
Research Article

How creative and curious are CLIL teachers? Investigating the effect of CLIL teaching experience and the level of education

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Received April, 2023; accepted October, 2024;
published online December, 2024

Abstract English: The aim of the article is to present the research results on two important character virtues, namely creativity and curiosity. Creativity is very significant in the teaching profession, as it involves researching, looking for solutions, and making choices. Curiosity involves “the active recognition, pursuit, and regulation of one’s experience in response to challenging opportunities” (Peterson & Seligman, 2004: 125). The research was conducted in Poland among 149 Content and Language Integrated Learning (CLIL) teachers for whom these features are indispensable, bearing in mind various obstacles they have to face, e.g., lack of proper teaching materials. In order to collect the data, the VIA Inventory of Strengths (VIA-IS) was disseminated among Primary, Junior High School and Secondary School teachers. In the following article, only the data concerning creativity and curiosity is discussed. The findings indicate that self-reported scores for the statements connected with CLIL teachers’ creativity and curiosity did not correlate significantly with the teachers’ experience in CLIL and none of the tested aspects significantly depended on the educational level of the teachers’ employing institutions.

Keywords: creativity, curiosity, CLIL, teacher perspective, character strengths, character virtues

1. Introduction

Since English has become an international language, there has been a great demand for good language teachers. Headmasters, and school owners want to employ well-qualified teachers, dedicated to work, motivated as well as creative, and curious. The notion of what it means to be a good teacher is very complicated, as good teachers need to have many qualities. Content and Language Integrated Learning (CLIL) is defined as “a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language” (Coyle et al., 2010: 1), the requirements for the teachers are even higher. The CLIL teacher, apart from knowing the language very well, needs to have the content knowledge of a particular subject (e.g., maths, biology, geography, etc.) and appropriate methodological skills to teach it through the foreign language.

Creativity is very significant in the teaching profession, as it involves researching, looking for solutions, and making choices. Curiosity involves “the active recognition, pursuit, and regulation of one’s experience in response to challenging opportunities” (Peterson & Seligman,

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2004: 125). The aim of the article is to discuss the findings concerning creativity and curiosity, which were investigated among CLIL teachers in Poland.

2. Creativity

Plucker et al. (2004) came up with the following definition of creativity as “the interaction among aptitude, process, and the environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social group” (84). This definition can be linked to the Vygotskian perspective on the notion of creativity, which defines creativity as a collaborative and social activity (1978) i.e., creativity is “an improvisational activity which can be understood as the human ability to make things, to build, to develop – especially in its mundane forms – to create a conversation, a picnic, or a lesson” (Newman & Holzman, 1993, 1997 cited in Lobman, 2010: 200). Furthermore, creativity is an active process, which involves innovation. Fischer (2004) defines creativity in three different ways “as a property of *people* (who we are), *processes* (what we do) or *products* (what we make)” (8). When creativity is viewed as a property of *people*, then it means that the person has the ability to solve problems in an original way, see new meanings and relationships in things, have original and imaginative thoughts, and use the imagination to create something new. When it is viewed as a *process*, the focus is on thinking processes and decisions that a person uses (Jones, 2012). When viewed as a *product*, the focus might be on a particular task or activity. Creativity and innovation are fundamental to improving teachers' professional practice and learner development. A good teacher does not perceive creativity as a process that makes him/her powerful but rather as a process that requires not only knowledge and understanding of the domain being investigated, but also a willingness to question and not be constrained by existing knowledge (Sternberg, 2012). Furthermore, “one cannot think creatively unless one has the knowledge with which to think creatively. Creativity represents a balance between knowledge and freeing oneself of that knowledge” (Johnson-Laird, 1988: 207 cited in Sternberg, 2012: 4). In other words, creativity requires a foundation of knowledge upon which to build. Without knowledge or understanding of a subject or concept, it becomes difficult to generate creative ideas within that domain. However, merely possessing knowledge is not sufficient for creativity. To truly think creatively, a good teacher must also be able to transcend or break away from the constraints of that knowledge.

CLIL offers a flexible framework for how language and content can be integrated across a greater range of contexts and settings (Coyle, 2008), and therefore, it requires a lot of creativity and innovation from the CLIL teacher. CLIL itself is challenging, and creativity is needed to provide CLIL learners with new ideas and make them experience the language in meaningful contexts. Moreover, creativity is needed when creating CLIL materials. Since there is a lack of CLIL materials (e.g., Gondová, 2015; Marsh, Järvinen & Haataja 2007; Mehisto, 2012; Morton, 2013), CLIL teachers have to select them from the existing resources or design and create materials themselves, which is not an easy task. During the learning process, students need to gain language skills, which enable them “to fill the gap between what they might want to say (content competence) and what they can say in the foreign language (language competence)” (Hönig, 2010: 39). When creating CLIL materials, CLIL teachers have to think very carefully about activities, which will focus on language and at the same time on content. CLIL learners have to gain new information but at the same time develop higher-order thinking skills as well as productive and receptive language skills. As claimed by Mehisto (2012),

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Quality learning materials do more than just communicate information. They promote critical and creative thought, discussion and learner autonomy. At the same time, quality learning materials help students recognise the limitations of their current thinking and learning. They help students to understand when they need additional information and help. They also promote mutual understanding in social situations in order to contribute to joint problem-solving” (16).

In other words, he emphasizes the multifaceted role of quality learning materials in education that not only convey information but also foster critical thinking, promote learner autonomy, facilitate collaboration, and support ongoing learning and development.

To sum up, creativity is one of the character virtues highly valued nowadays, especially among teachers. It requires reflection, encourages engagement, and develops confidence and responsibility.

3. Curiosity

Curiosity involves the active recognition, pursuit, and regulation of one’s experience in response to challenging opportunities (Peterson & Seligman, 2004: 125). Curiosity and interest are used interchangeably, and all individuals experience them (*ibidem*), yet they differ as far as frequency, intensity, and duration of exploration are concerned. Peterson & Seligman (2004) talk about novelty-seeking, which is goal-oriented and has associations with courage, sociability, boredom, and anxiety. Moreover, curiosity has stronger links to openness to new values and ideas, a future orientation and the enjoyment of problem-solving.

Curiosity, novelty-seeking, and openness to experience include general positive affect, willingness to challenge stereotypes, creativity, preference for the challenge in work and play, perceived control, and negative relationships with perceived stress and boredom (Cacioppo et al., 1996; McCrae & Costa, 1997; Zuckerman, 1994). The positive affect is linked to emotional-motivational state of curiosity, which appears to fuel positive emotions such as excitement, enjoyment, and attentiveness (Ainley, 1998; Kashdan & Roberts, 2002), facilitating complex decision-making (Kreitler et al., 1974) and goal perseverance (Sansone & Smith, 2000).

