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Metacognitive strategies and work motivation in teachers: an empirical study

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Abstract

In teaching, work motivation is associated to high motivation of the students. Teachers with metacognitive attitude have high levels of satisfaction in work and are able to manage their emotions in the relation with students. The purpose of this study is to verify the relationship between the use of metacognitive strategies in teaching and work motivation. The participants were Italian teachers working in primary and secondary Italian schools. Tests used for data detection were: Motivation, Emotions, Strategies, and Teaching. Metacognitive Questionnaires for Teachers and Work and Organizational Motivation Inventory. Results showed positive correlations between metacognitive attitude work motivation and satisfaction.

1. Introduction

Work motivation is an essential incentive to increase work performance; in teaching, work motivation is associated to well-being in the classroom, good learning, and high motivation of the students. Motivation of teachers is strictly related to perceived self-efficacy in teaching, students' good performances, self-determination, and control of teaching-learning relationship. Previous findings support the critical influence of a teacher's self-efficacy beliefs on their performance and motivation (Bandura, 1997; Ross, 1998; Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk & Hoy, 1990; Woolfolk Hoy & Davis, 2006). A strong sense of teacher's self-efficacy promotes a firm commitment to the profession and collaborative relationships with colleagues and parents (Coladarci, 1992; Imants & Van Zoelen, 1995). All these dimensions are included in metacognitive attitude. Teachers with metacognitive attitude have high levels of satisfaction in work, are able to manage their emotions in the relation with students, feel themselves efficacy in facing critical situations, and use different strategies in different classrooms (Moè, Pazzaglia, & Friso, 2010). Ryan & Deci's theory (2000) of self-determination says that people are motivated to satisfy three natural and universal needs: feel able (to carry out the activities and achieve positive results), feel autonomous (to be able to choose freely), and feel accepted by other people. There is a strong research base indicating that, as teachers become more aware of their ability to teach, then their self-efficacy increases; as a result, their self-competence

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improves by developing a metacognitive-self-regulatory approach through an inquiry process of reflective thinking on why, what, and how to teach (Cardelle-Elawar & Sanz de Acedo, 2002). Other research findings suggested that goal orientation is a strong predictor of teachers' engagement and successful performance in the classroom (Bembeanutty, 2007; Boekaert & Cascallar, 2006; Boekaerts, Koning, & Vedder, 2006). To understand and improve the commitment of teachers, motivation to teach and related constructs - such as belief of teaching, orientation to teach, and concept of teaching - are frequently studied. Studies seek to determine teacher values in teaching, as well as their teaching career aspirations. The following list suggests some of the different reasons of teachers for joining the profession (Manuel & Hughes, 2006; Sinclair, 2008): 'love' of or desire to work with students and make a difference in students' lives; make a difference in communities and society; influence of significant others: family members, past teachers, or members of the wider community; 'calling' to teach; personal fulfillment; love of teaching or of a particular subject; desire to impart knowledge; a desire for a career change as a result of dissatisfaction with a previous career. In a series of papers on the job satisfaction and motivation of teachers, Scott et al. (Dinham & Scott, 1998; Dinham & Scott, 2000; Scott, Cox, & Dinham, 1999; Scott, Stone, & Dinham, 2001) found that teachers in different countries generally derive job satisfaction from factors integral to the teaching job: assisting the growth of children, developing good relationships with students, and experiencing self-growth.

2. Aim of Study

The considerable role of metacognitive attitudes in teaching has been confirmed by a number of studies, that have pointed to the influence of teacher's self-efficacy beliefs on children's cognitive achievements and success at school (Moore & Esselman, 1992, 1994; Muijs & Rejnolds, 2001; Ross, 1992, 1998). As Caprara, Barbaranelli, Steca, and Malone (2006) underline, teachers with high self-efficacy beliefs are more likely than teachers with a low sense of self-efficacy to implement didactic innovations in the classroom and to use classroom management approaches and adequate teaching methods that encourage students' autonomy and reduce custodial control (Cousins & Walker, 1995; Guskey, 1988), to take responsibility for students with special learning needs (Allinder, 1994; Jordan, Krcaali-Iftar, & Diamond, 1993), to manage classroom problems (Chacon, 2005; Korevaar, 1990), and to keep students on task (Podell & Soodak, 1993). Starting from these observations, the purpose of this study was to verify if the use of a metacognition strategies in teaching affects work-motivation.

3. Participants and procedure

Participants were 210 Italian teachers (77 males, 132 females, and one missing value), aged between 28 and 67 years (M = 49.61; SD = 7.61), working in Italian primary (n = 23), junior high (n = 36), and high (n = 150) schools.

Data have been detected during the last scholastic year (2011/2012), in Italian different-level schools: primary, junior high and high school. Tests have been administrated collectively, anonymously, without time limits. Teachers could deny their participation to the data detection.

4. Measure

Metacognitive Questionnaires for Teachers (Moè, Pazzaglia, Friso, 2010). It is a battery of self-report questionnaires, which includes: job satisfaction (adapted from Pavot & Diener, 1993), 5 7-point items (alpha = .84); teaching practices, 25 5-point items (alpha = .83); emotions in teaching, which includes positive and negative emotions during teaching and positive and negative emotions as teacher (role), 30 5-point items (alpha = .90); teaching strategies, 30 5-point items (alpha = .91); self-efficacy in teaching (adapted from Tschannen-Moran & Hoy, 2001), 24 items (alpha = .96); incremental beliefs, 16 9-point items (alpha = .95).

