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A complex systems perspective on developing intercultural communicative competence of teachers of English in autonomy-supportive settings – reflections from a summer school

Rozwijanie kompetencji interkulturowej nauczycieli języka angielskiego w kontekście autonomicznym z perspektywy teorii systemów złożonych – refleksje ze szkoły letniej

Streszczenie. Pomimo iż badania nad kompetencją interkulturową nauczycieli języków obcych podejmowane są przez ostanie 20 lat, jedną z najmniej omawianych kwestii jest zarówno rozwijanie tej kompetencji w środowisku autonomicznym, jak i osadzanie jej w perspektywie ujednoliconego podejścia. Artykuł wskazuje na kontrybucję, jaką teoria systemów złożonych może wnieść do badań nad rozwijaniem kompetencji interkulturowej nauczycieli języka angielskiego w środowisku autonomicznym. Podstawą do rozważań są wyniki badania, które pokazuje jak różne typy autonomii oddziałują dynamicznie z kompetencją interkulturową uczestników badania, co prowadzi do nieprzewidywalnych efektów. Stąd też w artykule postulowana jest potrzeba interpretacji wzajemnego oddziaływania pomiędzy środowiskiem autonomicznym a kompetencją interkulturową z perspektywy teorii systemów złożonych.

Słowa kluczowe: kompetencja interkulturowa, kształcenie nauczycieli, autonomia, teoria systemów złożonych

Summary: Although research into foreign language teachers' intercultural competence has undergone a number of transformations over the last 20 years, one of the least discussed lines of inquiry is that examining the development of intercultural competence in autonomous contexts and/or discussing the results within a unified framework. We point to a potential contribution that complex systems theory can bring to research on the intercultural learning of teachers of English in autonomy-supportive settings from a theoretical perspective.

We present data illustrating how different types of autonomy interact dynamically with intercultural competence to produce unexpected results. It is thus postulated that there is a need for a complex systems perspective in interpreting the interplay between autonomy-supportive factors and intercultural competence.

Key words: intercultural competence, teacher training, autonomy, complex systems perspective

Introduction

The present paper aims to show that both intercultural communicative competence (henceforth also ICC or intercultural competence) and autonomy display characteristics of complex systems and to argue for a complex systems perspective in interpreting the results of an interplay between intercultural competence and its context, including autonomy-supporting settings. The main objective is thus to demonstrate that the notions of ICC and autonomy display a number of characteristics, i.e. heterogeneity, dynamicity and non-linearity, which justify conceptualizing both as complex systems. While this tendency is amply supported by the definitions discussed in the article, other criterial features of complex systems namely, openness and adaptability are less convincingly endorsed. Consequently, in order to provide further evidence for the assumed complexity of intercultural competence, the empirical illustrative part of the article sets out to explore the link between autonomy and ICC, i.e. the nature of their complexity and the extent to which they permeate each other, by complementing the existing body of evidence with information obtained from the intercultural learning experience of students from four European universities who were involved in a joint teaching project, a context that has not been tapped by previous research.

ICC and autonomy in teacher education – the theoretical perspective

For almost a century now, the importance of intercultural communication for foreign language teaching and learning has been recognized by many researchers, including Noam Chomsky, Michael Canale, Dell Hymes, Merrill Swain and Jan van Ek, but it seems that Michael Byram's model of ICC, developed in the 1990s, is the most frequently adopted framework for discussing intercultural competence nowadays (Lina Lee 2011, p. 90). Neverthe-

less, attempts to implement the model show that helping teacher trainees to become interculturally skilled learners and educators may be a demanding task since gaining intercultural competence requires the students to be willing, accepting and alert individuals, ready to have their values and beliefs affected and (re-)molded in the process of lifelong learning (María José Coperías Aguilar 2010, p. 94). The challenge, then, of successfully conducting intercultural teacher training seems partly constituted by the fact that ICC is understood in terms of a "lifelong journey" (Darla Deardorff 2008, p. 39) that is not likely to be limited to a classroom or regulated by a teacher and thus closely intertwined with the notion of autonomy, which, as Aleksandra Sudhershan (2012, p. 56) argues, is "a prerequisite for life-long intercultural language learning".

