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Title: The CLIL mindset : investigating open-mindedness of CLIL teachers

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The CLIL mindset: investigating open-mindedness of CLIL teachers

Abstract: The aim of the article is to discuss the research results of one of the most important character virtue, namely open-mindedness. The research was conducted among CLIL teachers for whom this virtue seems to be indispensable, bearing in mind various obstacles, which they have to face in CLIL education e.g. lack of 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. The VIA Inventory of Strengths (VIA-IS) is a 120-item measure of character strengths, with each of 24 character strengths assessed by 10 items. In the following article, only the data concerning open-mindedness will be discussed.

Keywords: CLIL, teacher development, open-mindedness, character strengths

Introduction

The notion of what it means to be a good teacher is a very complicated one, as good teachers need to have many qualities. One of them is open-mindedness, which helps individuals build knowledge about specific issues or points of view as well as form recommendations and give advice. Open-minded teachers do not jump to conclusions. Instead, they look for and examine all of the available evidence before forming an opinion. As for Content and Language Integrated Learning (CLIL), which is “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), open-mindedness is very crucial. The teachers need to be open-minded to the language and content knowledge at the same time, which is very challenging.

1. Open-mindedness

Open-mindedness is the willingness to search actively for evidence against one's favoured beliefs, plans, or goals, and to weigh such evidence fairly when it is available (GREENWALD, 1980). This character strength helps individuals build knowledge about specific issues or points of view as well as form recommendations and give advice. Open-minded people do not jump to conclusions. Instead, they look for and examine all of the available evidence before forming an opinion. A lot of research on open-mindedness has been conducted by cognitive psychologists who studied the relationship of open-mindedness to other styles of thinking rather than to personality traits (KUHN et al., 1988; KUHN, 1991; STANOVICH & WEST, 1997). On the other hand, PERKINS et al. (1986) claim that open-mindedness is a strength of character, thus based on evidence that it counteracts a prevalent weakness in thinking, the tendency to favor ideas that are strong.

Open-mindedness is linked with judgement and critical thinking. PETERSON & SELIGMAN (2004: 29) claim that "there is no open-mindedness with these two virtues". CUMMING et al. (2006: 16) argue that "teachers as professionals are able to make appropriate judgements about students' work and ... are best placed to make judgements... and to provide full information on student performance in a range of contexts and through a range of assessment opportunities". In other words, judgement is an inseparable component of teaching and learning. Critical thinking, on the other hand, "includes the component skills of analyzing arguments, making inferences using inductive or deductive reasoning, judging or evaluating, and making decisions or solving problems. Background knowledge is a necessary but not a sufficient condition for enabling critical thought within a given subject" (LAI, 2011: 2). Through critical thinking, the teachers make the learners eager to learn by discovering truths, beliefs, and investigate various dilemmas. They also help them to make their own judgements (FIREY, 1999; LE & DEFILIPPO, 2008; ROZGAY-MILLER, 2009). LAPOINT-O'BRIEN (2013) states that teachers need to help the students understand concepts, which appears to be the goal of education. Linking the material and fully grasping the meaning behind the actions of historical figures, the events came to light the message from an author, or how figures in math are always the same allows the student to have a deeper understanding of the material and a richer experience. Adequately addressing the needs in education, namely, rote memorization versus the facilitation of critical thinking skills, the goal of teaching needs to be concerned with encouraging students to become receptive, perceptive, reflective, critical, and question inconsistencies within the lessons presented (EDMONDS et al., 2005; IRFANER, 2006; SEZER, 2008; SLAVIN, 2012).

2. CLIL in the context of open-mindedness

CLIL is based on a set of theories, which include **cognitive learning**, namely **constructivism** and social **constructivism**. In the core of these theories are open-mindedness, judgement, and critical thinking. Each CLIL teacher should display these character strengths but should also be aware of the main assumptions of these theories. **Cognitive learning** theories suggest that people remember things more effectively if they spend more time thinking about them. CLIL is a very useful tool because learners have to work harder if they learn in a foreign language. However, it is the CLIL teachers' role to help them remember what they have learned, not only in terms of language but also of content. Besides, the CLIL teachers need to notice the conflict between the existing ideas and new ideas. They also need to know how to express these ideas in a foreign language, so they are properly understood by the CLIL learners. In **constructivist theories** of learning, learners are thought to build up knowledge for themselves. These theories emphasize learning, which involves the creation of new personal meaning with the new material (DALE et al., 2011). The CLIL teachers themselves need to make their own judgements as far as the material is concerned and make the link between the existing and the new knowledge by comparing new ideas and information. **Social constructivist** theories of learning stress the importance of learning as a social and dynamic process through interacting with one another (ibidem). In this case, open-mindedness is the character strength that can be very useful. The CLIL teachers should show the CLIL learners that by listening to others' ideas, participating in-group activities, they will be able to create their own ideas and opinions. It is the CLIL teachers' task to "consider how to actively involve learners to enable them to think through and articulate their own learning" (COYLE et al., 2010: 29). Therefore, for CLIL teaching to support effective learning, it is the CLIL teacher who needs to have all these character strengths and maintain the balance between cognitive challenges as well as support and judge the CLIL learners' progress.

