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MAKING IMPLICIT KNOWLEDGE EXPLICIT. THE RESULTS OF THE LONGITUDINAL STUDY INTO EFL TEACHER COGNITION

The article presents the results of a three-year study carried out among the students of English participating in a teacher training course. The aim of the article is to indicate how teacher trainees' cognition evolved as a result of formal training and exposure to awareness – raising tasks. Another objective is to present students' perception of teaching/learning process and evaluation of their own professional development. Data were gathered by means of students' written feedback in the form of short questionnaires and self-reports.

Key words: teacher cognition, teacher knowledge construction, conceptual framework, BAK system.

1.1. Background to the study

The concepts of teacher cognition (defined as "what teachers believe, think and do", Borg 2006) and teacher identity construction have intrigued the researchers recently as they constitute an essential part of becoming a foreign language teacher. The process of teacher development encompasses the skill– and knowledge– gaining in three areas:

- the knowledge base of language teaching
- the language teacher's identity
- moving from teacher– centered to learner– centered teaching (Richards 2015: 105).

The first area seems very technical, yet researchers agree that teacher professional development is more than merely the accumulation of new ideas and learning new tricks (Borg 2006; Freeman 2001; Head and Taylor 1997; Mann 2005; Richards and Lockhart 1996; Tripp 1993; Wallace 1991). Although most people become expert practitioners through actually doing the job, skilled professional teaching is also an intellectual matter (Tripp 1993: 5). It requires understanding and reflection as the teachers' observable behavior is strongly shaped and influenced by teacher thought processes or teacher cognition (Borg 2006: 15– 18, Tripp 1993: 5; Woodward 1991: 129). Woods (1996: 247) states that every teacher or teacher trainee is characterized by BAK (Beliefs – Assumption– Knowledge), which reflects initial, often naive understanding of teaching. BAK serves both as a filter and as an interpretative framework. It is influential in: shaping theories and beliefs; proactive planning and decision– making; and interactive decisions. When a decision was considered by teacher trainees, it was considered in the context of BAK, and when it was remembered later, it was also remembered in the context of BAK. As a result, successful teacher training courses should incorporate three elements of user, analyst and teacher knowledge, and provide trainees with the opportunity to study, analyze and implement knowledge into practice (Svalberg 2007:26). According to Wright (1991, cited in Svalberg 2007: 296), the process of change from user to analyst, during which already held knowledge and beliefs are challenged, can be difficult and destabilizing. It requires time and a suitable, safe environment.

As literature review indicates, developing expertise in teaching means reappraising, regarding oneself differently as teachers (Senior 2006), it also implies role redefinition and professional reassessment (Meijer, P. C. and Oolbekkink, H. W. 2012: 151). This can be done either by analyzing critical moments (critical incidents– Senior 2006: 77, Tripp 1993; Kelchtermans 1994, Kenn 1996) or becoming aware of one's own personal theories, verifying them systematically and bringing about conceptual changes (Clandinin 1986, cited in Vieira Abrahão 2006). In this sense, metaphors play a crucial role in enriching the teachers' knowledge, enhancing verbalization and facilitating teacher reflection about their professional identity as well as their perception of the professional role (Block 1996; Bullough and Stokes 1994; Clandinin 1986; Ellis 2001; Farrell 2001, 2006a, 2006b; Kilianska-Przybylo 2010; Massengill et al. 2005; Munby 1986; Oxfröd et al. 1998, Thornbury 1991; Tobin 1990).

A number of studies have been conducted on learner and teacher beliefs (Tsui 2011: 65; Borg 2006; Farrell 2006). However, the interrelationship between learner and teacher beliefs has been under– studied (Kiely 2001, in Tsui 2011). Similarly, more longitudinal research is needed to capture the evolving nature of the beliefs. This particular study was triggered by the question of how teacher trainees conceptualize teaching throughout their formal training. It fits the gap of how the teacher trainees' beliefs evolve in the course of formal training they are exposed to at the university.