Despite this apparent inseparability of ICC and autonomy, the link between them has been recognized only recently. This paper discusses another possible convergence between ICC and autonomy, which is the relationship between the level of independence a particular learning environment offers and the stage of intercultural development the students are likely to reach. (Meinert Meyer 1991) In search for a connection between the context, i.e. autonomy, and the system, i.e. intercultural competence, the current approach neither assumes the indispensability of autonomy for enhancing ICC nor does it view ICC as a tool for developing learners' sovereignty. Instead, it concentrates on the complexity and irregularity of pressures that autonomy and ICC can bear upon each other, as reflected in selected approaches to the two notions.

ICC and autonomy as converging notions

The intercultural communicative competence developing model adopted here is Byram's (1997) proposal, where the five savoirs encapsulated as knowledge, attitudes and skills are regarded as prerequisites for intercultural communication. Within the three areas of Byram's model, particular subdomains can be highlighted, including knowledge of social groups and processes of interaction, attitudes of curiosity and openness, skills of interpreting and relating as well as skills of discovery and interaction. The three pillars of Byram's framework, i.e. knowledge, skills and attitudes, are in fact the classic triad of intercultural research. (Spitzberg and Cupach 1984) Not unexpectedly, then, these three domains, or the cognitive, social/behavioural and affective/motivational dimensions of ICC, can be found in a number

of other proposals for developing intercultural competence. For instance, in Alexei Matveev and Yamazaki Merz's (2014, pp. 131–132) description of the key aspects of intercultural competence individuals' (culture-specific) knowledge, attitude, open-mindedness and flexibility, critical thinking, motivation, and personal autonomy represent the cognitive dimensions of IC, while the affective and social dimensions are constituted by cultural empathy and emotional control, and experience, inventiveness, management and contact skills, respectively.

The multifaceted nature of ICC entails that certain dimensions, or traits, may become more or less central, depending on the context, which in turn implies that some elements of ICC might be more important for its development than others. For instance, in Byram's (1997) model, the category of attitude seems to precondition the progression of both knowledge and social skills, whereas reaching a high level of knowledge does not necessarily entail a symmetrical change in one's mind-set. Likewise, developing the skill of interpreting and relating appears to be more knowledge-dependent than fostering the ability to discover and interact. All in all, then, it seems that the trajectory along which intercultural competence tends to evolve is nonlinear, which results from the multifaceted nature of the concept as well as the dynamics of interactions among its elements. The idea of a gradual, nonlinear progression is also characteristic of ICC development in the form of Meinert Meyer's (1991) 3-stage model of cultural competence. The first level, i.e. monocultural, is distinguished by learners' lack of awareness of intercultural differences, which is substantially enhanced during the intercultural stage, when students not only know of differences between cultures but are also able to explain them. The third level, which is a transcultural stage, is characterized by students' ability to evaluate differences, solve problems, negotiate meaning and demonstrate an unbiased and cooperative attitude. Importantly, transitions between the levels are unpredictable and a shift from an ethnorelative to an ethnocentric perspective is not unusual (Peckenpaugh 2012), which may at least partly be caused by the properties of the context in which ICC is developed (Garrett-Rucks 2012).

According to Byram (1997), the three major elements of ICC – knowledge, skills and attitude – can be acquired in three contexts: the classroom, the pedagogically structured experience outside the classroom, i.e. fieldwork, and the independent experience, i.e. immersion. Coperías Aguilar (2010, p. 93) further argues that each of these settings facilitates the growth of specific aspects of ICC. Namely, the classroom is conducive to the expansion of knowledge as well as the skills of interpreting and relating,

fieldwork stimulates the development of the skills of discovery and inter-action, while independent learning is "part of the personal development of the learner and is connected to life-long learning" (Coperías Aguilar 2010, p. 93). Independent learning then presupposes learner autonomy, which, according to Elizabeth Murphy-Lejeune (2003, p. 104), is a strategic skill in developing ICC, deriving from "combined efforts to reach the goal of managing one's life in a new cultural environment".

If the above postulates are correct, the properties of the context in which intercultural competence is fostered, including the degree to which a particular setting is autonomous, should be, on the whole, insignificant for the progression of ICC. In fact, proposals by Coperías Aguilar (2010) and Sudhershan (2012) suggest symmetrical expansion of both capacities if ICC and autonomy are developed in tandem, which may point to a highly predictable nature of a relationship between intercultural competence and autonomy. On the other hand, findings on the interplay between ICC and its context presented by Paula Garrett-Rucks (2012) and Kacy Peckenpaugh (2012) imply a more irregular character of this correlation. Clearly, then, any further discussion of interdependencies between ICC and autonomy requires that conceptualizations of the latter be presented.

