Teacher Self-Efficacy:  
A Classroom-Organization Conceptualization

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This article offers a new conceptualization of teacher self-efficacy with empirical evidence in support of its validity. The conceptualization presented in this article expands the notion of teacher self-efficacy to the school domain, in addition to the classroom domain. Two studies are reported in this article. The first study presents the new conceptualization and tests its validity. About 580 teachers participated in this study. Facet theory served as the methodological approach for data processing and presentation in the this study. The data collected provided empirical support to the new conceptualization of the notion of teacher self-efficacy, and allowed a new definition of teacher self-efficacy to be formulated. The second study involved 555 teachers, who filled out a self-efficacy questionnaire, compiled based on the new conceptualization. Factor analysis of the scores on this scale resulted in a two-factor structure – classroom context and school context of teacher self-efficacy, each consisting of tasks and interrelations elements. The theoretical and practical implications of the new conceptualization are discussed.

Key words: Teacher self-efficacy, Teacher professional tasks
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For over two decades, teacher efficacy has been defined as the extent to which a teacher believes he or she can influence students’ behavior and their academic achievement, especially of pupils with difficulties or those with particularly low learning motivation (Ashton & Webb, 1986; Guskey & Passaro, 1994). The conceptualization of teacher efficacy is based on the breadth of the teacher’s role. In most studies, this involves only the classroom in which the teacher engages in education and teaching. Thus, the conceptualization in the literature focused on the teacher’s perception of his or her own competence and on the ability of teaching as a professional discipline to shape students’ knowledge, values and morality.

Tschannen-Moran et al. (1998), reviewed the vast body of literature on teacher efficacy, and pointed to two main sources of the formulation of this concept. One is ascribed to researchers of the American RAND company, who based themselves on Rotter’s (1966) work, the second is attributed to Albert Bandura (Bandura, 1977). A distinction was made between teaching-as-a-profession efficacy, and teacher’s personal sense of efficacy. Various instruments have been developed over the years for measuring teacher efficacy. Some are based on the RAND-Rotter conceptualization, others on Bandura. Of the former, we note the RAND Scale (Armor et al, 1976), the Teacher’s Locus of Control (Rose & Medway, 1981), and Responsibility for Student Achievement (Guskey, 1981). In the second group, we note the Teacher Efficacy Scale (Gibson & Dembo, 1984); the Efficacy Beliefs in Science Teaching Scale (Riggs & Enochs, 1990); Ashton’s Events Scale (Ashton et al, 1982) and Bandura’s Teacher Efficacy Scale (Bandura, 1997).

Researchers have attempted to broaden the teacher efficacy measurement instruments by introducing additional areas of teacher functioning and responsibility at work. Emmer and Hickman (1991) adapted Gibson and Dembo’s instrument to classroom management situations. Soodak and Podel (1996) widened Gibson and Dembo’s
questionnaire to include students’ behavioral and emotional problems as opposed to simply learning related problems. Rich et al., (1996) added a scale for measuring teacher efficacy in promoting social relations among students to Gibson and Dembo’s scale, and improved the scale by rephrasing some of the items. They supplemented the scale with items drawn from other scales concerning teacher responsibility for student academic achievements, items on professional self-image and the teacher’s self report on his or her teaching behaviors.

In recent years, we find considerable discontent with the narrowness of the definition of teacher efficacy, especially with the two-factor model originating from the RAND-Rotter conceptualization (Tschannen-Moran et al., 1998). The teacher’s professional world is comprised of the classroom domain and the school domain. In each domain, the teacher must perform defined tasks, and ensure defined expressive elements. In this regard, Bandura stated that teachers’ perceptions of efficacy depend on more than their ability to teach subject matter. Teacher’s effectiveness is, in part, determined also by their efficacy in maintaining classroom discipline that establishes an environment of learning, in using resources, and in supporting parental efforts to help their children learn. Multi-faceted scales for evaluating teacher efficacy will therefore enable researchers to choose subjects and domains more worthy of focus and thence produce effective teachers (Bandura, 1997). Taking this into account, Bandura compiled an instrument comprised of seven sub-scales: efficacy in influencing decision making, efficacy in influencing the acquisition and use of school resources, teaching efficacy, efficacy in disciplinary matters, efficacy in enlisting parental assistance, efficacy in involving the community and efficacy in generating an open school climate. This instrument provides a multi-faceted picture of teachers' beliefs concerning their own efficacy.

Several recent studies have highlighted the organizational aspect of the teacher’s work, and its significance in terms of the teacher’s sense of efficacy. Bearing in mind the work of Gibson and Dembo, Bandura and others, Tschannen-Moran et al, (1998), noted that school variables such as school climate, principal behavior, sense of community among school staff and school decision making procedures are importance for the teacher’s
sense of professional efficacy. These researchers therefore suggested a model that incorporates both teaching activities and school contexts in their definition and conceptualization of teacher professional efficacy. Cherniss (1993), widened the concept of teacher efficacy, linking it with the phenomenon of professional burnout and its treatment. Cherniss (1993) argued that the concept of self-efficacy is made up of three domains: the Task Domain (the level of the teacher’s skill in teaching, disciplining and motivating students); the Interpersonal Domain (the teacher’s ability to work harmoniously with others, particularly service recipients, colleagues and direct supervisors) and the Organization Domain (the teacher’s ability to influence the social and political powers of the organization). Basing himself on these three dimensions of teacher efficacy (Task, Relations and Organization), Friedman (2000) suggested strategies for coping with teachers’ work stresses, based on the need to reinforce their sense of self-efficacy in these three areas.