3. Research review

Open-mindedness is often regarded as one of the most important virtues among teachers. The extent to which teachers are open-minded has been investigated in the context of teachers' ability to judge and think critically. The literature on foreign language teaching stresses the importance of integrating critical thinking skills into English language pedagogy (CHAMOT, 1995; DAVIDSON &

DUNHAM, 1997; TUNG & CHANG, 2009), as it is believed that the teacher is the crucial “factor” whose knowledge and skills have a tremendous impact on the improvement of critical thinking skills among language learners (STAPLETON, 2011).

Most of the research conducted on open-mindedness, judgement, and critical thinking skills focus on the students’ abilities (BAHADUR RANA, 2012; PINEDA BÁEZ, 2004; CROOKES, 2010; QING et al., 2013; BOBKINA & STEFANOVA, 2016). Not much research has been conducted among teachers or CLIL teachers. ASGHATHEIDARI and TAHRIRI (2015) investigated EFL teachers’ attitude towards open-mindedness and critical thinking using an attitude questionnaire. The results showed that most of the teachers valued open-mindedness and critical thinking, and they also expressed their need for more training on how to teach these skills. KOÇ-ERDAMAR and BANGIR-ALPAN (2017), on the other hand, examined critical thinking levels of teachers from various areas such as science, mathematics, social sciences, foreign languages, physical education, and arts. The findings revealed that the participating teachers’ critical thinking abilities were at a medium level. Additionally, the teachers’ critical thinking and open-mindedness tendencies and levels were insufficient. The research results go in tandem with the research results obtained by ALKIN (2012), who found out that teachers (from various areas) did not possess the competence required by the teaching profession in terms of teaching critical thinking skills. Moreover, KAVANOZ and AKBAŞ (2017), who conducted the research among the language teachers, draw a conclusion that the lack of critical thinking skills was due to “insufficient time, inadequate materials, and unsuitability of students’ level for critical thinking activities” (p. 429).

In view of the present scarce research on open-mindedness among teachers, there is a need to integrate open-mindedness together with critical thinking into English language pedagogy (WELLS, 2011; MULHALL et al., 2017). Teachers should be open-minded and advocate higher-order thinking, as they are one of the most significant factors in students’ education (O’MALLEY & CHAMOT, 1995; BROWN, 2004; COCHRAN-SMITH, 2005).

4. The current study

The aim of the current study is to examine open-mindedness among CLIL teachers, which is considered to be one of the most needed character virtues any teacher should have. Based on the literature review, I assumed that there is a strong relationship between teaching experience, teaching experience gained in CLIL education, type of school, type of subject being taught, and open-mindedness. Therefore, the research questions were the following:

1. What is the correlation between teaching experience and open-mindedness?
2. What is the correlation between the teaching experience gained in CLIL education and open-mindedness?
3. What is the correlation between the type of school and open-mindedness?
4. What is the correlation between particular subjects taught in English and open-mindedness?

4.1. Participants and procedure

A total of **149** CLIL teachers participated in the study; **122** females and **27** males. The participants were contacted through e-mail and asked whether they wanted to participate in the research. The researcher contacted 171 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 1 below:

Table 1

Participants' basic data

		Number of participants
Teaching experience	0–1 year	21
	2–4 years	31
	5–10 years	28
	11–20 years	36
	more than 20 years	33
Teaching experience in CLIL	0–1 year	27
	2–4 years	44
	5–10 years	40
	11–20 years	36
	more than 20 years	2
Type of school	Primary School	30
	Junior High School	57
	High School	62
Subjects taught	Art	5
	Maths	26
	Natural Sciences	15
	History	18
	Physics	15
	Chemistry	9
	Biology	24
	Geography	30
Social Sciences	7	

Source: Own study.