To begin with, it should be noted that construals of autonomy tend to involve the same three dimensions, i.e. cognitive, social and affective, which characterize ICC research, and particular approaches to autonomy choose to concentrate on traits or processes rather than domains. As David Little (2003) points out, learner independence entails decision-making, critical reflection and social interaction. Autonomous students are responsible individuals, actively involved in the learning process, willing to set goals plan and perform tasks as well as monitor personal progress. Thus, developing autonomy involves intertwined cognitive, social and affective processes. For instance, John Barell (1992, p. 259) emphasizes that "thinking involves not only cognitive operations but the dispositions to engage in them when and where appropriate", while Phil Benson (2001) states that the cognitive dimension comprises metacognitive knowledge, reflection and attention, which involves both mental operations and affect. A number of scholars agree that "one of the greatest barriers to the development of learner autonomy is a negative attitude on the part of the learner towards making decisions about their own learning" (Sinclair 2000, p. 7). The problem, then, is how to engage learners (meta)cognitively, socially, and affectively (see Little 2001). To respond to the challenge, certain dimensions of autonomy should be particularly fostered, thus leading to an overall progression

of the capacity. According to Benson (2003), high order thinking skills are enhanced through social interaction since through collaborative learning students become competent at analyzing, reflecting upon and synthesizing new data in order to gain original insights. Acknowledging the internal complexity of the concept, Alastair Pennycook (1997, p. 47) suggests that the aptitude for autonomy be developed on many levels, including managing the learning process, expanding metacognitive knowledge, developing interdependence, and finally preparing for cultural differences. Likewise, Candice Stefanou et al. (2004) demonstrate how organizational, procedural and cognitive aspects of autonomy interplay and influence one's level of motivation. Finally, as Leni Dam (2000) argues, heterogeneity and dynamicity of autonomy lead to its non-linearity or circularity.

In view of the above characteristics of autonomy, i.e. heterogeneity, dynamicity and non-linearity, the relation between intercultural competence and autonomy should be revisited. As signaled above, a given stage of cultural growth is likely to be most effectively cultivated in a particular educational setting. Thus, monocultural and intercultural levels, related to the cognitive dimension of ICC as well as the skills of interpreting and relating, seem most naturally linked to the classroom environment, while the transcultural level, presupposing the skills of discovery and interaction as well as an independent attitude, might well be best developed through field work and/or immersion. These correspondences presuppose a fairly predictable scenario of the ICC-autonomy interplay, whereby the less autonomous an educational setting is, the more monocultural level of ICC is likely to be reached. However, in view of the similarities between autonomy and ICC highlighted throughout this section, relations between the two capacities may turn out far less linear. While the exact nature of these interconnections requires more research, the key elements of the constructs revealed so far justify that ICC and autonomy be construed as complex systems.

Complex systems theory in applied linguistics

In their definition of a complex system, Larsen-Freeman and Cameron (2008) describe it as composed of numerous elements interacting in many ways and underline that the dynamics of a complex system lies not only in its agents changing over time but also in the way this interaction evolves. Moreover, complex systems are open, allowing new factors and structures

to come into contact, ultimately leading to the system's non-linear development, whereby a disproportion between the cause and the effect is a norm.

Within applied linguistics, complex systems theory has found application in language evolution and development studies, discourse analysis and classroom dynamics. Importantly for the present discussion, a complex systems perspective on the language classroom emphasizes interaction between its many levels, including cognitive, socio-political, and cultural-historical contexts, approached from both the micro-perspective of classroom activities and the macro-scale of life-long learning. In this milieu, students are confronted with language as a dynamic system and encouraged to let it shape and re-shape other complexities. The learning, the language, the interlanguage, the task, or the discourse are all interrelated complex systems (see Diane Larsen-Freeman, Lynne Cameron 2008), which, in the process of intercultural learning come to interact with at least two other complex systems – ICC and autonomy. Hence, as Larsen-Freeman (2000) argues, it is necessary that learners be provided with feedback, implicitly or explicitly, in order to facilitate the progression of their ongoing system(s).

