a possible approach, also for plurilingual and intercultural education (Beacco et al., 2010)


## TEACHING

- Importance of new quality teaching strategies
- Languages/Cultures of Science and CLIL as a language-aware providing higher exposure to communicative and contextualized opportunities for Science education (Piacentini, Simões, \& Vieira, 2016)


## Contextualization



## Methodology

## Knowledge claim

- Social constructivism: naturalistic conditions; inductive process; reality construction
- Advocacy/participatory: aiming at changes in practice (Creswell, 2003)


## Research design

- Case study: descriptive-interpretative; single case with embedded units (Yin, 1994)
- Integrated learning in the CLIL-type "English Plus" (EP) project
- Middle grades in one Portuguese school; 1 year approximately


## Data collection

- Documental analysis (normative documents and teacher plannings)
- Teacher semi-structured interview (1 Science and 2 English teachers)
- Current EP student semi-structured questionnaire (respondents: $7^{\text {th }}, 44$ and $8^{\text {th }}, 52$ )
- Former EP student semi-structured interview (11, from different areas, $12^{\text {th }}$ grade)
- Non-structured observation of classroom practices (EP and HP classes), lesson planning and other unformal moments (email exchange, phone calls, etc.)


## Data analysis

- Descriptive statistical analysis of closed-ended answers to questionnaire (SPSS 21)
- Content analysis of open-ended answers to questionnaire and to interviews (Atlas.Ti 6)


## English and

Science teachers (interview)


Former EP students, History with English (interviews)

## Results 1 and 2



Former EP
students,
History with English (interviews)

Lembras de alguma situação em que o facto de utilizar o Inglês facilitou a aprendizagem com respeito ao uso do Português? Do you remember any situation in which the fact of using English facilitated your learning in comparison with the use of Portuguese?

| STU | Easier | Grammar | Linearity | Simplification | Effort in concentration | Mediation from teacher |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12i1 | YES |  |  |  | $\bullet$ |  |
| 12i2 | YES |  | - |  |  |  |
| 12 i 3 | NO |  |  |  |  |  |
| $12 \mathrm{i4}$ | YES | - |  |  |  |  |
| 12 i 5 | YES |  |  |  |  |  |
| 12 i 6 | YES |  |  | - |  |  |
| 12 i 7 | YES |  |  |  | $\bullet$ | - |
| 12 i 8 | YES |  | - | - |  |  |
| 12 i 9 | NO |  |  |  |  |  |
| 12 i 10 | YES |  |  |  | - | $\bullet$ |
| 12 i 11 | YES |  |  | $\bullet$ |  | $\bullet$ |

scaffolding
interaction
paraphrase

Gostavas de conhecer ou conheces outras línguas? Quais?
Consideras que o Inglês (o facto de usar esta língua) despertou-te a vontade de aprender outras línguas e sobre outras culturas? De que maneira?

Would you like to know or do you know other languages? Which ones? Do you think that English (the fact of using this language) prompted you to learn other languages or about other cultures? In which way?

| STU | Interesting | Useful | English and taste of reality | English and personal development | English and EN speaking cultures | English and other cultures |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12i1 | German and Italian | French and English | Real perspective |  |  |  |
| 12 i 2 | As many as possible (7) |  |  |  | Contact provoked with these ones |  |
| 12 i 3 | German | French |  | Enrichment |  | Curiosity for other cultures |
| 12i4 | Mandarin and Korean |  | First encouraging try |  |  |  |
| $12 i 5$ | Mandarin | English | First speaking possibilities |  |  | Lingua franca |
| 12 i 6 | Japanese | French |  |  |  | Universal language |
| 12 i 7 | They need practice like EN |  | Experiencing differences |  |  |  |
| 12 i 8 | French |  |  | Method | Contacted during the project | Curiosity for other cultures |
| 12 i 9 |  |  |  | Broader view | Contacted during the project |  |
| 12 i 10 | Languages from India and Africa |  |  |  |  | Curiosity for other cultures |
| 12i11 | Italian and Russian | English |  |  | Contact provoked with these ones |  |

## English and

Science
teachers
(interview)


## Results 3 and 4

## CULTURAL DIMENSION IN CLASSES OF ENGLISH

## Tea-EN1: English as a lingua franca to access other languages at the beginning but

## it can be dangerous because of its dominance in the world

[...] A língua inglesa tornou-se um bocadinho hegemónica não é? Está a dominar [...] o mundo [...] eu acho que [...] pode sempre no sentido em que sendo uma língua franca uma língua de comunicação num contacto com um país estrangeiro a comunicação que se inicia em língua inglesa e que de outra maneira seria difícil pode depois despertar [...] a comunicação na língua daquele país ou da pessoa com a que se está a comunicar mas [...] tem as duas vertentes [...] pode ser perigosa Tea-EN2: English as a universal language to certainly learn languages of other people for example like in a group of Erasmus students
Sem dúvida! [...] nós sabemos que o Inglês é a língua universal não é? [...] entre os vários alunos que participaram no Erasmus há sempre outros de vários países e eles consequem todos usar a língua inglesa mas ao fim e ao cabo depois também vai conduzir para que eles de uma maneira se calhar mais reduzida troquem impressões e tentem aprender as línguas dos colegas [...] o Inglês realmente é fundamental para promover o multilinguismo [...]