2.0. The study.

This article describes a 3– year study conducted among 41 students of English Philology at University of Silesia, Institute of English (Sosnowiec, Poland) (30 females, 11 males). The subjects decided to pursue FL teacher specialization. It combines, among other subjects, theoretical preparation in general linguistics and applied

linguistics, psychology, theory of SLA. Theoretical training is supplemented with practicum concerning observation of foreign language lessons and delivery of one's own lessons in different types of school. The study aimed at finding answers to the following questions:

Study objectives:

1. What are teacher trainees' initial personal theories and expectations before formal teacher training?
2. How do teacher trainees construct their knowledge about teaching? What can be learnt from the analysis of the metaphors they provided at different stages of the training?
3. What changes can be observed in teacher trainees' perception after the first year of training?
4. What changes can be observed in teacher trainees' perception after the third year of training?
5. What beliefs about language teaching are most susceptible to changes regardless of time and formal training?

As the main idea of the study was to develop critical awareness in the trainees and initiate the process of reflection, the participants were asked to complete a needs analysis questionnaire and self-reports. After the first and the third years of training, the subjects were requested to fill in the evaluation sheet which asked about the impact that formal training had on the respondents' beliefs (To what an extent have you changed your perception about: the role of the teacher, the role of the learner, the nature of teaching and the subject to be taught). The evaluation sheet had the form of the 5-point Likert scale. Throughout the training, the subjects were exposed to a variety of thought-provoking tasks such as: free association tasks and metaphor generation tasks (completion of the sentence heads).

Metaphor generation tasks are often used to help the trainees understand their beliefs, verbalize their professional identity and promote reflection. Metaphor analysis may encompass various dimensions:

- identification of macro-metaphors for teaching,
- classification of metaphors according to typology provided by Oxford et al. (with four subcategories: (a) Social Order: for example, teacher as manufacturer, teacher as competitor; (b) Cultural Transmission: for example, teacher as conduit, teacher as repeater; (c) Learner-Centred Growth: for example, teacher as nurturer, teacher as lover, teacher as scaffolder, teacher as entertainer; and (d) Social Reform: for example, teacher as acceptor, teacher as learning partner. (Farrell 2006: 238).

– Analysis of metaphors generated by all kinds of elicitation techniques or in narratives.

In this particular study, qualitative analysis (i.e. discussion of metaphors generated in response to some tasks) would be supplemented with quantitative analysis (the implementation of a word count programme, called LIWC, Pennebaker et al. 2007a, Pennebaker et al. 2007b) to enhance the reliability of the findings. LIWC is a transparent text analysis programme that counts words in psychologically meaningful categories. As such it helps to detect meaning and specify attentional focus, emotionality, social relationships, thinking styles, and individual differences (Tausczik and Pennebaker 2010: 24).

The data were collected three times in the period of the research, namely: at the beginning of the training, after the first year of training and after the third year.

3.0 Data presentation and analysis

The study met its objectives. The most important findings gathered at three points of time, are briefly presented below. The data presentation involves both qualitative and quantitative types of analysis.

3.1. Qualitative analysis

Stage I – a starting point of the research.

A needs analysis questionnaire distributed to the students to complete constituted a starting point of the research. The students displayed some general expectations that can be classified into the following categories (they are arranged according to the frequency of occurrence):

- teacher preparation, including both theoretical knowledge ("*Learning how to teach people properly*", "*learning about the problems concerning teaching*") and practical knowledge ("*extending my knowledge about teaching methods / different ways of teaching*", "*learning things that I can use practically in a classroom*"),
- developing interpersonal skills ("*learning how to gain interest of the class*", "*learn how to improve the contact between Teacher and students*", "*learning how to understand what people want*"),
- understanding the nature of the profession and developing expertise ("*finding out how to be a good teacher*", "*improving my teaching abilities*"),
- demonstrating unspecified expectations but positive attitude ("*I'm optimistic about this course*"; "*I hope it will help me*").

Some of the respondents refrained from giving any answer. The trainees had relatively low or intuitive subject matter knowledge, mostly coming from their own experiences as language learners or some incidental, occasional teaching (e.g. private tuition in one-to-one context). Some of them treated the course as an opportunity to acquire psychological knowledge that would enable them to recognize the needs of their own students. Others wanted to improve their own interpersonal skills. A few demonstrated their positive attitude towards formal training and expressed their optimism about the usefulness of the course content.