At the heart of good teaching practice is an understanding of the relationship between teaching and learning (Loughran et al., 2012) with teaching requiring an appreciation of students’ current knowledge, any alternative conceptions they may have, and how well they understand the intended ideas (Taber, 2014). Curiosity, novelty-seeking, and openness to experience are virtues that each teacher should have since they

CLIL teachers have a very challenging task to face, as they need to be curious about content and language. Since CLIL is an evolving approach, they have to keep up with new developments regarding content and language and be open to the use of Information and Communication Technologies as teaching resources.

Furthermore, CLIL teachers should provide opportunities for CLIL learners to pursue their interests in ways that contribute to their learning as individuals and to the learning of content and language. In order to cultivate curiosity in CLIL learners, the CLIL teachers themselves have to display curiosity, novelty-seeking, and openness to experience. Westbrook (1991: 169) emphasizes the importance of “teachers fostering educational growth that does not only result in discrete events of learning but that creates conditions for further growth”. By integrating content and language, CLIL provides the teachers and learners with such an opportunity.

4.Creativity and curiosity in the CLIL context

Many suggestions concerning creative teaching in CLIL have been implemented into CLIL classrooms. García Hormigo (2016) provides various models of media and methods that can be used to design more creative activities. What is more, she emphasizes that in order to be able to design creative activities in CLIL, the teachers need to be creative themselves, especially in primary education, in which “it is vital to lay the foundations of scientific thinking by encouraging children to learn about their surrounding and promoting critical thinking (García Hormigo, 2016: 27). Furthermore, Breidbach and Medina-Suárez (2016) recommend using techniques from other fields such as drama, music or art, which help the CLIL teachers to reconceptualise typical classroom activities and make them more interesting for the CLIL learners. In secondary education, Naylor (2016) focuses on the strategic application of higher-order thinking skills and the implementation of hands-on projects (del Pozo, 2016) through which the CLIL teacher might reformulate the content and foster more creativity. If the CLIL learners are more involved in the process of innovation employing higher order thinking skills and are given freedom to act, they will respond more positively to the challenges connected with content learning in CLIL (Hafner et al., 2017). Furthermore, Maley (2017) provides the following factors that might stimulate creativity among the CLIL teachers both in primary and secondary education: “newness (novelty, originality, surprise), experiment (curiosity, exploration, problem-solving), seeing relationships (connections, associations, synthesis, analogy, metaphor), constraints (borders, rules, conventions), and flow (relaxed attention, intense engagement, timelessness)” (87-89). Cremin (2017), on the other hand, points to the fundamental importance of enthusiasm (passion for the subject), which was the main factor fostering CLIL teachers’ creativity in the research conducted among teachers of art, humanities, science, technology, and mathematics. In other words, when a teacher is passionate about a subject, it translates into their teaching methods, making the subject interesting, compelling, and vibrant. Consequently, students are inspired to develop their own enthusiasm and fervor for the subject, as they are drawn into the teacher's passion and energy. This highlights the significant impact that passionate teaching can have on students' motivation and learning outcomes.

When referring to the research conducted on curiosity, there is some research on the importance of curiosity conducted among learners, but there is hardly any research conducted in the CLIL context. In the research conducted among secondary school learners studying science Higgins and Moeed (2017) find out that a blended approach including visual stimulation (e.g., videos) and cogenerative dialogue based on structured conversations implemented by the teacher increases students’ curiosity and willingness to learn science. Moreover, they conclude that only using a variety of pedagogical approaches might foster learners’ curiosity. Therefore, when examining research conducted on curiosity, it is important to pay attention to the suggestions given to teachers who want to increase not only their curiosity but also their students’ curiosity. These suggestions can be easily implemented into the CLIL context since teaching in CLIL is complex, interwoven, and CLIL learners do not always learn what the teacher thinks they are learning (Hodson, 2014). Jirout, Vitiello and Zumbrunn (2018) point out to the importance of “teachers in supporting learners’ curiosity by both regulating the level of challenge students experience and helping to direct their attention to relevant information, problems, and questions” (248). However, in order to promote curiosity in the CLIL classroom, the teachers themselves need to enhance their curiosity, therefore, the CLIL teachers need to seek out opportunities for intellectual engagement and show interest in high levels of novelty and complexity. This argument can be supported by the research conducted by Von Stumm,

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Hell and Chamorro-Premuzic (2011), which shows that curiosity is a core determinant of professional development and performance. Furthermore, Hughes (2014), the author of cognitive hierarchy of curiosity, supports this view stating that educators who actively nurture their own curiosity can stimulate their students' curiosity.

To sum up, CLIL as the approach based on cognitive, constructivist and communicative teaching and learning provides many opportunities for the CLIL teachers to develop their curiosity and creativity. Moreover, as an inclusive approach, it can offer opportunities for language learners from diverse backgrounds to access content knowledge in a way that integrates language learning with subject matter learning. By providing instruction in a second or foreign language, CLIL can promote linguistic diversity and accommodate students who are learning the language, thereby broadening educational access for those students. Since it is still a relatively new phenomenon in education, curious and creative teachers are needed to promote this approach.

5. The current study

CLIL has become popular in Poland since the beginning of the 21st century and many schools offer CLIL instruction in English, German, French, Italian and Russian. However, the type of instruction varies depending on the content subjects, amount of CLIL instruction, type of school, and teachers' availability (Czura & Papaja, 2013). There are four main types of instruction (curricular models) determined in Polish bilingual education where English is used as a language of instruction (Marsh et al., 2008: 13-16):

- 1) Extensive Language Medium Instruction – lessons are mainly conducted in a foreign language; the mother tongue is only used where translation of terminology is required;
- 2) Partial Medium Instruction – lessons are conducted both in Polish and a foreign language; around 50% of the lesson is devoted to each language;
- 3) Limited Language Medium Instruction – there is a limited use of a foreign language; only some lexis knowledge is provided in a foreign language;
- 4) Specific Language Medium Instruction – very little time is devoted to a foreign language e.g., the lesson is given in Polish but is based on English materials.

As for the Polish CLIL teachers, who are the subject of the current study investigation, most of them do not have dual education. They usually specialize in a content subject and have additional language certificate showing their level of a foreign language. At this point, it is crucial to mention that none of the language diplomas or certificates cover particular aspects of language teaching principles or methodology required in CLIL; therefore, CLIL teachers need to take part in CLIL teacher trainings in order to improve their professional qualifications.