Researchers have also expressed dissatisfaction with the efforts to incorporate the sense of efficacy into too many different types of occupations. In this regard, Bandura (1997) suggested that teacher sense of efficacy is not necessarily the same for different categories of task required of the teacher, nor for the different subjects that they teach.

To sum up, the literature dealing with defining teacher efficacy and its components clearly shows the existing definitions of this concept to be narrow and limited in terms of their scope and of the facets they embrace, and that there is therefore a need to define the concept of teacher efficacy more broadly. The question that now remains open is which spheres of activity and interpersonal relations should be included in the frame of the teacher’s world and used in defining teacher efficacy? The Class and School Context (CSC) model of teacher efficacy proposed here suggests a conceptual basis which might be instrumental in answering this question.

Purposes

The purposes of the studies reported in this article were to present a new conceptualization of teacher efficacy, which widens the current conceptualization, and to test its validity. The view of the teacher as a leader and as an “organizational person”
simultaneously, formulated as the Class and School Context (CSC) self-efficacy model, served as the theoretical basis for this new conceptualization. According to the proposed conceptualization, the teacher’s behavior is comprised of two basic aspects: (a) working with students, and (b) being a member of the school as an organization. In both contexts the teacher has to perform professional tasks and be involved in interpersonal relations.

The task aspect involves professional assignments in the classroom, tasks associated with the general school framework, and serving as an “organizational person” (Fuller et al., 1982). Concerning relations, the teacher must be able to maintain successful interpersonal relations with students, colleagues and the principal. Two studies are reported in this article. The purpose of study 1 was to present the Class and School Context (CSC) model of teacher self efficacy and to test its validity. Facet theory (Guttman, 1968) was used as the methodology in this study. The purpose of Study 2 was to provide empirical evidence for the reliability of the scores on the scale for measuring teacher efficacy, based on the CSC model. In Study 2, principal component analysis and cross validation procedures were used. In addition, information necessary for reliability generalization was included. This article’s main contribution to the conceptualization of teacher efficacy is the addition of the school context and the interpersonal relations between the teacher and significant others to the concept of teacher efficacy.

The Classroom and School Context (CSC) Model of Teacher Self-Efficacy

The Classroom and School Context (CSC) Model of teacher self-efficacy describes the general array of professional tasks performed by the teacher, and the contacts with school staff relevant to the teacher’s sense of efficacy, allowing the concept to be defined more comprehensively. The model is based on the following three premises:

1. **The teacher operates simultaneously as a leader and as an employee within two social systems in the school: the classroom and the organization.** The classroom represents the social framework in which a formalized, agreed upon set of reciprocal relations which exist between the students and their teacher (Waller, 1932), with the teacher serving as the leader (Dunkin & Biddle, 1974). However,
the school is the place in which the teacher performs the educational duties. The teacher is the school’s employee and as such functions as an “organizational person” (Whyte, 1956). The teacher is thus both a leader and a follower at the same time, in the same organization.

2. **The teacher must function on two levels in both social systems in the school:**

   **the task and the relations levels.** In the classroom, the teacher is required to achieve role related purposeful goals (achievements and education) and expressive goals (nurturing and establishing informal reciprocal relations with the students) (Jackson, 1986; Lortie, 1975). The teacher cannot neglect one goal and focus on the other, and should this happen, he or she will feel that he or she is not fulfilling all the professional tasks demanded of him or her (Bales, 1956; Lortie, 1975). In the school, the teacher has to be part of a group influencing the social and political forces, and advancing the organizational goals.

3. **One social system connects the teacher to the students; the other connects the teacher to colleagues and the principal.** In performing the role-related tasks and, naturally, by nurturing and forming reciprocal relations within the classroom, the teacher is associated with the students. In the fulfillment of general school tasks, relevant to the school as an organization, the teacher is linked to the adults: to colleagues, parents, and the principal.

   Figure 1 depicts the Classroom and School Context (CSC) model of teacher self-efficacy, indicating the action arenas and people associated with the teacher’s perception of efficacy. According to this model, the concept of teacher professional self-efficacy should embrace both social systems in which the teacher functions (the classroom and the organization), and should relate to the people inside these systems (students, colleagues and management). In the classroom, the teacher imparts
knowledge, functions as an educator, and handles the informal aspects of his or her relationship with the students. The student related tasks are, for example, maintaining a high and interesting standard of teaching, generating change in the student’s life, flexibility within the classroom and nurturing social relations among the students themselves. Relationships on the classroom level are expressions of an assertive relationship with students. This is achieved by dealing effectively and confidently with real threats within the environment, e.g., discipline problems, classroom disruption, maintaining clear student-teacher boundaries.

As an “organizational person” the teacher seeks influence and active involvement in performing organization-related tasks (involvement in decision making, membership of the ‘inner circles’, confidence in maneuvering around the organizational maze, ascending the school hierarchy), as well as establishing positive relations with colleagues and members of the administration, assertiveness and social integration, affording a sense of belonging and security (Derr & Laurent, 1989; Hall & Nougaim, 1968; Organ and Bateman, 1991, Schein, 1971).