In the process of intercultural learning, the developing system in focus will be ICC, interacting with a number of other dynamic assemblies, for instance the language, the teaching-learning process, the task, cognitive and social backgrounds, and the degree of autonomy involved. A complexity perspective on developing intercultural competence entails that both the focal system, i.e. ICC, and its context, constituted by non-focal complex systems, be viewed as heterogeneous, dynamic and non-linear. Consequently, emergent stabilities, or attractor states, are the only "things" anchoring the development of the focal system, as well as the systems in its environment since connections and relations occur not only among the focal system's components but also link outwards into other systems. Perceived stabilities preferred by the system may be, depending on the degree of their predictability and permanence, fixed, cyclic or chaotic, and the state space, delineated by its movement between or among the attractors, delimits the system's scope of possibilities. There are levels, i.e. micro and macro, and timescales, i.e. current and developmental, on which a complex system can be examined (Larsen-Freeman, Cameron 2008, pp. 57–61), and the initial conditions of the system seem particularly important since these will influence the trajectory along which the dynamic assembly evolves. Thus, in developing ICC, particular attention should be paid to how the system is set up before the activity to be observed commences in order to make sure that influences from the background likely to bear upon the progression of the focal system are

acknowledged. In this way, context becomes a part of the system and its elements become dimensions of the focal structure. If ICC is an open complex system, it should be sensitive to changes in its environment and adapt accordingly though not necessarily predictably. In fact, dynamicity and non-linearity of complex systems should lead to reciprocal relationships rather than simple cause-effect links between, for instance, intercultural competence and autonomy-supporting settings, which is the focus of the next section.

The development of ICC of teachers of English in autonomy-supportive environments – the empirical perspective

In June 2014 students and teachers from four European universities, University of Eastern Finland at Joensuu (Finland), Catholic University of the West at Angers (France), Vigo University in Vigo (Spain), and Nicolaus Copernicus University (Poland), took part in an international summer school DICETE (Developing Intercultural Competence of European Teachers of English), whose aim was to develop an innovative teacher training programme focusing on teacher trainees' skills of teaching intercultural competence in a foreign language classroom (www.dicete.umk.pl). The project focused on ICC knowledge and skills in the context of monocultural, intercultural and transcultural levels (as discussed above) developed in three educational settings: the classroom environment, field work and immersion. The tools implemented in the project promoted experiential and task-based learning where ICC and autonomy, both understood as potential complex systems, interacted and resulted in learning outcomes of mono-, inter-, and transcultural stages. The project presented in this paper has become a course prototype which has paved the way for designing courses developing English philology students' intercultural competence at the Department of English in Nicolaus Copernicus University. This course, with slight changes, is still held at the Department.

Objectives

In line with the reasoning presented above, the project sought to explore the extent of the interface between two complex systems, ICC and autonomy, both overall as well as with respect to specific elements of the context constituted by the non-focal system (i.e. types of autonomy), elements of

the focal system (i.e. cognitive, affective and social domains of learning) and the state space of the focal system (i.e. levels of ICC). Particularly interesting was the degree of (in)separability between the context (autonomy) and the focal system (ICC) stemming from openness and adaptability. As a result, the following research questions were addressed:

1. Does the context (i.e. various types of autonomy) influence the focal system (i.e. ICC)?
2. Is there any interface between the context (i.e. various types of autonomy) and the focal system (i.e. ICC) and, if so, what is its nature (i.e. is it predictable and linear or unpredictable and non-linear?)?

Thus, while the aim of the first question was to examine whether the focal system (i.e. ICC) is open, the aim of the second question was to check whether it is adaptable.

The focus of attention was the state space of the focal system indicated by three stages of ICC (mono-, inter- and transcultural), which referred to three elements of the system, i.e. learning domains (cognitive, social and affective), developed in autonomy-supportive environments. Within these stages of ICC and learning domains several ICC elements were fostered: knowledge (e.g. of stereotypes or similarities and differences between educational systems stemming from national cultures under consideration), attitude of open-mindedness to cultural differences, and critical thinking (e.g. with reference to cultural elements in teaching materials) within the cognitive domain; contact skills and skills of interaction (with students of other three cultures) within the social and affective domains.