Bearing in mind the challenges CLIL teachers need to face we decided to investigate the qualities of CLIL teachers and conduct a research based on the VIA Inventory of Strengths (VIA-IS) established by Linley et al. (2007) which measure 24 character strengths such as creativity, bravery, perseverance, honesty, self-regulation, hope, spirituality, social intelligence, kindness, love, leadership, forgiveness, curiosity, love for learning, fairness, prudence, appreciation of beauty, gratitude, humility, humor judgement, teamwork, zest and perspective, which we believe are the foundations of teacher development. Nevertheless, the research results described in the following pages aim to present creativity and curiosity among CLIL teachers. We assumed that there was a relationship between teaching experience gained in CLIL education, the type of school in which the teachers work (Primary School, Junior High School

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and Secondary School) and creativity as well as curiosity. The research questions were the following:

1. Are the teaching experience gained in CLIL education and teachers' creativity significantly correlated?
2. Are there significant differences between CLIL teachers' creativity depending on the level of education?
3. Are the teaching experience gained in CLIL education and teachers' curiosity significantly correlated?
4. Are there significant differences between CLIL teachers' curiosity depending on the level of education?

5.1. Participants and procedure

A total of 149 CLIL teachers participated in the study; 122 females and 27 males. The participants were selected from schools (9 primary schools, 7 junior high schools and 12 high schools) where the researcher had conducted previous studies on CLIL (Papaja, 2014; 2017; 2019) and they were all L1 Polish speakers. They were contacted through e-mail and asked whether they wanted to participate in the research. The researchers contacted 171 CLIL teachers, and 149 of them agreed to participate in the research. The data concerning teaching experience, teaching experience in CLIL education, type of school, and type of subject taught is presented in Table 1a-1c below:

Table 1a

Participants' teaching experience and teaching experience in CLIL

Category	0-1 year	2-4 years	5-10 years	11-20 years	More than 20 years	Total
Teaching Experience	21	31	28	36	33	149
Teaching Experience in CLIL	27	44	40	36	2	149

Table 1b

Type of school in which participants work

Type of School	Primary School	Junior High School	High School	Total
Participants	30	57	62	149

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Table 1c

Subjects participants teach in English

Subjects Taught	Participants
Art	5
Maths	26
Natural Sciences	15
History	18
Physics	15
Chemistry	9
Biology	24
Geography	30
Social Sciences	7

The research was conducted between January 2019 and June 2019 and the participants were asked to fill in the questionnaire described in section 5.2, either the online version or the paper one.

5.2.Data collection instrument

The data collection instrument, namely the VIA Inventory of Strengths (VIA-IS) used in the studies conducted by Linley et al. (2007) was also applied in the study reported in the following pages. The VIA Inventory of Strengths (VIA-IS) evaluates character strengths through a questionnaire comprising 120 items. Each of the 24 character strengths is evaluated through 10 items. It was developed on the basis of Peterson and Seligman's (2004) classification of character strengths and virtues and they are believed "to represent the underlying universe of strengths" (Linley et al., 2007: 342).

The inventory was administered among teachers (30-40 min). Participants were directed to assess each statement based on its likeness to their own characteristics, utilizing a five-point scale ranging from 1 (very much unlike me) to 5 (very much like me). Example statements include "I find the world to be highly intriguing" (representing curiosity) and "I consistently forgive past grievances" (representing forgiveness). Scores for each of the 24 strengths can range from 10 to 50, with higher scores indicating stronger alignment with the respective strength. Additionally, the CLIL teachers were asked to indicate their sex, teaching experience, teaching experience in CLIL, type of school they work in and the subject they teach.

In the following article, only the data concerning creativity and curiosity will be discussed therefore, the following statements have been selected for the analysis:

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CREATIVITY:

1. Being able to come up with new and different ideas is one of my strong points.
2. I like to think of new ways to do things.
3. I always come with new ways of doing things.
4. My friends say that I have lots of new and different ideas.
5. I am an original thinker.

CURIOSITY

1. I am always busy with something interesting.
2. I am excited by many different activities.
3. I have many interests.
4. I can find something of interest in any situation.
5. I think my life is extremely interesting.