Hypotheses for Testing the Model Empirically
The empirical test of the CSC model seeks to corroborate or refute the model’s basic premises in reference to teacher self-efficacy. The relationship between the premises and teacher self-efficacy will be tested by the following three hypotheses:

**Hypothesis A:** A teacher’s sense of self-efficacy will relate to two frames of reference: one containing the students (the classroom context), the other, containing the teacher’s colleagues and the school principal (the school context). This hypothesis links the first to the second premise, and links each premise to the sense of teacher professional efficacy. During work at school, the teacher stands at the meeting point between two circles: in one circle are the students for whom the teacher represents the leader; in the other, are the teacher's colleagues (fellow teachers and other staff members), headed by the school principal. In this circle, the teacher is part of a group led by the principal. The schoolteacher thus plays two social roles, acting as
both leader and follower at the same time, with each role possessing its own reference group.

**Hypothesis B:** The teacher’s sense of self-efficacy embraces the domain of unique professional tasks – teaching, student’s education and achievements, as well as the informal, expressive, domain of relations with people within the teacher’s frame of reference. This hypothesis links the second premise to sense of professional efficacy. Hypothesis B allows us to distinguish between the professional goals component (task element) and the relations component (expressive component) within teacher self-efficacy.

**Hypothesis C:** The task domain and the expressive domain can be applied to two of the teacher’s frames of reference (students, colleagues and principal). This hypothesis concerns the interaction between the frames of reference and the content domains of the relationships that affect the teacher’s sense of professional self-efficacy.

The issue addressed by Hypothesis A is the teachers’ ability to distinguish between the various incumbents at the school, i.e., the students, colleagues and principal. The issue addressed by the second hypothesis is the teacher’s ability to differentiate between the class and the school contexts. The subject of the third hypothesis is the interaction between the first two hypotheses. These hypotheses will be refuted if the empirical findings show (a) that teachers cannot distinguish clearly between the different contexts at school in terms of their own sense of self-efficacy (Hypothesis A), (b) if teachers cannot differentiate between the teaching functions which pertain to teacher efficacy: task and relations (Hypothesis B), and (c) if there is no interaction between the components of the first two hypotheses (Hypothesis C). On the other hand, the model will be supported if empirical findings are identified to show that the CSC model of teacher self-efficacy comprises the following four components: (A) student-related tasks; (B) student-related relations; (C) administration and colleagues-related tasks (organizational tasks) and (D) administration and colleagues-related relations (reciprocal organizational relations). Stated more generally, empirical support for the hypotheses will indicate that the teacher’s perception of self-efficacy is broader than the
current conceptualization we find in the literature, and that it sees the teacher as both a professional leading his or her students and as an individual functioning within an organizational setting.

**Study 1: Teacher Self-Efficacy: The concept and its components based on the Class and School Context (CSC) Model**

**Subjects**

The subjects consisted of 597 teachers and trainee teachers (the trainees were in the final stages of their training), randomly divided into two groups. Each group contained both teachers and trainee teachers. The groups were given equivalent versions of the research instrument (marked 80 and 81 respectively). We would stress here that trainee teachers in Israel are teaching at schools (practical work placements) during their course of studies to gain both experience in teaching and experience how the teacher functions within the organizational framework of the school. The group that received the 80 version contained 278 subjects. Their average age was \( M = 34.41 \) years (SD=9.54), their average number of years of teaching experience was \( M = 10.45 \) years (SD=8.11). The group that received the 81 version comprised 319 subjects. Their average age was \( M = 35.67 \) years (SD=8.11). Their average number of years of teaching experience was \( M = 11.70 \) years (SD=7.90).

No statistically significant differences in distribution were found for gender, type of school (mainstream or special, state secular or state religious), level of education, the grades taught by the teachers or the functions that they performed at school.

**Instrumentation**

The two instruments used in the present study were parallel forms. One form was designated number 80, the other, 81. Both questionnaires contained a scale for measuring teacher sense of efficacy and data concerning the teacher’s background variables.
Procedure

A number of stages were involved in preparing the instruments. Stage one involved a study whose purpose was to produce an initial definition of the concept of teacher professional efficacy, to identify the foci of teacher efficacy and to generate statements to be used in the scale for measuring levels of efficacy. The study included collecting and phrasing of statements concerning teacher professional self-efficacy, examining the extent to which teachers understood the statements, and testing of a preliminary form on a small sample of teachers. Existing forms for measuring personal and professional self-efficacy were also reviewed (for example: Berman and McLaughlin, 1977, Gibson and Dembo, 1984; Midgley et al., 1989; Rich et al., 1996).

Two forms, marked 80 and 81, were compiled from the collected and processed material. The forms contained items that had successfully passed the examination referred to above. The anonymous questionnaires were administered to 1,100 teachers. Some were distributed to teachers at schools where subjects were asked to complete them in their own time and return them to the school secretary. Most questionnaires were distributed to teachers attending inservice training courses. The purposes of the study and the questionnaires was explained to the teachers, before they completed and returned them to the researchers. Altogether, 570 teachers fully completed and returned their questionnaires (52% return rate).