The research was conducted between September 2017 and June 2018, and the participants were asked to fill in the questionnaire, either the online version or the paper one.

4.2. Data collection instrument

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) is a 120-item measure of character strengths, with each of 24 character strengths assessed by 10 items” (LINLEY et al., 2007: 343). The inventory was administered among CLIL teachers (30–40 min).

Participants were instructed to answer each item in relation to *whether the statement describes what you are like*, and responses are fully anchored on a five-point scale from (1 – very much unlike me; 5 – very much like me). Sample items include *I find the world a very interesting place* (curiosity), and *I always let bygones be bygones* (forgiveness). Scores for each of the 24 strengths have a potential range of 10 through 50, with higher scores indicating a greater endorsement of the strength (ibidem).

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 open-mindedness will be discussed; therefore, the following statements have been selected for the analysis:

OPEN-MINDEDNESS:

1. I value my ability to think critically.
2. When the topic calls for it, I can be a highly rational thinker.
3. Thinking things through is a part of who I am.
4. I always weigh the pros and cons.
5. I try to have good reasons for my important decisions.

In the current analysis, four categorical predictors were selected: teaching experience, teaching experience in CLIL, type of school, and the subject taught. Apart from the basic analysis presented in the Tables below, Rho Spearman's correlation test ($r_{s(149)} = .190$, $p = .020$), Anova test ($F(2, 149) = 3.226$, $p = .043$) and Post-hoc Sheffe's test ($p < .05$) were used.

5. Study results

In the following pages, the results of the current research will be discussed. All the results are presented in Tables 2–6 according to the following predictors: teaching experience, teaching experience in CLIL, type of school where particular teachers work, and subjects taught in a foreign language.

In Table 2, data concerning the appreciation of the ability to think critically is presented.

Table 2

I value my ability to think critically.

Predictors		1	2	3	4	5
Teaching experience	0–1 year	0	0	8	11	2
	2–4 years	0	3	8	19	1
	5–10 years	0	0	8	13	7
	11–20 years	0	0	7	18	11
	more than 20 years	0	1	5	14	13
Teaching experience in CLIL	0–1 year	0	3	4	15	5
	2–4 years	0	6	10	19	9
	5–10 years	0	3	13	16	8
	11–20 years	0	4	7	19	6
	more than 20 years	0	0	0	1	1
Type of school	Primary School	0	0	9	18	3
	Junior High School	0	6	14	27	10
	High School	0	6	16	25	15
Subjects taught	Art	0	0	2	3	0
	Maths	0	0	5	13	8
	Natural Sciences	0	0	3	10	2
	History	0	1	6	9	2
	Physics	0	4	4	5	2
	Chemistry	0	1	1	5	2
	Biology	0	3	5	12	4
	Geography	0	3	10	9	8
Social Sciences	0	0	3	3	1	

Source: Own study.

As far as teaching experience is concerned, it can be seen from the data presented in Table 2 that most CLIL teachers, no matter how much teaching

experience they have value their ability to think critically. Nevertheless, there are a few CLIL teachers with the teaching experience in CLIL ranging from 2 to 4 years ($n = 13$) or 11 to 20 years ($n = 13$) who do not value their ability to think critically or could not really state if they did or not. When looking at the data concerning the type of school in which the CLIL teachers teach, it can be noticed that a significant number of CLIL teachers from Junior High School ($n = 27$) and High School ($n = 25$) value their ability to think critically, however, there were a few teachers who were unable to answer the question. As for the subjects under investigation, CLIL teachers who specialize in maths, natural sciences, and biology tend to value their ability to think critically the most. It should also be noticed that none of the CLIL teachers stated that there they did not value their ability to think critically at all.

Table 3

When the topic calls for it, I can be a highly rational thinker.

Predictors		1	2	3	4	5
Teaching experience	0–1 year	0	2	3	13	3
	2–4 years	0	6	7	12	6
	5–10 years	0	0	9	14	5
	11–20 years	0	2	11	18	5
	more than 20 years	0	5	4	14	10
Teaching experience in CLIL	0–1 year	0	0	9	13	5
	2–4 years	0	3	12	24	5
	5–10 years	0	0	11	18	11
	11–20 years	0	0	5	16	15
	more than 20 years	0	0	0	2	0
Type of school	Primary School	0	2	7	13	8
	Junior High School	0	2	15	28	12
	High School	0	2	9	35	16
Subjects taught	Art	0	0	2	2	1
	Maths	0	2	3	14	7
	Natural Sciences	0	1	3	7	4
	History	0	1	4	8	5
	Physics	0	1	5	6	3
	Chemistry	0	0	2	6	1
	Biology	0	0	5	11	8
	Geography	0	1	7	16	6
Social Sciences	0	0	1	6	0	

Source: Own study.