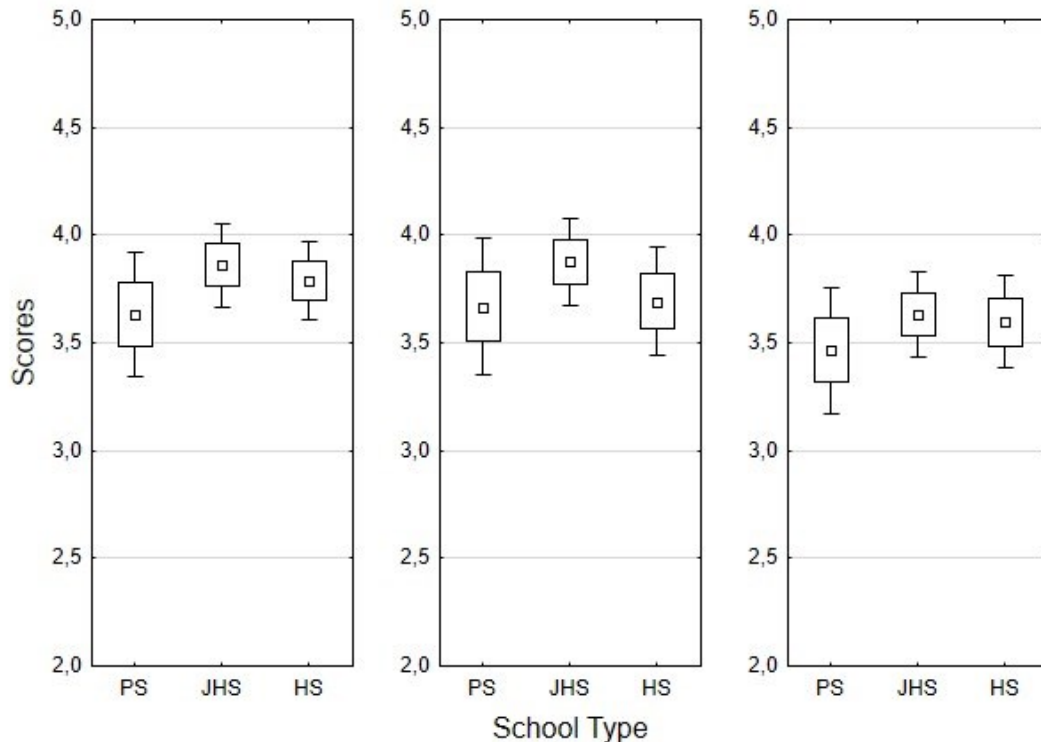
6. Analysis and results

The obtained scores for each statement we analyzed using two statistical models. Firstly, the scores were correlated with teaching experience in CLIL which was categorized into five ranges: (1) 0-1 year; (2) 2-4 years; (3) 5-10 years; (4) 11-20 years; (5) more than 20 years. Correlations were run using Kendall's tau coefficient, which is non-parametric alternative to Pearson's correlation for ordinal data with many tied ranks. Secondly, the impact of the level of education on the collected scores was calculated using Kruskal-Wallis one-way analysis of variance. This test is a non-parametric alternative to the one-way ANOVA in that it does not assume normal distribution of data. We chose non-parametric models to analyse our data, because dense score ranges, such as the 1-to-5 ranges used here, frequently are characterized by non-normal distribution. Parametric models such as General Linear Models are based on the assumption that the data distribution is normal. All statistical analysis as well as graph generation processes were performed in *Statistica* 13.3 (TIBCO Software).

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Figure 1

Means and standard errors for the scores depending on the school type (PS – primary school; JHS – junior high school; HS – high school). Being able to come up with new and different ideas is one of my strong points (1a); I like to think of new ways to do things (1b); I always come with new ways of doing things (1c).



6.1. Being able to come up with new and different ideas is one of my strong points.

Figure 1 shows the boxplot of the distribution of data with means and standard errors for each type of school. The correlation of the scores obtained for this statement and teaching experience in CLIL was positive and statistically significant [$r = .14$, $p = .01$], indicating that teachers with higher experience with CLIL are more likely to consider coming up with new and different ideas as their strong points. The analysis of the scores depending on the school type yielded the means of 3.63 ($SE = .15$) for primary school, 3.86 ($SE = .10$) for junior high school, and 3.79 ($SE = .09$) for high school. The differences were not statistically significant [$\chi^2(2) = 1.38$, $p = .501$].

6.2. I like to think of new ways to do things.

The scores for this statement were not significantly correlated with teaching experience in CLIL [$r = .08$, $p = .17$], showing that increasing experience with teaching CLIL does not lead to the self-reported disposition to do things in new ways. The comparison of the scores between types of school – primary school ($M = 3.67$; $SE = .16$), junior high school ($M = 3.88$; $SE = .1$), high

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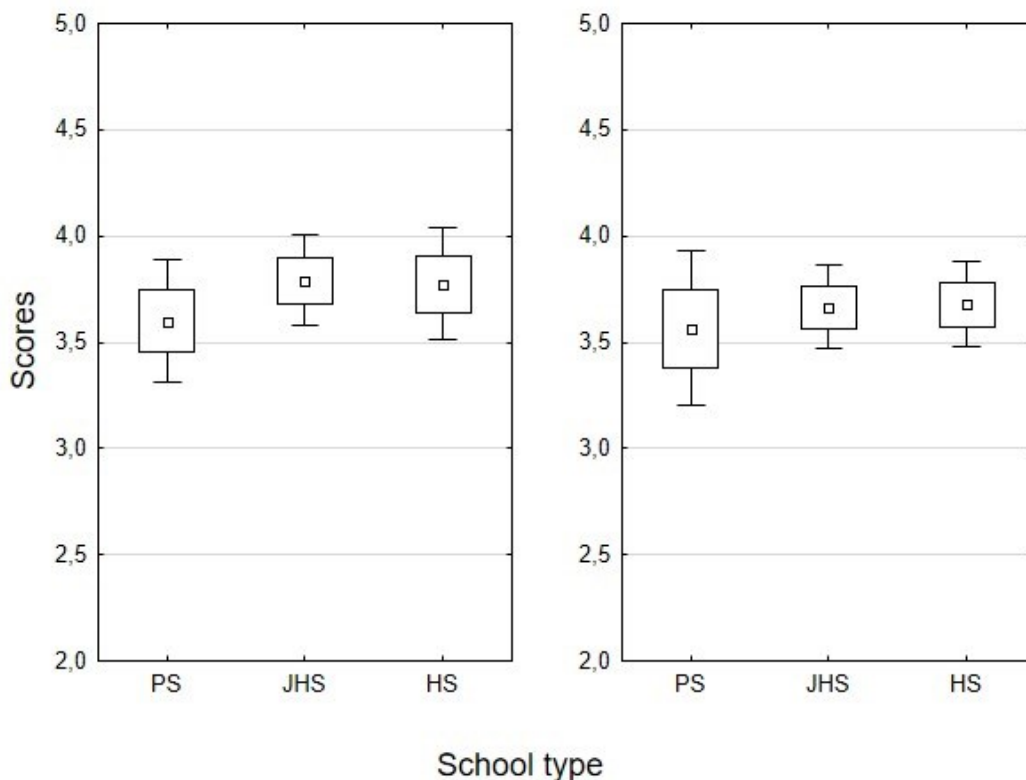
school ($M = 3.69$; $SE = .13$) – revealed that the difference was not statistically significant [$\chi^2(2) = 1.23$, $p = .54$] (Figure 1).

6.3. I always come with new ways of doing things.

There was no significant correlation between teaching experience in CLIL and the collected scores [$\tau_b = -.03$, $p = .59$], showing that willingness to come with new ways of doing things does not increase with growing experience in CLIL. There was also no effect of school type on the collected scores [$\chi^2(2) = .82$, $p = .66$], pointing to the fact that the level of education – primary school ($M = 3.47$; $SE = .15$), junior high school ($M = 3.63$; $SE = .10$), high school ($M = 3.60$; $SE = .11$) – did not contribute to differences in terms of reported eagerness to come with new ways of doing things (Figure 1).

Figure 2

Means and standard errors for the scores depending on the school type (PS – primary school; JHS – junior high school; HS – high school). My friends say that I have lots of new and different ideas (2a); I am an original thinker (2b).



