An Empirical Study about the Importance of Teachers’ Educational Beliefs and Acculturation Attitudes for the Implementation of Intercultural Education in Physical Education

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Abstract

Previous research suggests that teachers’ behaviour is influenced by educational beliefs and attitudes. This article focuses on two explorative studies among 99 and 18 physical education teachers, and aims to find out if educational beliefs and acculturation attitudes influence teachers’ willingness and behaviour to promote students’ intercultural competence through physical education lessons. The research design is based on a mixed-method approach. By interlocking quantitative and qualitative data, a mismatch between the expressed willingness and the real behaviour is uncovered. Educational beliefs influence the willingness but not the behaviour, whereas acculturation attitudes do not have any significant influence on the expressed willingness or on the behaviour. The impact depends on the accessibility of the namely constructs that is attained by reflection. Therefore, teacher education must be more than the conveyance of knowledge and techniques but provides teachers with strategies to reflect on their belief systems and their implication on teaching.

Key words: intercultural education, physical education, teacher education.

Introduction

In 1996, the Standing Conference of Ministers in Education in Germany called for a fundamental change of perspectives in its recommendation on the topic of “intercultural education in school” because the educational system will have to deal increasingly with the perception and acceptance of cultural diversity. Based on the German micro-census of 2009, 36.6% of 10- to 15-year-old adolescents have migration background; this means that at least one of their parents is not born in Germany or the adolescents have their own migration experiences. Therefore, intercultural education should be anchored as cross-curricular educational mission of school. Intercultural competence is considered as a key qualification for all children and adolescents growing up in a plural society, and aims at constructive cooperation with one another. The realization of this claim presupposes intercultural competence of teachers.

However, using the term intercultural competence is not as clear as it seems to be. In literature we find two concepts of intercultural competence. The one concept understands intercultural competence as a socio-technical skill [e.g. 9]. In this understanding, specific cultural trainings want to equip their participants with knowledge about a specific cultural group and with “technical skills” for the constructive handling with a specific cultural group. This concept of intercultural competence attracts criticism in recent years: there is the risk that education will become “culturalized by highlighting inter-group differences to the detriment of intra-group and inter-individual differences” [1, p. 476]. The individual is reduced to his/ her cultural membership. In this way, an artifact is produced, which justifies culturalist analyses. The risk of stereotypes, racism, and discrimination increases. The complexity of interethnic relations is neglected, and the dynamic development processes within cultures is not taken into account. The interference with factors, such as
gender, class, and sexuality, is ignored. If culture is not an objective fact but a social construction, intercultural competence is more than specific cultural knowledge and technical skills. This leads to the second concept of intercultural competence that requires the capacity to think in terms of conjectures and hypotheses. Conflicts between a teacher and a student with migration background can be but not necessarily linked to cultural or religious reasons. Other reasons should be taken into account. Intercultural competence in this understanding means the capacity of “heeding and acknowledging (multi) affiliations and life contexts, of reflecting migration contexts and dismantling discriminating structures, without reproducing imputations or determinations” [6, p. 229]. Intercultural competence in this understanding is chiefly composed of two facets: first, the ability to cope constructively with differences, cultural diversity, and the resulting uncertainties for pedagogic interaction, as well as the specialist-didactic methodological competence to initiate intercultural learning within classes with the concrete aim of promoting intercultural competence of children and youth [8, p. 305].

**Performance Indicators of Intercultural Competence**

By analogy to the theoretical distinction between linguistic competence and linguistic performance, between having the knowledge and handling according to this, it is necessary to distinguish between intercultural competence and intercultural performance. A teacher can have the required knowledge and skills, but due to individual factors, structural parameters, and personal attitudes, the teacher is not willed or even not able to apply them to the given situation. These transforming structures can be called performance indicators.

According to research results, educational beliefs and attitudes seem to have an important impact on teachers’ behaviour. A considerable amount of research on teachers’ decision making and information processing has led to the acceptance of the idea that teachers’ ways of thinking and understanding are vital components of their practice. Throughout his study, J. Nespor [11] provides a theoretically grounded model of belief systems that can serve as a theoretical framework for systematic and comparative investigations. J. Nespor found out that beliefs influence how or whether one acquired knowledge and how one might be inclined to use it. There are at least three distinctions: first is the possession of knowledge, second is the access to that knowledge, and third is the willingness to access that knowledge. P. Ernest [5] pointed out that two teachers may have similar knowledge but teach in different ways because of their different educational beliefs. This result leads to a differentiation between belief and knowledge: belief is based on evaluation and judgment, whereas knowledge is based on objective fact [12]. Teachers’ beliefs act as filters and affect the way in which they perceive their current teaching situation and the way in which they can accommodate new teaching goals.

