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## The Quality Of Teachers' Educational Practices: Internal Validity And Applications Of A New Self-Evaluation Questionnaire

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### Abstract

This research investigates teachers' educational practices in kindergarten and primary schools. Teachers should be able to ensure effective teaching-learning processes, but also to support a positive school climate thanks to a good classroom management. Self-evaluation instruments can help teachers to reflect on their own educational practices and to improve professional skills. The aims of this study are (1) to analyse the internal validity of a new self-evaluation instrument, named *Teachers' Educational Practices Questionnaire* (TEP-Q) and (2) to examine the possible use of this instrument in pre-service teacher training. The sample consists of 307 in-service teachers of Northern, Central and Southern Italy. The results of three distinct *Principal Axis Factor Analysis* with *Promax Rotation* revealed two-factor structure for Communication and Classroom Organization areas and one-factor structure for Relationship. Significant differences emerged for type of school, type of teacher and years of teaching. As to the second aim, the TEP-Q was used for different groups of pre-service and in-service teachers training resulting effective for the improvement of professional skills' range through shared reflection on educational practices.

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### 1. Introduction

Decades of research on children's socio-emotional development can be used to promote teachers' awareness and educational practices to improve in the development of these competencies [1]. Effectively, there is a growing recognition that teachers make a crucial contribution to the social and emotional development of their students

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[2][3][4]: teachers influence children not only by how and what they teach but also by how they relate and manage the classroom [5]. For this purpose, self-evaluation instruments can help teachers to identify issues within teaching practices and inform to any potential barriers to the achievement of an effective learning and the creation of a positive school climate. In this sense, self-evaluation is an on-going activity regarded as relevant for the professional development and for the quality of education system [6][7][8]. The teacher of the knowledge society appears therefore as a reflective practitioner [9], who has to promote a positive classroom climate resulting from the quality of educational practices.

Several studies have analysed classroom management, remarking three main aspects: communication [10][11][12], organization [13][14][15] and relationship [16][17]. These areas were investigated using many observational techniques on interaction processes in the classroom. One of the first analysis systems was developed by Hughes [18], who analysed the levels of teacher's control, imposition and support. He asserted that a "good teacher" has a high level of control in the classroom, limiting the imposition and favouring supportive actions. To assess the teacher's perception of his relationship with children, a self-report instrument was developed by Pianta [19]. Therefore, thanks to the categories systems created both by De Landsheere [20] and Flanders [21] it was been possible to examine teacher's verbal behaviour during discussions with pupils or expositions of contents. Recently, Pianta and colleagues [22] have developed an instrument – the *Classroom Assessment Scoring System* (CLASS)-, to observe and evaluate the classroom organization in primary and kindergarten school. Nevertheless, there are not standardised instruments that consider the three aspects of classroom management with a multidimensional approach and that can be used for teacher's self-evaluation. Moreover, school self-evaluation is not yet an established practice for Italian teachers and there is not a specific training about classroom management skills during the university career of pre-service teachers.

For these reasons, the present research has two aims: (1) to analyse the internal validity of a new self-evaluation instrument, named *Teachers' Educational Practices Questionnaire* (TEP-Q) and (2) to examine the possible use of this instrument in teachers training.

## 2. Methods

### 2.1. Instrument development and description

TEP-Q is a 36-item self-report questionnaire developed to assess patterns of educational styles in kindergarten and primary schools. The original version was composed by 60 items derived from a review of literature on school climate and classroom management.

Three dimensions of educational practices have been identified: *Relationship*, *Communication* and *Organization*. *Relationship* (8 items) describes explicit and implicit strategies designed by teacher to promote pupils' social and emotional skills. *Communication* (16 items) refers to the teacher's effective use of verbal, nonverbal and paraverbal communication during explanations, questions and discussions. *Organization* (12 items) indicates the way in which the classroom is structured to facilitate learning and teaching.

For each item, teachers responded on a 6-point Likert scale, ranging from 0 = *never* to 5 = *always*. Background information were collected (e.g. gender, age, type of school) in the first page of the instrument.

### 2.2. Participants

TEP-Q was administered to 307 in-service teachers, 93.5% females, from Northern (N = 122), Central (N = 127) and Southern Italy (N = 58). Participants' ages ranged from 26 to 64 years old (mean age = 48; s.d. = 8.39). 76% of teachers worked in the primary school, 24% in the kindergarten school. Furthermore, 81.6% of participants were the one-teacher of the classroom; 12.5% an assistant teacher, 3.6% a religion teacher and 2.2% an L2 teacher. 54.7% of teachers had a Diploma and 32% also a Master Degree. Finally, 16.8% of teachers had completed less than 10 years of teaching, 64% had completed 11–30 years of teaching and 19.2% had completed more than 30 years of teaching.

