



Proxemic Behaviour in Pre-service Teacher Training in Physical Education

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Abstract

Pre-service university training in Spain is currently the domain of generic and specific skills which enable graduates to respond effectively to social demands. The main occupation of the physical activity professionals consists of managing groups or individuals who are practising and learning motor activities. The necessary interaction that takes place in this process leads communication skills to play a major role in training. The students in this study led simulated teaching sessions and evaluated themselves and their classmates. Following the sessions, they produced self-reports that revealed proxemic difficulties. These difficulties straddled four categories: Teacher orientation and position; group position and organisation; teacher movement and physical and affective distance-immediacy established between teacher and students. They realised that poor teacher position and orientation vis-à-vis the group hampered proper communication, even leading to disruptive behaviour. They also realised that group organisation cannot be left to chance, in view of its influence on the methodological models followed and their importance in learning, and that the proxemic behaviour of students in a class can provide valuable information for teachers, both for learning and with regard to the emotions that condition the session, such as inhibition in certain body expression exercises. Finally, the students underscored the importance of both physical and emotional immediacy to create an optimal teaching and learning space.

Keyword: non-verbal communication, proxemics, pre-service teacher training, physical education, self-assessment, peer assessment.

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Introduction

Pre-service university training in Spain requires that students master general and specific competencies, which means going beyond the traditional training model based on the accumulation of knowledge. This study on pre-service training of physical education (PE) teachers analyses the presence of non-verbal communication competence in students (Ortiz-Camacho, 2000) since the differences found in previous studies among expert and novice teachers in this question (Castañer et al., 2010) suggest that studying this competence in PE teacher training is of paramount importance.

Connecting with the relational and emotional dimension is of the essence Álvarez-Núñez in non-verbal communication in the classroom, as is facilitating the transmission of “that which, in their opinion, delivers greatest educational value: attitudes, beliefs, emotions, feelings, expectations, values, prejudices, states of mind” (2012, page 24).

Non-verbal communication straddles three areas of study (Davis, 1995; Knapp, 2007): kinesics (gestures and movements), paralanguage (non-verbal components of speech once the content has been removed) and proxemics, on which this study focuses. Castañer (1993) introduced a fourth area, chronemics, which studies the time factor in non-verbal communication.

Proxemics represents “the study of man’s perception of space and the use he makes of it” (Hall et al., 1968, page 83); it is about analysing proxemic uses based on physical distances, body orientation and movement, the person’s spatial orientation or mobile positions. Therefore, proxemics deals with the study of space expressed as territoriality; with the distance between people; the occupation of space, movements and the consequences and significances of all the foregoing as aspects related to non-verbal communication.

With regard to distances, Hall et al. (1968) establish four spatial areas in relation to the person which fluctuate depending on the context of the interaction: 1) intimate distance (up to 45 cm); 2) personal distance (45-120 cm); 3) social distance (120-360 cm), and 4) public distance (more than 360 cm). Some studies focus on people’s reactions in their threatened space (the smaller the physical distance, the greater the affective relationship, seeking closeness with people we like, Davis, 1995). In education, non-verbal immediacy refers to the psychological and emotional closeness perceived between people, which transcends the physical, where immediacy conditions the relationships between teachers and students (Álvarez de Arcaya, 2002).

In terms of territoriality, human beings maintain primary mechanisms (Almeida & Ortiz, 2016), seeking

spaces where we feel less threatened or more comfortable. Murcia and Ruiz (2010) refer to the organisation of objects and people in the classroom space so that the teacher, in an open classroom, can distribute the “disruptive” objects (a camera) throughout the room in order to obtain a balanced occupation of space by the students.

Rodríguez-Gallego (2012) refers to the concept of proxemic competence as that which, together with the kinesics and paralanguage competences, are aspects that should be interpreted and leveraged by the teacher to control the class and to establish distances with the students. Observing the layout of groups in the class gives the teacher a better understanding of the where the group is in the learning process; for example, in the case of exercises involving body expression, more consolidated groups tend to open up more to the audience whereas the less consolidated ones close up (Mateu et al., 1992) more, possibly as a protection strategy.