When clusters of beliefs are organized around an object or situation and predisposed to action, this holistic organization becomes an attitude [13]. Acculturation attitudes are a belief-cluster around the topic “Interculturality”. They reflect the idea about how the different cultural groups in a plural society should interact; they reflect the goal of an acculturation process. In an empirical study, J.W. Berry et al. [2] identified five dimensions of acculturation attitudes: assimilation, separation, segregation, integration, and marginality. Assimilation expects migrants relinquishing cultural identity and moving into larger society, whereas integration implies the maintenance of cultural integrity as well as the movement to become an integral part of a larger societal framework. The result is a multicultural society where the diversity of each cultural group is valued. Segregation and separation can be summarized as rejection. The cultural integrity is preserved, and there is no aspiration for interactions with the other cultural groups in the society. If the majority pursuing the goal of cultural isolation and keeps the minority groups at distance, it is the case of segregation, which can be a consequence of unfulfilled assimilation expectancies, whereas separation is the (self-chosen) withdrawal of the minority groups that can be a result of experienced assimilation
stress. The last option is marginality, in which groups are out of cultural and psychological contact as well with their traditional culture as with the larger society. R. van Dick et al. [4] developed a questionnaire for teachers according to Berry’s concept and, in an empirical study, distinguished three types following either assimilation or integration or segregation. The scales of assimilation and the scale of segregation are highly positively correlated, whereas the scale of integration correlates highly negatively with the scale of assimilation and with the scale of segregation. U. Wagner et al. [18] showed empirically that acculturation attitudes influence teachers’ behaviour in intercultural problem situations. The more teachers prefer integration as an acculturation goal, the less they will react with a punishment (extra exercise or expulsion from school) in intercultural problem situations like “Muslim girl wears a headscarf” or “Brawl between foreign national and German students”.

**Purpose of the Presented Studies**

Based on these theoretical works and empirical studies, the purpose of the presented studies is to measure the impact of educational beliefs and acculturation attitudes on the willingness of physical education teachers to implement a new educational mission, the promotion of intercultural competence of children and youth through their physical education lesson, and the impact on the “real” implementation. The presented studies focus on trained teachers and use a mixed-method approach. By comparing the willingness and the real implementation, a differentiated perspective on the impact of educational beliefs and acculturation attitudes on willingness and behaviour is gained. Using the quantitative and qualitative approach at the same time compensate the weakness of the respective method.

**Method**

The research design consists of two separate explorative studies among physical education teachers. The first study (Study 1) is a quantitative questionnaire study among ninety-nine physical education teachers who participated in different continuing education courses for sport practice, not for intercultural learning through sport. The purpose of this study was to measure the impact of educational beliefs and acculturation attitudes on the willingness of physical education teachers to implement the promotion of intercultural competence of children and youth in their physical education lesson. The second study (Study 2) is a qualitative-quantitative study among eighteen physical education teachers who had participated in a continuing education course about intercultural learning through sport, moderated by the author. Four weeks after the continuing education course, the author conducted an interview with every participant to know if the teachers have already implemented the contents of the education course in their physical education lessons and, if so, what were their experiences and, if not, why have they not already implemented the contents. To prevent socially desired responses, the teachers had to describe very exactly what they have done and what they have not done, what were the aims of the lessons, where have been problems, and what should be improved in next lessons. The same questionnaire as used in Study 1 was filled out by the participants before and after the continuing education course. Thereby, the longitudinal development of the participants concerning specific facets of intercultural competence and educational beliefs as well as acculturation attitudes was possible. The focus of this article is not the longitudinal study [see 8] but the impact of educational beliefs and acculturation attitudes on the “real” implementation of the promotion of intercultural competence of children and youth. Therefore, a comparison between Study 1 and Study 2 is possible as well as through the qualitative part of Study 2 a more differentiated perspective on the preconditions of the implementation of new pedagogical missions is gained.