Stage II – the end of the first year of training

The most observable changes were reported on the role of the teacher, the nature of teaching, the role of the learner, the subject to be taught. In the sentence completion task, the most frequent metaphors generated by the respondents concern the following:

- Language teacher = a guide; a leader/ a conductor; a gardener; a captain; a priest; an actor; a shepherd.
- Teaching = guiding in dark forest, looking after plants; discovering new land; war; mission.
- Language learning = never-ending journey; discovery; no answer, climbing the mountain; drinking water; growing; entering new world.
- Classroom = a garden; a theatre; a concert hall; a bus; a cage/ a prison; a church, a battlefield; a meadow; a funfair or a graveyard.

The results of the training brought about the teacher trainees' change in the perception of teaching. They realized that teaching is a complex and demanding activity that requires both linguistic and pedagogical preparation. They also noticed the influential role of teacher's feedback and his/ her behavior on motivating students and promoting learner's development. The trainees reported the extension of their knowledge in the areas of various teaching techniques and practical skills. They recognized that much depends on teacher's attitude, his/her enthusiasm and flexibility. In addition, they realized that success in teaching is difficult to achieve as it depends on various factors, cognitive, affective and contextual. They became conscious of the fact that an effective teacher shows empathy and openness to new experiences and are willing to learn from his/her teaching practice.

Stage III – third year of training

The most noticeable changes were reported on the role of the teacher, the role of the learner, the nature of teaching and the subject to be taught. The most popular metaphors provided by the respondents at the end of the third year are as follows:

- Language teacher = a guide; a helper; a leader/ a commander/ a captain; a friend; a gardener.
- Teaching = showing the right direction, travelling; conducting an orchestra; leading soldiers in a war; looking after plants; experimenting.
- Language learning = learning a skill (a bike or an instrument); growing up/ blossoming; changing attitudes; never-ending adventure; challenge; climbing the mountain.
- Classroom = a coach/ a bus/ a ship; a meeting place; a garden; an opera house; a laboratory.

As far as the results of the training are concerned, they reported the increase of observational and diagnostic skills as well as the development of self-knowledge. Teacher trainees realized that teaching was difficult, demanding, exhausting and stressful profession, and were ready to provide their own, personal examples. They precisely enumerated the areas of difficulty they experienced during their teaching. For them, teaching requires thorough, extensive planning and additional work done after the lessons. Teaching is an extremely time-consuming activity (esp. lesson preparation and teacher development). They became aware of the fact that teaching is unpredictable, difficult to control despite thorough preparation. They expressed comments that formal preparation did not guarantee adequate skills and solutions to the problems encountered during lessons. As a result, they recognized teachers' need of self-reflection and self-observation. They also noticed the impact of affect and teacher-student cooperation on teaching. They verbalized the need to work upon their own confidence and positive attitude. They said to pay more attention to promoting students' contribution and cooperation for the following reasons:

- They noticed that students' needs greatly influence the lesson process in terms of planning, content and outcome.
- They observed that student's feedback can enhance and motivate teacher in his/her development.

3.2. Quantitative analysis

The statistical analysis of the students' self-reports offers a different perspective to the data gathered. It allows tracing some tendencies indicating the professional and linguistic development of the students. This would be briefly commented upon below:

– As far as the linguistic development is concerned, the students improved their command of the language. This is indicated by the increase in the use and control over language and linguistic devices, in particular six letter words (31.26 as contrasted with 39.13 after the third year), articles (10.78 as contrasted with 12.80) and punctuation devices (18.79 as contrasted with 33.51). At the same time, the trainees seem to develop their verbalization skills, which manifests itself in the more precise and concise use of words (the proportion of the overall word count). There is a significant decrease of the pronouns used (5.10 as contrasted with 2.51), which can denote the impersonal character of the self-reports as well as the trainees' ability to refrain from self-related judgments.

– There is a certain increase noticed in the category of cognitive mechanisms (9.11 as opposed to 10.16) and all its subcomponents, namely: insight (4.97 as opposed to 5.54) and cause (0.97 as opposed to 1.19). This may indicate gradual but steady improvement in the students' observational, causal reasoning and interpretive skills.

– A considerable change is observed in the category of social processes (4.23 as contrasted with 7.78). A possible explanation is that the respondents stop being self-focused, and they gradually become student- and

interaction-oriented. A similar increasing tendency is noticed in the category of uniqueness (27.22 as contrasted with 43.54), which may indicate the students' potential to generate their own, novel metaphors.