6.4. My friends say that I have lots of new and different ideas.

The correlation between the scores and teaching experience in CLIL was positive and statistically significant [$\tau_b = .12$, $p = .03$], showing that increasing experience in CLIL leads to the external perception of the teachers as being creative. The analysis of the effect of the level

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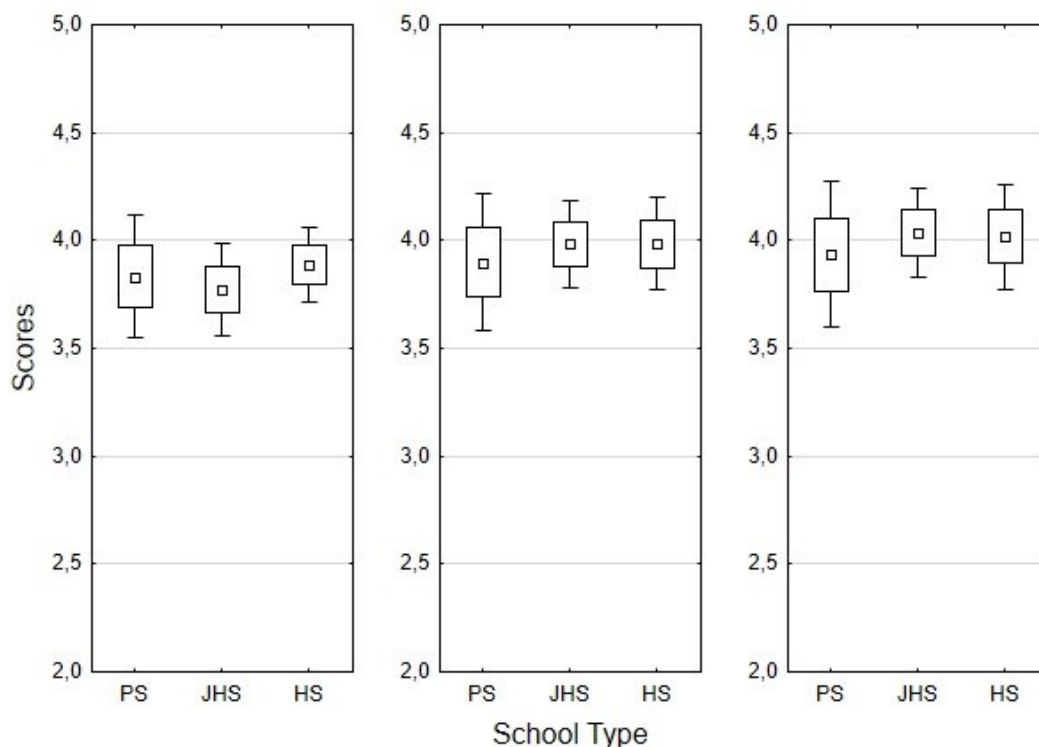
of education on this feature yielded a non-significant result [$\chi^2(2) = 4.44$, $p = .11$], demonstrating that the teachers in primary schools ($M = 3.6$; $SE = .15$), junior high schools ($M = 3.79$; $SE = .11$), and high schools ($M = 3.77$; $SE = .13$) did not differ in their reports of how their creativity is externally perceived (Figure 2).

6.5. I am an original thinker.

The scores here had a positive and highly statistically significant correlation with experience in CLIL [$r = .19$, $p = .001$], which may be interpreted to mean that the teachers who work longer with CLIL are more likely to consider themselves as an original thinker. The comparison of the same scores between primary school ($M = 3.57$; $SE = .18$), junior high school ($M = 3.67$; $SE = .10$), and high school ($M = 3.68$; $SE = .10$) revealed that the difference was not significant [$\chi^2(2) = .75$, $p = .69$] (Figure 2). A non-significant difference implies that the teachers' inclination to perceive themselves as an original thinker does not depend on the educational level of their institution.

Figure 3

Means and standard errors for the scores depending on the school type (PS – primary school; JHS – junior high school; HS – high school). I am always busy with something interesting (3a); I am excited by many different activities (3b); I have many interests (3c).



6.6. I am always busy with something interesting.

There was no significant correlation between the scores and experience in teaching CLIL [$\tau_b = .05$, $p = .36$], which suggests that longer periods of teaching CLIL do not entail a self-reported tendency to be busy with something interesting. The comparison of these scores across levels of education – primary school ($M = 3.83$; $SE = .14$); junior high school ($M = 3.77$; $SE = .11$); high school ($M = 3.89$; $SE = .09$) – was also non-significant [$\chi^2(2) = .32$, $p = .85$], which points to the fact that the CLIL teachers' engagement in something interesting does not depend on the level of education of their institution (Figure 3).

6.7. I am excited by many different activities.

The self-reported scores for this aspect did not correlate significantly with experience in CLIL teaching [$\tau_b = .02$, $p = .65$], demonstrating that the increase in CLIL experience does not lead to more excitement with different activities. The comparisons between primary school ($M = 3.9$; $SE = .16$), junior high school ($M = 3.98$; $SE = .10$), and high school ($M = 3.98$; $SE = .11$) was not significant either [$\chi^2(2) = .80$, $p = .67$] (Figure 3).

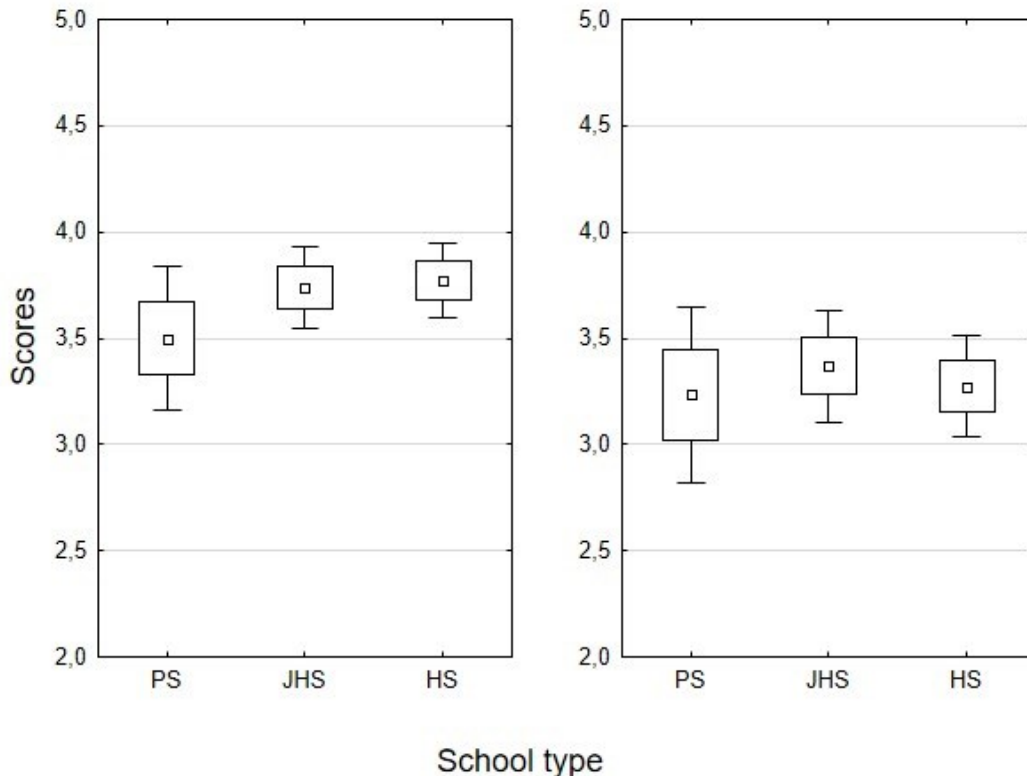
6.8. I have many interests.