### 2.3. Procedure

The questionnaires were sent or delivered in June 2012. Head teachers provided information concerning the study and distributed to all teachers a foolscap folio containing TEP-Q and a cover letter by the Research Group. Conditions to protect teachers' privacy were fully granted: the questionnaire was anonymous and an envelope to

return it was distributed after filling it out.

### 3. Results

To assess the psychometric properties of TEP-Q scales, items were subjected to three distinct *Principal Axis Factor Analysis with Promax Rotation* [23]. A first series of factor analyses was conducted on 60 items developed for the original version of TEP-Q. Items that presented a loading less than .30 or loaded on more than one factor were deleted. A second series of factor analysis was performed on the remaining 36 items. The results revealed one-factor structure for *Relationship* and two-factor structure for *Communication* and *Organization*.

*Relationship Area*: the scree test of eigenvalues [24] reveals one factor that accounted for 32.6% of the variance, corresponding to a domain named *Attention on Relationships*; the actual item loadings in the factor ranged from .43 to .69 (see Table 1). *Attention on Relationships* refers to teacher's skill to promote emotions expression, to manage the teaching of Personal, Social and Health Education (PHSE), to show comfort, to reinforce pupils' prosocial behaviour. The Cronbach's Alpha coefficient for the scale was .68.

Table 1. Factor structure and descriptive data of *Relationship Area*

Item	Factor 1 Attention on Relationships
I show attention and involvement when children express their mood	.694
I encourage children to express their feelings and emotions	.683
I talk about classroom relationships	.632
I recognize when a child needs comfort, even when it's not explicit	.554
During the year, I teach PSHE	.550
I search for individual interaction moments with each child	.503
Children tell me about their personal stuff spontaneously	.462
I praise helpful behaviour	.433
<i>Cronbach's Alpha</i>	.68
<i>Eigenvalue</i>	2,61
<i>% of Variance</i>	32,6
<i>Mean</i>	4,05
<i>Standard Deviation</i>	.469

*Communication Area*: the scree test of eigenvalues reveals two principal factors that accounted for 30% of the variance, corresponding to two domains named *Effectiveness* and *Self-Regulation*; the actual item loadings in the factors ranged from .31 to .59 (see Table 2). *Effectiveness* refers to teacher's skill to give contents, to keep attention in the class and to promote involvement of all the pupils. *Self-Regulation* indicates the teacher's skill to manage and regulate one's own communicative processes, controlling emotional states which could prevent an effective communication. The scales are not correlated ( $r = .12$ ), highlighting two independent aspects of Communication. The Cronbach's Alpha coefficient for *Effectiveness* scale was .66, while for *Self-Regulation* scale was .65.

*Organization Area*: the scree test of eigenvalues reveals two principal factors that accounted for 39% of the variance, corresponding to two domains named *Active Methodologies* and *Care on Activities*; the actual item loadings in the factors ranged from .41 to .59 (see Table 3). *Active Methodologies* describe the use of methodologies involving the pupils' participation (e.g. cooperative learning, role playing, peer tutoring). *Care on Activities* indicates teacher's skill to present, to achieve and to supervise activities in the classroom. The scales measuring two different aspects of Organization result in a substantial correlation ( $r = .38$ ). The Cronbach's Alpha coefficient for *Active Methodologies* scale was .72, while for *Care on Activities* scale was .60.

Overall, mean values of the five scales emerged from factor analysis were resulted medium-high, ranging from 3.39 (s.d. = .71) in *Active Methodologies* to 4.14 (s.d. = .54) in *Care on Activities*. As it should be expected, teachers gave to themselves a good evaluation.