The state space of the focal system interacted with three types of environment represented by three elements of the non-focal system (autonomy): organizational, procedural and cognitive (as discussed above). Organizational autonomy enabled the students to choose group members and evaluation procedures for ICC tasks. It also made the students monitor the progress of their work. In an environment supporting procedural autonomy the students planned their ICC activities, chose strategies to perform a task and the way the effect of their work was presented. Cognitive autonomy encouraged the students to negotiate ICC concepts, share their intercultural experience and reflection, construct their own understanding of ICC, arrive at a variety of learning outcomes, debate intercultural ideas freely and from various perspectives, give and receive feedback, and engage in problem solving referring to cross-cultural differences. Thus, cognitive autonomy as presented here promoted a student-centred approach where the process of ICC development was based on learning rather than teaching. In a cognitively

autonomous environment the learners were active participants in the learning process and the teachers acted as supportive guides.

Data analysis

Given that a complex systems perspective is a novelty in research on intercultural competence and sound methodological recommendations have not yet been established, the methodology adopted in the present paper is that of a qualitative analysis, suggested for complexity-oriented research (see Larsen Freeman, Cameroon 2008 for details). The data analysis was a three stage process. In consonance with the methodological guidelines for complexity-oriented research, the system, its constituents, their contingencies and interactions were identified with a view to establishing local dependencies and explaining their dynamics. First, a content analysis of the participants' PowerPoint and poster presentations, video recordings, Moodle entries and lesson plans was carried out. This stage concentrated on the conceptualization of the data in terms of the focal system, i.e. ICC, and the non-focal one, i.e. autonomy, which were to be used for further analysis. In the second stage of data analysis the dynamic assemblies identified during the first stage, i.e. three domains and stages of ICC (cognitive, social and affective domains; mono-, inter- and transcultural stages) and three dimensions of autonomy (organizational, procedural and cognitive) were further examined and attention was directed to the trajectory along which the focal system, i.e. the students' ICC, evolved, reacting to the non-focal system, i.e. the types of autonomy applied. Finally, in the last stage of data analysis the interrelationships between the domains and stages of intercultural competence and the dimensions of autonomy were identified.

Results

The focal system, i.e. the students' ICC, pertaining to 3 elements of the system, i.e. learning domains (cognitive, social and affective) and resulting in 3 types of the state space, i.e. stages of ICC (mono-, inter- and transcultural), understood as learning outcomes, was fostered in the context of three-dimensional autonomy (organizational, procedural and cognitive). The 3 elements which may have influenced the state space of the focal system (stages of ICC), three-dimensional autonomy and learning domains, interacted, creating 4 configurations of various learning contexts presented below.

Low organizational / procedural, high cognitive autonomy, intercultural and transcultural stage, cognitive and social domain

One of the assignments the students were expected to complete was a visit to several places in the city centre in international groups. The students' task was to observe and reflect on what can be considered local, European or global phenomena. The task aimed at the students' cognitive and social abilities through practising their skills of discovery and interaction, an attitude of openness and curiosity and critical cultural awareness, thus focusing on the intercultural and transcultural levels of intercultural competence. Although the teachers did not monitor the students' work, the task was characterized by a high degree of teacher control. That is, the students worked in groups which were formed by the teacher, who provided the groups with worksheets specifying the places the students were expected to visit and guiding their reflections. However, the assignment offered an opportunity for students to think independently. Namely, they could decide about what to focus on or how to collect their observations, which made them responsible for their process of learning and emphasized the students' skills of problem solving. Thus, the initial conditions presupposed the interaction of three systems, i.e. low organizational and high cognitive autonomy, the students themselves and the task. Such a configuration aimed at intercultural and transcultural stages of intercultural competence. The learning outcomes depended to a large extent on the students' knowledge gained in the previous sessions, experience and the process of meaning negotiation in extended international groups. The students' observations and reflections gathered from the cultural errands were to be used in the subsequent session for constructing a European institution which would be more intercultural and open towards people of various cultures. Contrary to the objectives, the students' output, i.e. video recordings of their observations and reflections, did not go beyond presenting the cultural specifics of Toruń. For example, one of the students describes the experience in the following way: 'I liked the city centre and what I liked most is the confectionery on the main street. They had big and colourful lollipops.' Another student's comment represents a similar perspective: 'Torun is really beautiful. I loved the narrow and picturesque streets." Such comments may suggest that the students were knowledge-oriented and engaged in intercultural development at the cognitive level. Another interpretation may be that despite the initial conditions (i.e. high cognitive autonomy) the system (i.e. intercultural

competence) interacted with some stabilities such as students' personality traits, learning styles and strategies, anchoring the development of a proper intercultural competence level and leading to unexpected results.