The Facet Theory Approach to this Study
Facet theory (Guttman, 1968) was chosen as the methodological approach for Study I because of its advantages in conceptualizing complex constructs. Facet theory is a research methodology that integrates concrete tools and procedures for analyzing and structuring research contents as well as concomitant procedures for processing multivariate data. Its aim is to facilitate cumulative knowledge, and open new possibilities for discovering laws in substantive research domains (Shye, Elizur, & Hoffman, 1994). Facet theory employs smallest space analysis (SSA), which is a statistical model wherein distances in a multidimensional space represent similarity coefficients among sets of objects. For example, given a correlation matrix of item scores, SSA represents these items as points on a Euclidean plane such that the higher
the correlation between items, the closer two points will be to one another. The item deployment picture (map) derived from an SSA often reveals patterns in the data that would otherwise remain obscure, and is much easier to interpret than a table of coefficients.

The central tool of Facet theory is the mapping sentence which (a) links the population facet (teachers), the content facets (Facet A: Context domains; and; Facet B: Influence domains), and the range facet (levels of sensed efficacy); (b) classifies the research observations; and (c) constitutes the basis for hypotheses with regard to the various observations. The first step in this study involved formulating a mapping sentence based on the underlying assumptions in this study. The mapping sentence is shown in Figure 2.

The term “teacher (x)” in the mapping sentence represents the population facet (teachers: male, female, different ages, number of years of experience). Facet A is the first content facet (the domains, or within school social frameworks, in which the teacher functions), and Facet B, is the second content facet (the domains in which the teacher is expected to show professional ability: fulfilling assignments related to teaching and educating children, and maintaining good interpersonal relations), Facet R is the range facet (the degree or level of the teacher’s sense of efficacy).

The following describes the four structuples, which emerged after the components of facets A and B were integrated:

\(a_1 b_1\): Classroom tasks (impact on student attainment in educational, social and personal goals). Examples of statements: “I am concerned at there being no correlation between the effort I invest and my students’ achievements.”; “I find it easy for me to give clear results to indicate my students’ progress”; “I feel there is very
little I can do to ensure that most of my students attain high standards of achievement”.

\(a_2b_1\): School tasks (impact on goals linked to the development of the organization, ascending the hierarchical ladder, attaining influential positions within the hierarchy, etc). Examples of statements; “I feel I take an active part in decision making processes at school”; “I feel I can’t influence the organization I work for”; “If I wanted to, I think I could progress up the school hierarchy”.

\(a_1b_2\): Classroom relations (impact or control of the informal component of the teacher relations with his or her students, e.g., good interpersonal relations and development of warm, open, personal relations between the teacher and the students). Examples of statements: “I can easily share my feelings with my students, if I decide to do so”; “I feel I have flexible relationships with my students”; “I manage to control interruptions in class without resorting to shouting”.

\(a_2b_2\): School relations (impact on the informal component of relations between the teacher and the administration and the teacher and his or her colleagues: positive personal relations, confidence as an employee of the organization and positive communication with the administration and colleagues). Examples of statements: “I feel I can assert myself well with the administration”; “I feel I have a dominant position within the school system”; I feel able to integrate well within the school’s culture and life”.

Research literature on leadership behavior patterns offers a sound basis for assumptions regarding the internal organization of the components of the content facets A and B of the mapping sentence. In terms of the teacher as leader – teachers can distinguish between their hopes of affecting tasks required of them at school (educating the children and assisting their personal and intellectual advancement), and positive relations with students and with the school administration and colleagues, and achieving influence and status within the organization. Teachers can also distinguish between the objects of that
influence (students, administration, colleagues). Some teachers prefer academic goals to informal goals, others find the reverse preferable. Facets A and B are thus ordered or even polarized. For this reason, the two facets, A and B can play an axial role in the SSA map’s item deployment (Levy, 1985), as shown in Figure 3.

According to Facet theory, we can expect that the empirical deployment of items on the SSA map will reflect the internal order of the facets and structuples in such a manner that items which represent conflicting or remote semantic meaning will be located remotely from one another, as follows (see Figure 3):

1. The region containing items dealing with student-related goals (Classroom tasks: \(a_1b_1\)) will be located in the region opposite or farthest away from the one containing items concerning relations with administration and colleagues (school relations: \(a_2b_2\));

2. The region containing items dealing with administration and colleagues (school tasks: \(a_2b_1\)) will be located in the region opposite, or farthest away from the region containing items concerning relations with students (classroom relations: \(a_1b_2\));

3. Items from groups \(a_1b_1\) (classroom tasks) and \(a_1b_2\) (classroom relations) will be found adjacent to one another, thus creating a "classroom context region" of all student-related items;

4. Items from groups \(a_1b_1\) (classroom tasks) and \(a_2b_1\) (school tasks) will be found adjacent to one another, thus creating a “tasks region”, containing all task-related (classroom and school) items;
5. Items from groups $a_1b_2$ (classroom relations) and $a_2b_2$ (school relations) will be found adjacent to one another, thus creating a “relations region”, containing all relations-related (classroom and school) items;

6. Items from groups $a_2b_1$ (school tasks) and (school relations) $a_2b_2$ will be found adjacent to one another, thus creating a “school context region” containing all items relating to the school (relations and tasks).

If the data is found to be distributed as described in the hypotheses above, the SSA map will indicate four separate regions: the classroom region, the school region, the relations region and the task region, corresponding to the four components of facets A and B. The meaning of this predicted pattern of on the SSA map is that teachers can clearly identify their potential impact on task performance and reciprocal relations in all that relates to their students (the classroom) and the organization (the school) in which they function.