However, besides the implications for teaching techniques, a knowledge of the meanings of the proxemic setting may help the teacher to recognise the emotional reactions occurring in the group. Depending on the methodological options they decide to implement, teachers can generate a class climate conducive to student creativity and autonomy; the idea is to generate a space for expression where students can symbolise, project themselves and create, which takes on particular relevance in contents such as body expression, where the creation of this space clearly conditions the evolution of the session (Romero-Martín, 2015).

Finally, several authors address the effects of non-verbal communication on learning (Castañer et al. 2010), and assert that optimising teachers’ communication styles has a positive and direct effect on student learning. Álvarez de Arcaya (2002) shows that a proper use of non-verbal communication has a positive effect on learning, which suggests that non-verbal competence, kinesics, proxemics, paralanguage and also chronemics (Castañer, 1993) should be pursued in pre-service teacher training.

Consequently, the objective of this study was to ascertain pre-service PE teacher training students’ perceptions of their teaching competence in terms of proxemic non-verbal communication, following simulated sessions in which they role-played as teachers.

Metodología

Design

A qualitative study was designed, using content analysis as a technique for interpreting the written

reports. The work was geared towards ascertaining and interpreting the training phenomenon as part of the social phenomenon (Strauss & Corbin, 1998) on the basis of the study participants' subjective experiences (Gibbs, 2007). Content analysis consists of coding and categorising verbal or behavioural data so that they can be classified and tabulated (Fox, 1987), counting frequencies and categorisations (López Noguero, 2002) and illustrating the written results to convey the descriptive nature of the qualitative paradigm involved (Bogdan & Biklen, 2007).

Participants

The participants included 120 university students aged between 18 and 26 years (M: 20,6; SD: 4.88), 50 from the Master's Degree in Primary Education of the University of Valladolid, and 70 from the Degree in the Sciences of Physical Activity and Sport of the University of Saragossa. The inclusion criteria were: be currently taking the body expression subject, attend regularly and choose the training evaluation route; the exclusion criterion was refusal to allow their data to be included in this research.

Instruments

The data collection instrument was a self-reported evaluation in which each student had to rate their own performance, also including the assessments made by their peers, using a rubric for communication skills, own information obtained from their own insights and the video analysis of the exercise. The self-report was a 500-word essay in which the students had to write down their thoughts about the most positive and negative aspects of their communication skills and propose improvement strategies.

Procedure

The students took part in a personal and group-based process of reflection about their teaching within a training evaluation system that utilised self- and peer-assessment strategies. The students initially signed an informed consent for their data to be included in the research and for video- and audio recording. Confidentiality was guaranteed, as was as the application of techniques to guarantee anonymity.

The methodological procedure consisted of six simulated sessions (Alonso et ál., 2016) in which the participants took it in turns to act as teachers, applying body expression didactic knowledge, and subsequently as ob-

servers, rating their peers on a rubric. Each teacher was evaluated by two observers who gave them verbal feedback at the end of the session. The teaching exercises were recorded in video and the peer assessment was recorded in audio. At the end of the process, each student completed a self-report drawing from all the information sources.