ENGLISH LEARNING AND PROMOTION OF PLURILINGUALISM

Tea-EN1: Cultural aspects as long as they naturally arise during lessons (previously she referred to "societal" topics in debates with students, here "cultural" ones connected to just England or USA) [...] nós temos nos nossos livros pequenos tópicos sobre aspetos culturais o Halloween Thanksgiving tradições de Natal mas eu acho [...] mais pertinentes quando surgem naturalmente [...] <antes falou ... questão da alimentação ... isto é cultural societal não?> Sim exatamente, [...] se estamos a falar de alimentação há sempre aspetos que nós dizemos atenção que em Inglaterra não se come assim na América come-se de forma totalmente diferente [...] sempre que se puder
Tea-EN2: Cultural as traditions and news always connected to England, with the purpose of students thinking beyond (traditional and societal) Portuguese aspects [...] para além daquelas festividades [...] se há algum aspeto importante como as eleições ou o aniversário da rainha ou até o nascimento de um dos herdeiros não é? Procuro chamar a atenção [...] para que eles se mantenham atualizados a aquilo que se está a acontecer [...] em Inglaterra [...] não estejam tão isolados [...] no contexto de Portugal [...] Estou mais direcionada para o Inglês obviamente e para aquilo que se passa em Inglaterra [...]

POSITION IN RELATION TO "SCIENCE TEACHER IS A TEACHER OF LANGUAGE(S)"

Tea-SCI: Any teacher is a "communicator" and must work with language, mother tongue and foreign language terms such as in English (mainly for Biology at high school). Science is an evolving human construction (beyond single countries, as later she will say) and it does not exist if it is not communicated and shared with the world
[...] o professor de Ciências é um comunicador como qualquer professor [...] no fundo qualquer professor tem que trabalhar a língua. Seja a língua materna seja se calhar alguns [...] termos que mesmo são recorrentes em Ciência [...] são muito utilizados [...] em Inglês porque em Biologia a maior parte é tudo em Inglês não há hipótese [...] a Ciência de facto em quanto [...] uma tarefa do homem e das sociedades humanas modernas existe em quanto comunicação [...] porque um grande investigador pode encontrar uma coisa e se não disser que encontrou [...] não existe pa' a Ciência [...] eles perceberem que o facto da Ciência evoluir também tem muito a ver com esta grande capacidade que nós temos hoje em dia de comunicar

Tea-EN1: All teachers must be teacher of language (L1 and FL) and scientific language such as specific terms and expressions
[...] Eu diria que não é só o professor de Ciências são todos os professores [...] têm que ajudar os alunos a dominar a língua materna e [...] também [...] a perceber que dominar línguas estrangeiras é algo que só os pode ajudar em termos de futuro! [...] E se fosse linguagens também continuaria a concordar porque há diferentes linguagens a linguagem científica não é?
Tea-EN2: Science has its own "vocabulary" and foreign terms are used in scientific areas; existence of a specific language in Science
[...] Eu acho que [...] as Ciências também têm a sua própria língua o seu próprio vocabulário não é? [...] quando o professor de Ciências está a dar a sua matéria pode muito bem utilizar até termos que se calhar são universais não é? [...] universidade as línguas estrangeiras são fundamentais não é? Para os alunos mesmo de Ciências não só nos de Humanidades [...] Também penso que sim há uma linguagem própria das Ciências [..]

## Results 5, 6 and 7



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Current EP
students, Science with
English (questionnaire)
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Língua(s) com que contatas fora da escola (para cada situação, assinala uma língua ou mais línguas e/ou escreve a que faltar) Language(s) you contact beyond school (for each situation, specifiy one language or more languages and/or write down any missing one)


[Contexts for languages vs Absolute frequencies; Portuguese not shown]

English identified in 5-6 contexts out of 8 (mean from statistical calculations)

Significant presence of French (the other school language) and Spanish (neighbour language)

Little presence of other languages such as Italian (in some contexts), German and Chinese

Língua(s) aprendida(s) na escola Language(s) learnt at school [Open-ended answer; Graph not shown]

Almost 60\% of students included Portuguese in the answer

Have they considered as a Language or as a Discipline?