The distribution of data produced by the components of two ordered or polarized and integrated facets forming part of a single concept, as in the case before us, is likely to be of an angular regions fanning out from a common origin. An angular structure is a distribution structure of segments that arise from a single center (in the center of the map or any other point on the map) which usually represents the semantic center of the subject investigated. Regarding the dimensionality of the SSA space, because, according to the mapping sentence, the two content facets fulfill only a single, defined role (an axial role in this case), the dimensionality will be equal to the number of axial facets, i.e., we will be able to examine the data in two-dimensional space (Levy, 1985).

**Results**

**Statistical Analyses**

The first step in data processing was to calculate the correlations (monotony coefficients) among the scale items. The second stage involved a small space analysis (SSA), using Faceted SSA (FASSA) software (Borg & Shye, 1995; Shye, 1991). This software is employed in confirmatory analyses as it tests for goodness of fit between the
empirical deployment of data (content items) and three theoretical models for dividing
the map into regions: (a) axial division (where the map is divided into regions bounded
by straight, parallel lines); (b) radial division (where the map is divided into regions
bounded by concentric circles; and (c) angular division (where the map is divided into
regions bounded by lines emerging at different angles from a single point located
somewhere on the map). The goodness of fit between the theoretical model of regional
partitioning and the empirical data deployment on the SSA map is tested by means of a
separation index. The separation index serves as the index for the quality of the
confirmatory analysis findings and is thus the equivalent of other indices, such as the Fit
Indices that are used for such processing as Confirmatory Factor Analysis - CFA. It was
found that the angular division had the highest separation index value, which means that
this pattern of regional divisioning fits the data best.

The Deployment of Items in the SSA Map

The correlation matrix (monotony coefficients) of the scores for the teacher self-
efficacy scales for Questionnaire 80 (50 items; n=256) and 81 (42 items; n=305) were
tested in a two-dimensional SSA. The separation index for both Questionnaires were
1.0, which indicates a perfect match between the predefined and actual divisioning of
the SSA map. The items were similarly deployed for forms 80 and 81, and for sake of
brevity only one form will be discussed (form 80).

The separation index expresses the extent to which the empirical structure
obtained reflects the hypothesized content facets, i.e., the goodness of fit
between the theoretical model tested and the spatial distribution of the data on
the SSA map. The separation index takes into account the number of items
‘deviating’ from their hypothesized region and their distance from it, since it is
based on the total of the distances between the actual location for every point on
the SSA map and the hypothesized location of the point. The separation index
ranges between 0 to 1 and the higher the value, the better the result.
Figure 4 shows that the map is divided into the following regions:

1. Upper region containing all \( a_2 \) items - the “School Context” Region (Deployment Hypothesis 6).
2. Lower region containing all \( a_1 \) items - the “Classroom Context” Region (Deployment Hypothesis 3).
3. Right-hand region - containing all \( b_1 \) items – the “Tasks Region” (Deployment Hypothesis 4).
4. Left-hand region containing all \( b_2 \) items – the “Relations Region” (Deployment Hypothesis 5);
5. The “school tasks” region \( (a_2b_1) \) appears opposite the “Classroom Relations region” \( (a_1b_2) \), and the “Classroom Tasks Region” \( (a_1b_1) \) is located opposite the “School Relations Region” \( (a_2b_2) \) (Deployment Hypotheses 2 and 1).

**Study 2: Factor Structure and Reliability of Scores on the Scale to Measure Teacher Self-Efficacy.**

**Sample**

The participants in Study 2 were 555 teachers from 22 randomly selected elementary and secondary schools in Israel. Their average age was \( M = 34.9 \) years \( (SD = 8.80) \), and the average number of years of experience was \( M = 10.8 \) years \( (SD = 8.70) \).

**Procedure and Instrumentation**

Study 2 was conducted two years after Study 1 was completed, aiming to address the need to build a scale to measure teacher self-efficacy. The field study was conducted during the Winter and Spring semesters of the school year. About 720 questionnaires were mailed to the schools and distributed to teachers. The teachers completed anonymous questionnaires and returned them in sealed envelopes to the administrative secretary of the school who mailed them back to the research coordinators. The return rate for the completed forms was 76.8%.
The Instrument for Study 2 was a 45-scale item entitled *The Teacher Professional Capability Scale* which was based on the two forms used in Study 1. The scale comprised four sub-scales: (a) Student and class related tasks; (b) Student related relations; (c) Organization related tasks, and (d) Organization related relations. Each sub-scale contained about 11 items. Item phrasing of the previous forms was reviewed and revised to conform to the concept of teacher self-efficacy established in Study 1. The questionnaire also contained such background information as demographic details and school assignments data. The response options for the items ranged from 1 (never) through 6 (always).

**Statistical Analyses**

Descriptive statistics, including means, variances, and item-total correlations, were computed for every item. Missing data was treated by replacing the missing item score with the item mean score. The correlation matrix of the item scores of the scale was subjected to factor analysis. Principal factoring with iterations was used to extract the factors, replacing the main diagonal element of the correlation matrix with communality estimates. The number of factors to be extracted was based on several criteria, e.g., Kaiser’s eigenvalue rule (Nunnaly, 1978), Catell’s (1966) scree test. A comparison of observed correlation matrix and reproduced correlation matrix were used for verification by examining the residual correlation matrix. The factor structure coefficient saliency criterion was predetermined to be .30. Internal consistency for the scores on the scale and its sub-scales was estimated using Cronbach’s coefficient alpha.