The data presented in Table 3 shows that most of the CLIL teachers, no matter how much experience they have in teaching, can be highly rational thinkers when the topic calls for it. However, the CLIL teachers whose teaching experience ranges from 5 to 10 years or from 11 to 20 years were the ones who mostly hesitated when providing the answer to the question ($n = 9$; $n = 11$). When looking at the data concerning teaching experience in CLIL, the numbers are similar to the data concerning teaching experience in general. Nevertheless, the CLIL teachers whose teaching experience ranges from 2 to 4 years are the ones often chose the answer “I don’t know”. As for the type of school, it can be noticed even though most of the CLIL teachers agreed with the statement, 15 of the CLIL teachers working in the Junior High School chose the answer “I don’t know”. As for the data concerning the subjects, the study participants teaching maths, biology, and geography tend to be highly rational thinkers when the topic calls for it.

Table 4

Thinking things through is a part of who I am.

Predictors		1	2	3	4	5
Teaching experience	0–1 year	1	1	6	10	3
	2–4 years	3	1	19	6	2
	5–10 years	0	1	6	14	7
	11–20 years	0	0	8	19	9
	more than 20 years	0	0	9	16	8
Teaching experience in CLIL	0–1 year	2	1	7	13	4
	2–4 years	2	2	21	13	6
	5–10 years	0	0	12	18	10
	11–20 years	0	0	8	21	7
	more than 20 years	0	0	0	1	1
Type of school	Primary School	0	1	11	15	3
	Junior High School	1	1	20	26	9
	High School	3	1	16	25	17
Subjects taught	Art	0	0	2	3	0
	Maths	0	0	9	11	6
	Natural Sciences	0	1	5	6	3
	History	0	0	4	9	5
	Physics	2	0	6	6	1
	Chemistry	1	0	3	4	1
	Biology	0	0	7	11	6
	Geography	1	1	9	12	7
Social Sciences	0	1	2	4	0	

Source: Own study.

From the data presented in Table 4, it can be inferred that a significant number of the CLIL teachers having teaching experience ranging from below 1 year up to more than 20 years strongly agree or agree with the statement that “thinking things through is a part of who I am”. However, 19 participants of the study whose teaching experience ranges from 2 to 4 years chose the answer “I don’t know”. As for the data concerning teaching experience in CLIL, the numbers are very similar. Again, some CLIL teachers ($n = 21$) whose teaching experience in CLIL ranges from 2 to 4 years were unable to answer the question and chose the option “I don’t know”. Most of the CLIL teachers who work in Primary, Junior High or High School strongly agree or agree with the statement. However, a significant number of the CLIL teachers ($n = 11$ Primary School; $n = 20$ Junior High School; $n = 16$ High School) hesitated and chose the answer “I don’t know”. As for the data concerning the subjects taught in a foreign language, those study participants teaching maths, biology, and geography tend to strongly agree or agree with the statement.

Table 5

I always weigh the pros and cons.

Predictors		1	2	3	4	5
Teaching experience	0–1 year	0	2	8	10	1
	2–4 years	0	4	12	10	5
	5–10 years	0	0	7	17	4
	11–20 years	0	0	10	18	8
	more than 20 years	0	2	8	16	7
Teaching experience in CLIL	0–1 year	0	3	9	12	3
	2–4 years	0	4	15	18	7
	5–10 years	0	1	12	22	5
	11–20 years	0	0	8	18	10
	more than 20 years	0	0	1	1	0
Type of school	Primary School	0	3	7	15	5
	Junior High School	0	3	18	26	10
	High School	0	2	19	30	11
Subjects taught	Art	0	1	1	2	1
	Maths	0	1	8	12	5
	Natural Sciences	0	0	3	9	3
	History	0	0	6	11	1
	Physics	0	1	3	9	2
	Chemistry	0	1	4	2	2
	Biology	0	1	8	10	5
	Geography	0	2	10	11	7
Social Sciences	0	0	2	5	0	

Source: Own study.