**Measures–Studies 1 and 2**

The used questionnaire for Studies 1 and 2 is divided into three parts. The first part covers personal details of the physical education teachers (sex, age, nationality, migration background, stay abroad, length of service,
school subjects, school form, academic education in physical education, own physical activities, and participation on continuing courses about intercultural learning). The second part, “Attitudes on Interculturality”, includes the items of the educational beliefs about intercultural learning at school and in P.E. lessons, as well as acculturation attitudes. The items of the educational beliefs and of acculturation attitudes are listed alternately. The teachers could rate the different items on a four-stage scale (totally agree (3), rather agree (2), rather disagree (1), and totally disagree (0)). The items of the acculturation attitudes are completely taken out of the empirically validated acculturation scale of R. van Dick et al. [4]. In general, there are 13 items of acculturation attitudes that represent the scales of pluralistic integration, assimilation, and segregation. The items of the educational beliefs are taken out of the survey of L. Sercu [14]. The items, originally developed for foreign language teachers, were adapted to the context of physical education and translated from English into German. There are a total of 11 items of educational beliefs. The third part of the questionnaire, “Sport and Interculturality”, contains stereotypes of sport and integration and knowledge about the link between sport and cultural influences. The purpose of these items is to holistically cover the comprehension of the complex interconnection of sport, integration, and cultural influences, and not to test singular components of knowledge. To avoid conceptual misunderstandings, in the preliminary sentences to the questionnaire intercultural learning was defined as the planned delivery of educational situations in which pupils are encouraged to become aware of their own perceptions and actions and those of someone of a foreign background. This questionnaire was distributed to the participants of Study 1 and Study 2. The physical education teachers of Study 2 participated additionally on an interview in which they talked about their experiences with the implementation of intercultural learning in their P.E. lessons. These interviews were conducted 4 to 6 weeks after the formation course about intercultural learning in physical education and lasted for 10 to 40 minutes. Therefore, an interlocking of qualitative and quantitative data is possible. Consequently, the research design can be considered as a mixed-method design [16].

Data Analysis Study 1

As there will be no convincing result on single item level, a factor analysis of the items of the educational beliefs and of the items of the acculturation attitudes were applied. A principal component analysis with Varimax rotation was chosen. The empirically identified factors were summed up to independent scales to test the hypothesis referring to the impact of educational beliefs and acculturation attitudes on the willingness to promote intercultural competence of children and youth through P.E. lessons.

For testing the hypothesis of the educational beliefs and their link with the willingness to promote intercultural competence of youth through P.E. lessons, two-sided correlations (Pearson’s correlation coefficient) are applied. The link of acculturation attitudes with willingness is tested in linear regression equations. The independent scales of the acculturation attitudes are the predictor variables, and the item “Through my physical education lessons, I would like to promote intercultural competence of children and youth” is the response variable. As attitudes can be considered as more stable than beliefs, it is legitimate to test the correlations in the form of a regression equation. Beliefs can be changed more easily by a positive experience with intercultural learning processes so that reciprocal influences are supposed.

Data Analysis Study 2

The scales, identified in Study 1, were used for the testing of the differences between physical education teachers who implemented intercultural learning in their P.E. lessons and those who did not. “Implemented” means that the P.E. teachers performed the contents that have been shown in the teacher formation course about intercultural learning through sport or that they have developed own contents for intercultural learning. A qualitative content analysis in accordance to Ph. Mayring [11] was conducted for the qualitative data of the interviews.
**Results–Study 1**

**Factor Analysis**

Three factors could be identified for the educational beliefs, presented in table 1. The total variance is 58.1%. All factors have an eigenvalue greater than 1. The first factor expresses the conviction that intercultural education at school has an effect on the behaviour of young people and that it is best achieved through cross-curricular methods. The second factor reflects a skeptical approach on intercultural education: intercultural education is only necessary if children with migration background attend the school or the class. The third factor unifies the items that deny the physical education’s contribution to intercultural education and stress that physical education is primarily a sport-motor application.

![Table 1. Factors of the educational beliefs](image)

The items of the acculturation attitudes formed also three factors (table 2) with an eigenvalue of greater than 1. These factors explain 50.4% of the total variance.

Although two variables were extracted, due to statistical reasons, the given factor structure reflects in term of contents the factors identified by R. van Dick et al. [4]. The first factor represents segregation; the second factor, assimilation (of the minorities on the majority); and the third factor, a pluralistic understanding of integration.

**Correlations of Educational Beliefs with Willingness**

The first factor that represents the belief that intercultural education at school is effective and that it is the best achieved through cross-curricular methods is positively high significantly correlated with the willingness to promote intercultural competence of students through P.E. lessons $r = .52$, $p < .01$). The second factor, which expresses a skeptical approach to intercultural education and the conviction that intercultural education is only necessary if children with migration background attend the
school, correlates negatively high significantly with the willingness \((r = -.34, p < .01)\). The third factor – P.E. lessons have primarily a sport-motor application and cannot contribute to intercultural education – does not show any significant correlation \((r = -.19, p = .06)\).