Work and Organisational Motivation Inventory (Giorgi & Majer, 2010). It is a multidimensional questionnaire, which values four macro-areas of working motivation: reward (21 items, alpha = .72), success (25 items, alpha = .84), competence (28 items, alpha = .64), and stability (36 items, alpha = .67) with 5 points Likert scale.

5. Results

First of all we have analysed effects of gender and school level on metacognitive strategies and work motivation. With regards to metacognitive strategies, results of 2 (gender: male and female) x 3 (school level: primary, junior high, and high) analysis of variance showed that there are no effects of interaction and school level (F_s < 1). Only the effect of gender was significant [F (9.194) = 2.04, p < .05]. Female teachers have higher scores on the following dimensions: teaching practices [males: M = 3.99, SD = 0.48; females, M = 4.17, SD = 0.39; F (1.202) = 6.46, p < .02] positive emotions during teaching [males: M = 3.55, SD = 0.57; females, M = 3.78, SD = 0.60; F (1,202) = 5.44, p < .03], use of teaching strategies [males: M = 3.44, SD = 0.57; females, M = 3.72, SD = 0.58; F (1.202) = 8.37, p < .01], and self-efficacy [males: M = 7.30, SD = 0.90; females, M = 7.56, SD = 0.87; F (1.202) = 5.91, p < .02].

Regarding work motivation, results of 2 (gender: male and female) x 3 (school level: primary, junior high, and high) analysis of variance showed that there are no effects of interaction and gender (F_s < 1.72). Only the effect of school was significant [F (8.400) = 21.40, p < .001]. Post hoc analyses (Table 1) showed that teacher employed in high school have levels of motivation to reward, success, and stability lower than teacher employed in other schools.

Table 1. Effects of school level on work-motivation

	Primary		Junior high		High		
	M	*SD*	*M*	*SD*	*M*	*SD*	
Reward	19.15a	1.86	19.21a	2.21	17.17b	1.75	*F* (2.202) = 13.16, *p* < .001
Success	21.15a	1.83	20.48a	2.32a	20.59a	2.58	*F* (2.202) = 0.29, *ns*
Competence	28.95a	2.16	29.05a	1.63	24.54b	1.90	*F* (2.202) = 74.94, *p* < .001
Stability	22.03a	2.33	21.46a	1.71	17.60b	1.35	*F* (2.202) = 92.69, *p* < .001

Note. Different letters on the same row indicate that means are statistically different, *p* < .05.

In order to verify effects of metacognitive attitude on work-motivation, a multiple regression analysis was carried out. Table 2 shows that negative emotions related to teacher role negatively correlated with motivation to competence; positive emotions related to teaching positively correlated with motivation to reward and competence; negative emotion related to teaching positively correlated with motivation to rewards, competence, and stability; teaching strategies positively correlated with motivation to reward, competence, and stability; self-efficacy in teaching positively correlated with motivation to success; incremental beliefs positively correlated with motivation to competence and stability.

Table 2. Effects of Metacognitive Attitude on and work-motivation

	Reward	Success	Competence	Stability
Job satisfaction	-.04	.00	.01	.06
Teaching practices	-.05	.02	-.10	-.13
Positive emotions-role	-.18	.01	-.05	-.07
Negative emotions-role	-.20	-.09	-.25*	-.20
Positive emotions-teaching	.36**	.23	.41***	.22
Negative emotions-teaching	.32**	.15	.38***	.37***
Teaching strategies	.24**	.10	.23**	.24
Self-efficacy in teaching	.11	.20**	.07	.11
Incremental beliefs	.05	.00	.13*	.16*

* *p* < .05. ** *p* < .01. *** *p* < .001.

Discussion

First of all, the first analysis emphasises important gender differences: female teachers, which have higher scores in many dimensions of Metacognitive Questionnaires, show better metacognitive attitude: they feel positive emotions during teaching, use different teaching strategies according to the classroom and to the students, have a good self-efficacy perception about their work. These results agree with the psychometrics studies reported in test

manual of Metacognitive Questionnaires about gender differences.

The second important result is the strictly association between motivation and metacognitive attitude. Although it was certainly expected and it is confirmed by other studies (Caprara & al., 2003; Caprara & al., 2006) – that have shown that teachers' self-efficacy beliefs have a crucial role in affecting and sustaining their commitment to school and their job satisfaction – however teachers' lifelong learning does not consider this scientific evidence and it is often based on disciplinary insights rather than on metacognitive strategies. Moreover, the metacognitive attitude is a strong predictor of an effective teaching motivation, confirming the study of Caprara & al. (2006) which emphasise that teachers' beliefs in their capacity to efficaciously manage class situations, didactical tasks, and interpersonal relationships with the other school members strongly influences their level of satisfaction with job conditions and likely, the morale of the whole school as resulting from aggregated teachers' job satisfaction. Concluding, the results of this study give suggestions to improve life-long learning for teachers: it is necessary to plan organisational intervention on teachers' demotivation – and consequently on students' demotivation – working on their metacognitive abilities, their strategies of teaching based on a metacognitive approach and their beliefs of self-efficacy, because teachers with high levels of self-efficacy beliefs are more likely to be able to create the conditions and to promote the interpersonal networks that nourish and sustain their work satisfaction (Caprara & al., 2006).

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