Low organizational / procedural, high cognitive autonomy, transcultural stage, cognitive domain

One of in-class sessions devoted to educational systems in Europe applied low organizational and procedural autonomy but high cognitive autonomy. The aim of the session was both to evaluate the current educational practices in the four countries involved in the project and to produce an innovative model of an educational system in Europe designed to enhance the student-teachers' capacity to adapt to an intercultural public. Thus, the workshop aimed at a cognitive dimension and a transcultural stage. In terms of organization, the teachers controlled the procedure, its implementation and the students' behaviour. Furthermore, the teachers made decisions about the composition of group members, the materials used and the form in which the outcome of learning was to be presented. However, the students were totally independent in the thinking process, i.e. they negotiated the framework for teacher training in international groups and were encouraged to justify their choices in a discussion. Thus, the teachers expected the students' creativity in terms of the solutions to the problem as opposed to being product-oriented. Furthermore, cognitive autonomy was encouraged through an implicit teaching procedure which did not involve any input. Although the initial conditions promoted autonomy, the products of the learning process (poster presentations) suggest that the students considered the problem from a monocultural perspective. Instead of focusing on transcultural skills which enhance the ability to function in a pluriethnic and plurinational world, the students concentrated on advantages and disadvantages of educational systems in the four countries. Thus, the students' intercultural competence ran counter to the initial expectations. Particularly important in this respect appears to be the teaching procedure, which may have acted as a potential stability anchoring the focal system. Namely, one may only speculate that the lack of input in the teaching procedure made that task extremely difficult, limiting the focal system's scope of possibilities and leading to an asymmetrical development of intercultural competence and autonomy. On the basis of these results one may conclude that both ICC and autonomy are complex systems interacting in unpredictable ways.

High organizational / procedural, high cognitive autonomy, intercultural and transcultural stage, affective domain

The initial conditions in this scenario were characterized by high organizational, procedural and cognitive autonomy and aimed at developing the students' intercultural and transcultural stage of ICC. Specifically, the main focus was the affective dimension, skills of discovery and interaction, and critical cultural awareness. Two tools, namely Facebook and Moodle journals, aimed at developing the students' affective and social skills through arousing their curiosity about other participants' cultural concepts, conceptualizations, perspectives and practices. The students were expected to practise intercultural and transcultural skills, i.e. attitudes of openness and skills of discovery and interaction, through implicit learning. The blogs enabled the learners to compare and share their reflections from their stay in Poland and interaction with the other three groups of participants. In terms of organizational and procedural autonomy, the students' behaviours were neither directed nor monitored by the teachers. In terms of cognitive autonomy, the students could express their reflections freely; the contents of their entries were not controlled by the teachers for the presence of intercultural elements. Therefore, the role of the students as administrators in keeping up the blogs was crucial and the teachers' role was that of participants in the exchange of thoughts rather than providers of appropriate input for comments. The blogs allowed the students to take charge of the process of becoming more intercultural learners influencing each other's personal conception of interculturality through peer cooperation. The analysis of the students' reflections clearly indicates that most entries neither bear any intercultural element nor represent any cognitive, social or affective interpretation of cultural beliefs, views or practices. The following example, a comment made by one of the French students on Moodle journals, illustrates the lack of an intercultural perspective:

> It was again a nice day and interesting day. The activities were various comparing to the other days. I really enjoyed the afternoon even if it was a little bit complicated. It permitted to share our points of view.

Consequently, the focal system did not develop proportionally to the amount of autonomy granted, pointing to the non-linear nature of their relationship. Not being yet ready to take the role of cultural mediators or intercultural teachers who had been empowered to take an autonomous perspec-

tive and thereby developed cognitive, social or affective skills, the students themselves may have become stabilities in this scenario. Given the unexpected output, it can be concluded that ICC and autonomy behaved here as complex systems.