**Regression Equations: The impact of acculturation attitudes on willingness**

None of the three factors, segregation \((r = -.14, p = .19)\), pluralistic integration \((r = .12, p = .10)\), and assimilation \((r = .01; p = .10)\) have a significant impact on the willingness to promote intercultural competence of students through P.E. lessons. The regression coefficient of the equation assimilation points even into the theoretically not expected direction.

**Results – Study 2**

The P.E. teachers who implemented the demonstrated contents of the continuing education course in their P.E. lessons under the perspective of intercultural learning \((n = 8)\) and those who did not (yet) \((n = 7)\) do not differ significantly in the scales of the educational beliefs or in the scales of the acculturation attitudes (Table 3).

**Table 2. Factors of the acculturation attitudes**

<table>
<thead>
<tr>
<th>factor 1</th>
<th>factor 2</th>
<th>factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>item</td>
<td>loading</td>
<td>item</td>
</tr>
<tr>
<td>Children of different ethnic backgrounds should attend separate schools.</td>
<td>.718</td>
<td>Immigrants should adapt to the German culture.</td>
</tr>
<tr>
<td>If members of different ethnic groups want to retain their culture, then they should remain among themselves.</td>
<td>.592</td>
<td>Teachers should make sure that students of different ethnic backgrounds exclusively speak German during school breaks.</td>
</tr>
<tr>
<td>The fact that there are many different ethnic groups in Germany makes it difficult to solve problems.</td>
<td>.589</td>
<td>People immigrating to Germany should raise their children so that they predominantly use the German language.</td>
</tr>
<tr>
<td>Members of different ethnic groups should live separately in all areas of life to avoid conflicts between the groups.</td>
<td>.632</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Means in the scales of the educational beliefs and acculturation attitudes between P.E. teachers who implemented intercultural learning in their P.E. lessons and those who did not**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Contents implemented (mean)</th>
<th>Contents not implemented (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB 1: Intercultural education at school is effective and best achieved through cross-curricular methods.</td>
<td>10.29</td>
<td>9.86</td>
</tr>
<tr>
<td>EB 2: Skepticism about the effectiveness of intercultural education; it is only necessary if children with migration background attend the school.</td>
<td>0.86</td>
<td>1.43</td>
</tr>
<tr>
<td>EB 3: P.E. lessons have primarily a sport-motor application; these cannot contribute to intercultural education.</td>
<td>1.57</td>
<td>1.29</td>
</tr>
<tr>
<td>Segregation</td>
<td>2.57</td>
<td>3.14</td>
</tr>
<tr>
<td>Assimilation</td>
<td>6.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Pluralistic integration</td>
<td>5.00</td>
<td>4.67</td>
</tr>
</tbody>
</table>
The performance indicators in Study 1 that proved to be significant, at least theoretically compliant predictors for the willingness to promote intercultural competence of children and youth through P.E. lessons, do not explain in Study 2 why P.E. teachers implemented the demonstrated contents in their P.E. lessons or did otherwise. These results emphasize that the explanation of willingness and the real performance have to be treated separately. There must be other reasons or obstacles that hinder P.E. teachers to implement the contents in their P.E. lessons. These obstacles can be developed in the qualitative analysis of the data: structural and school organizational reasons as well as personal problems like burnout symptoms are in the teachers’ point of view responsible for the nonimplementation of the demonstrated contents.

**Integrative Discussion**

There are significant correlations between the educational beliefs and the willingness of the P.E. teachers to promote students’ intercultural competence through P.E. lessons. This means that the more the P.E. teachers are convinced that intercultural education at school is effective, the more they express the willingness to promote intercultural competence of students—and the other way around. The less they have a skeptical approach to intercultural education, the more they express their willingness—and vice versa. The third factor—P.E. has primarily a sport-motor application—misses with \( p = .06 \) just the significance level of \( p < .05 \).

One of the interpretations could be that different empirical studies prove that children have less sport-motor competences [e.g., 15] and that child obesity is growing [e.g., 10] along with the risk of cardiovascular diseases or diabetes. It seems as if the P.E. teachers are (politically) forced to legitimate P.E. lessons by underlining primarily the sport-motor application that can only be accomplished by the P.E. lessons. The regression equations of the acculturation attitudes do not show any significant implications on the willingness of the P.E. teachers but on the first and second factor points in the theoretically expected direction. The regression coefficient of the equation assimilation points into an unexpected direction. This discrepancy can be explained by a weakness of the used questionnaire. Three items load on the factor assimilation. Two items stress that migrants should master the German language. Studies among teachers show that the ability to speak German corresponds to school success and to a satisfied future. For this reason, the teachers follow the monolingual habit identified by I. Gogolin [7]: only German is allowed at school (during lessons and breaks). For further research, the items of assimilation should finally cover more dimensions than only the linguistic assimilation.