– When it comes to affectivity, worth mentioning is the fact that there is an increase in the category of affect in general (3.13 as contrasted with 4.49) and in the categories of positive emotions (2.36 as contrasted with 3.69) and optimism (0.71 as contrasted with 1.19) in particular. There is also a minimal increase in the category of negative emotions (0.65 as contrasted with 0.79). In the anger and anxiety subcategories, there is a slight increase in the data provided (0.06 to 0.13 and 0.03 to 0.26, respectively), whereas in sadness category there is a minimal decrease between first year and third year (0.23 as contrasted with 0.13).

Table 1 presents detailed distribution of the answers.

	Metaphors generated after the first year of training	Metaphors generated after the third year of training
Word Count	3097.00	2758.00
Words/ sentence (WPS)	61.94	50.53
Six letter words	31.26	38.13
Dictionary words	66.94	65.57
Unique	27.22	43.54
Emoticons	0.55	0.40
Pronoun	5.10	2.51
I	0.84	0.00
We	0.16	0.00
Self	1.00	0.00
You	1.07	0.66
Other	1.52	1.72
Negate	1.39	0.92
Article	10.78	12.80
Affect	3.13	4.49
Positive emotions	2.36	3.69
Positive feelings	0.19	0.13
Optimism	0.71	1.19
Negative emotions	0.65	0.79
Anxiety	0.03	0.26
Anger	0.06	0.13
Sadness	0.23	0.13
Cognitive mechanisms	9.11	10.16
Cause	0.97	1.19
Insight	4.97	5.54
Senses	1.39	1.85
See	0.58	1.45
Hear	0.19	0.26
Feel	0.19	0.13
Social	5.04	7.26
Other Punctuation	4.23	7.78
All Punctuation	18.79	33.51

Tab 1. The statistical analysis of the students' self-reports – LIWC results

3.0 Conclusions and training implications

Knowledge construction about language teaching and learning is a gradual process, requiring some experiences and active assimilation. Formal training had some impact on the conceptual framework of the trainees. First year of

training resulted in trainees' uncovering their beliefs. The respondents provided a multitude of metaphors, often internally incoherent and contradictory, e. g. teacher was described as a master or a martyr; teaching was perceived as guiding in dark forest, looking after plants and discovering a new land. A language classroom compared simultaneously to a theatre, a prison, a funfair and a graveyard is another example of conflicting and inconsistent metaphors used by the trainees.

On the other hand, worth noticing is the fact that one metaphor might be proposed by the trainees to describe different aspects of the process, e. g. 'discovering a new land' metaphor was used to refer to both teaching and learning. This may be explainable by the fact that the teacher trainees have not found their professional identity yet. They are still in the process of reflection on the nature of teaching and their own profiles as language teachers. A particular set of metaphors offered by the trainees seems to derive from their experiences as learners, participants of the training courses (what the trainees have learned from lectures and reading), limited teaching experience and their beliefs and expectations (what they think should be said or done). Consequently, the metaphors offered may reflect personal theories of an individual teacher trainee and serve as the evidence of searching the trainee's own teaching policy. This may be the reason why at the beginning of the training the respondents tended to provide long verbalizations, devoid of much personal and emotional content. The students represented high level of declarative knowledge, which they reproduced. That is why, the training contributed to personalization, identification with the metaphors produced, which is indicated by the increase in the affect category. At the same time, their self-reports were self-focused, concentrating on them as teachers.

At the beginning of the training, the students' perception of the teaching process, esp. the role of the teacher, was very idealistic (teacher was a dominant and leading person who had some mission to fulfill). It corresponded to "a transmission view" (teacher as an authority, who transmits his/ her knowledge). The students took the observer's position, e. g. they enumerated some possible general areas of difficulty or presented certain "context-free" principles concerning the teaching-learning process.

After the third year, the training brought some changes in the trainees' behaviour and actions. The trainees gained some procedural knowledge thanks to increased theoretical and practical input. It seems that the trainees confronted their beliefs, filtered them through the interpretative framework of their BAK systems and growing experience. They verified and redefined some of them. Additionally, the trainees tended to be more emotionally attached to what they said, as the process of reflection upon one's predisposition towards the profession had already started. Their verbalizations were shorter, but more precise; detailed and specific (e.g. difficulty of teaching). They identified themselves with their comments, which were highly structured and internally coherent (one metaphor serves to describe different aspects of the teaching/ learning process). In addition, they perceived some details and ambiguities, and recognized various aspects of teaching, which they were previously unaware of. It seems that the trainees represent "an interpretation view" of teaching and take the insider's perspective – teacher is more a partner willing to cooperate, a guide or a friend. Language learning is perceived as an activity enriching one's personality. More focus is put on the process, interaction, opportunities and perspectives that knowledge gives as well as the impact of knowledge on one's thinking.