Table 2. Factor structure and descriptive data of *Communication Area*

Item	Factor 1 Effectiveness	Factor 2 Self- Regulation
When a child behaves well, I give praise	<b>.582</b>	-.144
I repeat children's idea/answer to the class	<b>.461</b>	-.030
I praise children for their achievements	<b>.434</b>	-.048
I help children to reformulate their thinking when it's unclear	<b>.426</b>	.088
I deliberately use gestures to aid communication	<b>.411</b>	-.054
Before each activity, I provide detailed instructions to the class	<b>.410</b>	.122
I show attention and involvement when children express their mood	<b>.399</b>	-.002
During a discussion, I summarize what has emerged	<b>.340</b>	-.003
During the lesson, I modulate my voice tone to catch the children's attention	<b>.325</b>	.140
When a child comes near me, I look at them	<b>.307</b>	.079
I appear calm and relaxed to the class	.092	<b>.590</b>
When I'm angry, I shout at the class ( <i>reversed</i> )	-.135	<b>.582</b>
I interrupt children while they are expressing their opinions ( <i>reversed</i> )	-.045	<b>.486</b>
I complain in front of children when I'm tired ( <i>reversed</i> )	-.043	<b>.418</b>
I address children kindly	.141	<b>.396</b>
I tend to answer to children's questions before they are finished ( <i>reversed</i> )	.074	<b>.360</b>
<i>Cronbach's Alpha</i>	.66	.65
<i>Eigenvalue</i>	2,70	2,08
<i>% of Variance</i>	16,9	13
<i>Mean</i>	4,12	3,91
<i>Standard Deviation</i>	.647	.559

Table 3. Factor structure and descriptive data of *Organization Area*

Item	Factor 1 Active Methodologies	Factor 2 Care on Activities
I make use of role-play or simulation activities for the class	<b>.888</b>	-.219
During break times, I suggest group games to the class	<b>.737</b>	-.145
During activities, I organize group work	<b>.674</b>	.054
During the activities I encourage children to help each other	<b>.540</b>	.216
During the day, I give some free-choice activities.	<b>.419</b>	.197
During activities I stimulate the exchange of ideas among children.	<b>.409</b>	.260
During an activity I walk around the tables to help children who need it.	-.018	<b>.612</b>
I provide different activities for children in need.	.079	<b>.609</b>
During break times, I observe the children's relationships.	-.065	<b>.607</b>
Early in the lesson, I explain what we are doing.	.043	<b>.561</b>
I consider the ideas of children for some activities (posters, homework, etc.).	-.138	<b>.548</b>
During group work, I monitor how children work.	.166	<b>.451</b>
<i>Cronbach's Alpha</i>	.72	.60
<i>Eigenvalue</i>	3,29	1,40

<i>% of Variance</i>	27,4	11,6
<i>Mean</i>	3,39	4,14
<i>Standard Deviation</i>	.710	.538

#### 4. Discussions

The results of the present study contribute to assess the psychometric properties of TEP-Q. The exploratory factor analysis has allowed to better articulating the three dimensions of classroom management. Two independent aspects of *Communication* were emerged: *Effectiveness* and *Self-Regulation*. The teacher's communicative competences are based on an effective use of verbal, non-verbal and paraverbal communication and also on a self-confident control of communicative processes. There were also emerged two correlated aspects of *Organization: Active Methodologies* and *Care on Activities*. The involvement of children, rather than only the frontal lesson, and the continuous teacher's supervision of activities permit an effective classroom organization. *Attention on Relationships* was the unique emerged aspect for *Relationship*: in a positive school climate, the teacher reinforces socio-emotional competences and shows attention to children's interactions.

Mean scores in the five scales reveals a teacher's positive self-evaluation on one's own classroom management competence. Nevertheless, it is important to remark that self-evaluation processes are not yet an established practice for Italian in-service teachers. Over the years, the quality of critically teaching about performances in the classroom has been widely advocated as needing to be fostered and encouraged as part of teachers' normal practice and professional development [25][26]. A reflective teaching means looking at *what* teachers do in the classroom, thinking about *why* they do it and thinking about *if* it works in an ongoing process of self-observation and self-evaluation. By collecting information about what happens in the classroom and by analysing and evaluating this information, teacher can identify and explore own educational practices: this may then lead to changes and improvements in teaching and classroom management [27][28]. For all this reason, the research has arisen from the need to encourage teachers to review their educational methods to ensure implicit approaches creating a positive classroom climate and promoting students' social skills.

Reflective activities based on self-evaluation processes can be also a beneficial form of training for pre-service teachers. By adopting reflective teaching pedagogy, in-service teachers should become a model for teachers trainees, so as to enable them to practice the same in their teaching practice sessions. For example, the use of peer reflective groups encourage pre-service teachers to challenge existing theories and their own preconceived views of teaching while modelling for them a collaborative style of professional development that would be useful throughout their teaching careers [29]. In this sense, pre-service teachers should be involved in a specific training about classroom management skills during their university career, which in Italy is not present in the official curriculum.

The present work highlights therefore the importance of practicing reflective teaching pedagogy by teacher trainees during internship, so that they will develop professional skills' range to promote a positive school climate and effective learning-teaching processes.

Future researches would verify the construct validity of TEP-Q, confirm internal validity on a different sample of teachers and develop a TEP-Q form to enquire pre-service teachers' beliefs about educational practices to orient teacher training.

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