When looking at the data presented in Table 5, it can be seen that most of the respondents, no matter how long their experience in teaching or experience in CLIL is, agree with the statement. However, particular attention should be paid to the respondents whose teaching experience is between 2 and 4 years and 11 and 20 years. A significant number of the CLIL teachers chose the answer “I don’t know” ($n = 12$; $n = 10$). A very similar situation can be observed when analyzing the data provided by the CLIL teachers with the teaching experience in CLIL ranging between 2 and 4 years – 15 of them provided the answer “I don’t know”. As for the CLIL teachers working in Junior High School and High School, the number of the respondents who chose the answer “I don’t know” is quite significant ($n = 18$; $n = 19$, respectively). Most of the Primary School CLIL teachers agree or strongly agree with the statement ($n = 15$; $n = 5$, respectively). In the case of the subjects taught, a significant number of the CLIL teachers agree or strongly agree with the statement. However, a remarkable number of geography CLIL teachers ($n = 10$) seem to have some doubts and chose the answer “I don’t know”.

Table 6

I try to have good reasons for my important decisions

Predictors		1	2	3	4	5
Teaching experience	0–1 year	0	0	0	18	3
	2–4 years	0	1	3	24	3
	5–10 years	0	0	0	16	12
	11–20 years	0	2	4	17	13
	more than 20 years	1	3	4	13	12
Teaching experience in CLIL	0–1 year	0	0	2	21	4
	2–4 years	0	3	2	29	10
	5–10 years	1	1	4	21	13
	11–20 years	0	2	3	16	15
	more than 20 years	0	0	0	1	1
Type of school	Primary School	0	3	3	16	8
	Junior High School	1	1	4	38	13
	High School	0	2	4	34	22
Subjects taught	Art	0	0	1	2	2
	Maths	0	1	1	11	13
	Natural Sciences	0	1	1	9	4
	History	0	1	1	12	4
	Physics	0	1	1	8	5
	Chemistry	0	0	1	1	7
	Biology	1	0	3	14	6
	Geography	0	1	2	19	8
	Social Sciences	0	0	0	1	6

Source: Own study.

The data presented in Table 6 shows that a significant number of CLIL teachers whose teaching experience ranges from 0 up to 20 or even more years, agree or definitely agree with the statement “I try to have good reasons for my important decisions”. The same tendency can be noticed when analyzing the data concerning teaching experience in CLIL. Only few respondents whose teaching experience in CLIL ranges from 2 to 4 years ($n = 3$) or from 11 to 20 years ($n = 2$) did not agree with the statement. When analyzing the data concerning the type of school, most of the CLIL teachers working in Primary School ($n=16$), Junior High School ($n = 38$), and High School ($n = 34$) agree with the statement. As for the data concerning the subjects being taught in English, most of the CLIL teachers agree or strongly agree with the statement.

To sum up the data from Tables 2–6, it can be noticed that no matter how much experience the CLIL respondents have either in teaching English or teaching in CLIL a significant number of them tend to value critical thinking, try to be rational thinkers, weigh the pros and cons and also have good reasons for important decisions. As for the type of school, most CLIL teachers working in Junior High School or High School indicate a significant awareness of critical thinking, which is connected with the type of education they deal with. While working with older learners, the CLIL teachers need to be more skilled at analyzing, making inferences, judging, or evaluating than those working with young learners. According to CHANGWONG, SUKKAMART and SISAN (2018: 40):

as students progress into junior and senior high school, critical thinking skills, decision-making skills, and information gathering skills need to be taught. The individual must also be skilled at *evaluating* the future consequences of their present actions and the actions of others. They need to be able to determine *alternative solutions* and to *analyze the influence* of their own values and the values of those around them.

The CLIL teachers who teach maths, biology, geography, or history tend to value critical thinking the most. It is probably due to the specific nature of these subjects, which require a lot of critical thinking. The results do not go in tandem with the research results obtained by ZOHAR (2004), ALKIN (2012) and KOÇ-ERDAMAR and BANGIR-ALPAN (2017), who examined critical thinking skills of teachers from various areas and found out that the teachers’ critical thinking levels and open-mindedness tendencies were not adequate. As there is not enough research conducted among the CLIL teachers, it is very difficult to state whether the data obtained in the present study have been influenced by CLIL itself or not. It is important to bear in mind that due to the integration of content and language these skills are more needed, which has been emphasized by HANESOVÁ (2014: 37), who claims that “flexibility of thinking is the

result of educational interconnectedness of content, topic, variety of skills and learning styles”.