Data analysis

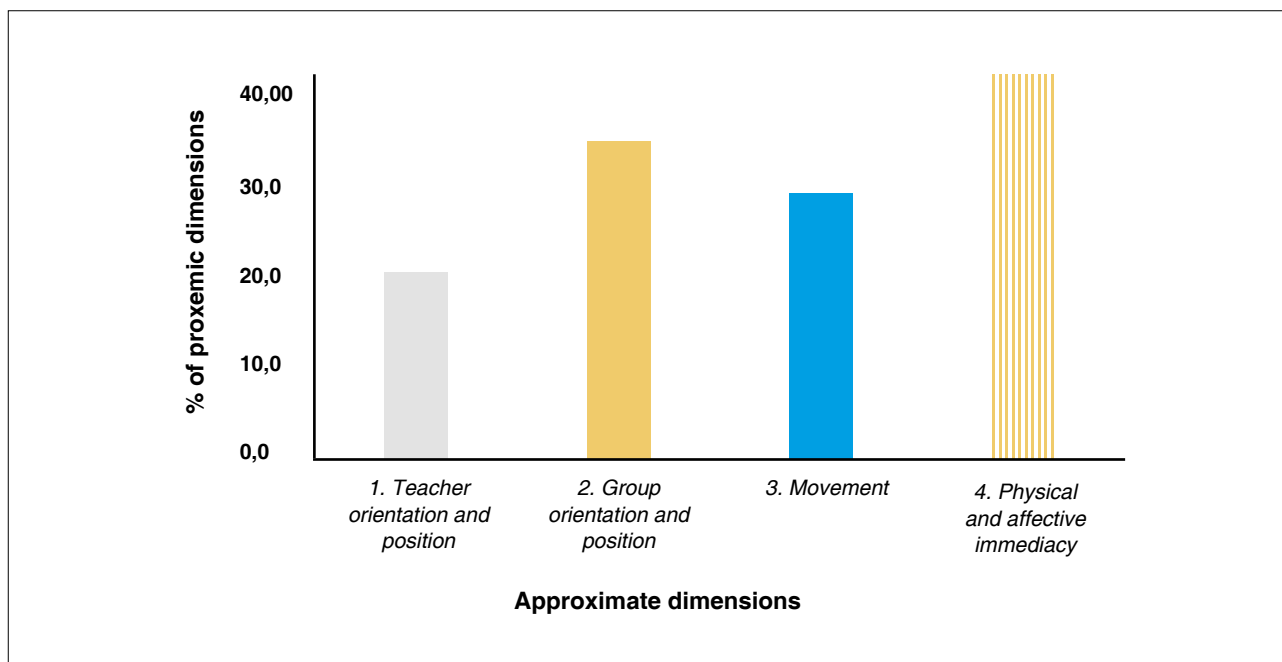
The self-reports were analysed using the ATLAS.ti software, which assigned an alphanumeric code to each comment depending on its position in the text and on the attributes of the person in question. This was followed by a further two analysis cycles to glean a better understanding of the phenomenon being studied (Saldaña, 2015). In the first cycle, two investigators analysed the meaning or significance of the comments, and categories or groups of codes were produced by means of a process of reflection and consensus (Friese, 2014). The continuous feedback from the members of the research team and their constant participation in the regeneration and fine-tuning of the emerging codes, code groups and categories afforded the study greater credibility, reliability and transfer (Guba, 1985).

In the second cycle, another investigator attributed the comments to the categories provided, thus obtaining a second categorisation. The extent of agreement between both codes was measured using the Kappa Index, whose value was = .795 (asymptotic standard error: 0.060; approx. sb: 10.964; approx. sig.:.000), indicated a satisfactory degree of agreement according to the Fleiss' kappa. This process yielded four categories within the proxemic communicative competence: 1) teacher orientation and position; 2) group-class orientation and position; 3) teacher movement, and 4) participating student-teacher physical and affective immediacy. Finally, the percentages of comments assigned to each category were calculated and used to expound the results with the help of significant comments that were representative of the categories obtained.

Results

The students, male and female, after role-playing as teachers in the simulated classes, detected proxemic performance difficulties (Figure 1.) which were analysed and allowed us to produce the percentages in the aforementioned categories: 1) (19.2%); 2) (32.9%); 3) (27.4%), and 4) (39.7%).