High organizational / procedural, high cognitive autonomy, intercultural stage, cognitive domain

A few months before the summer school the students were asked to prepare a presentation about their own country which was supposed to be presented at the beginning of the summer school. The aim of the task was to familiarize the students with the cultures of the four countries involved so that the participants could compare and contrast them. The assignment thus aimed at a cognitive dimension and an intercultural level of ICC. The students worked in their national groups. The task provided many opportunities for the groups in terms of organizational and procedural autonomy. The students could decide about the process and the product. One of the decisions they had to take was how their work would be presented and what kind of materials would be used. The form of the output was also negotiated by the students. Furthermore, they made decisions regarding the distribution of work and the choice of cooperative partners in groups. This type of student-oriented instruction offered many opportunities for the students to think independently. They were not provided with criteria for the contents of the presentation, which enabled the students to both negotiate the aspects presented and arrive at a variety of outcomes. Taking into consideration the fact that the initial conditions were in favour of organizational and cognitive autonomy, one would expect that this guaranteed the development of intercultural stage of ICC if there was a cause-effect link between the two systems. However, the students' presentations focused on basic information about the participating countries such as their flag, political systems, typical dishes, or the most important landmarks, which suggests that the students' work did not go beyond a monocultural level. Thus, contrary to the initial conditions and expectations, the students' intercultural competence did not develop proportionally to the amount and quality of autonomy they were provided with, offering evidence to consider ICC and autonomy as complex systems. However, it is difficult to speculate which assembly in this scenario acted as a potential stability.

Discussion

The purpose of the present article was to address the need for a complex systems perspective in interpreting data from studies on intercultural competence. First, this postulate was supported with evidence on the nature of ICC and autonomy extracted from representative conceptualizations of the two notions. Then, in search of further arguments for the complexity of ICC and autonomy, their potential for openness and adaptability was tested, and the results showed that the two competences did not develop symmetrically. In all 4 configurations, regardless of similarities or differences in the learning and environmental contexts or ICC stages focused on, there was a discrepancy between the learning expectations and the output, which points to a dynamic and unpredictable nature of these two concepts when in interplay. To be more specific, the findings of the study demonstrated that the development of intercultural competence progressed in a non-linear fashion. The analysis of the students' data indicated that although specific intercultural objectives and outcomes were identified and various types of autonomy applied to the context of teaching, the quality of ICC the students acquired was highly unpredictable. Furthermore, the results showed that there was no cause-effect relationship between the type of autonomy and the expected quality of ICC, which traversed back and forth between various tasks and autonomy. Thus, the findings demonstrate that the development of ICC in teacher education is a complex, dynamic, contextualized and sometimes chaotic process. Consequently, it is not unfounded to suggest that both ICC and autonomy are complex systems. However, these results have to be interpreted tentatively as other complex systems, e.g. the students' personality types, their learning styles and strategies or their cultural aptitude, may have influenced the outcomes and consequently, more research is indispensable to offer sound methodological recommendations.

Conclusion

The research presented above shows that the interaction between autonomy-supportive factors and ICC cannot be interpreted explicitly. Even in classes were organizational and cognitive autonomy was offered to the students there was no cause-effect relationship between autonomy-supportive practices and the expected learning outcomes regardless of the ICC stages and learning dimensions emphasized. At least two complex systems, au-

tonomy and ICC, interacted and overlapped in the process of intercultural learning, producing unexpected outcomes and supporting the need for a complex systems perspective in interpreting the results of developing ICC of teachers of English. In other words, while ICC and autonomy are crucial skills for every language teacher, the extent to which they can, or should, be developed is determined by a number of complex factors. Hence, there can be no universal way in which the two competences ought to be fostered. Possibly, as evidenced by both theoretical revisions and empirical findings, in some contexts we should not aim at developing ICC and learner independence symmetrically since the conjunction may result in blocking the progression of either or both. It is thus postulated that ICC learning in an autonomy-supportive environment be monitored for perceived stabilities likely to facilitate simultaneous progression of ICC and autonomy. Meticulous descriptions of factors likely to influence the final result of an interplay between the two competences seem then a prerequisite for increasing the testability of predictions on how to develop ICC of teachers of English in optimum ways. The findings of the study suggest that complexity science can bring a potential contribution to the development of ICC in prospective teachers in autonomy-supportive contexts. However, particularly challenging may be restructuring teacher training programmes in such a way that the content of the course takes into consideration the natural emergence of learning ICC in an autonomous context and the functioning of complex systems by applying a flexible syllabus which approaches ICC holistically rather than as discrete objectives. Consequently, although accountability and standards in intercultural teacher education are promoted, teacher training programmes should be modeled on the flexibility and unpredictability of learning outcomes if the gap between theory and practice is to be met. However, the solution should not be maintaining the status quo by ignoring the natural emergence of intercultural development in an autonomous context. More research is needed by applying complexity science in various European institutions in the context of developing ICC in prospective teachers in autonomy-supportive settings, which will allow exchanging good practices.

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