Table 7

The correlation between teachers' experience, teachers' experience in CLIL, type of school and open-mindedness (Rho Spearman's Test)

Character strengths		Teaching experience	Teaching experience in CLIL	Type of school
Open-mindedness	Correlation	.225**	.232**	.044
	Bilateral significance	.006	.004	.595
	N	149	149	149

Source: Own study.

Table 7 presents the correlation between teachers' experience, teachers' experience in CLIL, type of school and, open-mindedness. As can be noticed from the data, there is a significant correlation between teachers' experience and open-mindedness ($r(149) = .225$, $p = .006$) and also between teachers' experience in CLIL and open-mindedness ($r(149) = .232$, $p = .004$). However, there is no correlation between the type of school and open-mindedness ($r(149) = .044$, $p = .595$). The observed correlation in the case of teachers' experience and teachers' experience in CLIL and open-mindedness is positive and strong, which indicates that the more experience the teachers have either in teaching or in teaching in CLIL, the more open-minded they are. The results go in tandem with the basic data presented above, according to which the teachers who have more experience either in teaching or in teaching in CLIL tend to be more open-minded. In the case of the type of school, the data indicates that open-mindedness does not depend on the type of school in which the CLIL teachers work. The data obtained through the Rho Spearman's Test supports the above-presented results as well as further analysis using ANOVA test ($F(2, 149) = 3.226$, $p = .043$) (Table 8) and Post-hoc Sheffe's test ($p < .05$) (Figure 1).

Table 8

ANOVA statistics concerning open-mindedness and the type of school

Character strength	Type of school	N	Mean	Standard deviation
Open-mindedness	Primary education	30	19.0667	2.51798
	Junior High School	57	19.1579	2.84598
	High School	62	19.4839	2.90698
	General	149	19.2752	2.79686

Source: Own study.

In order to delineate the variations between the teachers working in a different type of school, another analysis was conducted with the use of ANOVA ($F(2, 149) = 3.226, p = .043$). The data presented in Table 8 shows that there are no significant variations in the groups as far as open-mindedness is concerned. The data is as follows: Primary School CLIL teachers: $M = 19.0667$; $SD = 2.51798$; Junior High School CLIL teachers: $M = 19.1579$; $SD = 2.84598$; High School CLIL teachers: $M = 19.4839$; $SD = 2.90698$. In other words, there is no significant relation between open-mindedness of the CLIL teachers and the type of school in which they work.

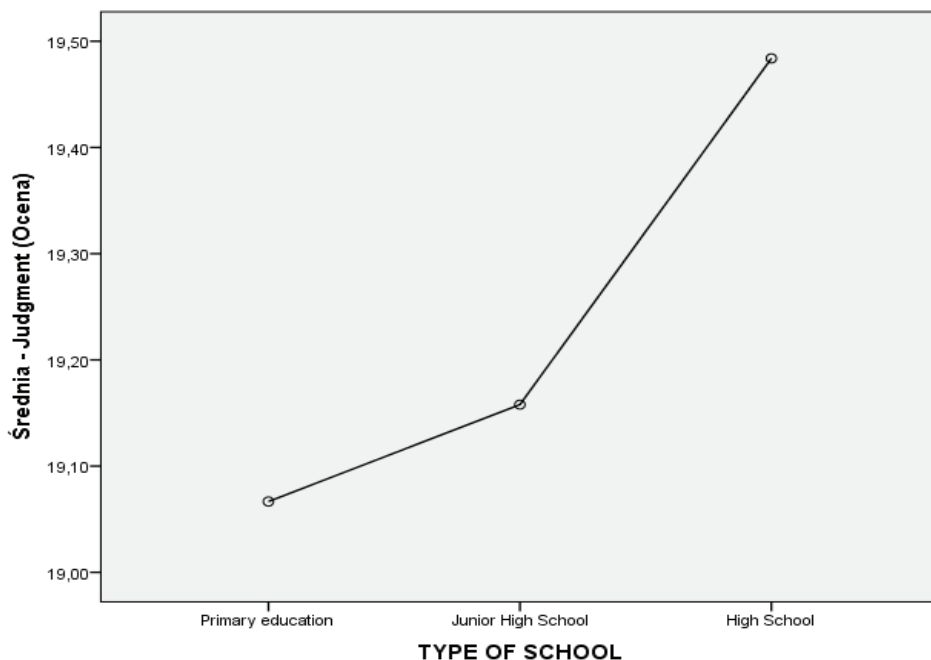


Figure 1. Post-hoc Sheffe's test concerning open-mindedness and the type of school.