Figure 1
Proxemic categories as percentages



1. Teacher's orientation and position with regard to the group

19.2% of the proxemic comments referred to the teacher's orientation towards the group for the purpose of informing as a factor that was not only important in ensuring that the message was clear but also in preventing disruptive behaviour in the group:

"One error that I saw and which is clear in the video was that during my explanation to the smaller groups I turned my back on the participants and they got distracted" (6:40.D1:A1-UZ)

"...the way the class was organised to provide the explanation was not right since, as you can see in the video, the students were organised adequately for the beginning of the activity but not for the explanation, as some of them were unable to see and could probably hardly hear me on account of the distance" (6:143-D1:A1-UZ).

The teacher's orientation as a proxemic element was seen to boost communication with the learners and guarantee the effective transmission of information. Moreover, when the teacher's position with regard to the group was equidistant, all the learners were seen to enjoy equal access to the information. Finally, it was detected that teachers, before beginning their explanations, should check that the pupils are predisposed to actively listening to ensure that they all focus on the teacher.

2. Group position and organisation

32.9% of the observations referred to the position and organisation of the group in space and the related implications. 24.7% were related to the consequences of a given group distribution:

"Maybe a semicircular distribution would have been better, since I ended up focusing more on one end of the row in which they were distributed, forcing interaction from them, while neglecting the other side". (1:28-D1:A1-VA)

"The students should have remained in the same place for the short conclusion and I should have gone straight into the activity with them so as not to disrupt the atmosphere created in the session. Putting them in the mirror disrupted the routine and led them to disconnect". (1:131-D1:A1-VA)

2.7% of the observations referred to how the teacher had distributed the group:

"To wrap up, and compared to the session given in the "teaching-learning processes" subject, I corrected the organisation of the class for the explanation". (1:22-D1:A1-CH);

"There was a point when the distribution of the group did not work out as I had planned and I was concerned and unsettled on seeing that things might not go according to plan". (1:23-D1:A1-VA).

The remaining 5.5% mentioned group reactions related to other spatial behaviours:

“...The students gradually moved towards the wall-bars... This unsettled me a bit as I was unsure how to deal with the situation. Now, having seen the video, I think that I could have placed some cones on the floor from the beginning to mark out the space and keep the pupils inside it...” (6:157-D6:D1.A1-UZ)

“In my opinion, the class went well, although sometimes the pupils got distracted and I had to call them to order”; (6:156-D6-CH)

On distributing the students in a semicircle, the teacher established a better proxemic relationship and interaction to permit a clear transmission of the information about the class activities. In the analysis of the pupils' spatial behaviour and the teacher's interpretation, the group was seen to move towards outlying areas of the exercise area, since fear of ridicule and inhibition tend to surface in activities such as dancing or body expression.

3. Teacher movement in the space, moving around

EMovement around the room accounted for 27% of proxemics-related comments:

“I tried to move about in order to supervise the pupils and make sure that they were doing the activity properly. That said, neither did I over-engage with them”. (1:20.1-D1:A1-CH)

“Moreover, I am always in the same place to change the music, which means that I switch off a little from the group doing the choreography and have to pay more attention to the music”. (01:37-D1:A1-VA)

“...one negative aspect was that I remained in the same place for too long once the two groups had been formed”. (1:79-D1:A1-VA)

On numerous occasions, the teachers acknowledged that they were not moving about enough or had no intention of interacting with the pupils, which could mean that they were not attending to the group properly, although they justified this by the need to do something else, such as change the music.

“Finally, we went through all the steps from the top and did a mini-choreography. I walked round to encourage, correct and motivate the different pairs”. (1.12-D1:A1-CH)

“I was moving around all the time to be able to see, correct and help as far as possible, and the position I took up to give the explanations was correct”. (01:21-D1:A1-CH);

On other occasions, the teacher mingled with the

groups or addressed them directly in order to help or give the students new information or feedback about technical and organisational aspects.

4. Physical and effective distance-immediacy

The fact that the teacher was too far away from their pupils made it more difficult to monitor the group and have visual contact with it, thereby also hampering communication and interaction.