The trainee students were also requested to express the opinions on their change of perception of some issues connected with teaching and learning. For this purpose the Likert scale was used. It turned out that the overall training affected strongly the trainees' beliefs on the role of the teacher, the nature of teaching, the role of the learner and to the least extent, the subject (the language). After the first year of training, the most observable change in the trainees' perception was related to the role of the teacher. The formal training also contributed to the students' change of the opinions about the nature of teaching, however it did not affect much the subjects' beliefs on the role of the learner as well as the subject to be taught. This can be attributed to the fact that the respondents still perceive themselves as language learners and as such have ample opportunities to be in the position of learners who study English. Additionally, they have got recent experience(s) in observing their own teachers who work with them on a language in the academic setting. The situation looks slightly different after the 3rd year of training. The trainees declared some changes of their perception in the role of the teacher, the role of the learner, then the nature of teaching and finally, the subject. Although the differences may seem insignificant, yet they are indicative of some tendencies. The trainees become focused on dealing with individual students and coping with some specific problems they encounter. Certain metaphors disappeared completely as a result of training and time, e. g. the metaphor of a priest in church, the metaphor of a shepherd, the metaphor of a role model or an actor. Some of them decreased in force, e. g. the metaphor of a garden and language teacher as a gardener. Yet, some increased, e. g. teacher as a friend and teacher as a facilitator. This proves the changes from "transmission view of teaching" into "interpretative one". Some of the themes recur, e. g. language teacher as a guide or a conductor/ leader. This illustrates that to a certain extent BAK system is pervasive and stable.

To sum up, in general the study was welcome by the trainees who appreciated the types and frequency of thought-provoking tasks they were exposed to. The study was also effective in helping the trainees to realize their beliefs, as well as in introducing the ways of self-inquiry and initiating the process of self-reflection. The undoubted benefits of the study concern two things, namely: the trainees started to share/ compare their ideas and experiences with their colleagues and they noticed the value of metaphors to express themselves better. The study

resulted in the trainees' becoming more sensitive and precise in describing their emotions. They realized the complexity of the teaching profession and learned to evaluate it from various angles. However, the research did not give a full answer whether the changes may be propelled by time (maturity), training itself or any other factors (e. g. individual features). Consequently, for the replication of the study, it would be advisable to implement more introspective instruments (combining both oral and written data) so as to intensify the training and find answers to the remaining objectives.

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Кілянська-Пишибило Г. Усвідомлене засвоєння знань: результати лонгітюдного дослідження у процесі фахової підготовки майбутнього вчителя англійської мови.

У статті представлені результати трирічного дослідження, проведеного серед майбутніх вчителів англійської мови. Метою даної статті є показати, як розвивався процес засвоєння знань в результаті традиційного навчання і впливу завдань, спрямованих на покращення усвідомлення засвоюваної інформації. Іншою метою є представити сприйняття студентами навчального процесу та оцінки їх власного професійного розвитку. Дані були зібрані за допомогою письмового зворотного зв'язку у вигляді коротких анкет і самозвітів.

Ключові слова: *вчительське засвоєння знань, вчительський виклад знань, концептуальна модель, БАК система.*

Килянская-Пишибило Г. Осознанное усвоение знаний: результаты лонгитюдного исследования в процессе профессиональной подготовки будущего учителя английского языка.

В статье представлены результаты трехлетнего исследования, проведенного среди будущих учителей английского языка. Целью данной статьи является показать, как развивался процесс усвоения знаний в результате традиционного обучения и влияния задач, направленных на улучшение осознания усваиваемой информации. Другой целью является представить восприятие студентами учебного процесса и оценки

их собственного профессионального развития. Данные были собраны с помощью письменной обратной связи в виде коротких анкет и самоотчетов.

Ключевые слова: *учительское усвоение знаний, учительское изложение знаний, концептуальная модель, БАК система.*