Source: Own study.

The data presented in Table 8 and Figure 1 concerning the type of school in which the CLIL teachers work goes in tandem with the data presented in Tables 2–7, which indicates that the variations between the groups are not very significant. It can be clearly seen from Figure 1 that the differences between the CLIL teachers working in particular schools are minor. CLIL teachers working in High School tend to be slightly more open-minded, which bearing in mind the requirements concerning High School content subjects is understandable.

Table 9

The correlation between the subjects taught in English and open-mindedness
(Rho Spearman's Test)

Character strength		Art	Maths	Natural Sciences	History	Physics	Chemistry	Biology	Geography	Social sciences
Open-mindedness	Correlation	,091	,068	,043	,183'	,130	,045	,217'	,260'	,120
	Bilateral significance	,305	,495	,746	,068	,110	,829	,053	,041	,068
	N	5	26	15	18	15	9	24	30	7

Source: Own study.

The correlation between particular content subjects taught in English and open-mindedness is presented in Table 9. As the data indicates, there is a significant correlation between history and open-mindedness ($rs(18) = .183$, $p = .068$), biology and open-mindedness ($rs(24) = .217$, $p = .053$), and geography and open-mindedness ($rs(30) = .260$, $p = .041$). The observed correlation in the case of history and open-mindedness is positive but not very strong, however, in the case of biology and geography, the correlation is both positive and strong. The data suggests that CLIL teachers who teach biology and geography tend to be the most open-minded. The data supports BENÉKER, VAN DIS and VAN MIDDELKOOP's (2014) findings, who state that there is a strong link between geography teachers and open-mindedness. They claim that "geography education aims to enrich the world views of young people and contribute to their global awareness" (BENÉKER, VAN DIS & VAN MIDDELKOOP, 2014: 6), and those who can help young people are open-minded or world-minded teachers. In the case of biology, there is no scientific data which could support the research results presented above. Nevertheless, Harding and Hare (2000) claim that each science requires open-mindedness and biology definitely belongs to the group of scientific subjects; therefore the CLIL biology teachers indicate a higher level of open-mindedness. As for the data concerning the other subjects, there is no correlation between the subjects and open-mindedness. Even though most of the CLIL teachers teaching subjects such as maths, art, natural sciences, or social sciences mostly strongly agreed or agreed with the statements relating to open-mindedness (Tables 2–6), the data presented in Table 9 do not confirm it.

6. Discussion

The concept of open-mindedness, especially in the context of CLIL, requires much endorsement as CLIL is the perfect approach offering a learning environment where learners get a chance to use their cognitive skills and construct their own knowledge. They only need to be intellectually challenged, and this is the CLIL teachers' task who need to be open-minded themselves and guide their learners towards transforming information, showing how to solve problems and discover meaning using creative thinking skills.

When analyzing the data obtained from the study, it can be noticed that there is a significant correlation between CLIL teachers' general experience, experience in CLIL and open-mindedness. To put it simply, the more experience the CLIL teachers have either in teaching or in teaching in CLIL, the more open-minded they are. Even though there is no research that could support the findings above, open-mindedness is considered to be one of the key CLIL teacher competences as the ability to apply the strategies encouraging critical thinking about content and language help learners to find a link between language and content subjects (MELLION, 2008; BERTAUX et. al., 2010; MARSH et. al., 2010). On the other hand, it is not surprising that these CLIL teachers who do not have enough teaching experience, especially in CLIL, tend to be less open-minded. They need time to adapt to the CLIL approach but also to develop their own good teaching practices.

As for the type of school in which the CLIL teachers work, there is no significant correlation between the type of school and open-mindedness (Tables 7–8; Figure 1). However, as can be mainly noticed from the data presented in Figure 1, there is a small difference between the CLIL teachers working in Primary School, Junior High School and Secondary School. The CLIL teachers working in Secondary School tend to be a little more open-minded, which might be due to their higher proficiency in a foreign language or “bigger control for linguistic development, and the foreign language being relegated to be used as a secondary tool” (VAZQUEZ & RUBIO, 2010: 49).