The results of Study 2 expose that even if teachers evaluate a continuing education course as successful, it cannot automatically expected that they implement the contents in their lessons. However, the reasons are not an insufficient development of needed competence or an insufficient development of performance indicators like educational beliefs or acculturation attitudes as the results of the longitudinal study show [8]. The quantitative analysis shows that there is no significant difference between P.E. teachers having implemented the contents and those not having implemented the contents concerning the scales of educational beliefs and acculturation attitudes. Both groups are characterized by a same beneficial level of the performance indicators. Both groups express in equal measure the willingness to promote intercultural competence of children and youth in their P.E. lessons. This means that there can be a self-reported willingness to implement intercultural learning in P.E. lessons; the performance indicators can have a beneficial level, but from the teachers’ point of view, school organizational as well as personal problems prevent the implication. We have to keep in mind that these are self-reported reasons that can have the character of excuses or justifications.

This means educational beliefs are important for the willingness to behave in a certain way, but they have to be seen in the complex context of the individual perception and
of the organizational and social environment. It is necessary to sensitize teachers for the perception of these structures and to identify if these are real problems or only “pledged” reasons. Several case studies in mathematics [3, 17] support this argumentation to integrate educational beliefs in the context of the social and institutional organization. These case studies have shown that there can be a great disparity between a teacher’s espoused model of teaching and the actual practice in classroom. Following the argumentation of P. Ernest [5], this mismatch can be explained with several reasons. With a questionnaire study, it is not possible to measure the depth of the espoused beliefs or the extent to which the beliefs are integrated with other knowledge and beliefs. It is only possible to measure the status quo of the beliefs but not their network. As beliefs and attitudes are unconscious structures for the teachers, only accessible through reflecting processes, it is possible that the existing attitudes and beliefs are not (yet) sufficiently accessible for the reflection of behaviour. This reason in combination with the embedding of action in a social and institutional context explains why teachers can have a beneficial shaping of performance indicators, but because of perceived organizational and social expectancies and perceived structural and organizational conditions, they do not behave in the theoretically expected way.

**Conclusion**

The original question of the presented studies was if educational beliefs and acculturation attitudes can explain teachers’ willingness to implement a new pedagogical mission in their lessons as well as the “real” behaviour. The results underline that the presented performance indicators, at least educational beliefs, have a significant impact on the expressed willingness to promote intercultural competence of children and youth through P.E. lessons. Acculturation attitudes, as stable belief cluster around the topic “Immigration and Interculturality”, seem not to have any impact on the willingness to implement a pedagogical mission which pursues the preparation of children and youth for a multicultural society. This result can be referred to the weakness of the measure instrument, surely for the construction of the scale assimilation. For future research, this scale should be redeveloped. Both performance indicators seem not to have any impact on the “real” behaviour of the P.E. teachers. There is no difference in the scales of educational beliefs and of acculturation attitudes between P.E. teachers having implemented intercultural learning in their P.E. lessons and those who have not (yet). Both groups express that they are willing to do it, but those who did not introduce structural, organizational, and personal reasons that prevent the realization in their point of view. The results support the existing theoretical assumptions and empirical results. There can be a mismatch between expressed willingness and the real behaviour. Nevertheless, these explorative studies elaborate the research field with the result that teachers’ educational beliefs and attitudes must be seen in the organizational context and social environment. The results have implications on the conception of teacher education programs and continuing teacher education. First at all, teacher education must be more than the conveyance of knowledge and techniques. The goal of teacher education cannot be to indoctrinate or train teachers to behave in prescribed ways but to sensitize them for their own beliefs and attitudes. Teachers must learn to identify how their own beliefs may impede their ability to teach equitably. The design of courses needs to consider the development of teachers’ knowledge, beliefs, and attitudes, both at a theoretical and practical level and at an individual level and an organizational level. As it seems so that the impact of educational beliefs and attitudes on real behaviour depends on the accessibility of the constructs and that this accessibility is connected to reflection about them and about the performed behaviour, one of the goal of teacher education must be to educate teachers to reflect about their teaching, to give them strategies to reflect about their belief system and their implication on their teaching. Teachers must learn to use their knowledge base to provide the grounds for choices and actions, with the
principles and evidence that underlie the choices
teachers make.

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