Procedures for testing the stability of the results were used. The sample was split randomly into halves to form two sub-samples; factor analysis was applied to the correlation matrix of the scale items scores, and the results compared by calculating Pearsons product-moment correlation coefficient r. Internal consistency for the item scores on the scale and its sub scales for different teacher groups (male, female; chief grades taught, teaching assignments and religious affiliation), were calculated for reliability generalization purposes.
Results

Preliminary Examination of Items

All items had a mean score close to the center of the response range for the scale. A corrected item-total correlation analysis indicated that the items “I think that my principal would readily accept my plans or suggestions for promoting the school’s educational and social goals” (item 38; r=.60), “I believe I enjoy a good rapport with the school administrators” (item 35; r=.58), “I have difficulty in making demands of the school administration (item 50; r=.57), “I feel that my students willingly comply with my requests and instructions in the classroom (item 48; r=.57), “I believe my teaching produces positive changes in my students’ lives” (item 56; r=.51), had the highest corrected-correlation with the total score. At this point, three items were discarded due to low item-total correlation (r<.15).

Factor Analysis

The decision regarding how many factors should be extracted was based on several criteria. A first empirical estimate of the number of factors to be extracted was obtained from the size of the factor eigenvalues: nine factors had an eigenvalue greater than 1. However, the scree test for eigenvalues plotted against factors (Cattell, 1966) indicated a noticeable change in the direction of the lines crossing the eigenvalue plot points between the second and third factors. The residual correlation matrix indicated that a three-factor solution might serve as the upper limit of the number of factors to be extracted. An examination of the three-factor solution indicated that the third factor included only negatively phrased items that lacked any contextual or semantic coherence. The two-factor solution was finally chosen to fit the data. The two factors accounted for 31.4% of the variance in the scale items scores. At this stage, nine items were deleted due to low item-factor structure coefficients (less than .30). The same factor analysis procedure was then applied to the remaining 33 items.

Both oblique and orthogonal rotations were used. With data value set at zero, the oblique (oblimin) rotation of the two factors had a correlation of .37. The comparison of the two rotated solutions indicated that in the oblique and the orthogonal rotations, the
same items were correlated highly with the two factors, with very similar magnitudes. Pearson product-moment correlation coefficient $r$ was used to compare the magnitude of the factor structure coefficient. Results showed $r = .99$ and $r = .97$ for Factors I and II respectively. For the sake of simplicity and ease of interpretation of the results, the orthogonally rotated solution was chosen to represent the data in the final solution.

The two factors in the Teacher Self-Efficacy (TSE) Scale have been labeled as follows: (a) Factor I: The Class Context (sense of professional efficacy pertaining to teaching, educating and motivating students, as well as controlling interrelations with students) and (b) Factor II: The School Context (involvement in school activities, participation in decision making and influencing school organizational politics).

**Internal Consistency and Reliability Generalization**

Internal consistency of the TSE scale scores was measured by Cronbach’s coefficient alpha. The coefficient alpha is the function of the extent to which items in a test have commonalities and is the lower limit of the reliability of a set of test scores (Cortina, 1993).

The reliability of scale scores will naturally be influenced by the instrument used, but also by the sample composition and variability (Dawis, 1987). It is therefore important to report reliability coefficients for the actual data collected (Vacha-Hasse, Kogan & Thomson, in press). Table 2 shows the alpha coefficients, means and standard deviations for the sub-groups of teachers in this study. The mean scores for the alpha coefficients for the TSE scale scores and sub-scales were: .89 ($SD = .01$), .86 ($SDU = .01$), and .84 ($SDU = .04$) respectively.
Replicability of results

Replicability of results was tested by using split sampling. The sample (n=555) was split into halves by random sampling to form two sub-samples. Differences in the important characteristics of subjects in the two sub-samples were compared and tested. There were no statistically significant or meaningful differences. Correlation matrices of scores on the TSE scale for each sample were factor analyzed and the Pearson product-moment correlation coefficient \( r \) used to compare magnitude of factor structure coefficients for the two sub-samples. The correlations found for the factor structure coefficients were .87 and .62 for Factors I and II respectively.

Discussion

The finding in studies 1 and 2 indicated a good distinction between teachers perceptions of “classroom efficacy” and “Organization efficacy”. Within each efficacy domain a reasonable distinction was found between tasks and relations. We can now suggest a new definition of teacher self-efficacy based on the empirical data gathered in the two studies:

Teacher self-efficacy is the teacher’s perception of his or her ability to (a) perform tasks and to regulate relations involved in the process of teaching and educating students (classroom efficacy), and (b) perform organizational tasks, become part of the organization and its political and social processes (organizational efficacy).

According to this definition teacher self-efficacy is a two factor concept, embracing two interrelated efficacies: classroom - and organizational efficacy. The typical behavior patterns included in the notion of this definition of teacher self-efficacy are: ability to motivate and impart knowledge, values and morals to students; ability to improvise when unforeseen classroom situations arise; ability to overcome disciplinary infractions without much effort; assertiveness toward school administration; mastery of the whereabouts of the school political and social systems, resourcefulness; involvement in the foci of influence within the organization.
The new conceptualization of teacher self-efficacy formulated in the present study can integrate well with recent trends in research on the subject (especially see Bandura, 1997; Tschannen-Moran et al., 1998). The main difference between this and other conceptualizations is the addition of the organizational (the school domain) aspect of the teacher’s role to the concept of teacher self-efficacy stressing the distinction between the teacher’s teaching-related tasks, and tasks which are associated with the school as an organization. Another difference is the augmentation of the “relations” part of the teacher’s work, on the classroom and school levels. The conceptualization proposed here is intended to assist researchers in reaching a more complete understanding of the factors that influence student success, and those that encourage teachers to continue teaching which relate to teachers’ sense of efficacy.