Given all that, what contexts are favourable for plurilingualism?
[Percentage vs Contexts; Language schools not considered]


Music and television are the contexts offering the most plurilingual contact (on average, almost 3 languages are identified), followed by the travelling occasions, even though books and family result in the least dispersed values

Acho importante aprender línguas estrangeiras porque ... I think to learn languages is important because ...

|  | $7^{\text {th }}$ <br> grade | $8^{\text {th }}$ <br> grade | TOTAL |
| :--- | :---: | :---: | :---: |
| COMMUNICATION |  |  | 71 |
| communication <br> when living abroad | 12 | 18 | 30 |
| communication <br> while travelling | 10 | 13 | 23 |
| communication <br> with foreigners | 10 | 8 | 18 |
| DEVELOPMENT | 7 | 9 | 16 |
| knowledge and <br> learning | 7 | 14 |  |
| job attainment | 7 | 11 |  |
| general reference <br> to the future | 6 | 5 | 13 |
| presence/need of <br> languages | 5 | 8 | 13 |


|  | $7^{\text {th }}$ <br> grade | $8^{\text {th }}$ <br> grade | TOTAL |
| :--- | :---: | :---: | :---: |
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| communication <br> when living abroad | 12 | 18 | 30 |
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| DEVELOPMENT | 7 | 7 | 14 |
| knowledge and <br> learning | 7 | 9 | 16 |
| job attainment | 6 | 5 | 11 |
| general reference <br> to the future | 5 | 8 | 13 |
| presence/need of <br> languages | 13 |  |  |

8q18: podemos querer, ou ter, que ir viver ou trabalhar para outro país, onde a língua não seja a do nosso país e [...] é uma parte essencial conseguirmos falar a língua daquele país.

7q13: temos que entender o que as pessoas estrangeiras dizem, escrevem, etc.
8q42: é uma boa maneira de comunicar com pessoas de diferentes culturas.

8q31: provavelmente vai ser muito importante no nosso futuro.

|  | $7^{\text {th }}$ <br> grade | $8^{\text {th }}$ <br> grade | TOTAL |
| :--- | :---: | :---: | :---: |
| COMMUNICATION |  |  | 71 |
| communication <br> when living abroad | 12 | 18 | 30 |
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| DEVELOPMENT | 7 | 7 | 14 |
| knowledge and <br> learning | 7 | 9 | 16 |
| job attainment | 7 | 5 | 11 |
| general reference <br> to the future | 5 | 8 | 13 |
| presence/need of <br> languages | 513 |  |  |
| lan | 13 |  |  |

8q4: podemos viajar mais "seguros" [...] das nossas capacidades, pois sabemos que vamos conseguir comunicar [...]

7q3: para podermos evoluir na sociedade e sermos um dia alguém importante [...] 8q23: ajuda nos a aprender mais sobre outras culturas [...]

7q17: temos mais hipóteses de arranjar emprego.

7q41: Acho importante as pessoas aprenderem Inglês porque é uma língua muito usada no estrangeiro. 8q33: [...] para poder ver filmes ou ouvir musica [sic.] sem ter que usar legendas

## Final remarks 1

- Awareness on the fact that learning a language, in both foreign (EN) and first language (PT), is a gradual process that should stimulate more student participation and teacher support
- Importance of giving an actual plurilingual perspective to classes of English (both teachers and former students seemed to mostly relate to English speaking countries and their cultures)
- Opportunity provided by the learning of English as a first attempt and occasion to speak a language and taste a reality that can encourage and introduce to other languages
- Acknowledgement that language and communication in Science are important and idea that English use is required for it; it is still not perceived the importance that other modalities of communicating/representating /organizing Science can be a way to develop the language
- Fact that English is dominant in student contexts other than school (is it actual contact or more awareness of the contact?) but need to consider the relevance of combining English with Science education when developing CLIL classes or modules
- Importance of including music and video (already observed) in educational resources, being contexts where a plurilingual environment is naturally present
- Communication related with the importance of FL learning reveals the existence of a scenario of emigration for some Portuguese students as well as of the Otherness and contact with it


## Final remarks 2

## Further research is required to:

- triangulate the information gathered so far with classroom observation to understand what interactional resources are developed by participants in integrating/supporting Science education with English practice and how "languages" and "cultures" of Science education can foster use and learning of a FL
- relate students' opinion on the participation in the EP project and their position with languages and contexts to know other cultures
- identify connections between L1 and L2 in these settings and contact that English may favour to access other languages such as Romance ones

As advocated by Beacco et al. (2010), a CLIL programme can be developed as a plural approach for plurilingual and intercultural education.
Some inclusive features are already present here:

- awareness of the Otherness
- opportunities of internationalization
- improvement in both the language and the discipline
- cross-curricular integration
- critical approach on teacher profession

Grazie

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