Last but not least, is the correlation between particular content subjects taught in a foreign language and open-mindedness. A significant correlation has been noticed between history and open-mindedness, biology and open-mindedness, and geography and open-mindedness (Table 9). As reported by DALE and TANNER (2012), history, biology and geography tend to be particularly favoured as CLIL subjects, which might be due to the global dimensions of the topics they cover. History requires a wider perspective, hence open-mindedness. Similarly to history, biology and geography, which apart from open-mindedness crave for the ability to “teach by doing”, are widely reported to be significant and attractive.

Even though physics and chemistry also require experimenting, the strictly theoretical nature of these subjects might impede the CLIL teachers' open-mindedness. The same can be said about maths, which is considered to be the most difficult subject to be taught in CLIL (ZYDATIՅ, 2012). Finally, the last argument voiced as the reason for the CLIL teachers of more scientific subjects being less open-minded is language. These CLIL teachers are reported to feel less confident teaching in the foreign language, and therefore, they avoid methods promoting open-mindedness (SPRATT, 2017).

7. Conclusion

Open-mindedness has been seen as a desirable strength not only with regards to CLIL teachers but also teachers in general (LIPMAN, 1988; KENNEDY et al., 1991; PITHERS & SODEN, 2000; WILLINGHAM, 2007). Even though an accurate definition of open-mindedness provided by the researchers might still seem to be ambiguous, there are common characteristics of open-mindedness shared by most researchers. Generally, open-mindedness is considered to include the ability to analyze arguments, evaluate, judge, make references by using inductive and deductive reasoning, and make decisions. Additionally, open-mindedness involves metacognition, in other words, "thinking about thinking", collaboration, namely the willingness to cooperate with others, and creativity, which is perceived as the ability to look for solutions by rearranging what is already known to learn what is not known.

CLIL as a modern approach to content and language teaching 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 open-minded teachers who will encourage the development of students' critical thinking skills. The study whose aim was to investigate CLIL teachers' open-mindedness may be a good opportunity for the institutions educating future teachers to start paying attention to this important issue, and implement effective ways aiming for the development of open-mindedness as well as other creative thinking skills in the context of a specific subject.

8. Limitations of the study

Although the aim of the research has been reached, there are certain limitations of the study. Firstly, the number of CLIL teachers having experience in CLIL above 20 years is not representative. It should be underlined that 20 years ago CLIL was hardly ever present in Polish schools and therefore, the number of CLIL teachers having experience in CLIL meager. Secondly, the number of CLIL teachers teaching art, chemistry, or social sciences might not be representative as these subjects are not very commonly taught in English in Polish schools. Even though the above-mentioned samples might not be representative enough, the researcher decided to include all the data in the analysis. Finally, the lack of quantitative data presented in the article might be a disadvantage, but the researcher would like to underline the fact that such research has been conducted based on the interviews with the CLIL teachers and will be discussed in another article.

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Podejście i sposób myślenia nauczycieli zintegrowanego kształcenia przedmiotowo językowego: otwartość jako cecha osobowości nauczyciela CLIL

Streszczenie: Celem artykułu jest omówienie wyników badań na temat otwartości umysłu jako jednej z najważniejszych cech charakteru. Badania przeprowadzono wśród nauczycieli zintegrowanego kształcenia przedmiotowo-językowego (CLIL), dla których cecha ta wydaje się niezbędna ze względu na wyzwania, z jakimi muszą się mierzyć w nauczaniu dwujęzycznym (np. brak materiałów dydaktycznych). W celu zebrania danych nauczyciele CLIL pracujący w szkole podstawowej, gimnazjum oraz w szkole średniej zostali poproszeni o wypełnienie kwestionariusza (VIA-IS). Kwestionariusz składał się ze 120 stwierdzeń identyfikujących 24 cechy charakteru. Odpowiedzi nauczycieli mierzono w pięciostopniowej skali Likerta, obejmującej zakres: zdecydowanie się zgadzam; raczej się zgadzam; nie wiem; raczej się nie zgadzam; kategorycznie się nie zgadzam. Odpowiedzi zostały przekształcone w wartości liczbowe w zakresie od 1 do 5 do analizy statystycznej, umożliwiając porównanie otrzymanych wyników badań wśród nauczycieli CLIL pracujących w odmiennych szkołach oraz mających różnorodne doświadczenie zawodowe. Badanie wykazało, że występuje znacząca korelacja pomiędzy otwartością umysłu nauczycieli CLIL a ich doświadczeniem zawodowym oraz miejscem pracy.

Słowa kluczowe: CLIL, rozwój nauczycieli, otwartość umysłu, mocne strony charakteru