“I wasn't close enough to them, I was a bit too far away, as I already mentioned, although I do make visual contact with them, I smile at them and try to make sure they know that I am there and can help them at any point. I would summarise my performance in two words: kind but distant”. (6:113-D1:A1-UZ)

Many comments referred to the fact that distances rendered emotional immediacy between teacher and students difficult. Mention was also made of tactile communication and the positive effect of emotional immediacy on motivation:

“...Interacting more with the entire group, being a bit closer to them (perhaps trying to motivate them with a bit more push, is linked to this), (1:4.1-D1:A1-CH)

“There is no tactile communication, I do go through the motion, but I find tactile communication very difficult, perhaps out of insecurity. I have always been shy and reserved, I do not touch other people and always keep a space between myself and the person I'm talking to” (1:114-D1:A1-VA).

“In my case I think it has a lot to do with feelings, since as I feel insecure and embarrassed, my communicative competence goes out the window and I tend to seem colder and shy away from my colleagues, or else refrain from engaging with them or motivating them. I should have been closer and more approachable”. (6:112-D6:D1.A1.UZ)

To conclude, the distance-immediacy issue, firstly physical and subsequently emotional, between the teachers and the pupils may have conditioned the interaction between them. Teacher closeness to the group facilitated verbal and non-verbal communication and the group's perception of the level of attention, resulting in a more empathic relationship. Similarly, teacher-pupil emotional immediacy facilitated feedback for motivating, correcting, elaborating upon information, etc. Therefore, closeness between teachers and pupils would seem to be conducive to better physical and emotional communication.

Discussion

The study of the perception of proxemic space in PE students in simulated body expression sessions is used to observe the type of concerns and insecurities which in any event they can take into account as a key element in their professional teaching competence.

Teacher orientation

PE teachers must strike a balance between information-giving time and exercise time in their classes. For this purpose, teachers should limit their own talking (Seners, 2002, page 214). If the teacher is talking to a large group (Galera, 2001), they must make sure that all the pupils understand them (Seners, 2002), for which purpose the pupils must be in their visual field (Pieron, 1999), whereby these pupils tended to take up a position facing the group, in line with the study by Castañer et al. (2015). The students-teachers were aware of the importance and difficulty of taking up the right position in front of the pupils to ensure that both verbal and non-verbal messages were conveyed clearly. This question would appear to be independent of the methodological model used in the session, and there are no exact rules regarding the organisation of space: everything will depend on the objectives pursued and the teaching activity (Seners, 2002). In any event, the choice of model will condition communication style, as concluded by Alves et al. (2015) in their study with fitness trainers. Resources for adapting teacher orientation in order to show all the angles of execution or in order to face pupils or enter a group with a circular formation are some of the technical aspects that the future teachers should consider.

Spatial organisation of the group

The teachers in the study opine that it is indispensable to organise the group properly in space to guarantee that their instructions will be heard and heeded, since failing to do so may ostensibly even give to disruptive behaviours, as also observed in the studies by Target and Cathelineau (1990). On the basis of research work dealing with pre-service teacher training, Pieron (1999) concluded that the greatest concern was related to organisational functions. The position of the teacher with regard to the pupils when explaining content or providing feedback can condition both interaction and the evolution of the session. A position of superiority, in which the teacher stands and the pupils are seated, conveys a message of hierarchy that brings an influence to bear

upon the effective transmission of the teaching message (as of Knapp, 2007).

The study also compiles information about the pupil's position in space and the consequences. In this regard, Ochoa and Aguilar (2000) concluded that pupils may take up a position in the back rows to go unnoticed, whereas sitting or standing in the front rows denotes an interest in learning or in paying greater attention. This similar situation occurs in the gymnasium and seems to be related to the concept of territoriality developed by Knapp (2007).