The correlation between the scores and experience in CLIL teaching did not meet the criteria of statistical significance [$\tau_b = .02$, $p = .75$], showing that teachers with more experience in CLIL teaching do not report to have more interests. The level of education – primary school ($M = 3.93$; $SE = .17$); junior high school ($M = 4.03$; $SE = .11$); high school ($M = 4.02$; $SE = .12$) also did not contribute significantly to differences in the scores [$\chi^2(2) = .85$, $p = .65$] (Figure 3).

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Figure 4

Means and standard errors for the scores depending on the school type (PS – primary school; JHS – junior high school; HS – high school). I can find something of interest in any situation (4a); I think my life is extremely interesting (4b).



6.9. I can find something of interest in any situation.

There was not statistically significant correlation between the scores and experience in CLIL [$\tau_b = .07$, $p = .18$], which indicates that growing experience in CLIL teaching does not lead to the teachers' increased propensity to find something of interest in any situation. The calculation of differences in the scores between primary school ($M = 3.5$; $SE = .17$), junior high school ($M = 3.74$; $SE = .10$), and high school ($M = 3.77$; $SE = .09$) did not yield statistically significant results [$\chi^2(2) = .38$, $p = .83$], revealing that the level of education of the teachers' work place did not influence a self-reported tendency to find something of interest independent of a situation (Figure 4).

6.10. I think my life is extremely interesting.

The reported scores for this statement did not correlate significantly with experience in CLIL [$\tau_b = .04$, $p = .47$], demonstrating no relationship between growing experience in CLIL teaching and self-perception of the teachers' life as interesting. The scores for primary school ($M = 3.23$; $SE = .21$), junior high school ($M = 3.37$; $SE = .13$), and high school ($M = 3.27$; $SE = .12$) did not differ significantly [$\chi^2(2) = .52$, $p = .77$] (Figure 4), showing that the educational level of

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the teachers' institution did not affect self-reported perception of their life as extremely interesting.

7. Discussion

The analysis of the self-reported scores for the statements connected with CLIL teachers' creativity and curiosity revealed that most of the tested aspects did not correlate significantly with the teachers' experience in CLIL and none of the tested aspects significantly depended on the educational level of the teachers' employing institution. The only significant correlations with CLIL experience were found within a feature of creativity for statements such as *Being able to come up with new and different ideas is one of my strong points*, *My friends say that I have lots of new and different ideas*, and *I am an original thinker*. It may suggest that some aspects of the teachers' self-reported creativity, however not all, may correlate to a certain extent with the duration of working with CLIL. When referring to the existing research, it was proven that CLIL teachers tended to lack confidence at the beginning of their CLIL career, as many of them did not have enough methodological knowledge about CLIL (Miller, 2009) and therefore being able to come up with new and different ideas was not considered to be one of the strong points. Furthermore, Miller (2009) pointed out to the lack creativity in terms of creating teaching materials at the beginning of their CLIL career which might support the view that the more experience the CLIL teachers have the more original thinkers they become. Kiely (2011), on the other hand, enumerated confidence, enthusiasm, and creativity as the features, which tended to be more visible due to the CLIL teachers' experience. In other words, when CLIL teachers gain more experience, they become more confident, enthusiastic, and creative about the CLIL approach. The data can be also interpreted from the Vygotskian perspective on the notion of creativity which is portrayed as an improvisational skill, the ability to make something out of what is available, to build and develop even in ordinary circumstances. It underscores the idea that creativity is not limited to traditional endeavors but permeates various aspects of human life and interaction (Vygotsky, 1978). The more experience the teachers gain in CLIL, the more willing they are to create something new in a foreign language through which ideas are expressed as noticed by other people (i.e., friends).

As for the type of school in which the CLIL teachers work, there is no significant correlation between the type of school and creativity. However, as Romanowski (2018) pointed out, those working in Junior High Schools tended to be a little bit more creative since no proper coursebooks and teaching materials were available which led to the development of their own didactic materials.

Moreover, considering the fact that no significant correlations between CLIL experience and aspects of curiosity were observed, we conclude that, at least in the data from the current questionnaire, longer experience with CLIL does not lead to increased teachers' curiosity. Another strong observation is that none of the tested aspects of curiosity depended on the educational level of the teachers' institutions. It robustly suggests that the teachers' self-perception of aspects such as curiosity is largely independent of the level of their teaching.

To sum up, it can be said that curiosity is a concept that influences teachers' behaviour, but it does not refer to the experience or the place where they work. It was identified as a driving force in human development (Sansone & Smith, 2000; Stern, 1973) and a very important factor in education (Day, 1982). Furthermore, as indicated by Malone and Lepper (1987), curiosity has a positive influence on learning and teaching. Since many studies conducted in the educational context showed that curiosity was an inborn feature leading towards the recognition, pursuit, and self-regulation of novel and challenging information and experiences

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(Çagirgan Gülten et al., 2011; Jirout, Vitiello & Zumbur, 2018; Kashdan & Roberts, 2004) it is worth investigating it in the CLIL context.