A comparison of the conceptualization suggested in this article and that proposed by Bandura (1997) reveals various similarities and differences. The present conceptualization resembles that of Bandura in that it contains such components as efficacy in influencing decision-making, teaching efficacy, efficacy in disciplinary matters, and efficacy in contributing to a positive climate at school. The main difference is that the conceptualization presented here clearly highlights the field of relations, which is linked to both the students and to the school as an organization.

The present study also contributes to organizational theory. The proposed definition provides support for the view which regards the teacher as a member of an organization in which he or she functions in two circles of activity and relationships: (a) the student and classroom circle and (b) the colleagues and administration circle. In the first circle, the teacher functions as a leader, directing students toward cognitive and social goals. In the second circle, the teacher functions as a member of a group in which he or she acts to support the group and the organization in achieving and promoting its goals, and in determining the strategic directions of the organization (Schein, 1971). This contribution opens an important door to a deeper understanding of the complex role of the teacher and the system of conflicts and achievements that the teacher is required to deal with at work.
The findings of this study also carry some practical implications concerning teacher training. For many years, most of the training effort is invested in ensuring that teachers are competent to teach students: to help their students learn, to change teaching content in response to a child’s ability to absorb and learn certain materials. Now, this broader definition of teacher efficacy stresses the importance of training teachers in two hitherto relatively neglected areas: (a) relations between the teacher and the students, colleagues and the principal and (b) perception of the teacher as an “organizational person”, possessing the necessary skills to function in an organization. The second area includes an understanding of organizational processes, communications within the organization, group decision-making processes, and most of all, the importance of equipping teachers with skills in informal aspects of relationships among colleagues, and the capacity to deal with difficult social situations arising within the organization. Finally, although this study examined a sample of teachers, we can surmise that the proposed definition of professional self-efficacy may be relevant to professionals in other fields of occupation working in an organizational settings, given the appropriate changes.


Table 1: Rotated Principal Component Factor Matrix for the Teacher Self-Efficacy (TSE) Scale Items

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Content</th>
<th>Factor</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>1. The Class Context</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56.</td>
<td>I believe my teaching produces a positive change in my students’ lives</td>
<td>.66</td>
<td>.12</td>
</tr>
<tr>
<td>40.</td>
<td>I think I know how to tie my teaching with my students’ everyday interests</td>
<td>.60</td>
<td>.20</td>
</tr>
<tr>
<td>48.</td>
<td>I feel that my students willingly comply with my requests</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and instructions in the classroom</td>
<td>.59</td>
<td>.14</td>
</tr>
<tr>
<td>16.</td>
<td>I believe that I am a highly capable teacher</td>
<td>.55</td>
<td>.05</td>
</tr>
<tr>
<td>32.</td>
<td>I think I know how to improvise in response to changing circumstances when I teach</td>
<td>.55</td>
<td>.18</td>
</tr>
<tr>
<td>22.</td>
<td>I think that my teaching has an impact on the morals and values of my students</td>
<td>.54</td>
<td>.07</td>
</tr>
<tr>
<td>36.</td>
<td>I know how to adjust the level of difficulty of my teaching to suit the students</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>so that they can understand and learn</td>
<td>.53</td>
<td>.10</td>
</tr>
<tr>
<td>24.</td>
<td>I think I can be very creative in my work with students</td>
<td>.53</td>
<td>.03</td>
</tr>
<tr>
<td>44.</td>
<td>I think I have the capacity to encourage my students to express their thoughts and feelings freely in my class</td>
<td>.53</td>
<td>.16</td>
</tr>
<tr>
<td>11.</td>
<td>I think I am an interesting and motivating teacher</td>
<td>.51</td>
<td>.09</td>
</tr>
<tr>
<td>47.</td>
<td>If a student does not remember what was learned in previous classes,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I know what to do to help</td>
<td>.51</td>
<td>.10</td>
</tr>
<tr>
<td>54.</td>
<td>I think I know how to identify and deal with my students’ problems before they get worse</td>
<td>.47</td>
<td>.19</td>
</tr>
<tr>
<td>21.</td>
<td>I think I know when to involve my students in decisions concerning learning issues</td>
<td>.40</td>
<td>.10</td>
</tr>
<tr>
<td>45.</td>
<td>I can handle student disturbances in the classroom without raising my voice</td>
<td>.39</td>
<td>.15</td>
</tr>
<tr>
<td>28.</td>
<td>I think that my teaching is flexible and adaptive</td>
<td>.38</td>
<td>.09</td>
</tr>
<tr>
<td>46.</td>
<td>I think that in conflict situations I can act in such a manner that would not lead to a crisis</td>
<td>.35</td>
<td>.12</td>
</tr>
<tr>
<td>13.</td>
<td>I think I can joke with students without it affecting their respect for me</td>
<td>.31</td>
<td>.06</td>
</tr>
<tr>
<td>12.</td>
<td>I think I can let my students laugh or joke in the classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>without loosing my grip on the class</td>
<td>.30</td>
<td>.04</td>
</tr>
<tr>
<td>37.</td>
<td>I can easily share my feelings with my students if I decide to do so</td>
<td>.29</td>
<td>.12</td>
</tr>
</tbody>
</table>