These students also perceive the difficulty of redirecting their spatial responses, since these decisions are highly significant; for example, retreating towards a certain position in the room when the teacher introduces an unexpected or difficult idea or instruction, or which generates anxiety. The group's behaviour and its significance or meaning resembles that of someone who adapts to (Ekman, 2012) a situation of nervousness or insecurity.

Pupil attention: teacher movement

If work is assigned to the pupils, the teacher no longer has to give information to the group overall (Target & Cathelineau, 1990), allowing them to move about the room freely and attend to the pupils. They may give feedback or new information about the skill, set a new objective or elaborate upon an existing one (Pieron, 1999). They can also avail themselves of guided discovery to steer responses back on course (Mosston & Ashworth, 2009). These students-teachers are aware of this and ascribe their scant movement to insecurity and lack of experience and to the short class time available.

Moreover, these students alluded to the position of the teachers vis-à-vis the group, more centred than to the sides, in line with the findings of the study by e Castañer et al. (2013), who showed that novice teachers, on account of their insecurity and lack of experience, used the centre area more for teaching, whereas experienced teachers tended to move more towards the sides or the peripheral area.

Therefore, the organisation of the teacher-pupil communication model in the class goes way beyond mere understanding of the messages related to the content of the session, since it involves methodological decisions and affects communicative and emotional interaction in the class and learning, and can also optimise the communicative styles of teachers that have a positive effect on student learning (Castañer et al., 2010).

Physical and emotional immediacy

The students-teachers frequently mentioned the psychological and emotional immediacy or closeness between them and their colleagues who took the role of pupils in the simulation exercises. The extent of immediacy was deemed important and they were aware of this importance in guaranteeing a proper in-class teaching-learning flow. The question of non-verbal immediacy as reported by Álvarez de Arcaya (2002) emerged, an issue which, while somewhat removed from physical dimension is highly meaningful or significant.

Another noteworthy aspect is related to the use of the students' own space. In proxemic terms, contact with another person means entering the closest spatial domain of the four defined by Hall et ál. (1968): the intimate space. This space is normally reserved for family and close friends, although access is sometimes afforded to other people (Ochoa & Aguilar, 2000), such as teachers in teaching interaction. In PE classes, the teacher provides manual assistance (Galera, 2001) in the performance of exercises or uses the tactile channel if he or she detects that this is the preferred from of acquiring information, and which is different in each pupil (visual, auditory, kinaesthetic; Target and Cathelineau, 1990). In this work, some teachers related this issue to shyness; however, tactile kinaesthetic behaviour is a powerful resource for PE teachers in the aforementioned types of assistance and also serves to break down emotional barriers between learner and teacher. Moreover, the pedagogical treatment of this aspect acquires particular relevance in certain contents, such as body expression or dancing, where it is indispensable in certain technical actions such as holding positions in folkloric dances or in *portés* in classic dancing.

Conclusions

The students who taught simulated sessions realised the importance of non-verbal communication and of the meanings and implications of proxemic elements in teaching interaction. More specifically, the decisions taken by teachers regarding orientation, position and movements in space are highly charged with meaning and significance that transcend mere effectiveness in transmitting a message.

Kinesics, and more particularly physical and affective immediacy during the process of interaction and communication between teachers and pupils, must be regarded as a substantive element since it can condition the quality and effectiveness of feedback, a key aspect in effective learning; it is undoubtedly an aspect that warrants further research.

In summary, it may be concluded that an inadequate management of proxemic aspects by future teachers can have a negative effect on session dynamics and student learning.

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The contribution of each author

The work is collaborative, although a distinction may be made between certain roles.

- Leading author: Design of the study. Design of the procedure Application of the experience. Data processing and methodology. Writing. Review of technical aspects and content in the different versions.
- Second author: Application of the experience. Preparation of the introduction, discussion and conclusions and review of background. Writing of the document and formal aspects.
- Third author: Application of the experience. Processing of the information. Data processing and methodology. Background study. Writing. Review of technical aspects and content in the different versions.
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