8. Conclusion

Curiosity and creativity are considered to be very crucial character virtues possessed not only by CLIL teachers but any teacher. One of the reasons why we decided to investigate curiosity among CLIL teachers was that we thought it was especially important in the context of content subjects. Greater curiosity-related behaviors and cognitions are persistently associated with greater learning, engagement, and performance in educational settings (Harackiewicz, et al., 2002) and work organizations (Reio & Wiswell, 2000). As for creativity, many researchers report that CLIL teachers lack teaching materials (Banegas, 2014; Ball, Kelly & Clegg, 2015; Cao, 2021; Mehisto, 2012; Mehisto & Ting, 2017) therefore we assumed that creativity would be very important in their case. Furthermore, teachers who are curious and creative manage their time effectively, provide opportunities for pupils to explore, reflect, review, and discuss. Additionally, the teachers should put a lot of effort into encouraging the students to experience a range of activities and deeply reflect on the content acquired. “CLIL offers a flexible framework for how language and content can be integrated across a greater range of contexts and settings” (Coyle, 2008: 99), and therefore, it requires a lot of creativity and innovation from the CLIL teacher. “CLIL provides a rich context for appreciating the role of creativity and curiosity within settings for teaching and learning” (Cross, 2012: 432). In other words, it fosters creativity and curiosity in educational environments because it encourages students to engage with subject matter in a different language, which can spark new perspectives and insights. CLIL itself is challenging, and curiosity together with creativity are needed to provide CLIL learners with new ideas and make them experience the language in meaningful contexts. The CLIL teacher also needs to pay attention to individual differences, use creative methods to motivate CLIL learners, and cater for individual differences in terms of language and content. CLIL should be an inclusive type of education, and therefore, it is necessary to reach all CLIL learners. Most importantly, teaching in CLIL should be dialogic and dynamic. In other words, the CLIL teacher should activate all CLIL learners. Curiosity and creativity are needed to deal with uncertainties turning them into meaningful learning outcomes. Finally, curiosity and creativity are needed when creating CLIL materials. “Since there is a lack of CLIL materials, CLIL teachers have to select them from the existing resources” (Pokrivčáková et al., 2015: 5), or they need to design and create materials themselves, which is not an easy task. In CLIL, teachers need to meet the requirements set by the integration of the content and language because CLIL is “an approach which is content-oriented but at the same time language-sensitive” (Wolff, 2005: 17). In essence, it is an educational approach that prioritizes content learning while also being mindful of language acquisition and usage.

9. Limitations of the study

Although the aim of the research has been reached, there are certain limitations of the study. Firstly, the number of the CLIL teachers having experience in CLIL above 20 years is not representative due to the fact that 20 years ago CLIL was hardly present in Poland. Secondly, the research was conducted in the Polish context only, therefore, it would be advisable to conduct similar research among CLIL teachers in other countries. Finally, the lack of current research on the issues investigated makes it quite difficult to compare the data. However, we

hope that the current research will encourage others to further investigate these issues not only in the CLIL context but also in EFL context.

Acknowledgement

The research activities financed by the funds granted under the Research Excellence Initiative of the University of Silesia in Katowice to the first and the second author.

References

- Ainley, M. D. (1998). Interest in learning and the disposition of curiosity in secondary students: Investigating process and context. In L. Hoffman, A. Krapp, K. A. Renninger, & J. Baumert (Eds.), *Interest and learning: Proceedings of the Seeon Conference on Interest and Gender* (pp. 257–266). Institute for Science Education.
- Ball, P., Kelly, K., & Clegg, J. (2015). *Putting CLIL into practice*. Oxford University Press.
- Banegas, D. L. (2014). An investigation into CLIL-related sections of EFL coursebooks: Issues of CLIL inclusion in the publishing market. *International Journal of Bilingual Education and Bilingualism*, 17(3), 345–359.
- Breidbach, S. & Medina-Suárez, J. (2016). Teachers' perspective on CLIL and classroom innovation in a method based on drama games. *Estudios sobre Educación (Special issue on Content and Language Integrated Learning)* 31, 97–116.
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119, 197–253.
- Cao, Y. (2021). Exploring Content and Language Integrated Learning (CLIL) teaching materials in Chinese universities: Teachers' and students' perceptions and reflections. *International Journal of English and Literature Vol. 12(3)*, 23–32.
- Coyle, D. (2008). CLIL – a pedagogical approach. In N. Van Deusen-Scholl & N. Hornberger (Eds.), *Encyclopedia of Language and Education*, 2nd edition (pp. 97–111). Springer.
- Coyle, D., Hood, P., & Marsh, D. (2010). *Content and Language Integrated Learning*. Cambridge University Press.
- Cremin, T. (2017). Teaching creatively and teaching for creativity. In R. Breeze, & C. Sancho Guinda (Eds.), *Essential Competences for English-Medium University Teaching* (pp. 99–110). Springer.
- Çagirgan Gülten, D., Yaman, Y., Deringöl, Y. & Özsari İ. (2011). Investigating the relationship between curiosity level and computer self-efficacy beliefs of elementary teachers' candidates. *TOJET: The Turkish Online Journal of Educational Technology*, 10(4), 248–254.
- Czura, A. & Papaja, K. (2013). Curricular models of CLIL education in Poland. *International Journal of Bilingual Education and Bilingualism* 16(3), 321–33.
- Day, H. I. (1982). Curiosity and the interested explorer. *Performance and Instruction*, 21, 19–22.
- del Pozo, E. (2016). Teaching social sciences through English: geography projects that work. In R. Breeze (Ed.), *CLIL + Science. New Directions in Content and Language Integrated Learning for Science and Technology* (pp. 92–99). Servicio de Publicaciones de la Universidad de Navarra.
- Fisher, R. (2004). What is creativity? In R. Fisher & M. Williams (Eds.), *Unlocking creativity: Teaching across the curriculum* (pp. 6–20). Routledge.