(table continues)
## II. The School Context

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Content</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>I have difficulty in making demands of the school administration*</td>
<td>.14</td>
<td>.70</td>
</tr>
<tr>
<td>38</td>
<td>I think that my principal would readily accept my plans or suggestions for promoting the school’s educational and social goals</td>
<td>.25</td>
<td>.64</td>
</tr>
<tr>
<td>34</td>
<td>I feel that my school administrators are not sympathetic to me or my ideas for promoting the school’s educational or social goals*</td>
<td>.00</td>
<td>.64</td>
</tr>
<tr>
<td>30</td>
<td>I am actively involved in important decision making processes at school</td>
<td>.08</td>
<td>.61</td>
</tr>
<tr>
<td>23</td>
<td>I do not think my school administrators are sufficiently familiar with me or my views for promoting the school’s educational or social goals*</td>
<td>-.02</td>
<td>.55</td>
</tr>
<tr>
<td>26</td>
<td>I think I can play an important role in solving serious school problems</td>
<td>.21</td>
<td>.52</td>
</tr>
<tr>
<td>18</td>
<td>I believe I can contribute to molding school educational and administrative policies and characteristics</td>
<td>.16</td>
<td>.50</td>
</tr>
<tr>
<td>35</td>
<td>I believe I enjoy a good rapport with the administrators at school</td>
<td>.37</td>
<td>.50</td>
</tr>
<tr>
<td>53</td>
<td>When I have problems at school, I don’t know whom to turn to*</td>
<td>.13</td>
<td>.49</td>
</tr>
<tr>
<td>49</td>
<td>I think I could get a better position in my school if I wanted</td>
<td>.20</td>
<td>.46</td>
</tr>
<tr>
<td>39</td>
<td>When faced with too many difficulties in my relations with colleagues or administration staff I prefer to retreat or give up*</td>
<td>.04</td>
<td>.44</td>
</tr>
<tr>
<td>42</td>
<td>I don’t know who really makes the important decisions in my school*</td>
<td>.05</td>
<td>.43</td>
</tr>
<tr>
<td>19</td>
<td>I think I have friendly relationships with colleagues at school</td>
<td>.28</td>
<td>.35</td>
</tr>
<tr>
<td>27</td>
<td>I feel I can not establish good relations with colleagues at my school*</td>
<td>.16</td>
<td>.34</td>
</tr>
</tbody>
</table>

* Item scores were recoded
Table 2: Alpha coefficients, Means and Standard Deviations for the Teacher Self-Efficacy (TSE) Scale and Subscales Scores for Different Teacher Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Whole Scale</th>
<th>Class context</th>
<th>School context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>α</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Whole Sample</td>
<td>555</td>
<td>.89</td>
<td>4.55</td>
<td>.50</td>
</tr>
<tr>
<td>Religious Affiliation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jews</td>
<td>357</td>
<td>.88</td>
<td>4.56</td>
<td>.48</td>
</tr>
<tr>
<td>Arabs</td>
<td>198</td>
<td>.89</td>
<td>4.53</td>
<td>.55</td>
</tr>
<tr>
<td>Teaching Assignments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homeroom</td>
<td>259</td>
<td>.88</td>
<td>4.54</td>
<td>.49</td>
</tr>
<tr>
<td>Other</td>
<td>296</td>
<td>.89</td>
<td>4.56</td>
<td>.51</td>
</tr>
<tr>
<td>Gender:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>91</td>
<td>.89</td>
<td>4.52</td>
<td>.57</td>
</tr>
<tr>
<td>Female</td>
<td>431</td>
<td>.89</td>
<td>4.57</td>
<td>.48</td>
</tr>
<tr>
<td>Class Grades:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K through 3</td>
<td>155</td>
<td>.86</td>
<td>4.55</td>
<td>.46</td>
</tr>
<tr>
<td>4 through 6</td>
<td>196</td>
<td>.91</td>
<td>4.63</td>
<td>.53</td>
</tr>
<tr>
<td>Jun. &amp; High Sch.</td>
<td>165</td>
<td>.88</td>
<td>4.46</td>
<td>.51</td>
</tr>
</tbody>
</table>
Figure 1: The Classroom and School Context (CSC) Model of Teacher Self-Efficacy
A teacher (x) perceives his or her ability to achieve professional attainments pertaining to or be influential at school in the following domains:

**Facet A**

**Context Domains**

\[ \{ a_1 - \text{classroom}, a_2 - \text{school} \} \]

**Facet B**

**Influence Domains**

\[ \{ b_1 - \text{task}, b_2 - \text{relations} \} \]

**Facet R**

**Range**

\[ \{ \text{low}, \text{high} \} \]

as a sense of efficacy.
Figure 3: Structure of Components of Perceived Teacher Self-Efficacy
Figure 4: A Confirmatory Small Space Analysis (SSA) of Perceived Teacher Efficacy Items (form 80)

1 = Classroom tasks (a₁b₁)
2 = School tasks (a₂b₁)
3 = Classroom relations (a₁b₂)
4 = School relations (a₂b₂)