- García Hormigo, P. (2016). Moving toys in pre-school education. In R. Breeze (Ed.), *CLIL + Science. New Directions in Content and Language Integrated Learning for Science and Technology* (pp. 27–30). Servicio de Publicaciones de la Universidad de Navarra.
- Gondová, D. (2015). Selecting, adapting and creating CLIL materials, In Silvia Pokrivčáková, (Ed.), *CLIL in Foreign Language Education*, 153–163. UKF.
- Hafner, C., Miller, L. & Ng, C. (2017). Creativity and digital literacies in English for Specific Purposes. In R. Breeze, & C. Sancho Guinda (Eds.), *Essential Competences for English-Medium University Teaching* (pp. 111–123). Springer.
- Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology*, 94, 562–575.
- Higgins, J. & Moeed, A. (2017). Fostering curiosity in science classrooms: Inquiring into practice using cogenerative dialoguing, *Science Education International*, 28(3), 190–198.
- Hodson, D. (2014). Learning science, learning about science, doing science: Different goals demand different learning methods. *International Journal of Science Education*, 36(15), 2534–2553.
- Hönig, I. (2010). *Assessment in CLIL theoretical and empirical research*. VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG.
- Hughes, C. (2014). *Awakening student curiosity*. Paper given at OECD/CCR/Ecolint Character for a Challenging Century Conference Geneva. Available at: <https://curriculumredesign.org/wp-content/uploads/Awakening-Student-Curiosity-Conrad-Hughes.pdf>
- Jirout, J. J., Vitiello, V. E., & Zumbunn, S. K. (2018). Curiosity in schools. In G. Gordon (Ed.), *The new science of curiosity* (pp. 243–265). Nova Science Publishers.
- Jones, R. (Ed.). (2012). *Discourse and creativity*. Pearson.
- Johnson-Laird, P. N. (1988). Freedom and constraint in creativity. In R. J. Sternberg (Ed.), *The nature of creativity: Contemporary psychological perspectives* (pp. 202–219). Cambridge University Press.
- Kashdan, T. B., & Roberts, J. E. (2002). *Individual differences in interpersonally-generated positive and negative affect*. University at Buffalo, State University of New York.
- Kashdan, T. B. and Roberts, J. E. (2004). Trait and state curiosity in the genesis of intimacy: Differentiation from related constructs. *Journal of Social and Clinical Psychology*, 23, 792–816.
- Kiely, R. (2011). Understanding CLIL as an innovation. *Studies in Second Language Learning and Teaching*, 1(1), 153–171.
- Kreitler, S., Kreitler, H., & Zigler, E. (1974). Cognitive orientation and curiosity. *British Journal of Psychology*, 65, 43–52.
- Linley, P. A., Maltby, J., Wood, A. M., Joseph, S., Harrington, S., Peterson, Ch., Park, N. & Seligman, M. E. P. (2007). Character strengths in the United Kingdom. The VIA Inventory of Strengths. *Personality and Individual Differences* 43, 341–351.
- Lobman, C. (2010). Creating developmental moments: Teaching and learning as creative activities. In M. C. Connery, V. John-Steiner & A. Marjanovic-Shane (Eds.), *Vygotsky and creativity: A cultural-historical approach to play, meaning making, and the arts* (pp. 199–214). Peter Lang.
- Loughran, J., Berry, A., & Mulhall, P. (2012). *Understanding and developing science teachers' pedagogical content knowledge*. Sense.

- Maley, A. (2017). In search of creativity. In R. Breeze, & C. Sancho Guinda (Eds.), *Essential Competences for English-Medium University Teaching* (pp. 85–98). Springer.
- Malone, T. W., & Lepper, M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R. E. Snow & M. J. Farr (Eds.), *Aptitude, Learning and Instruction III: Conative and affective process analyses* (pp. 223–253). Erlbaum.
- Marsh, D., Järvinen, H-M., & Haataja, K. (2007). Finland: Perspectives from Finland. In A. Maljers, D. Marsh & D. Wolff (Eds.), *Windows on CLIL: Content and language integrated learning in the European spotlight*, (pp. 63–83). European Platform for Dutch Education.
- Marsh, D. Zając, M., Gozdawa-Gołębiowska, H. Czura, A., Gapińska, A., Majewska, R., Papaja, K., Roda, M., Urbaniak, M. & Wróblewska, E. (2008). *Profile report – bilingual education (English) in Poland*. The National Centre for Teacher Training and Development (CODN) & British Council Poland.
- McCrae, R. R., & Costa, P. T. (1997). Conceptions and correlates of openness to experience. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 825–847). Academic Press.
- Mehisto, P. (2012). Criteria for producing CLIL learning material. *Encuentro*, 21, 15–33.
- Mehisto, P., & Ting, T. Y. L. (2017). *CLIL essentials for secondary school teachers*. Cambridge University Press.
- Miller, J. (2009). Teacher identity. In A. Burns, & J. Richards (Eds.), *The Cambridge to second language teacher education* (pp. 172–181). Cambridge University Press.
- Morton, T. (2013). Critically evaluating materials for CLIL: Practitioners' practices and perspectives. In J. Gray (Ed.), *Critical Perspectives on Language Teaching Materials* (pp. 111–136). Palgrave Macmillan.
- Naylor, S. (2016). Concept cartoons: talking science, thinking science. In R. Breeze (Ed.) *CLIL + Science. New Directions in Content and Language Integrated Learning for Science and Technology* (pp. 18–22). Servicio de Publicaciones de la Universidad de Navarra.
- Newman, F. & Holzman, L. (1997). *The end of knowing: A new developmental way of learning*. Routledge.
- Newman, F. and Holzman, L. (1993). *Lev Vygotsky: Revolutionary scientist*. Routledge.
- Papaja, K. 2014. *Focus on CLIL. A qualitative evaluation of Content and Language Integrated Learning (CLIL) in Secondary Education*. Cambridge Scholars.
- Papaja, K. 2017. Jakim jestem nauczycielem? Jakim chcę być nauczycielem? Miejsce refleksji w życiu początkującego nauczyciele. In A. Stolarczyk-Gembiak, A. & A. Woźnicka (Eds.) *Zbliżenia 3. Językoznawstwo. Translatologia*. (pp. 101-114). Państwowa Wyższa Szkoła Zawodowa w Koninie.
- Papaja, K. 2019. "I don't want to teach anymore" - burnout syndrome among the English teachers. In O. Mentz, & H-P. Burth (Eds.) *Border Studies: Concepts, Positions and Perspectives in Europe* (pp. 259–277). Lit Verlag.
- Peterson, Ch., & Seligman, M. E. P. (2004). *Strengths and virtues. A handbook and classification*. Oxford University Press.
- Plucker, J., Beghetto, R., & Dow, G. (2004). Why isn't creativity more important to educational psychologists? Potential, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39, 83–96.
- Reio, T. G., & Wiswell, A. (2000). Field investigation of the relationship among adult curiosity, workplace learning, and job performance. *Human Resource Development Quarterly*, 11, 5–30.
- Richards, R. (Ed.). (2007). *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives*. American Psychological Association.

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- Romanowski, P. (2018). CLIL Models in Polish Lower Secondary Schools. *Kwartalnik Neofilologiczny LXV*, 4, 591–604.
- Sansone, C., & Smith, J. L. (2000). Interest and self-regulation: The relation between having to and wanting to. In C. Sansone & J. M. Harackiewicz (Eds.) *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 341–372). Academic Press.
- Stern, D. N. (1973). *The interpersonal world of the child*. Basic Books.
- Sternberg, R. J. (2012). The Assessment of Creativity: An Investment-based Approach. *Creativity Research Journal*, 24(1), 3–12.
- Taber, K. S. (2014). *Modelling learners and learning in science education*. Berlin: Springer.
- Von Stumm, S., Hell, B. & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspectives on Psychological Science*, 6(6), 574–588.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Westbrook, R. (1991). *John Dewey and American democracy*. Cornell University Press.
- Wolff, D. (2005). *Approaching CLIL. Report of central workshop 6/2005: CLIL quality matrix*. http://archive.ecml.at/mtp2/elilmatrix/pdf/wsrepD3E2005_6.pdf
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge University Press.